

TECHNICAL ANALYSIS



2003

**PENNSYLVANIA
SYSTEM OF SCHOOL ASSESSMENT**

MATHEMATICS AND READING

DATA RECOGNITION CORPORATION

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THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT 2003

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Chapter 1: Introduction

PSSA: THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT

The purposes of the 2003 statewide assessment component of the Pennsylvania System of School Assessment, as specified in the new Chapter 4 Regulations, include providing:

- (1) an understanding of the students' and schools' achievement of the academic standards to students, parents, educators and community citizens,
- (2) a measure of the degree to which school programs enable students to attain the academic standards,
- (3) results to school districts, charter schools and AVTSs, Intermediate Units, Private Residential Rehabilitative Institutions, Approved Private Schools, Non-public and private schools for use in their strategic plans,
- (4) information to the general public and state policymakers regarding school achievement of the academic standards, and
- (5) aggregated results for all students as well as for Individualized Education Plan (IEP) and non-IEP students.

The broad purpose of the State Assessments is to provide information to teachers and schools to guide the improvement of curricula and instructional strategies to enable students to achieve the academic standards. The areas assessed in 2003 are mathematics and reading at grades 5, 8 and 11. *The Department strongly discourages the use of this testing information for "ranking" schools.*

MATHEMATICS ASSESSMENT MEASURES

The PSSA mathematics assessment employs two types of test items: multiple-choice and open-ended. These provide differing types of information about mathematics achievement.

Multiple-Choice Items

The majority of the mathematics items included in the PSSA are multiple-choice items. Multiple-choice items are also called "selected-response" since students choose their answers from the list provided. Such items are an efficient means of assessing a broad range of curriculum. They are relatively easy to develop and to administer in a group setting. They have proved particularly efficient in terms of amount of information gain per unit of testing time.

In the PSSA mathematics assessment, all multiple-choice items have only one correct response choice and the student is awarded one point for choosing it. For all items, students are provided with four response choices.

Multiple-choice items can be used to assess a variety of skill levels, from short-term recall of facts to problem solving. The great majority of the PSSA multiple-choice mathematics items require students to carry out some process to find their answers, rather than simply recalling

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information from memory.

Open-Ended Tasks

Open-ended tasks require students to read a problem description and to write detailed solutions. Major components of such answers are clear presentations of the computations and explanations of the steps involved in the solution. The types of tasks utilized do not necessarily require computations. Students may also be asked to perform such tasks as drawing a graph, shading some portion of a figure or listing object combinations that meet specified criteria.

Open-ended tasks are especially useful for measuring students' problem-solving skills in mathematics. The tasks present real-life situations that require students to solve problems using math abilities learned in the classroom. Students must read the task carefully, identify the necessary information, devise a method of solution, perform the calculations, enter the solution directly in the booklet and explain the procedure to support the response. This provides insight into the students' mathematical knowledge, abilities and reasoning processes.

Open-ended tasks are scored manually on a five-point continuum of *correctness*. This continuum is defined by a *rubric*, which outlines the general requirements at each scale point. Scoring guidelines based upon the general rubric are developed to score individual items. The rubric approach to scoring has made it possible to include open-ended tasks in large-scale assessments, such as the PSSA. Readers who have received training in applying the rubric can score large numbers of student papers in a highly reliable way.

READING ASSESSMENT MEASURES

The PSSA reading assessment employs two types of test items: multiple-choice and performance tasks. They are designed to measure students' comprehension of the information contained in the reading passages.

Multiple-Choice Items

Multiple-choice items measure such concepts as how well students comprehend the overall meaning of a passage or make basic inferences about it. At times, asking students to choose a preferred answer is the best way to determine whether they have gleaned certain important information from a story. Such information may include setting, central idea or main events and their chronology.

Single-response multiple-choice items are the familiar four response choices with one correct answer type. The student is awarded one score point for choosing the correct response. Distractors appeal to some kind of misinterpretation, predisposition, unsound reasoning or casual reading.

Performance Tasks

Performance tasks are designed to address comprehension of text in ways that multiple-choice items cannot. A written response allows students to reflect on what they have read, integrate

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prior knowledge with text-based information, extend meaning and express their ideas.

These tasks are scored using the **Pennsylvania Reading Assessment Rubric**. This four-point scoring rubric describes a range of performance requirements at each level from minimal to very accomplished. Each task is carefully constructed to reflect the scoring rubric and to be text-dependent. Students may have the Pennsylvania Reading Assessment Rubric when responding to a performance task.

The rubric approach to scoring has made it possible to include performance tasks in large-scale reading assessments, such as the PSSA. The rubric approach also provides a highly reliable way to score a large number of student papers by readers who have received training in applying the rubric.

The rubric describes a hierarchy of responses containing each of the following three elements:

- *Understanding of the text* is demonstrated through a response that is both text-based and factual.
- *Level of comprehension of the text* is demonstrated through levels of thinking, from literal to personal, critical or evaluative responses.
- *Connection to the text* is demonstrated through responses that make connections to and go beyond the text.

MATRIX SAMPLING ASSESSMENT DESIGN

The PSSA was originally designed as a complex matrix-sampling scheme, which was very efficient for measuring *school-level* performance but less efficient for providing *student-level* assessments and diagnostics. In this design, there are a *common* core of items to which all students respond and blocks of *matrix* items that vary by form. The matrix forms are *spiraled* within classrooms so that all forms are distributed uniformly within each classroom. This ensures that each matrix form is administered to an unbiased and sequentially random sample of students in each school. Since multiple forms are administered within each classroom, this allows the assessment to cover a wide range of topics at the classroom level.

Both the common and matrix sections of the PSSA use traditional multiple-choice items and open-ended performance tasks. Psychometrically, multiple-choice items are very useful and efficient tools for collecting information about a student's academic status. Open-ended performance tasks are less efficient in the sense that they generate fewer scoreable points in the same amount of testing time. They do, however, provide tasks that are more realistic and better sample the higher-level skills. The design of the PSSA attempts to achieve a reasonable balance between the two formats.

The design changes that began to take effect with the Spring 2000 administration shifted the focus of the measurement toward the student and away from the school. Beginning in 2000, student-level results were reported on the **Individual Student Report (ISR)** with diagnostic

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results at the *academic content standard* level. All student-level results are based on the common items only and presented in the raw-score percent-correct metric only¹. In order to accommodate this change in focus, the common section has been expanded to better reflect the curriculum. Unfortunately, to administer the tests in a reasonable length of time, enhancing the common sections came at the expense of the matrix sections.

The PSSA design is an attempt to have the best of both worlds:

- All student-level results are based on the common core of items that all students in a grade were administered. This ensures that all students are evaluated using the same set of items.
- School-level content area total score results are based on the mean of the student-level scaled scores. This ensures that the results used for school accountability directly reflect the student-level results.
- School-level results at the content standard (academic standards category) level, are based on the common items together with all items on the matrix forms. This insures that decisions regarding potential strengths and weaknesses better sample the entire curriculum.

Unfortunately, these dual objectives require some compromise:

- Many of the content standards are assessed with a minimal number of items. This is especially true at the student level. Consequently, scores reported for the academic standards categories in any metric would have large standard errors and are at risk of over-interpretation.

RECENT CHANGES

A minimum scale score of 700 was implemented for all PSSA reading, mathematics and writing exams in 2002. This minimum is being applied for all the PSSA scales. It affects very few students, but some schools felt they were being penalized by the presence of some exceptionally low scoring special needs students who took the regular assessment. The change was made to reduce the impact of these students on the overall school score.

The following tables show how the two item types and the content standards are distributed across forms. Form W refers to the common sections and was the given to all students. Forms A through L for reading and mathematics are the matrix sections and each student took one of these forms in reading and one in mathematics.

¹ While the student-level scaled scores are not reported on the ISR, they are used for many of the underlying calculations.

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Table 1-1: 2003 PSSA Grade Five Reading

Distribution of Items and Tasks by Content Standards																	
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points
A	1	6		6	6	E	1	6		6	6	I	1	6		6	6
	2	6		6	6		2	6		6	6		2	6		6	6
	3	6	1	7	10		3	6	1	7	10		3	6	1	7	10
	7	4		4	4		7	4		4	4		7	4		4	4
8	4		4	4	8	4		4	4	8	4		4	4			
B	1	6		6	6	F	1	6		6	6	J	1	6		6	6
	2	6		6	6		2	6		6	6		2	6		6	6
	3	6	1	7	10		3	6	1	7	10		3	6	1	7	10
	7	4		4	4		7	4		4	4		7	4		4	4
8	4		4	4	8	4		4	4	8	4		4	4			
C	1	6		6	6	G	1	6		6	6	K	1	6		6	6
	2	6		6	6		2	6		6	6		2	6		6	6
	3	6	1	7	10		3	6	1	7	10		3	6	1	7	10
	7	4		4	4		7	4		4	4		7	4		4	4
8	4		4	4	8	4		4	4	8	4		4	4			
D	1	6		6	6	H	1	7		7	7	L	1	7		7	7
	2	6		6	6		2	6		6	6		2	6		6	6
	3	6	1	7	10		3	5	1	6	9		3	5	1	6	9
	7	4		4	4		7	4		4	4		7	4		4	4
8	4		4	4	8	4		4	4	8	4		4	4			
												W	1	13		13	13
												2	11		11	11	
												3	12	2	14	20	
												7	8		8	8	
												8	8		8	8	

Table 1-2: 2003 PSSA Grade Eight Reading

Distribution of Items and Tasks by Content Standards																	
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points
A	1	7		7	7	E	1	8		8	8	I	1	7		7	7
	2	7		7	7		2	7		7	7		2	8		8	8
	3	10	1	11	14		3	9	1	10	13		3	9	1	10	13
	7	6		6	6		7	6		6	6		7	6		6	6
8	6		6	6	8	6		6	6	8	6		6	6			
B	1	8		8	8	F	1	9		9	9	J	1	7		7	7
	2	8		8	8		2	8		8	8		2	8		8	8
	3	10	1	11	14		3	9	1	10	13		3	9	1	10	13
	7	4		4	4		7	4		4	4		7	6		6	6
8	6		6	6	8	6		6	6	8	6		6	6			
C	1	6		6	6	G	1	7		7	7	K	1	7		7	7
	2	9		9	9		2	9		9	9		2	8		8	8
	3	9	1	10	13		3	8	1	9	12		3	9	1	10	13
	7	6		6	6		7	6		6	6		7	6		6	6
8	6		6	6	8	6		6	6	8	6		6	6			
D	1	5		5	5	H	1	6		6	6	L	1	7		7	7
	2	7		7	7		2	7		7	7		2	8		8	8
	3	11	1	12	15		3	10	1	11	14		3	9	1	10	13
	7	7		7	7		7	7		7	7		7	6		6	6
8	6		6	6	8	6		6	6	8	6		6	6			
												W	1	19		19	19
												2	14		14	14	
												3	16	2	18	24	
												7	12		12	12	
												8	11		11	11	

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Table 1-3: 2003 PSSA Grade Eleven Reading

Distribution of Items and Tasks by Content Standards																		
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	
A	1	9		9	9	E	1	8		8	8	I	1	7		7	7	
	2	6		6	6		2	7		7	7		7	2	9		9	9
	3	8	1	9	12		3	8	1	9	12		12	3	8	1	9	12
	7	9		9	9		7	9		9	9		9	7	8		8	8
	8	8		8	8		8	8		8	8		8	8		8	8	
B	1	7		7	7	F	1	7		7	7	J	1	8		8	8	
	2	7		7	7		2	7		7	7		7	2	8		8	8
	3	10	1	11	14		3	10	1	11	14		14	3	8	1	9	12
	7	8		8	8		7	8		8	8		8	7	8		8	8
	8	8		8	8		8	8		8	8		8	8		8	8	
C	1	7		7	7	G	1	7		7	7	K	1	8		8	8	
	2	8		8	8		2	8		8	8		8	2	8		8	8
	3	9	1	10	13		3	9	1	10	13		13	3	8	1	9	12
	7	8		8	8		7	8		8	8		8	7	8		8	8
	8	8		8	8		8	8		8	8		8	8		8	8	
D	1	7		7	7	H	1	7		7	7	L	1	8		8	8	
	2	8		8	8		2	8		8	8		8	2	8		8	8
	3	9	1	10	13		3	9	1	10	13		13	3	8	1	9	12
	7	8		8	8		7	8		8	8		8	7	8		8	8
	8	8		8	8		8	8		8	8		8	8		8	8	
												W	1	17		17	17	
													2	15		15	15	
														19	2	21	27	
														13		13	13	
													8	16		16	16	

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Table 1-4: 2003 PSSA Grade Five Mathematics

Distribution of Items and Tasks by Content Standards																	
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points
A	1	4		4	4	E	1	4		4	4	I	1	3		3	3
	2	2		2	2		2	2		2	2		2	3		3	3
	3	1		1	1		3	1		1	1		3	2		2	2
	4	1	1	2	6		4	1		1	1		4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	1		1	1		6	1	1	2	6
	7	1		1	1		7	1		1	1		7	1		1	1
	8	1		1	1		8	2		2	2		8	2		2	2
	9	2		2	2		9	2	1	3	7		9	1		1	1
	10						10	1		1	1		10	1		1	1
	11	1		1	1		11	1		1	1		11	1		1	1
B	1	4		4	4	F	1	3		3	3	J	1	3		3	3
	2	2		2	2		2	3		3	3		2	3		3	3
	3	1	1	2	6		3	2		2	2		3	2		2	2
	4	1		1	1		4	1		1	1		4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	1		1	1		6	1		1	1
	7	1		1	1		7						7	1	1	2	6
	8	1		1	1		8	2		2	2		8	2		2	2
	9	2		2	2		9	1		1	1		9	1		1	1
	10	1		1	1		10	1		1	1		10	1		1	1
	11						11	1	1	2	6		11	1		1	1
C	1	3		3	3	G	1	3		3	3	K	1	3		3	3
	2	3	1	4	8		2	3	1	4	8		2	3		3	3
	3	1		1	1		3	2		2	2		3	2		2	2
	4	1		1	1		4	1		1	1		4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	1		1	1		6	2		2	2
	7	1		1	1		7						7				
	8	1		1	1		8	2		2	2		8	1		1	1
	9	2		2	2		9	2		2	2		9	2	1	3	7
	10						10	1		1	1		10	1		1	1
	11	1		1	1		11						11	1		1	1
D	1	3		3	3	H	1	3		3	3	L	1	4		4	4
	2	3		3	3		2	2		2	2		2	2		2	2
	3	1		1	1		3	2	1	3	7		3	1		1	1
	4	1		1	1		4	1		1	1		4	1		1	1
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	1		1	1		6	2		2	2
	7						7	1		1	1		7	1	1	2	6
	8	2		2	2		8	2		2	2		8	1		1	1
	9	2		2	2		9	1		1	1		9	1		1	1
	10		1	1	5		10	1		1	1		10	1		1	1
	11	1		1	1		11	1		1	1		11	1		1	1
										W	1	9	1	10	14		
										2	15		15	15			
										3	5	1	6	10			
										4	5		5	5			
										5		3*	3*	15*			
										6	8		8	8			
										7	5		5	5			
										8	4	1	5	9			
										9	9		9	9			
										10	5		5	5			
										11	5		5	5			

*Items are listed twice.

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Table 1-5: 2003 PSSA Grade Eight Mathematics

Distribution of Items and Tasks by Content Standards																				
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points			
A	1	1		1	1	E	1	1		1	1	I	1	3		3	3			
	2	2		2	2		2	3		3	3		2	2	2	2		2	2	
	3	3		3	3		3	2		2	2		3	2	1	3		7		
	4						4	1		1	1		4							
	5		1*	1*	5*		5		1*	1*	5*		5							
	6	1		1	1		6	1		1	1		6	1		1		1	1	
	7	1	1	2	6		7	1	1	2	6		7	1		1		1	1	
	8	3		3	3		8	3		3	3		8	2		2		2	2	
	9	1		1	1		9	1		1	1		9	2		2		2	2	
	10	1		1	1		10	1		1	1		10	1		1		1	1	
	11	2		2	2		11	1		1	1		11	1		1		1	1	
B	1	1		1	1	F	1					J	1	2		2	2			
	2	2		2	2		2	3	1	4	8		2	2	1	3		7		
	3	1		1	1		3	2		2	2		3	1		1		1		
	4	1		1	1		4	1		1	1		4	1		1		1		
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*			
	6	1		1	1		6	1		1	1		6	1		1		1	1	
	7	1	1	2	6		7	1	1	1	1		7	1		1		1	1	
	8	4		4	4		8	4		4	4		8	3		3		3	3	
	9	1		1	1		9	1		1	1		9	2		2		2	2	
	10	1		1	1		10	1		1	1		10	1		1		1	1	
	11	2		2	2		11	1		1	1		11	1		1		1	1	
C	1	2		2	2	G	1	2		2	2	K	1	1		1	1			
	2	2		2	2		2	1	1	2	6		2	1		1		1		
	3	3		3	3		3	3		3	3		3	3	1	4		8		
	4	1	1	2	6		4	1		1	1		4	1		1		1		
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*			
	6	1		1	1		6	2		2	2		6	1		1		1	1	
	7	1		1	1		7	2		2	2		7	1		1		1	1	
	8	2		2	2		8						8	3		3		3	3	
	9	2		2	2		9	1		1	1		9	2		2		2	2	
	10	1		1	1		10	1		1	1		10	1		1		1	1	
	11						11	2		2	2		11	1		1		1	1	
D	1	3		3	3	H	1	1		1	1	L	1	1		1	1			
	2	2	1	3	7		2	3		3	3		2	1	1	2		6		
	3	2		2	2		3	3		3	3		3	2		2		2		
	4	1		1	1		4	1		1	1		4							
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*			
	6	1		1	1		6						6	1		1		1	1	
	7	1		1	1		7	2		2	2		7	1		1		1	1	
	8	3		3	3		8	3		3	3		8	5		5		5	5	
	9						9	1		1	1		9	1		1		1	1	
	10	1		1	1		10	1	1	2	6		10	2		2		2	2	
	11	1		1	1		11						11	1		1		1	1	
												W	1	6	1	7	11			
													2	11	1	12	16			
													3	6		6	6			
													4	6		6	6			
													5		3*	3*	15*			
													6	4		4	4			
													7	4		4	4			
													8	17		17	17			
													9	9	1	10	14			
													10	3		3	3			
													11	4		4	4			

*Items are listed twice.

The Pennsylvania System of School Assessment
Mathematics and Reading 2003

Table 1-6: 2003 Grade Eleven Mathematics

Distribution of Items and Tasks by Content Standards																	
2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points	2003 Form	Standard	MC	Open Ended	Total Tasks	Total Points
A	1					E	1					I	1	1		1	1
	2	3		3	3		2	1		1	1		2	3		3	3
	3	2		2	2		3	1		1	1		3	1		1	1
	4	1	1	2	6		4	2		2	2		4	1		1	1
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	2		2	2		6	2		2	2
	7	1		1	1		7	1		1	1		7	1		1	1
	8	3		3	6		8	4		4	4		8	3	1	4	8
	9	2		2	2		9	2	1	3	7		9	1		1	1
	10						10	1		1	1		10	1		1	1
	11	1		1	1		11	1		1	1		11	1		1	1
B	1	1		1	1	F	1	2		2	2	J	1	1		1	1
	2	3	1	4	8		2	1		1	1		2	3		3	3
	3	2		2	2		3	1	1	2	6		3	1		1	1
	4	1		1	1		4	1		1	1		4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	3		3	3		6	2		2	2		6	2		2	2
	7	1		1	1		7	2	1	2	2		7	1		1	1
	8	2		2	2		8	2		2	2		8	3		3	3
	9	1		1	1		9	3		3	3		9	2	1	3	7
	10	1		1	1		10						10	1		1	1
	11						11	1		1	1		11	1		1	1
C	1	2		2	2	G	1	2		2	2	K	1	2		2	2
	2	2		2	2		2	2		2	2		2	1		1	1
	3	1		1	1		3	1		1	1		3	2		2	2
	4	1		1	1		4						4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2		2	2		6	1		1	1		6	1		1	1
	7	1		1	1		7	1		1	1		7	1		1	1
	8	4		4	4		8	4		4	4		8	5		5	5
	9	1		1	1		9	3		3	3		9	1	1	2	6
	10	1	1	2	6		10						10	1		1	1
	11						11	1	1	2	6		11	1		1	1
D	1	1		1	1	H	1	2		2	2	L	1				
	2	2		2	2		2	2		2	2		2	2		2	2
	3	2		2	2		3	3		3	3		3	1	1	2	6
	4	1		1	1		4	1		1	1		4				
	5		1*	1*	5*		5		1*	1*	5*		5		1*	1*	5*
	6	2	1	3	7		6	2		2	2		6	2		2	2
	7	1		1	1		7	1		1	1		7	1		1	1
	8	3		3	3		8	1	1	2	6		8	4		4	4
	9	2		2	2		9	1		1	1		9	2		2	2
	10	1		1	1		10	1		1	1		10	1		1	1
	11						11	1		1	1		11	2		2	2
												W	1	5		5	5
													2	10		10	10
													3	5	1	6	10
													4	5		5	5
													5		3*	3*	15*
													6	5	1	6	10
													7	5		5	5
													8	14	1	15	19
													9	11		11	11
													10	5		5	5
													11	5		5	5

*Items are listed twice

Chapter 2: Form Analysis and Item Calibration

TEST FORM STATISTICS

The table below contains an overview of the form-level data. Test length (L), mean percentage of points received (P), typical test reliability (R) and typical standard error of measurement (SEM) are shown for each form by grade and content area. These statistics are based on the total test using both multiple-choice and open-ended tasks and both common and matrix sections for each form. The test lengths pertain to the data used for school-level estimates and not for student-level results.

The test reliability can be thought of as the correlation between scores if the students could be tested twice with the same instrument without the second testing being affected by the first. It is computed as the ratio of the variance associated with true scores divided by the total variance. The total variance contains a component due to the variance in true scores and a component due to the imperfections in the measurement process.

The *standard error of measurement* is another indicator of precision. If everyone being tested had the same *true score*¹, there would still be some variation in observed scores due to imperfections in the measurement process. These may be random differences in attention during instruction or concentration during testing. Or perhaps differences could arise because of problems with the wording of the items or layout of the answer sheet. The standard error is the *standard deviation*² of the distribution of observed scores for students with identical true scores. Both reliability and the standard error increase with test length; although, it is not the sole determinant in either case. Comparing the information in Table 2-1 and Table 2-2 should give some insight into the complexities and tendencies of these statistics.

Table 2-1: 2003 Summary Matrix Form Performances

Grade	Mathematics				Reading			
	L	P	R	SEM	L	P	R	SEM
05	105	65	.93	4.9	90	66	.93	4.1
08	105	60	.94	5.5	120	68	.94	4.7
11	105	51	.94	5.2	132	66	.95	5.1

The Student-Level Scaled Scores were estimated using the common items only. This resulted in shorter test lengths and, therefore, slightly lower form reliabilities. The following table pertains to the common-item measures.

¹ True score is the score the person deserves and would actually receive if the measurement process were perfect.

² The standard deviation of a distribution is a measure of the dispersion of the observations. For the normal distribution about 16% of the observations are more than one standard deviation above the mean and the same percentage are more than one standard deviation below the mean. To illustrate, using the data in table 2.1, about 68% of students with true scores of 70 will have observed scores between 65 and 75.

Table 2-2: 2003 Summary of Common Item Performances

Grade	Mathematics				Reading			
	L	P	R	SEM	L	P	R	SEM
05	85	66	.92	4.4	60	66	.90	3.4
08	85	61	.93	4.9	80	68	.91	3.9
11	85	52	.92	4.7	88	67	.92	4.2

Appendix A presents detailed descriptions of the performance of each form by grade and content area.

The standard deviation shown in the table is the standard deviation of observed scores. Assuming normally distributed scores, one would expect about two-thirds of the observations to be within one standard deviation of the mean. An estimate of the standard deviation of the true scores can be computed as the $\sqrt{(SD*SD) - (SE*SE)}$. For grade 5 mathematics, this would be $\sqrt{(15.5*15.5)-(4.4*4.4)} = 14.9$.

The reliability can also be computed from these data. Again for grade 5 mathematics common, $R = \frac{(15.5*15.5)-(4.4*4.4)}{(15.5*15.5)} = 0.92$.

TRADITIONAL ITEM STATISTICS

Although all items had been reviewed several times, a thorough item analysis was conducted to ensure that the items and forms performed as expected. With any psychometric model, an item analysis is a search for unexpected results. In general, *more able*³ students are expected to pass easy items and *less able* students are expected to fail difficult items. If either of these situations does not occur, the item should be reviewed once more to determine the nature of the problem and the characteristics of the students affected.

The most familiar indices of item performance are *proportion correct* (p-value) and item reliability. Reliability for dichotomous items is typically represented by the *point biserial correlation* coefficient. This statistic will be positive if the total test mean score is higher for the students who respond correctly to the item than for the students who respond incorrectly. Hence, the correlation will be low if there is a *more able* way to fail the item or a *less able* way to pass it.

The p-value is a subtler indicator of item quality, but the value should be appropriate for the item. If there is a *more able* way to miss an item, the item will appear more difficult than the underlying problem. Conversely, if there is a *less able* way to pass the item, it may appear surprisingly easy.

Table 2-3 gives the mean p-value and point biserial correlation (PtBis) for the multiple-choice items in each grade and content area as a frame of reference of evaluating items. The p-value is

³ Following the Rasch literature, *ability* is used in this discussion as a generic term for the construct that is being measured by the exam. *Competence, achievement, learning* and *status* are among the alternatives that are sometimes used, but are all subject to some degree of misinterpretation.

Form Analysis and Item Calibration

the proportion of the students who responded correctly to an item. The point biserial correlation is the correlation between the student's score on the item (zero or one) and the score on the total test. This can be computed as the familiar Pearson product-moment correlation, but because the item score is a dichotomous variable, the formula can be written in a simpler form.

The point biserial correlation is also called the item reliability. The correlation will have a positive value when the mean score of the students answering correctly is higher than the mean score of the students answering incorrectly. This is a very reasonable requirement since it indicates that students who did well on the total test tended to do well on this item. The index will take its maximum theoretical value of 1.0 if *every* student who answered the item correctly scored better on the test than *any* student who answered incorrectly⁴.

In general, with the mean p-values in the low 0.56 to .70 range, the PSSA was quite challenging to most students. With the average point biserial correlations near 0.4, the overall item quality was quite good.

Table 2-3: Typical Form Statistics by Grade and Content

Grade	Mathematics		Reading	
	P-value	PtBis	P-value	PtBis
05	.70	.41	.68	.44
08	.63	.44	.69	.41
11	.56	.40	.68	.41

The item level analyses done for the PSSA also included the percent of students selecting each incorrect response (foil) and the correlation between selecting a response and total test score. This information (included in the appendices) is useful in helping item writers and editors understand the item's behavior. The percent selecting each response is an indicator of which foils are particularly attractive.

The correlations by response are a further refinement on this idea. They indicate which responses are attractive to high scoring students and which to low scoring students. The ideal pattern would be a *strong* positive correlation for the correct response and *strong* negative correlations for the incorrect responses. This pattern would indicate that the incorrect responses tend to attract students who tended to do less well on the total test. Consequently, one could conclude that the item is measuring the same construct as is the test as a whole.

RASCH ITEM STATISTICS AND EQUATING

WINSTEPS[®] software implementing the Rasch model was used to obtain estimates of logit difficulties for both dichotomously- and polychotomously-scored items. The parameters estimated for polychotomous items are the *step difficulties* associated with the Masters Partial

⁴ It is legitimate to view the point biserial correlations as standardized means. A positive value means students who chose that response had a higher mean score than the average student; a negative value means students who chose that response had a lower than average mean score.

Form Analysis and Item Calibration

Credit model. This software is capable of handling all the item types currently in use with the PSSA.

Rather than percent correct, the Rasch model expresses item difficulty (and student ability) in units typically referred to as *logits*. In the simplest case, a logit is a transformed p-value with the average p-value becoming a logit of zero. In this form, logits resemble z-scores or standard normal deviates; a very difficult item might have a logit of +4 and a very easy item might have a logit of -4. They actually have no formal relationship to the normal distribution.

The logit metric has several mathematical advantages over p-values. It is an interval scale meaning two items with logits of zero and one are the same distance apart as items with logits of +3 and +4. Logits are not dependent on the ability level of the students. A specific form will have a mean logit of zero, whether the average p-value of the sample is 0.8 or 0.3.

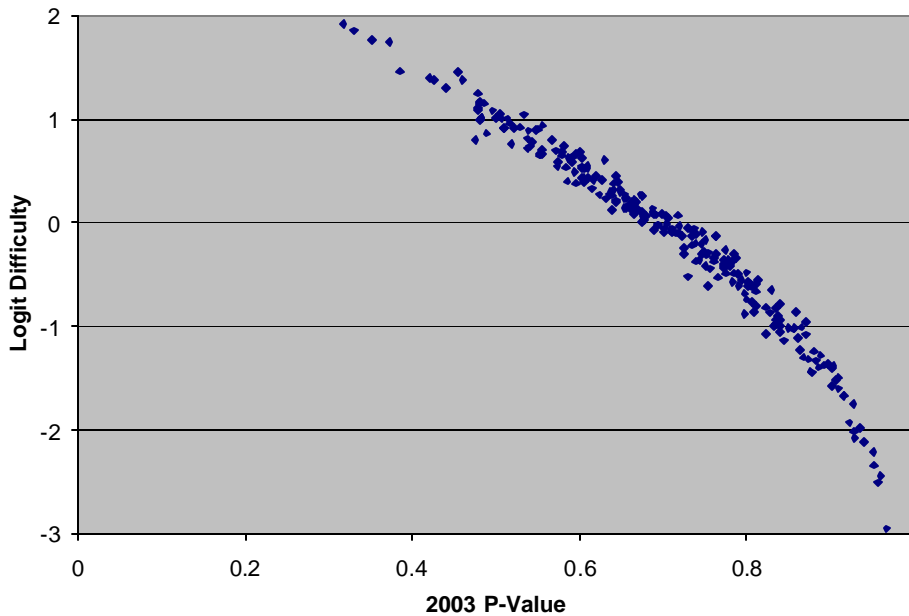
The standard Rasch calibration procedure arbitrarily sets the mean difficulty of the items on any form at zero. Any item with a p-value lower than the average item on the form receives a positive logit difficulty and any item with a p-value higher than the average receives a negative logit. Consequently, the logits for any calibration, whether it is a third grade reading test or a high school science test, relate to an arbitrary origin defined by the center of items on that form. The average third grade reading item will have a logit of zero; the average high school science item will have a logit of zero. This applies to logits for both item difficulties and student abilities.

There are any number of other arbitrary choices that could be made for centering the item difficulties. Rather than using all the items, the origin could be defined by a subset. For the PSSA, all test forms in a particular grade and content area share a common block of items. The items on all forms can then be easily adjusted to a single (but still arbitrary) origin by defining the origin as the mean of the **common** items. With this done, the origins for all twelve forms will be statistically equal. Items on forms A and L that are equally difficult should now have equal logit difficulties.

Since the test forms were spiraled within classrooms, there are some cross checks that are made to ensure the calibrations and links are reasonable. First, because of the spiraling, each form will be administered to a *statistically equivalent* sample of students. Any differences in performance observed among the groups should be due only to differences in form difficulty. After linking, the mean and standard deviation of the logit abilities should be statistically equal for each sample of students.

Second, because of the equivalent samples, the common items should have the same p-values regardless of which form and sample is being considered. Finally, for all items, both common and matrix, a plot of the relationship between the p-value and the logit should fall along a single, curved line. Figure 2-1 plots this relationship for the grade five mathematics assessment. The curve is nearly linear in the center, but curves towards asymptotes of zero on the left and one on the right.

Figure 2-1: 2003 Grade 5 Mathematics P-Values versus Logit Difficulties



In theory, with the Rasch model, linking the exam for the current year to the exam for previous years is just as straightforward as linking forms within year. However, the student samples can not be assumed equivalent across years and identical items can have different properties in different years because of changes in the item's context or changes in the student's experiences. Consequently, between-year linking is somewhat less certain than within-year linking.

The link between years must be from items that are used in both years in approximately the same context. The *same context* in this situation means the items are not altered in any way, they appear in about the same position in the booklet, and they are administered at about the same time of day. PDE provides a code for each item as part of the answer key file that indicates the item's appropriateness for linking. Codes between 1 and 6 represent the gradation of the item's suitability. A code of '1' means the item text is identical and its sequence number has not changed by more than 2 or 3. A code of '5' means the item has been significantly revised. A code of '6' indicates a completely new item.

For *within-year* linking, the procedure is to link forms through the common section. The result is a bank of items with comparable logit difficulties. For *between-year* linking, the procedure is to link the current year's bank to the previous years' banks. Theoretically, the process is identical to within-year.

- (1) Overlapping items are identified.
- (2) Adjusting the logit difficulties (of all items) in the current year's bank so that the mean logit difficulty for the overlapping items is equal to the mean logit difficulty for the same items in the previous year's bank.

Form Analysis and Item Calibration

- (3) Assess the validity of the link by identifying any items that do not maintain their relative position across years.

Figure 2-1 above shows the 2003 logit item difficulties for grade five mathematics plotted against their respective p-values. Since the equating process forces the 2003 logit difficulties for the linking items to have the same mean logit difficulty as the 2002 logit difficulties for these same items, the 2003 logits will be displaced from their estimates obtained from an independent calibration. The size of the displacements should correspond to the approximate size of the standard errors for the items.

Plotting p-values against logit difficulties across year is not as reliable as it is within year. Using spiraled forms within year, a given p-value will translate to a given logit regardless of the form it is used on, within the limits of statistical precision. Within year, the p-value-to-logit plot should be a single curved line; between years, the plot could have separate lines for each year. The difference between the two lines is a reflection of the adjustment (positive or negative) that is required to equate the two item banks. This is the situation shown in Figure 2-2 (equated) and Figure 2-3 (unequated) with the curves using the square and the diamond plotting symbols.

Figure 2-2: 2002 versus 2003 Logit Difficulties (Equated)

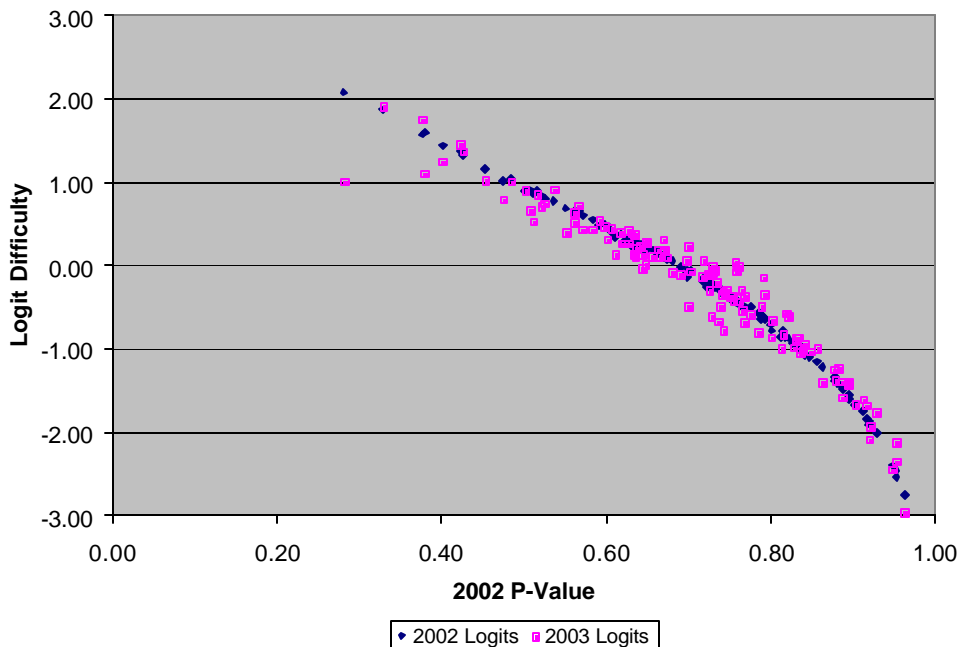
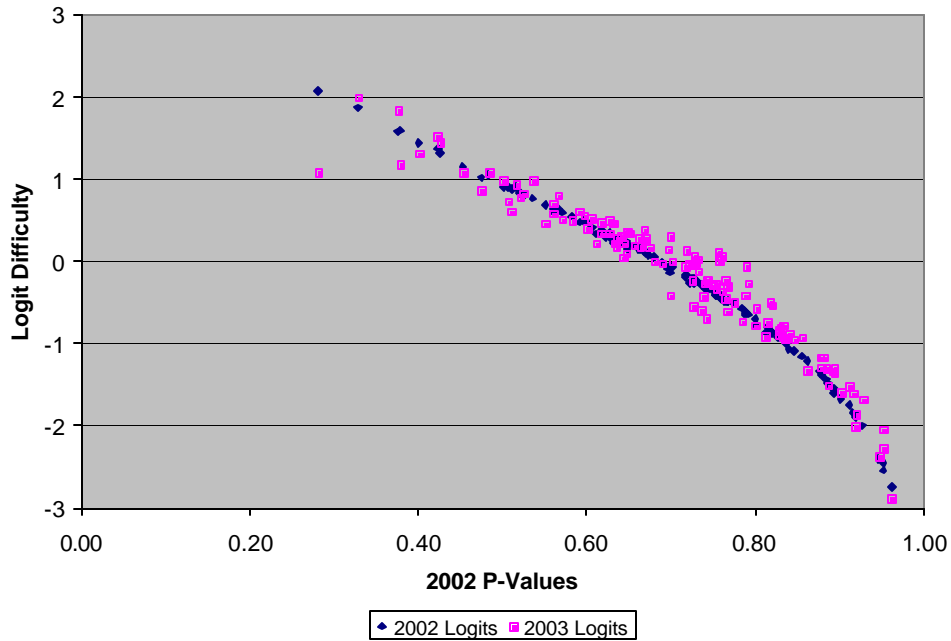
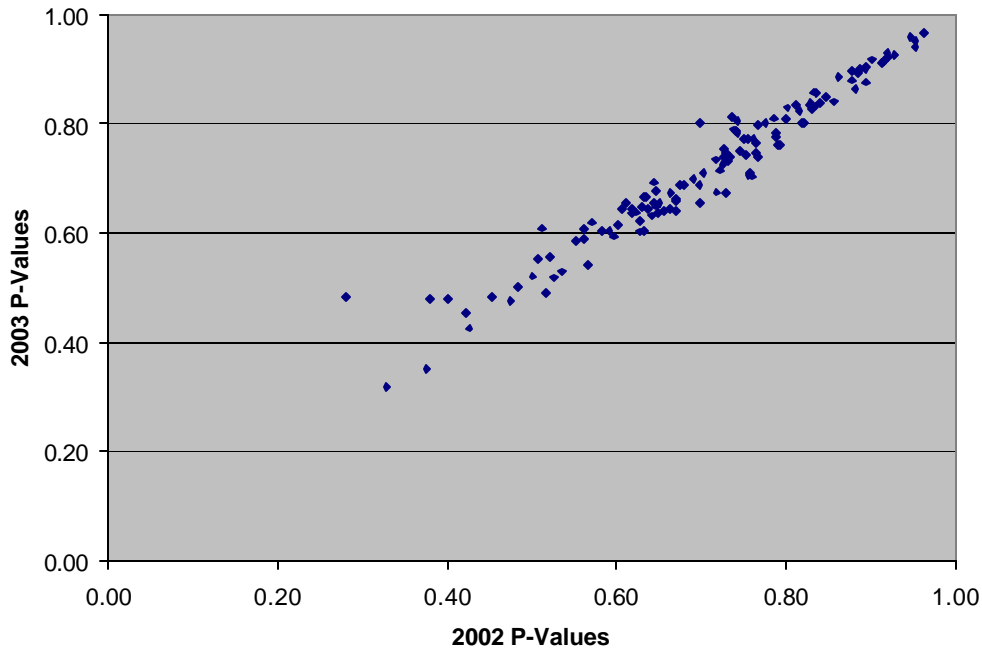


Figure 2-3: 2002 versus 2003 Logit Difficulties (Unequated)



The plot of the p-values for overlapping items from the two years can also be informative. If the p-values for the current year are systematically higher than for the same items last year, the scale scores should also show a systematic improvement after the two item banks have been properly linked. This is shown in Figure 2-4 with the diamond-plotting symbol.

Figure 2-4: 2002 versus 2003 – Grade 5 Mathematics P-Values

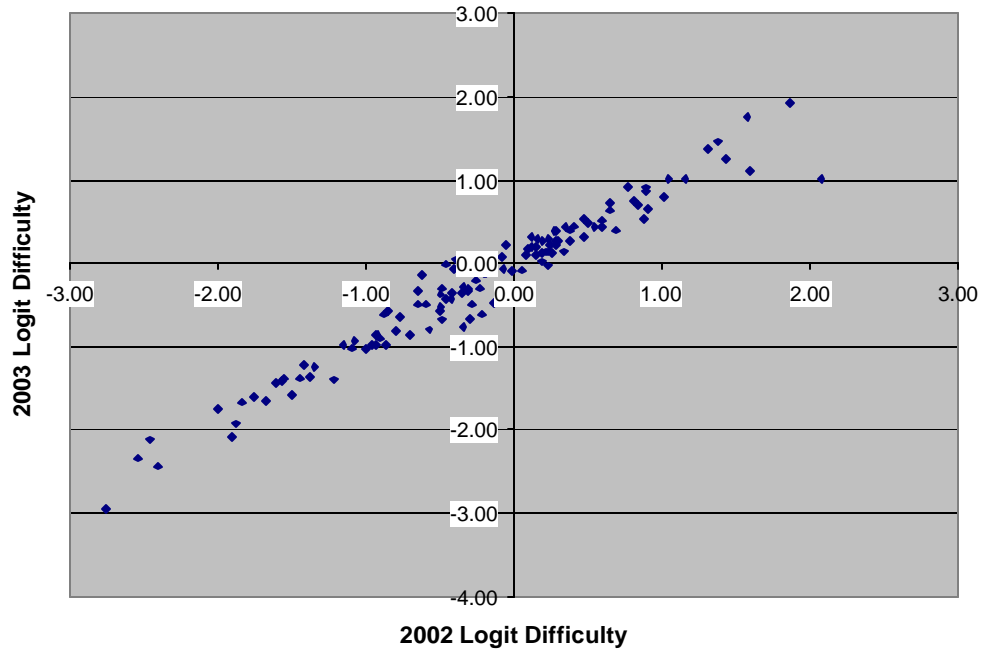


There are some checks on the reasonableness of the linking process that can be performed. Item calibration should be invariant across years, except for an arbitrary location constant. When the logit difficulties of the overlapping items for the current year are plotted against their logit difficulties for a previous year, the result should be a straight line, whose width reflects the standard errors of estimation for the item difficulties. Identifying any outliers and recomputing the adjustment based on an edited set of overlapping items should improve the link.

Figure 2-5 below uses the same data as Figure 2-2 and Figure 2-3, but focuses entirely on logit difficulties. It shows more clearly the relationship between 2002 logits and 2003 logits. There is a well-defined line with a few outliers. Since the plot shows the 2002 logits versus the *equated* 2003 logits, the line appears to pass through the origin.

Form Analysis and Item Calibration

Figure 2-5: 2002 versus 2003 – Grade 5 Mathematics Logit Difficulty



Chapter 3: Linking and Equating

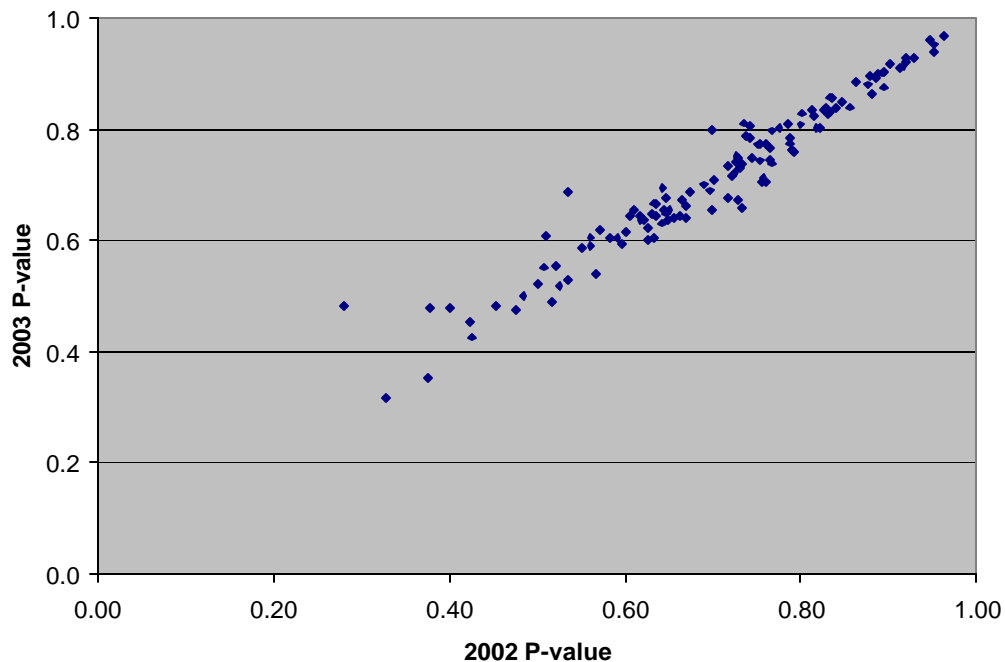
GRADE 5: MATHEMATICS

The traditional item statistics, percent correct and point biserial correlations displayed typical and reasonable distributions for Grade 5 Mathematics. These statistics were computed for each test form, with an average item p-value of 0.70 and a median point biserial correlation of 0.42.

The percent correct scores ranged from about 0.32 to about 0.97 with 84% of the p-values falling between 0.5 and 0.9, while 74% of the point biserial correlations fell between .3 and .5. Only five point biserial correlations were less than 0.2 – all but one of which were matrix items. It might be useful to investigate the items with correlations near 0.6 as they may be exemplars for what items should be, or they might be tapping some extracurricular experience primarily available to the better math students.

Figure 3.1 and Figure 3.2 contain several pieces of information for the items that were used to link the 2003 exam to the 2002 exam. The diagonal line, rising from left to right in Figure 3.1, shows the item p-values in the two years. One would expect the relationship to form a straight line with slope one. The extent to which the line does not pass through the origin indicates a change in student performance. For Grade 5 mathematics, there was little change in the p-values from year-to-year.

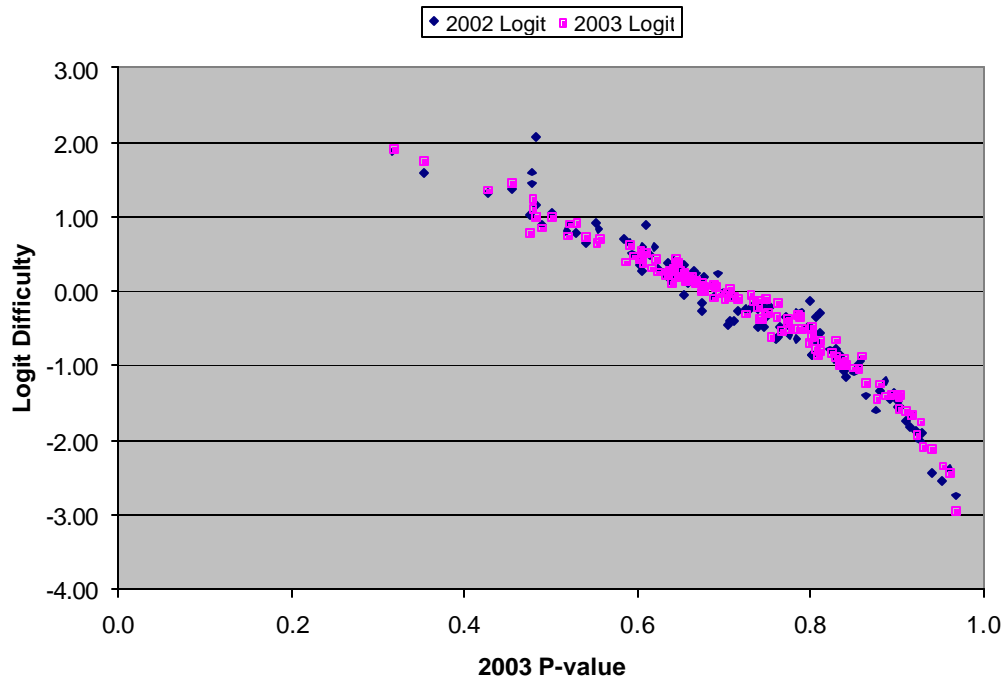
Figure 3-1: Grade Five Mathematics P-Values



Linking and Equating

In Figure 3.2, the two lines sloping downward toward the right relate item logit difficulties for the two years to the 2003 p-values. They show the curvilinear relationship required by the model with low p-values being translated into high logit difficulties and high p-values into low difficulties. The smoothness of this line indicates good agreement among the twelve forms. Because the twelve forms were spiraled within classroom, the samples generated are randomly equivalent and one would expect the same p-value to translate into the same logit. This was the case with these data.

Figure 3-2: Grade Five Mathematics Logit Difficulties versus P-Values



GRADE 5: READING

The traditional item statistics, percent correct and point biserial correlations displayed typical and reasonable distributions for Grade 5 Reading. These statistics were computed for each test form, with an average item p-value of 0.68 and a median point biserial correlation of 0.47.

The percent correct scores ranged from 0.19 to 0.94, but 84% of the p-values were greater than 0.5. Most of the item point biserial correlations were between 0.3 and 0.6 with only a few (16) items with correlations below 0.2. It might be useful to investigate the items with correlations near 0.6 as they may be exemplars for what items should be, or they might be tapping some extracurricular experience primarily available to the better students. There was a consistent pattern of the lowest reliabilities being associated with the lowest p-values. Most, but not all, items in this region are matrix items.

Figure 3-3: Grade Five Reading P-Values

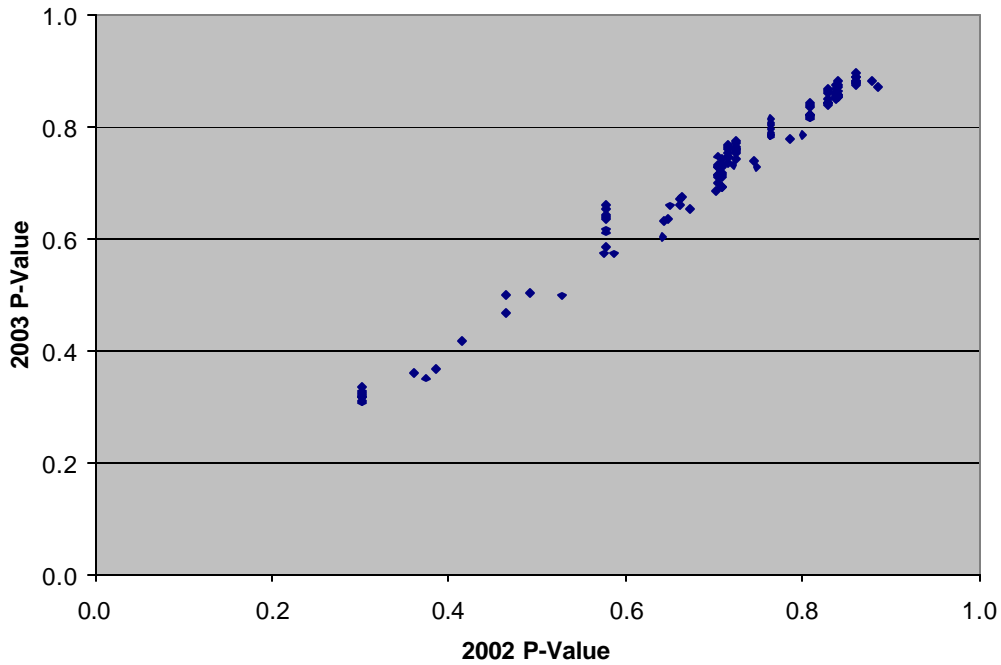
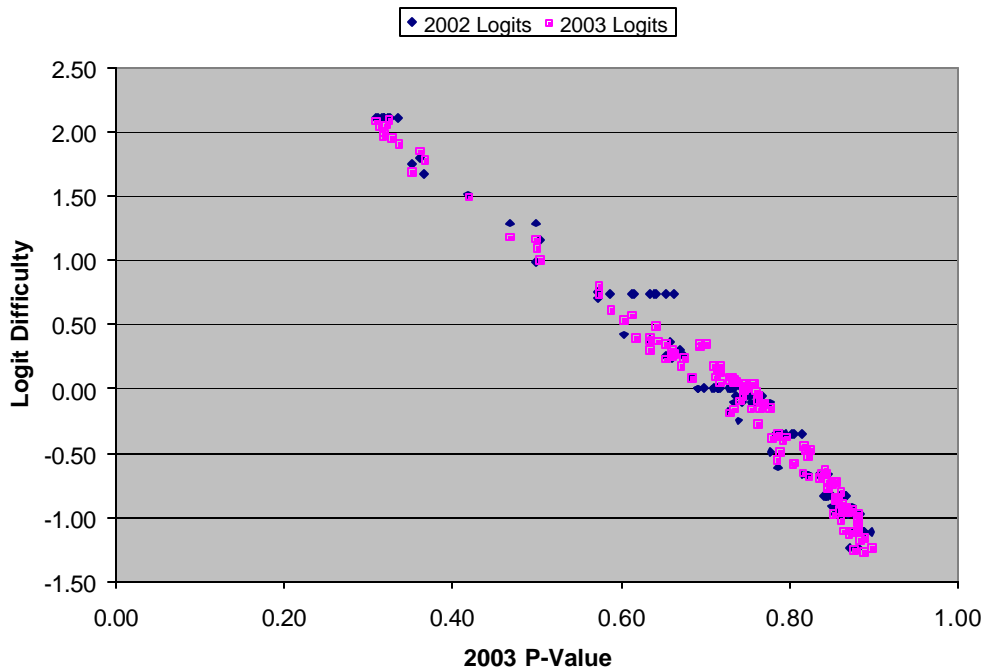


Figure 3.3 and Figure 3.4 contain several pieces of information for the items that were used to link the 2003 exam to the 2002 exam. The diagonal line, rising from left to right, shows the item p-values for the two years (the clusters of points reflect items which were used on multiple matrix forms). One would expect the relationship to form a straight line with slope one. The extent to which the line does not pass through the origin indicates a change in student performance. For Grade 5 reading, there was little change in the p-values from year to year.

Linking and Equating

Figure 3-4: Grade Five Reading Logit Difficulties versus P-Values



The two lines sloping downward toward the right relate item logit difficulties for the two years to the 2003 p-values. They show the curvilinear relationship required by the model with low p-values being translated into high logit difficulties and high p-values into low difficulties. The smoothness of this line indicates good agreement among the twelve forms. Because the twelve forms were spiraled within classroom, the samples generated are randomly equivalent and one would expect the same p-value to translate into the same logit. This is the case with these data.

GRADES 8 AND 11

Across-year linking analyses were performed for Grades 8 and 11 in the same manner as for Grade 5. The results were similar to Grade 5 in the amount of noise present in the links. These studies are documented in separate link analyses in files maintained by DRC.

Chapter 4: Item Bias Review

Test item bias can present itself in a variety of ways in items: through the language, the format, the content, or the behaviors required. It can result from membership in a specific subpopulation or from factors correlated to the subpopulation. It can affect all members of the subpopulation, or it may affect only those in specific ranges of ability. How bias arises and how it presents itself clearly will affect how best to detect and correct it.

LIMITATIONS OF STATISTICAL DETECTION

No statistical procedure should be used as a substitute for rigorous, hands-on reviews by content and bias specialists. The statistical results can help to organize the review so the effort is concentrated on the most problematic cases; however, no items should be automatically rejected simply because some statistical method flagged them or accepted because they were not flagged.

Statistical detection of item bias is at best an inexact science. There has been a variety of methods proposed for detecting bias, but no one statistic to date can be considered either necessary or sufficient. Different methods are more or less successful depending on the situation and circumstances. No analysis can guarantee that a test is free of bias and almost any thoughtful analysis will uncover the most flagrant problems.

A fundamental shortcoming of all of the statistical methods is that all are intrinsic to the test being evaluated. If a test, overall, is unbiased but with one or two biased items, most methods will locate the problems. If, however, the test itself is biased against one or more subpopulations, a statistical analysis of the items will not be able to separate bias effects from true differences in achievement.

MANTEL-HAENSZEL PROCEDURE FOR DIFFERENTIAL ITEM FUNCTIONING

The *Mantel-Haenszel* procedure for detecting differential item functioning is the most commonly used technique in educational testing. It does not depend on the application or the fit of any specific measurement model. It does have some philosophical overlap with the Rasch model since it uses total score to organize the analysis.

Differential item functioning is present when examinees of equal ability do not have the same chance of passing the item. If this inequity is associated with gender or ethnic groups, the item could be described as biased. The Mantel-Haenszel procedure looks for items that meet this idea of differential functioning.

The procedure as implemented by DRC contrasts a focal group with a reference group. While it makes no practical difference in the analysis which group is defined as the focal group, the protected class or the group most apt to be disadvantaged by a biased measurement is typically defined as the focal group. The Mantel-Haenszel statistic (MH) for each item is computed from a two-by-two-by-eight contingency table. It has two groups (focal and reference), two outcomes (right or wrong) and eight ability groupings. The ability groups are defined by the octiles of the score distribution for the total examinee populations.

Item Bias Review

Table 4-1: 2003 Counts of Gender Item Severity Codes by Grade

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
A	A					A	A	1			1
	A-	10	6	10	26	A	A-	11	18	10	39
	A+	5	9	4	18	A	A+	12	12	27	51
	B-			1	1	A	B-	1		2	3
	B+					A	B+	1	4		5
	C-					A	C-		2	1	3
	C+					A	C+				
B	A					B	A		1		1
	A-	8	7	7	22	B	A-	8	14	15	37
	A+	5	7	6	18	B	A+	16	18	20	54
	B-	1	1	2	4	B	B-	1	1	2	4
	B+	1			1	B	B+	1			1
	C-					B	C-		2	2	4
	C+					B	C+				
C	A	1			1	C	A	1			1
	A-	8	5	5	18	C	A-	8	17	18	43
	A+	5	9	10	24	C	A+	14	14	17	45
	B-		1		1	C	B-	3	3		6
	B+	1			1	C	B+		1	1	2
	C-					C	C-		1	3	4
	C+					C	C+				
D	A					D	A				
	A-	7	7	8	22	D	A-	10	17	23	50
	A+	8	7	7	22	D	A+	14	17	14	45
	B-		1		1	D	B-	1	2	1	4
	B+					D	B+	1			1
	C-					D	C-			2	2
	C+					D	C+				
E	A					E	A			1	1
	A-	6	6	2	14	E	A-	14	15	17	46
	A+	9	8	13	30	E	A+	12	15	19	46
	B-					E	B-		2	2	4
	B+					E	B+		2	1	3
	C-		1		1	E	C-		2		2
	C+					E	C+				
F	A					F	A				
	A-	10	6	8	24	F	A-	18	12	14	44
	A+	5	9	7	21	F	A+	8	17	23	48
	B-					F	B-		4	2	6
	B+					F	B+				0
	C-					F	C-		3		3
	C+					F	C+				
G	A					G	A				
	A-	10	9	5	24	G	A-	14	16	13	43
	A+	5	6	9	20	G	A+	11	14	19	44
	B-					G	B-	1	3	4	8
	B+					G	B+		1		1
	C-			1	1	G	C-		2		2
	C+					G	C+				

Item Bias Review

Table 4-1 (Continued)

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
H	A			1	1	H	A				
	A-	8	6	4	18		A-	12	20	22	54
	A+	4	7	8	19		A+	11	13	14	38
	B-	1	1		2		B-	2	2	2	6
	B+	1		1	2		B+			1	1
	C-	1	1		2		C-	1	1	1	3
	C+						C+				
I	A					I	A	2	1		3
	A-	7	10	6	23		A-	9	20	15	44
	A+	8	5	9	22		A+	12	13	19	44
	B-						B-	2	2	4	8
	B+						B+	1		1	2
	C-						C-			1	1
	C+						C+				
J	A					J	A				
	A-	9	5	3	17		A-	10	16	18	44
	A+	6	9	10	25		A+	13	13	19	45
	B-		1	1	2		B-	2	5	2	9
	B+			1	1		B+	1	1		2
	C-						C-		1	1	2
	C+						C+				
K	A	1			1	K	A				
	A-	4	6	3	13		A-	10	15	20	45
	A+	9	7	9	25		A+	15	18	16	49
	B-	1	1	1	3		B-	1	3	2	6
	B+			1	1		B+			1	1
	C-		1	1	2		C-			1	1
	C+						C+				
L	A					L	A				
	A-	9	9	7	25		A-	9	20	14	43
	A+	5	6	8	19		A+	13	14	22	49
	B-						B-	3	2	1	6
	B+	1			1		B+	1			1
	C-						C-			2	2
	C+						C+			1	1

Item Bias Review

Table 4-2: 2003 Counts of Item Severity Codes by Ethnicity (White vs. African American)

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
A	A			1	1	A	A				
	A-	7	9	6	22		A-	13	14	15	42
	A+	8	5	8	21		A+	13	20	22	55
	B-		1		1		B-		1	3	4
	B+						B+		1		1
	C-						C-				
	C+						C+				
B	A					B	A		3		3
	A-	11	10	9	30		A-	13	18	15	46
	A+	4	4	6	14		A+	11	15	19	45
	B-		1		1		B-	2		4	6
	B+						B+			1	1
	C-						C-				
	C+						C+				
C	A					C	A			1	1
	A-	7	11	5	23		A-	13	18	24	55
	A+	7	4	8	19		A+	12	15	11	38
	B-	1		2	3		B-	1	2	3	6
	B+						B+		1		1
	C-						C-				
	C+						C+				
D	A			1	1	D	A	1	1		2
	A-	9	9	6	24		A-	14	21	25	60
	A+	6	5	8	19		A+	9	14	12	35
	B-		1		1		B-	2		2	4
	B+						B+				
	C-						C-			1	1
	C+						C+				
E	A					E	A	1			1
	A-	8	7	10	25		A-	13	11	21	45
	A+	5	8	5	18		A+	10	22	17	49
	B-	2			2		B-	2	2	1	5
	B+						B+		1	1	2
	C-						C-				
	C+						C+				
F	A			1	1	F	A				
	A-	9	9	6	24		A-	10	17	20	47
	A+	6	4	8	18		A+	13	17	18	48
	B-		2		2		B-	2	2	1	5
	B+						B+				
	C-						C-	1			1
	C+						C+				
G	A	1			1	G	A	2			2
	A-	7	8	7	22		A-	13	22	24	59
	A+	4	5	7	16		A+	10	12	12	34
	B-	2	2		4		B-	1	1	1	3
	B+	1			1		B+		1	1	2
	C-			1	1		C-			1	1
	C+						C+				

Item Bias Review

Table 4-2 (Continued)

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
H	A					H	A		1		1
	A-	7	11	10	28	A-	15	15	23	53	
	A+	6	3	4	13	A+	8	20	14	42	
	B-	2			2	B-	2			3	
	B+					B+			1	1	
	C-		1		1	C-	1		1	2	
	C+					C+					
I	A					I	A			1	1
	A-	6	8	8	22	A-	17	18	20	55	
	A+	8	6	7	21	A+	8	17	16	41	
	B-	1	1		2	B-	1		2	3	
	B+					B+			1	1	
	C-					C-		1		1	
	C+					C+					
J	A			1	1	J	A	1		1	2
	A-	12	11	9	32	A-	11	21	19	51	
	A+	3	4	5	12	A+	13	14	16	43	
	B-					B-		1	4	5	
	B+					B+					
	C-					C-	1			1	
	C+					C+					
K	A			1	1	K	A		1		1
	A-	10	8	4	22	A-	14	20	25	59	
	A+	5	7	9	21	A+	12	13	11	36	
	B-			1	1	B-		2	3	5	
	B+					B+					
	C-					C-			1	1	
	C+					C+					
L	A			1	1	L	A	1	1	1	3
	A-	9	8	6	23	A-	12	16	20	48	
	A+	5	7	8	20	A+	11	17	16	44	
	B-	1			1	B-	1	2	1	4	
	B+					B+			1	1	
	C-					C-	1		1	2	
	C+					C+					

Item Bias Review

Table 4-3: Counts of Item Severity by Ethnicity (White vs. Hispanic)

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
A	A			1	1	A	A			1	1
	A-	9	10	6	25		A-	12	13	15	40
	A+	6	4	7	17		A+	14	18	20	52
	B-		1		1		B-		4	1	5
	B+			1	1		B+		1	2	3
	C-						C-			1	1
	C+						C+				
B	A	1			1	B	A			3	3
	A-	9	8	9	26		A-	8	19	13	40
	A+	4	7	6	17		A+	14	12	21	47
	B-	1			1		B-	3	4	1	8
	B+						B+		1		1
	C-						C-	1		1	2
	C+						C+				
C	A			2	2	C	A	1	1		2
	A-	8	11	6	25		A-	16	18	26	60
	A+	4	4	4	12		A+	7	15	9	31
	B-	3		1	4		B-	1	1	3	5
	B+			1	1		B+	1			1
	C-			1	1		C-		1	1	2
	C+						C+				
D	A			1	1	D	A	1	1	2	4
	A-	7	9	6	22		A-	14	17	22	53
	A+	7	5	8	20		A+	10	14	13	37
	B-	1	1		2		B-	1	3	1	5
	B+						B+			1	1
	C-						C-		1	1	2
	C+						C+				
E	A		1	1	2	E	A			1	1
	A-	11	6	7	24		A-	15	18	19	52
	A+	4	6	7	17		A+	10	15	19	44
	B-		2		2		B-	1			1
	B+						B+		1	1	2
	C-						C-		2		2
	C+						C+				
F	A		1	2	3	F	A		1	3	4
	A-	8	9	8	25		A-	12	23	20	55
	A+	6	3	5	14		A+	10	11	12	33
	B-		2		2		B-	1		2	3
	B+	1			1		B+	1	1	2	4
	C-						C-	2			2
	C+						C+				
G	A	1	1		2	G	A		2		2
	A-	10	9	7	26		A-	16	18	20	54
	A+	3	4	8	15		A+	8	11	16	35
	B-	1	1		2		B-	2	3	1	6
	B+						B+		1	2	3
	C-						C-		1		1
	C+						C+				

Item Bias Review

Table 4-3 (Continued)

Mathematics					Reading						
Form	Code	Grade			Total	Form	Code	Grade			Total
		5	8	11				5	8	11	
H	A					H	A			4	4
	A-	8	10	7	25	A-	13	23	18	54	
	A+	6	4	7	17	A+	9	12	15	36	
	B-	1	1		2	B-	3	1	2	6	
	B+					B+					
	C-					C-	1		1	2	
C+					C+						
I	A			1	1	I	A		2		2
	A-	6	6	7	19	A-	17	16	19	52	
	A+	9	8	7	24	A+	9	14	18	41	
	B-					B-		3	1	4	
	B+					B+		1	2	3	
	C-		1		1	C-					
C+					C+						
J	A		3		3	J	A			1	1
	A-	10	6	8	24	A-	12	16	21	49	
	A+	4	4	7	15	A+	12	18	10	40	
	B-	1	2		3	B-	1	1	4	6	
	B+					B+			2	2	
	C-					C-	1	1	2	4	
C+					C+						
K	A					K	A			1	1
	A-	13	10	8	31	A-	15	21	20	56	
	A+	2	4	7	13	A+	11	11	15	37	
	B-		1		1	B-		3	2	5	
	B+					B+			1	1	
	C-					C-		1	1	2	
C+					C+						
L	A			1	1	L	A			4	4
	A-	7	11	7	25	A-	15	18	20	53	
	A+	7	4	7	18	A+	9	17	14	40	
	B-	1			1	B-		1		1	
	B+					B+	1			1	
	C-					C-	1		2	3	
C+					C+						

Chapter 5: Student and School Level Scaling

Prior to 2000 testing, when the PSSA design was more heavily matrix sampling, estimating school-level scaled scores presented some statistical and psychometric challenges. For example, the statistically efficient method to compute the school-level scaled score often gave an answer different from what would be obtained by averaging student ability estimates. To avoid this source of misunderstanding, the school-level scores were forced to equal the average of the appropriate students. The matrix sampling component of the design, together with items from the common section, was used at the academic standard category level to estimate relative strengths and weaknesses for the school.

Beginning in 2000, with the new reporting design, content area total scores for students and for schools were based exclusively on the common sections. Thus, greater emphasis was placed on the common sections to possess optimal balance at the content standard level and yield reliable estimates of student-level abilities, as indicated by the standard errors. It was then possible to aggregate all scaled scores to the school, district and state levels without resorting to any complex algorithms, making the results simpler to explain and interpret.

Because the original design of the PSSA was intended to produce school-level estimates only, the reporting metric was defined at the school level. For the base year, the mean of all schools in the norming sample was set at 1300 and the standard deviation at 100. The distribution to which these apply is the content area scaled score with all schools weighted equally. Consequently, the expectation in 2000 was for state-level means near 1300 and standard deviations near 100. The state mean of student level scaled scores is, in general, somewhat different. This difference occurs because the mean of the school-level scores counts schools equally, regardless of size, while the mean of the student-level scores counts students equally.

For the eleventh grade, the PSSA also requires computing school-level results separately for vocational/technical students and non-vocational/technical students. Because student-level scaled scores are available for every student, this step simply requires a separate aggregation of student scores.

A minimum scale score of 700 was implemented for all PSSA reading, mathematics, and writing exams beginning in 2002. This minimum is applied to all the PSSA scales.

Although it affects very few students, some schools felt they were being penalized by the presence of extremely low scoring special needs students who took the regular assessment. The change was made to reduce the impact of these students on the overall school score.

One would not expect large changes from year to year at the state level. Any change would typically be in the same direction and proportional to changes in the p-values for the linking items. One would also expect schools that put more resources into effecting changes to show relatively more progress than those that do not. This type of information is not available in a systematic way and any evaluation of this type would depend on anecdotal information.

Table 5.1 gives the transformations that were used to convert 2003 logits (X) into the scaled scores. These translation constants included the adjustments to equate 2003 to prior years as

Student and School Level Scaling

well as the rescaling needed to convert to the appropriate metric. These transformations are used for all scaled score calculations.

Table 5-1: Transformation to Scaled Scores

Grade	Mathematics	Reading
Five	$190X + 1134$	$199X + 1095$
Eight	$178X + 1182$	$235X + 1114$
Eleven	$206X + 1203$	$245X + 1115$

COMMON ITEMS AND MATRIX SAMPLED ITEMS

With the new design for the 2000 PSSA, student-level scores are based on the common items only. This ensures that any decision made about students will be done in the most equitable manner. School-level scaled scores for the content areas are based on the mean of the student-level scaled scores. This ensures that the scaled scores used for school accountability directly reflect the student-level results. It is a simple matter to aggregate up to the school, district, and state levels.

For the purpose of providing school-level results at the content standard (academic standards category) level, all items on all matrix forms plus the common items are utilized. This insures that decisions about potential strengths and weaknesses are based on the widest possible sampling of the curriculum.

SCALED SCORES FOR CONTENT STANDARDS

Beginning in 2003, school-level scaled scores are no longer reported for the academic content standards (academic standards categories). Instead, school results are presented as the percent of total points achieved as compared to district and state level results.

Chapter 6: Interpreting Scaled Scores and Performance Levels

A *Scaled Score*, in the simplest sense, is a transformed number correct score¹. When all students take the same items, as in the common sections of the PSSA, the more points the student earns, the higher the scaled score received will be. The value of switching to the more abstract scaled score metric is to produce a more general result.

A raw score of, say, 30 is almost meaningless unless the reader is also told how many points were possible. The same score has quite different meanings if it is based on a thirty-item test or on a sixty-item test. *Number correct scores are transformed to percent correct scores to remove the effect of test length.* In the same way, a score based on sixty difficult items is quite different from the same score based on sixty easy items. *Number correct scores are transformed to scaled scores to remove the effects of test length and item difficulty.*

On the surface, a scaled score of, say, 1300 does not appear to have any more meaning than a raw score of 30. A temperature of 37 degrees does not provide useful information unless the scale is anchored to some known points. Useful anchors might be the freezing point of water or perhaps the normal body temperature for humans.² To be meaningful, the new metric must be related to known objects and situations, in other words, to some sort of *measurement standard*.

SCHOOL-LEVEL SCALED SCORES

The PSSA scaled score metric has been anchored to the *mean school level scaled score* for a base year and that point has been arbitrarily labeled 1300. The point on the scale that is one standard deviation above the mean was labeled 1400. These labels are completely arbitrary; they could have been called zero and one or any other ordered pair without affecting any of the relationships among schools, years, students or items. It would simply be changing the labels on the axis of a graph without moving any of the points.

The 1300-metric was chosen so that negative or fractional scaled scores are not needed and so that the PSSA scaled scores are not easily confused with the results from any other testing program. Like the temperature scales of Fahrenheit and Celsius, the new scale will acquire meaning only with experience.

A scaled score of 1300, or any other value, should have the same absolute meaning in the current year as it had in previous years, when properly equated across years. A school with a scaled score above 1300 performed better than did the average school in the base year.

More importantly, an increase in the scaled score from last year to the current year means the students' performance has improved; it does not say anything about whether the exam is easier or harder. To make these interpretations requires no information about the length or the difficulty of the test in either year, although all of those are essential information for deriving the scaled scores.

¹ This is done in two steps. First, there is a nonlinear transformation that converts number correct scores to logits and then a linear transformation to convert logits to scaled scores.

² Most adults have enough experience with temperature scales that being told the temperature is on the Fahrenheit scale or on the Celsius scale is enough information to render the measure useful.

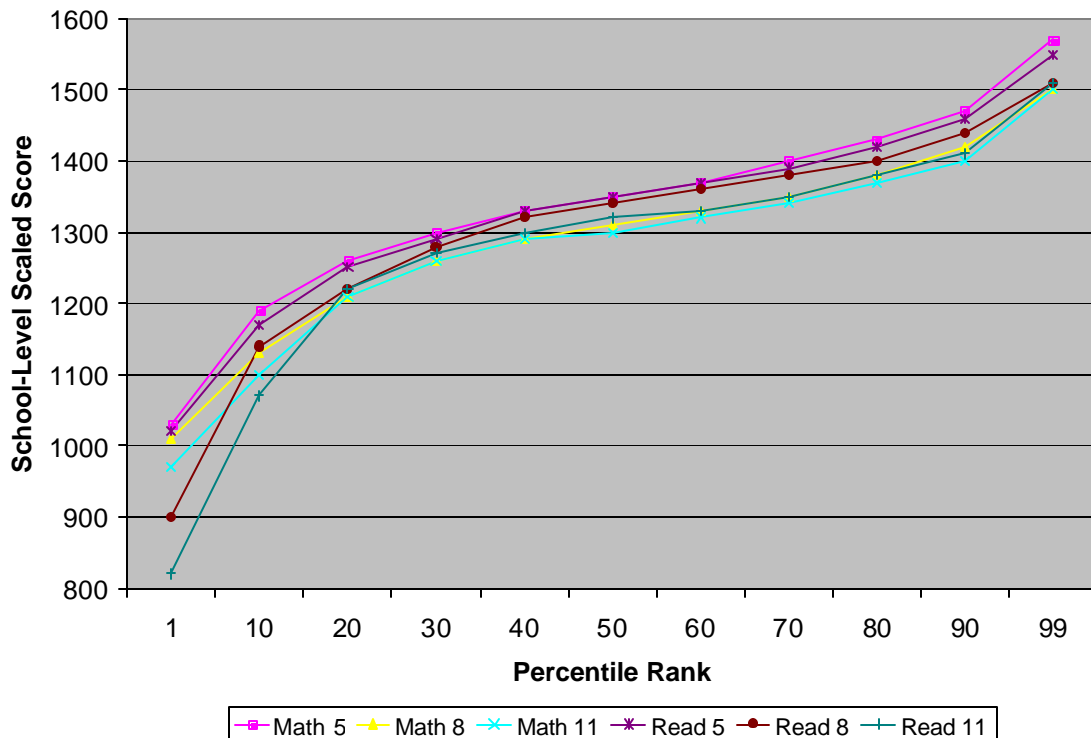
Interpreting Scaled Scores and Performance Levels

In the base year, the standard deviation of the school-level scaled scores was set to a value of 100. If school scores are approximately normally distributed, a scaled score of 1400, one standard deviation above the base year mean, means the school did better than about 5/6 of the schools in the base year. About two thirds of the schools will have scaled scores between 1200 and 1400. Conversely, about 16% of the schools will be below 1200. Scaled scores of 1000 and 1600 are three standard deviations from the mean and so are extreme scores.

The best guide for giving meaning to the scaled scores is experience. Knowing the typical school had a scaled score of 1300 in the base year provides a beginning for understanding the metric. Most importantly, comparing a school's score to its scores in previous years should be a good indicator of progress.

Another approach to understanding the meaning of the scores is the percentile rank as shown in Figure 6.1 below. This plot converts the school level scaled score into a percentile rank that describes the distribution of scores for all schools in the norming sample for the current year. This chart applies only to school-level scaled scores computed from the common and matrix sections of the exam and can not be used for student level scores. A complete table of school-level percentile ranks is given in Appendix W.

Figure 6-1: 2003 School-Level Percentile Rank



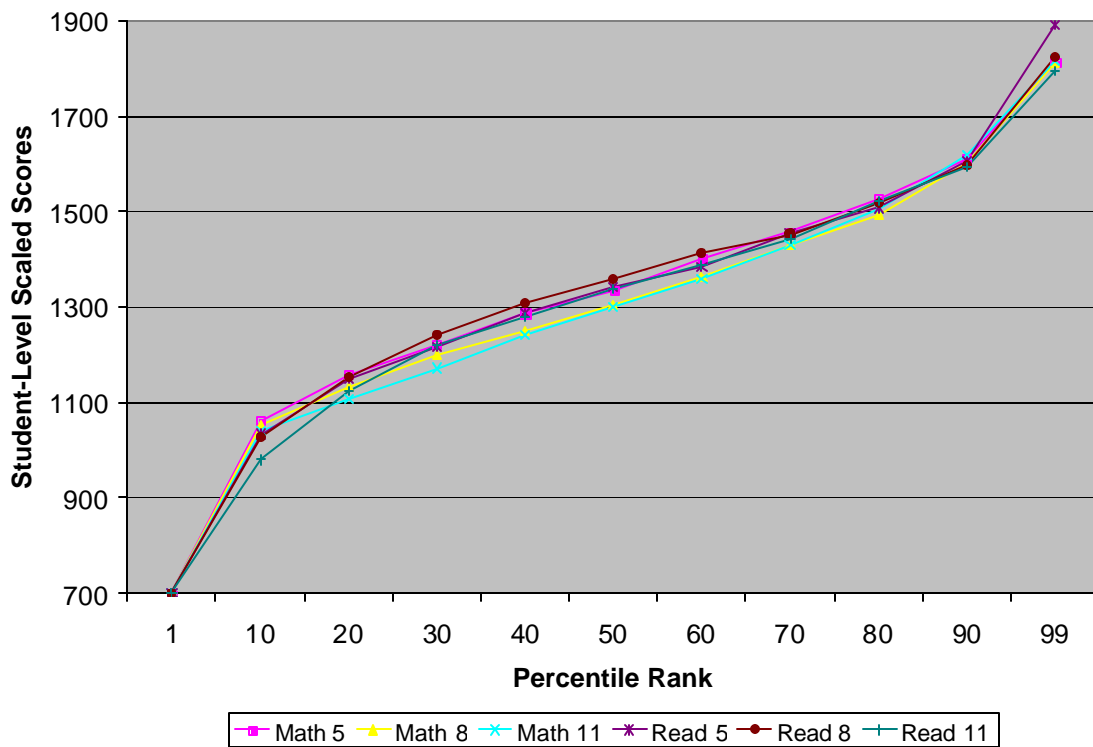
STUDENT-LEVEL SCALED SCORES

This discussion has been focused on the meaning of the metric at the school level. For the students, the mean scaled score will also be close to 1300, but the standard deviation will be about twice as large.

In interpreting a student-level scaled score, the student's measure can be compared to the mean of the school or to other students in the state. Another approach is to examine the percentile rank of a student's score. Figure 6.2 plots the student-level scaled scores against a percentile rank that describes the distribution of scores for all students in the norming sample for the current year. This table applies only to student-level scaled scores computed from the common sections of the exam and cannot be used for school-level scores.

A complete percentile rank table that includes conversions for points received as well as scaled scores is included in Appendix X.

Figure 6-2: 2003 Student-Level Percentile Rank



PSSA PERFORMANCE LEVELS FOR MATHEMATICS AND READING

- Advanced:** Superior academic performance indicating an in-depth understanding and exemplary display of the skills included in Pennsylvania's Academic Standards;

Interpreting Scaled Scores and Performance Levels

- **Proficient:** Satisfactory academic performance indicating a solid understanding and adequate display of the skills included in Pennsylvania’s Academic Standards;
- **Basic:** Marginal academic performance, work approaching, but not yet reaching, satisfactory performance. Performance indicates a partial understanding and limited display of the skills included in Pennsylvania’s Academic Standards. The student may need additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level;
- **Below Basic:** Inadequate academic performance that indicates little understanding and minimal display of the skills included in the Pennsylvania Academic Content Standards. There is a major need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.

The scores that correspond with each performance level are located in Table 6.5.

Performance Levels for Each Grade and Subject		
	Mathematics	Reading
Grade 5		
Advanced	1460 and above	1480 and above
Proficient	1300 -- 1459	1300 - 1479
Basic	1170 -- 1299	1160 - 1299
Below Basic	1169 and below	1159 and below
Grade 8		
Advanced	1510 and above	1490 and above
Proficient	1300 -- 1509	1280 -- 1489
Basic	1180 -- 1299	1130 -- 1279
Below Basic	1179 and below	1129 and below
Grade 11		
Advanced	1490 and above	1520 and above
Proficient	1310 -- 1489	1290 -- 1519
Basic	1180 -- 1309	1140 -- 1289
Below Basic	1179 and below	1139 and below

Table 6.5: Scores Associated With Performance Levels

PSSA RELIABILITY OF PERFORMANCE LEVELS

Indicators of Consistency

Criterion-referenced tests are often used to place the examinees into two or more performance classifications. It is then useful to have some indication of how consistent such classifications are. Livingston (1972) argued that a measure of consistency should be a function of the reliability of the test increases and the distance between the performance standard and the mean

Interpreting Scaled Scores and Performance Levels

of the distribution. Livingston's coefficient, which was formulated from the perspective of True Score Theory, is defined by:

$$1. \quad \kappa^2(X,T) = [\sigma^2_T + (\mu_T - C)^2] / [\sigma^2_X + (\mu_X - C)^2]$$

If the expressions in parenthesis are zero, equation 1 is the ratio of the true score variance to the observed score variance, which is a standard definition of reliability. The numerator is increased by adding the squared difference between the true score mean and the cut score. The denominator is increased by the difference between the observed score mean and the cut score.

The coefficient is normally computed, from data, by setting the true score mean equal to the observed score mean and multiplying the observed score variance by the KR-20 reliability coefficient to obtain a value for the true score variance.

$$2. \quad \kappa^2(X,T) = [r \sigma^2_X + (\mu_X - C)^2] / [\sigma^2_X + (\mu_X - C)^2]$$

If $(\mu_X - C)$ is zero, expression 2 will return the value of the KR-20; if it is non-zero, the value will be larger than the KR-20.

For the 2003 PSSA, values for the Livingston Coefficient of Consistency are given in the table below.

Table 6-1: 2003 Reliability of Performance Levels for the PSSA

GRADE	CONTENT	BASIC	PROFICIENT	ADVANCED
Five	Reading	.93	.90	.94
	Math	.95	.92	.95
Eight	Reading	.95	.91	.94
	Math	.95	.93	.97
Eleven	Reading	.94	.92	.96
	Math	.94	.92	.96

Livingston, S.A. 1972. Criterion Referenced Applications of Classical Test Theory. *Journal of Educational Measurement* 9: 13-26.

**Appendix A: 2003 PSSA Distribution Summaries by Form
Mathematics and Reading**

Grade	Content	Form	Number of Examinees	Number of Score Points	Number of Points Received			Test Reliability	Percent of Points Received				
					Mean	Std Dev	Std Error of Meas		Min Score	25 %ile	Median	75 %ile	Max Score
5	Math	A	11917	105	68.0	19.2	4.9	0.93	0.0	54.7	70.4	83.5	104.0
		B	12045	105	67.8	19.5	4.9	0.94	0.0	54.3	70.7	83.5	104.0
		C	12140	105	68.5	19.2	4.9	0.93	0.0	55.1	71.5	83.9	104.0
		D	12141	105	68.4	18.7	4.9	0.93	0.0	56.1	70.9	83.2	104.0
		E	12093	105	69.0	19.8	5.0	0.94	0.0	55.4	71.9	85.0	105.0
		F	12011	105	68.5	19.0	4.9	0.93	0.0	55.1	71.3	83.7	104.0
		G	11918	105	69.2	19.5	5.0	0.94	0.0	55.6	72.4	84.8	105.0
		H	11917	105	68.3	19.1	4.9	0.93	0.0	55.0	71.0	83.7	105.0
		I	11501	105	68.9	18.8	4.9	0.93	0.0	56.2	71.7	83.9	105.0
		J	11358	105	69.8	19.2	5.0	0.93	0.0	57.0	72.8	85.0	105.0
		K	11359	105	68.9	19.1	4.9	0.93	0.0	55.9	72.1	84.1	105.0
		L	11289	105	69.0	19.5	4.9	0.94	0.0	55.5	71.8	84.9	105.0
			Common	141402	85	56.0	15.5	4.4	0.92	7.0	45.2	58.4	68.5
8	Math	A	12047	105	62.7	22.3	5.6	0.94	0.0	44.9	64.2	81.4	105.0
		B	12140	105	63.8	22.2	5.4	0.94	0.0	46.5	65.4	82.1	105.0
		C	12310	105	62.7	22.2	5.4	0.94	0.0	45.6	64.3	81.1	105.0
		D	12478	105	63.5	22.9	5.5	0.94	0.0	45.4	65.0	82.8	105.0
		E	12438	105	63.2	22.4	5.5	0.94	0.0	45.7	64.6	82.1	105.0
		F	12524	105	63.3	22.3	5.4	0.94	0.0	45.9	64.4	81.9	105.0
		G	12461	105	63.5	22.4	5.4	0.94	0.0	45.8	65.3	82.3	105.0
		H	11925	105	62.7	22.7	5.4	0.94	0.0	44.4	64.1	81.8	105.0
		I	11744	105	62.7	22.8	5.5	0.94	0.0	45.0	63.8	81.9	105.0
		J	11593	105	63.0	22.4	5.5	0.94	0.0	45.5	64.7	81.8	105.0
		K	11936	105	63.4	22.6	5.5	0.94	0.0	45.7	65.1	82.2	105.0
		L	11964	105	63.3	23.2	5.5	0.94	0.0	44.5	65.1	83.2	105.0
			Common	144964	85	52.0	18.2	4.9	0.93	6.0	37.5	53.2	67.4
11	Math	A	10245	105	53.5	21.0	5.3	0.94	0.0	36.4	52.0	70.2	104.0
		B	10414	105	54.2	21.2	5.3	0.94	0.0	37.2	52.8	71.3	102.0
		C	10594	105	53.7	20.8	5.3	0.94	0.0	36.9	52.1	69.9	102.0
		D	10762	105	53.1	20.8	5.2	0.94	0.0	36.4	52.0	69.3	101.0
		E	11018	105	53.3	20.5	5.2	0.94	0.0	36.9	52.1	69.4	102.0
		F	11033	105	53.8	21.3	5.3	0.94	0.0	36.0	52.8	70.9	104.0
		G	11032	105	52.9	20.4	5.2	0.94	0.0	36.4	51.6	68.5	103.0
		H	10981	105	53.1	20.7	5.1	0.94	0.0	36.1	52.6	69.7	102.0
		I	10789	105	54.0	20.8	5.3	0.94	0.0	36.9	52.8	70.2	102.0
		J	10540	105	53.6	21.2	5.2	0.94	0.0	36.1	52.5	70.4	104.0
		K	10325	105	53.5	20.4	5.2	0.94	0.0	37.0	52.0	69.2	102.0
		L	10020	105	53.6	21.2	5.3	0.94	0.0	36.4	52.5	70.5	104.0
			Common	126941	85	43.9	16.7	4.7	0.92	3.0	30.0	42.9	57.3

Appendix A: 2003 PSSA Distribution Summaries by Form Mathematics and Reading

Grade	Content	Form	Number of Examinees	Number of Score Points	Number of Points Received			Test Reliability	Percent of Points Received				
					Mean	Std Dev	Std Error of Meas		Min Score	25 %ile	Median	75 %ile	Max Score
5	Reading	A	11917	90	59.1	16.6	4.2	0.94	0.0	48.4	62.7	72.1	89.0
		B	12045	90	59.4	15.9	4.1	0.93	0.0	50.2	63.0	71.5	90.0
		C	12140	90	60.6	16.0	4.1	0.93	0.0	50.7	64.0	73.1	89.0
		D	12141	90	59.1	15.7	4.1	0.93	0.0	49.8	62.2	71.1	89.0
		E	12093	90	59.6	16.2	4.2	0.93	0.0	49.2	63.0	72.1	89.0
		F	12011	90	58.1	15.0	4.1	0.92	0.0	49.3	60.9	69.6	88.0
		G	11918	90	59.8	16.1	4.2	0.93	0.0	49.8	62.8	72.3	90.0
		H	11917	90	59.1	15.6	4.1	0.93	0.0	49.4	62.0	71.1	89.0
		I	11501	90	60.0	16.1	4.1	0.94	0.0	50.6	63.6	72.3	90.0
		J	11358	90	59.1	15.4	4.1	0.93	0.0	49.9	62.3	70.9	88.0
		K	11359	90	59.8	15.7	4.1	0.93	0.0	50.7	63.2	71.6	89.0
		L	11289	90	60.2	16.1	4.1	0.94	0.0	51.0	64.0	72.5	89.0
			Common		141530	60	39.8	10.7	3.4	0.90	3.0	33.2	41.8
8	Reading	A	12047	120	80.6	19.5	4.7	0.94	0.0	70.4	84.9	95.0	117.0
		B	12140	120	80.3	19.4	4.8	0.94	0.0	70.5	84.7	94.4	115.0
		C	12310	120	81.3	20.0	4.8	0.94	0.0	70.6	86.1	96.5	118.0
		D	12478	120	81.3	19.7	4.8	0.94	0.0	70.9	85.9	95.8	118.0
		E	12438	120	80.5	19.1	4.7	0.94	0.0	70.3	84.3	94.7	118.0
		F	12524	120	80.5	19.3	4.7	0.94	0.0	70.6	84.9	94.8	117.0
		G	12461	120	81.5	20.1	4.7	0.94	0.0	70.9	85.9	96.5	116.0
		H	11925	120	81.1	19.9	4.7	0.94	0.0	70.5	85.3	95.9	118.0
		I	11744	120	81.1	19.3	4.7	0.94	0.0	70.8	85.5	95.2	119.0
		J	11593	120	81.4	19.6	4.7	0.94	0.0	71.6	86.3	95.9	117.0
		K	11936	120	81.7	19.7	4.7	0.94	0.0	71.0	86.3	96.3	118.0
		L	11964	120	81.0	19.8	4.8	0.94	0.0	70.4	85.4	95.6	117.0
			Common		145302	80	54.2	13.0	3.9	0.91	4.0	47.2	56.9
11	Reading	A	10245	132	87.2	22.6	5.2	0.95	0.0	74.7	92.4	104.2	126.0
		B	10414	132	87.3	22.3	5.1	0.95	0.0	75.1	92.4	104.0	128.0
		C	10594	132	87.5	22.4	5.1	0.95	0.0	75.3	92.4	104.5	128.0
		D	10762	132	88.1	22.4	5.1	0.95	0.0	75.3	92.9	105.2	127.0
		E	11018	132	87.3	21.8	5.1	0.95	0.0	75.4	92.1	103.4	131.0
		F	11033	132	87.4	22.0	5.1	0.95	0.0	75.4	91.7	103.9	128.0
		G	11032	132	86.6	22.2	5.1	0.95	0.0	75.8	92.7	104.0	128.0
		H	10981	132	87.6	22.2	5.1	0.95	0.0	75.8	92.7	104.0	128.0
		I	10789	132	88.7	22.2	5.1	0.95	0.0	76.8	93.7	105.5	127.0
		J	10540	132	88.7	22.8	5.1	0.95	0.0	76.5	93.8	106.0	127.0
		K	10325	132	87.9	22.7	5.1	0.95	0.0	75.1	93.0	105.2	128.0
		L	10020	132	88.8	22.5	5.1	0.95	0.0	76.9	94.4	105.7	129.0
			Common		127427	88	58.8	14.8	4.2	0.92	0.0	50.5	61.9

Appendix B: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	53	B	-1.139	0.028	0.844	0.353	0.044	0.844*	0.048	0.060	0.004	0.000	-0.182	0.353*	-0.197	-0.168
A	54	C	-0.102	0.022	0.715	0.451	0.113	0.062	0.715*	0.105	0.005	0.000	-0.231	-0.201	0.451*	-0.235
A	55	A	-2.011	0.037	0.928	0.291	0.928*	0.021	0.022	0.027	0.003	0.000	0.291*	-0.116	-0.179	-0.152
A	56	B	-0.210	0.022	0.745	0.520	0.095	0.745*	0.108	0.049	0.003	0.000	-0.212	0.520*	-0.296	-0.298
A	57	D	-0.605	0.024	0.790	0.350	0.038	0.057	0.112	0.790*	0.003	0.000	-0.159	-0.212	-0.174	0.350*
A	58	D	0.662	0.020	0.555	0.380	0.234	0.132	0.077	0.555*	0.003	0.000	-0.284	-0.092	-0.111	0.380*
A	59	A	0.143	0.021	0.654	0.426	0.654*	0.063	0.140	0.140	0.004	0.000	0.426*	-0.192	-0.248	-0.180
A	60	D	-1.434	0.030	0.876	0.162	0.092	0.015	0.014	0.876*	0.003	0.000	-0.032	-0.142	-0.156	0.162*
A	61	C	0.383	0.021	0.595	0.380	0.226	0.145	0.595*	0.030	0.004	0.000	-0.116	-0.294	0.380*	-0.152
A	62	B	0.649	0.020	0.552	0.297	0.101	0.552*	0.256	0.089	0.003	0.000	-0.186	0.297*	-0.057	-0.205
A	63	B	0.085	0.021	0.665	0.406	0.186	0.665*	0.113	0.034	0.003	0.000	-0.177	0.406*	-0.242	-0.211
A	64	C	0.538	0.021	0.573	0.454	0.176	0.144	0.573*	0.102	0.004	0.000	-0.208	-0.235	0.454*	-0.180
A	65	B	0.203	0.021	0.667	0.555	0.104	0.667*	0.143	0.083	0.004	0.000	-0.203	0.555*	-0.387	-0.202
A	66	C	1.078	0.020	0.478	0.437	0.177	0.267	0.478*	0.073	0.005	0.000	-0.198	-0.269	0.437*	-0.054
A	67	A	-0.520	0.024	0.729	0.225	0.729*	0.064	0.167	0.036	0.004	0.000	0.225*	-0.170	-0.072	-0.127
B	53	A	-2.954	0.055	0.967	0.278	0.967*	0.008	0.014	0.007	0.003	0.000	0.278*	-0.122	-0.162	-0.121
B	54	C	-2.510	0.045	0.956	0.342	0.007	0.015	0.956*	0.020	0.003	0.000	-0.124	-0.183	0.342*	-0.209
B	55	D	-0.303	0.023	0.724	0.255	0.041	0.123	0.108	0.724*	0.004	0.000	-0.088	-0.159	-0.115	0.255*
B	56	A	-1.520	0.031	0.906	0.450	0.906*	0.024	0.023	0.040	0.007	0.000	0.450*	-0.165	-0.207	-0.315
B	57	B	0.651	0.020	0.579	0.377	0.184	0.579*	0.125	0.107	0.005	0.000	-0.117	0.377*	-0.226	-0.182
B	58	A	-0.358	0.023	0.778	0.476	0.778*	0.091	0.066	0.062	0.004	0.000	0.476*	-0.273	-0.224	-0.226
B	59	C	0.324	0.021	0.648	0.534	0.087	0.217	0.648*	0.045	0.003	0.000	-0.243	-0.393	0.534*	-0.076
B	60	C	0.583	0.021	0.591	0.314	0.105	0.263	0.591*	0.038	0.003	0.000	-0.222	-0.106	0.314*	-0.162
B	61	B	1.393	0.020	0.420	0.386	0.118	0.420*	0.302	0.156	0.004	0.000	-0.174	0.386*	-0.112	-0.203
B	62	B	0.554	0.021	0.609	0.496	0.141	0.609*	0.113	0.134	0.003	0.000	-0.223	0.496*	-0.089	-0.371
B	63	B	-0.077	0.022	0.734	0.509	0.153	0.734*	0.023	0.086	0.003	0.000	-0.205	0.509*	-0.167	-0.416
B	64	C	-0.020	0.022	0.694	0.451	0.090	0.158	0.694*	0.054	0.003	0.000	-0.257	-0.232	0.451*	-0.182
B	65	D	0.142	0.021	0.667	0.479	0.097	0.133	0.099	0.667*	0.004	0.000	-0.229	-0.210	-0.259	0.479*
B	66	C	0.455	0.021	0.643	0.522	0.088	0.188	0.643*	0.079	0.003	0.000	-0.186	-0.362	0.522*	-0.177
B	67	C	-0.061	0.022	0.736	0.411	0.040	0.086	0.736*	0.133	0.005	0.000	-0.094	-0.261	0.411*	-0.236

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	53	B	-2.440	0.045	0.960	0.276	0.009	0.960*	0.027	0.003	0.002	0.000	-0.069	0.276*	-0.245	-0.043
C	54	D	-0.624	0.024	0.806	0.428	0.111	0.023	0.057	0.806*	0.004	0.000	-0.367	-0.145	-0.108	0.428*
C	55	A	-0.591	0.024	0.811	0.383	0.811*	0.083	0.078	0.024	0.003	0.000	0.383*	-0.229	-0.191	-0.183
C	56	D	-0.303	0.023	0.746	0.408	0.038	0.093	0.119	0.746*	0.004	0.000	-0.091	-0.255	-0.242	0.408*
C	57	D	0.665	0.020	0.596	0.590	0.039	0.241	0.121	0.596*	0.003	0.000	-0.238	-0.389	-0.214	0.590*
C	58	C	-0.094	0.022	0.710	0.409	0.134	0.093	0.710*	0.059	0.004	0.000	-0.271	-0.163	0.409*	-0.164
C	59	B	1.156	0.020	0.485	0.428	0.251	0.485*	0.224	0.038	0.002	0.000	-0.358	0.428*	-0.056	-0.149
C	60	D	0.963	0.020	0.516	0.332	0.089	0.253	0.139	0.516*	0.004	0.000	-0.162	-0.177	-0.106	0.332*
C	61	D	0.812	0.020	0.537	0.342	0.250	0.147	0.063	0.537*	0.003	0.000	-0.097	-0.193	-0.220	0.342*
C	62	C	-1.318	0.030	0.874	0.394	0.047	0.052	0.874*	0.024	0.003	0.000	-0.164	-0.291	0.394*	-0.159
C	63	C	-0.126	0.022	0.763	0.437	0.117	0.036	0.763*	0.080	0.003	0.000	-0.182	-0.263	0.437*	-0.262
C	64	C	0.534	0.020	0.609	0.427	0.225	0.113	0.609*	0.050	0.004	0.000	-0.345	-0.146	0.427*	-0.051
C	65	D	-0.427	0.023	0.779	0.541	0.028	0.120	0.070	0.779*	0.003	0.000	-0.207	-0.381	-0.233	0.541*
C	66	A	-1.030	0.027	0.855	0.410	0.855*	0.088	0.021	0.034	0.003	0.000	0.410*	-0.207	-0.222	-0.261
C	67	B	1.374	0.020	0.426	0.386	0.261	0.426*	0.163	0.145	0.004	0.000	0.012?	0.386*	-0.142	-0.386
D	53	B	-0.646	0.025	0.829	0.536	0.022	0.829*	0.025	0.121	0.003	0.000	-0.155	0.536*	-0.137	-0.459
D	54	A	-1.673	0.033	0.915	0.303	0.915*	0.015	0.005	0.062	0.002	0.000	0.303*	-0.106	-0.112	-0.232
D	55	B	-1.410	0.031	0.901	0.393	0.024	0.901*	0.049	0.023	0.003	0.000	-0.210	0.393*	-0.223	-0.191
D	56	C	-0.133	0.022	0.734	0.400	0.127	0.097	0.734*	0.039	0.003	0.000	-0.249	-0.160	0.400*	-0.199
D	57	B	-1.663	0.033	0.917	0.398	0.019	0.917*	0.039	0.022	0.003	0.000	-0.151	0.398*	-0.249	-0.223
D	58	C	0.072	0.021	0.718	0.537	0.096	0.153	0.718*	0.030	0.003	0.000	-0.364	-0.304	0.537*	-0.098
D	59	C	0.713	0.020	0.537	0.400	0.241	0.085	0.537*	0.133	0.005	0.000	-0.185	-0.130	0.400*	-0.225
D	60	D	-0.401	0.023	0.780	0.484	0.084	0.086	0.047	0.780*	0.003	0.000	-0.193	-0.341	-0.206	0.484*
D	61	C	1.744	0.021	0.372	0.297	0.420	0.045	0.372*	0.161	0.003	0.000	-0.054	-0.057	0.297*	-0.266
D	62	C	1.304	0.020	0.440	0.415	0.041	0.306	0.440*	0.210	0.003	0.000	-0.157	-0.122	0.415*	-0.272
D	63	A	-0.527	0.024	0.765	0.298	0.765*	0.038	0.173	0.022	0.002	0.000	0.298*	-0.216	-0.119	-0.226
D	64	D	0.538	0.020	0.603	0.383	0.054	0.308	0.033	0.603*	0.003	0.000	-0.231	-0.199	-0.201	0.383*
D	65	B	0.757	0.020	0.518	0.195	0.052	0.518*	0.393	0.034	0.003	0.000	-0.144	0.195*	-0.039	-0.213
D	66	B	-0.418	0.023	0.773	0.420	0.067	0.773*	0.081	0.076	0.004	0.000	-0.215	0.420*	-0.192	-0.232
D	67	B	1.462	0.020	0.385	0.163	0.385	0.385*	0.097	0.128	0.003	0.000	-0.052	0.163*	-0.099	-0.050

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	53	A	-2.342	0.043	0.952	0.243	0.952*	0.021	0.013	0.010	0.004	0.000	0.243*	-0.119	-0.144	-0.076
E	54	D	-1.379	0.030	0.903	0.432	0.037	0.046	0.011	0.903*	0.003	0.000	-0.236	-0.280	-0.142	0.432*
E	55	B	-0.355	0.023	0.743	0.399	0.062	0.743*	0.128	0.062	0.006	0.000	-0.219	0.399*	-0.190	-0.192
E	56	A	-0.432	0.024	0.773	0.425	0.773*	0.125	0.055	0.043	0.004	0.000	0.425*	-0.246	-0.229	-0.167
E	57	D	-0.567	0.024	0.801	0.381	0.043	0.062	0.090	0.801*	0.004	0.000	-0.189	-0.131	-0.250	0.381*
E	58	C	0.523	0.021	0.602	0.442	0.149	0.162	0.602*	0.081	0.005	0.000	-0.262	-0.233	0.442*	-0.100
E	59	D	0.603	0.021	0.630	0.464	0.115	0.030	0.222	0.630*	0.003	0.000	-0.259	-0.145	-0.256	0.464*
E	60	A	0.804	0.020	0.567	0.399	0.567*	0.263	0.103	0.062	0.004	0.000	0.399*	-0.154	-0.250	-0.179
E	61	A	0.776	0.020	0.543	0.377	0.543*	0.363	0.046	0.045	0.004	0.000	0.377*	-0.166	-0.218	-0.251
E	62	C	0.625	0.020	0.602	0.588	0.053	0.295	0.602*	0.047	0.004	0.000	-0.194	-0.436	0.588*	-0.168
E	63	A	-0.962	0.027	0.871	0.435	0.871*	0.020	0.035	0.071	0.004	0.000	0.435*	-0.156	-0.211	-0.293
E	64	C	0.743	0.020	0.581	0.467	0.107	0.245	0.581*	0.063	0.004	0.000	-0.303	-0.156	0.467*	-0.244
E	65	D	0.683	0.020	0.578	0.526	0.088	0.152	0.176	0.578*	0.006	0.000	-0.230	-0.257	-0.240	0.526*
E	66	B	0.887	0.020	0.539	0.499	0.114	0.539*	0.074	0.269	0.004	0.000	-0.157	0.499*	-0.188	-0.314
E	67	C	0.076	0.022	0.692	0.438	0.122	0.029	0.692*	0.152	0.005	0.000	-0.184	-0.206	0.438*	-0.268
F	53	A	-2.209	0.041	0.951	0.313	0.951*	0.022	0.012	0.013	0.003	0.000	0.313*	-0.187	-0.155	-0.134
F	54	C	-0.481	0.024	0.800	0.488	0.054	0.073	0.800*	0.069	0.004	0.000	-0.227	-0.210	0.488*	-0.313
F	55	C	-0.551	0.024	0.793	0.491	0.025	0.061	0.793*	0.118	0.002	0.000	-0.133	-0.171	0.491*	-0.401
F	56	D	-0.881	0.026	0.797	0.126	0.014	0.061	0.125	0.797*	0.003	0.000	-0.128	0.016?	-0.094	0.126*
F	57	C	0.135	0.021	0.687	0.465	0.104	0.084	0.687*	0.121	0.003	0.000	-0.221	-0.222	0.465*	-0.237
F	58	D	-0.445	0.024	0.756	0.327	0.099	0.018	0.124	0.756*	0.003	0.000	-0.108	-0.134	-0.249	0.327*
F	59	B	1.141	0.020	0.479	0.350	0.089	0.479*	0.126	0.302	0.003	0.000	-0.154	0.350*	-0.119	-0.181
F	60	D	-0.302	0.023	0.763	0.381	0.054	0.049	0.129	0.763*	0.005	0.000	-0.221	-0.200	-0.176	0.381*
F	61	B	-0.059	0.022	0.701	0.387	0.019	0.701*	0.216	0.062	0.003	0.000	-0.138	0.387*	-0.246	-0.202
F	62	B	0.112	0.021	0.687	0.521	0.089	0.687*	0.144	0.077	0.004	0.000	-0.203	0.521*	-0.275	-0.293
F	63	B	-0.244	0.023	0.725	0.457	0.147	0.725*	0.080	0.044	0.004	0.000	-0.337	0.457*	-0.167	-0.147
F	64	C	0.379	0.021	0.640	0.553	0.041	0.274	0.640*	0.043	0.003	0.000	-0.124	-0.419	0.553*	-0.227
F	65	C	0.987	0.020	0.481	0.332	0.405	0.084	0.481*	0.028	0.004	0.000	-0.200	-0.115	0.332*	-0.164
F	66	B	0.537	0.021	0.583	0.425	0.105	0.583*	0.213	0.096	0.004	0.000	-0.226	0.425*	-0.178	-0.200
F	67	A	0.125	0.021	0.662	0.450	0.662*	0.115	0.079	0.139	0.005	0.000	0.450*	-0.222	-0.181	-0.238

Appendix B: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	53	A	-1.018	0.027	0.857	0.437	0.857*	0.070	0.048	0.022	0.003	0.000	0.437*	-0.213	-0.285	-0.202
G	54	B	-1.981	0.037	0.935	0.255	0.020	0.935*	0.027	0.015	0.002	0.000	-0.168	0.255*	-0.093	-0.138
G	55	C	-0.586	0.024	0.803	0.466	0.041	0.069	0.803*	0.083	0.003	0.000	-0.263	-0.179	0.466*	-0.288
G	56	B	-0.336	0.023	0.760	0.490	0.116	0.760*	0.054	0.066	0.003	0.000	-0.281	0.490*	-0.189	-0.272
G	57	B	-0.306	0.023	0.784	0.570	0.064	0.784*	0.047	0.103	0.002	0.000	-0.253	0.570*	-0.167	-0.430
G	58	C	0.219	0.021	0.666	0.508	0.193	0.069	0.666*	0.068	0.004	0.000	-0.392	-0.206	0.508*	-0.099
G	59	C	0.060	0.022	0.675	0.380	0.166	0.104	0.675*	0.053	0.003	0.000	-0.198	-0.170	0.380*	-0.201
G	60	B	0.683	0.021	0.600	0.550	0.157	0.600*	0.031	0.210	0.003	0.000	-0.312	0.550*	-0.154	-0.301
G	61	C	0.893	0.020	0.547	0.530	0.097	0.263	0.547*	0.090	0.003	0.000	-0.219	-0.240	0.530*	-0.301
G	62	A	-0.397	0.024	0.773	0.447	0.773*	0.054	0.083	0.087	0.002	0.000	0.447*	-0.242	-0.302	-0.147
G	63	A	-0.099	0.022	0.700	0.279	0.700*	0.042	0.188	0.065	0.004	0.000	0.279*	-0.127	-0.151	-0.144
G	64	D	1.005	0.020	0.513	0.372	0.187	0.211	0.084	0.513*	0.005	0.000	-0.228	-0.062	-0.230	0.372*
G	65	B	-0.199	0.023	0.738	0.477	0.098	0.738*	0.121	0.039	0.004	0.000	-0.239	0.477*	-0.258	-0.231
G	66	C	-1.117	0.028	0.861	0.387	0.090	0.024	0.861*	0.022	0.003	0.000	-0.237	-0.196	0.387*	-0.188
G	67	D	1.855	0.021	0.330	0.441	0.614?	0.035	0.015	0.330*	0.005	0.000	-0.336	-0.115	-0.121	0.441*
H	53	D	-1.082	0.028	0.871	0.365	0.023	0.025	0.079	0.871*	0.002	0.000	-0.197	-0.170	-0.218	0.365*
H	54	A	-1.280	0.029	0.888	0.405	0.888*	0.063	0.023	0.024	0.003	0.000	0.405*	-0.246	-0.228	-0.176
H	55	C	-1.331	0.030	0.883	0.299	0.012	0.032	0.883*	0.070	0.002	0.000	-0.114	-0.116	0.299*	-0.220
H	56	B	-1.300	0.030	0.867	0.310	0.067	0.867*	0.032	0.031	0.002	0.000	-0.153	0.310*	-0.174	-0.168
H	57	B	-0.284	0.023	0.749	0.417	0.072	0.749*	0.108	0.069	0.003	0.000	-0.200	0.417*	-0.175	-0.264
H	58	A	-0.165	0.023	0.750	0.439	0.750*	0.186	0.049	0.012	0.004	0.000	0.439*	-0.288	-0.240	-0.166
H	59	D	-0.025	0.022	0.693	0.461	0.113	0.108	0.082	0.693*	0.004	0.000	-0.236	-0.233	-0.211	0.461*
H	60	C	0.902	0.020	0.550	0.452	0.178	0.115	0.550*	0.152	0.004	0.000	-0.163	-0.249	0.452*	-0.208
H	61	A	-0.785	0.026	0.840	0.470	0.840*	0.035	0.041	0.082	0.002	0.000	0.470*	-0.231	-0.213	-0.292
H	62	B	-0.371	0.023	0.783	0.461	0.092	0.783*	0.064	0.058	0.003	0.000	-0.247	0.461*	-0.204	-0.259
H	63	B	0.695	0.021	0.572	0.411	0.035	0.572*	0.305	0.085	0.003	0.000	-0.169	0.411*	-0.218	-0.231
H	64	D	0.417	0.021	0.616	0.464	0.266	0.054	0.061	0.616*	0.003	0.000	-0.258	-0.241	-0.208	0.464*
H	65	B	0.098	0.022	0.674	0.387	0.146	0.674*	0.144	0.032	0.004	0.000	-0.222	0.387*	-0.202	-0.138
H	66	C	0.626	0.021	0.587	0.543	0.216	0.092	0.587*	0.103	0.003	0.000	-0.394	-0.228	0.543*	-0.104
H	67	D	1.378	0.020	0.460	0.552	0.249	0.227	0.058	0.460*	0.006	0.000	-0.363	-0.210	-0.094	0.552*

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	53	D	-0.611	0.025	0.753	0.257	0.040	0.186	0.017	0.753*	0.003	0.000	-0.098	-0.175	-0.126	0.257*
I	54	D	-1.600	0.033	0.910	0.386	0.027	0.028	0.032	0.91*	0.003	0.000	-0.198	-0.222	-0.197	0.386*
I	55	D	-0.904	0.027	0.837	0.379	0.070	0.041	0.049	0.837*	0.003	0.000	-0.169	-0.215	-0.218	0.379*
I	56	C	-0.858	0.027	0.858	0.486	0.057	0.024	0.858*	0.058	0.003	0.000	-0.292	-0.179	0.486*	-0.287
I	57	C	-0.578	0.025	0.801	0.422	0.067	0.070	0.801*	0.059	0.002	0.000	-0.176	-0.248	0.422*	-0.230
I	58	B	-0.097	0.023	0.718	0.302	0.009	0.718*	0.250	0.021	0.002	0.000	-0.157	0.302*	-0.201	-0.186
I	59	B	-0.817	0.026	0.823	0.352	0.114	0.823*	0.037	0.023	0.003	0.000	-0.301	0.352*	-0.082	-0.106
I	60	B	-0.550	0.025	0.813	0.454	0.066	0.813*	0.085	0.033	0.002	0.000	-0.221	0.454*	-0.281	-0.205
I	61	A	0.068	0.022	0.679	0.311	0.679*	0.086	0.101	0.131	0.003	0.000	0.311*	-0.093	-0.097	-0.247
I	62	C	0.638	0.021	0.592	0.466	0.063	0.100	0.592*	0.243	0.003	0.000	-0.270	-0.143	0.466*	-0.266
I	63	C	1.041	0.021	0.533	0.579	0.072	0.250	0.533*	0.141	0.003	0.000	-0.065	-0.385	0.579*	-0.282
I	64	A	1.013	0.021	0.500	0.359	0.500*	0.154	0.164	0.177	0.005	0.000	0.359*	-0.048	-0.248	-0.163
I	65	D	-0.372	0.024	0.761	0.354	0.077	0.063	0.095	0.761*	0.003	0.000	-0.223	-0.186	-0.132	0.354*
I	66	C	1.248	0.021	0.478	0.406	0.441	0.031	0.478*	0.047	0.003	0.000	-0.290	-0.142	0.406*	-0.126
I	67	C	0.326	0.021	0.615	0.338	0.033	0.293	0.615*	0.054	0.005	0.000	-0.185	-0.145	0.338*	-0.255
J	53	C	-0.977	0.028	0.835	0.351	0.027	0.110	0.835*	0.025	0.004	0.000	-0.175	-0.194	0.351*	-0.199
J	54	A	-1.749	0.036	0.927	0.389	0.927*	0.031	0.019	0.020	0.003	0.000	0.389*	-0.187	-0.233	-0.192
J	55	D	0.205	0.022	0.662	0.326	0.111	0.061	0.161	0.662*	0.005	0.000	-0.227	-0.209	-0.059	0.326*
J	56	B	-0.361	0.024	0.772	0.405	0.046	0.772*	0.101	0.078	0.003	0.000	-0.255	0.405*	-0.199	-0.173
J	57	B	-1.374	0.031	0.892	0.395	0.030	0.892*	0.027	0.047	0.003	0.000	-0.155	0.395*	-0.169	-0.273
J	58	D	0.236	0.022	0.656	0.373	0.078	0.202	0.058	0.656*	0.005	0.000	-0.113	-0.219	-0.207	0.373*
J	59	A	0.269	0.022	0.673	0.418	0.673*	0.112	0.072	0.138	0.005	0.000	0.418*	-0.195	-0.169	-0.234
J	60	C	-0.088	0.023	0.747	0.515	0.103	0.094	0.747*	0.053	0.004	0.000	-0.321	-0.244	0.515*	-0.199
J	61	C	0.428	0.021	0.602	0.385	0.180	0.117	0.602*	0.096	0.004	0.000	-0.199	-0.113	0.385*	-0.221
J	62	B	-0.819	0.027	0.834	0.408	0.084	0.834*	0.036	0.042	0.004	0.000	-0.277	0.408*	-0.184	-0.150
J	63	B	1.002	0.021	0.506	0.276	0.339	0.506*	0.115	0.037	0.003	0.000	0.069?	0.276*	-0.394	-0.182
J	64	C	1.167	0.021	0.480	0.326	0.052	0.296	0.480*	0.168	0.004	0.000	-0.168	-0.069	0.326*	-0.223
J	65	D	-1.008	0.028	0.865	0.472	0.042	0.039	0.051	0.865*	0.004	0.000	-0.263	-0.272	-0.206	0.472*
J	66	D	1.457	0.021	0.454	0.469	0.344	0.103	0.095	0.454*	0.004	0.000	-0.297	-0.191	-0.079	0.469*
J	67	A	-0.132	0.023	0.722	0.329	0.722*	0.014	0.241	0.019	0.004	0.000	0.329*	-0.152	-0.206	-0.218

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	53	A	-1.577	0.033	0.901	0.353	0.901*	0.044	0.029	0.022	0.004	0.000	0.353*	-0.233	-0.169	-0.132
K	54	D	-1.239	0.030	0.880	0.260	0.013	0.065	0.039	0.880*	0.003	0.000	-0.134	-0.146	-0.123	0.260*
K	55	A	-0.046	0.023	0.730	0.430	0.730*	0.075	0.064	0.126	0.004	0.000	0.430*	-0.209	-0.211	-0.223
K	56	C	-0.493	0.025	0.789	0.379	0.023	0.058	0.789*	0.125	0.004	0.000	-0.213	-0.306	0.379*	-0.121
K	57	C	-0.107	0.023	0.740	0.423	0.032	0.205	0.740*	0.020	0.003	0.000	-0.242	-0.288	0.423*	-0.125
K	58	C	0.083	0.022	0.698	0.390	0.113	0.115	0.698*	0.071	0.003	0.000	-0.252	-0.221	0.390*	-0.077
K	59	B	0.176	0.022	0.666	0.463	0.114	0.666*	0.109	0.106	0.004	0.000	-0.266	0.463*	-0.267	-0.131
K	60	B	-1.489	0.032	0.910	0.447	0.056	0.910*	0.021	0.010	0.003	0.000	-0.340	0.447*	-0.161	-0.170
K	61	B	0.918	0.021	0.510	0.350	0.186	0.510*	0.203	0.097	0.004	0.000	-0.184	0.350*	-0.108	-0.166
K	62	D	0.939	0.021	0.556	0.476	0.028	0.097	0.315	0.556*	0.004	0.000	-0.196	-0.214	-0.282	0.476*
K	63	C	0.920	0.021	0.529	0.395	0.210	0.156	0.529*	0.101	0.003	0.000	-0.134	-0.206	0.395*	-0.192
K	64	D	0.396	0.021	0.646	0.467	0.165	0.121	0.064	0.646*	0.004	0.000	-0.162	-0.240	-0.305	0.467*
K	65	D	0.256	0.022	0.675	0.499	0.074	0.141	0.106	0.675*	0.004	0.000	-0.246	-0.261	-0.222	0.499*
K	66	D	-0.267	0.024	0.774	0.453	0.118	0.027	0.078	0.774*	0.003	0.000	-0.251	-0.202	-0.249	0.453*
K	67	A	0.410	0.021	0.627	0.530	0.627*	0.154	0.101	0.113	0.005	0.000	0.530*	-0.328	-0.144	-0.264
L	53	A	-2.077	0.040	0.929	0.306	0.929*	0.018	0.043	0.006	0.004	0.000	0.306*	-0.161	-0.189	-0.119
L	54	D	-2.120	0.041	0.940	0.269	0.024	0.011	0.022	0.940*	0.003	0.000	-0.130	-0.168	-0.122	0.269*
L	55	A	-0.339	0.024	0.786	0.489	0.786*	0.026	0.129	0.054	0.004	0.000	0.489*	-0.187	-0.252	-0.339
L	56	C	0.272	0.022	0.654	0.438	0.147	0.085	0.654*	0.111	0.004	0.000	-0.262	-0.200	0.438*	-0.160
L	57	D	-0.857	0.027	0.808	0.311	0.082	0.042	0.064	0.808*	0.004	0.000	-0.135	-0.177	-0.165	0.311*
L	58	D	-0.135	0.023	0.762	0.473	0.137	0.028	0.070	0.762*	0.003	0.000	-0.298	-0.175	-0.238	0.473*
L	59	B	0.909	0.021	0.510	0.432	0.035	0.510*	0.131	0.320	0.003	0.000	-0.240	0.432*	-0.223	-0.189
L	60	D	1.048	0.021	0.504	0.469	0.263	0.075	0.154	0.504*	0.005	0.000	-0.159	-0.271	-0.231	0.469*
L	61	D	-0.683	0.026	0.797	0.388	0.040	0.076	0.083	0.797*	0.004	0.000	-0.159	-0.215	-0.211	0.388*
L	62	A	-0.292	0.024	0.754	0.366	0.754*	0.116	0.027	0.099	0.003	0.000	0.366*	-0.254	-0.181	-0.126
L	63	C	0.402	0.022	0.645	0.529	0.103	0.112	0.645*	0.136	0.004	0.000	-0.233	-0.217	0.529*	-0.304
L	64	C	0.437	0.021	0.610	0.432	0.177	0.171	0.610*	0.038	0.004	0.000	-0.281	-0.187	0.432*	-0.124
L	65	B	1.766	0.022	0.352	0.386	0.172	0.352*	0.203	0.270	0.004	0.000	-0.218	0.386*	-0.243	0.011
L	66	B	-0.603	0.025	0.802	0.460	0.092	0.802*	0.067	0.035	0.003	0.000	-0.217	0.460*	-0.267	-0.241
L	67	D	0.638	0.021	0.590	0.490	0.121	0.147	0.136	0.590*	0.006	0.000	-0.233	-0.210	-0.231	0.490*

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	B	-1.051	0.008	0.839	0.366	0.073	0.839*	0.054	0.032	0.002	0.000	-0.115	0.366*	-0.313	-0.150
W	2	B	-0.412	0.007	0.750	0.382	0.100	0.750*	0.099	0.047	0.004	0.000	-0.267	0.382*	-0.210	-0.065
W	3	A	-1.450	0.009	0.877	0.334	0.877*	0.059	0.041	0.020	0.003	0.000	0.334*	-0.154	-0.175	-0.217
W	4	B	-0.217	0.007	0.734	0.497	0.092	0.734*	0.093	0.077	0.003	0.000	-0.276	0.497*	-0.252	-0.217
W	5	B	-0.571	0.007	0.783	0.439	0.105	0.783*	0.060	0.048	0.003	0.000	-0.268	0.439*	-0.170	-0.232
W	6	A	-0.313	0.007	0.752	0.513	0.752*	0.061	0.109	0.075	0.003	0.000	0.513*	-0.229	-0.216	-0.347
W	7	B	1.081	0.006	0.496	0.440	0.064	0.496*	0.138	0.300	0.003	0.000	-0.243	0.440*	-0.153	-0.218
W	8	C	-0.736	0.007	0.800	0.263	0.029	0.025	0.800*	0.143	0.003	0.000	-0.175	-0.107	0.263*	-0.147
W	9	C	0.588	0.006	0.574	0.502	0.091	0.258	0.574*	0.075	0.003	0.000	-0.187	-0.290	0.502*	-0.227
W	10	A	0.024	0.006	0.676	0.523	0.676*	0.092	0.090	0.136	0.006	0.000	0.523*	-0.215	-0.249	-0.294
W	11	B	0.045	0.006	0.706	0.528	0.195	0.706*	0.041	0.055	0.003	0.000	-0.395	0.528*	-0.181	-0.176
W	12	D	-0.071	0.006	0.709	0.413	0.071	0.059	0.156	0.709*	0.004	0.000	-0.268	-0.215	-0.162	0.413*
W	13	B	0.267	0.006	0.638	0.502	0.060	0.638*	0.165	0.133	0.004	0.000	-0.165	0.502*	-0.243	-0.305
W	14	A	1.109	0.006	0.478	0.390	0.478*	0.234	0.167	0.118	0.003	0.000	0.390*	-0.116	-0.331	-0.044
W	15	C	0.518	0.006	0.606	0.528	0.091	0.224	0.606*	0.075	0.003	0.000	-0.185	-0.366	0.528*	-0.167
W	16	D	-0.929	0.008	0.835	0.388	0.081	0.052	0.028	0.835*	0.004	0.000	-0.192	-0.216	-0.207	0.388*
W	17	A	0.446	0.006	0.620	0.433	0.620*	0.205	0.063	0.109	0.004	0.000	0.433*	-0.084	-0.281	-0.320
W	18	C	0.660	0.006	0.552	0.458	0.222	0.149	0.552*	0.072	0.005	0.000	-0.245	-0.175	0.458*	-0.208
W	19	D	-0.663	0.007	0.811	0.380	0.149	0.021	0.016	0.811*	0.003	0.000	-0.257	-0.198	-0.159	0.380*
W	20	B	0.319	0.006	0.640	0.474	0.148	0.640*	0.090	0.118	0.005	0.000	-0.234	0.474*	-0.244	-0.200
W	21	A	-0.486	0.007	0.784	0.477	0.784*	0.086	0.097	0.029	0.004	0.000	0.477*	-0.252	-0.281	-0.195
W	22	D	0.910	0.006	0.521	0.407	0.187	0.068	0.220	0.521*	0.004	0.000	-0.188	-0.281	-0.122	0.407*
W	23	C	-0.802	0.007	0.810	0.336	0.038	0.116	0.810*	0.031	0.005	0.000	-0.219	-0.156	0.336*	-0.175
W	24	C	0.213	0.006	0.643	0.528	0.151	0.110	0.643*	0.090	0.006	0.000	-0.295	-0.251	0.528*	-0.209
W	111	C	-0.993	0.008	0.840	0.526	0.024	0.126	0.840*	0.008	0.002	0.000	-0.176	-0.450	0.526*	-0.105
W	112	A	-1.932	0.011	0.922	0.304	0.922*	0.027	0.015	0.034	0.003	0.000	0.304*	-0.182	-0.173	-0.131
W	113	A	-1.369	0.009	0.896	0.437	0.896*	0.023	0.039	0.039	0.003	0.000	0.437*	-0.225	-0.250	-0.224
W	114	B	-0.764	0.007	0.806	0.243	0.059	0.806*	0.074	0.057	0.003	0.000	-0.131	0.243*	-0.105	-0.129
W	115	A	-1.233	0.008	0.863	0.414	0.863*	0.038	0.026	0.070	0.002	0.000	0.414*	-0.162	-0.233	-0.262
W	116	C	-0.985	0.008	0.834	0.453	0.071	0.048	0.834*	0.044	0.003	0.000	-0.236	-0.260	0.453*	-0.214
W	117	B	0.440	0.006	0.604	0.512	0.094	0.604*	0.110	0.189	0.003	0.000	-0.286	0.512*	-0.226	-0.226
W	118	B	-0.036	0.006	0.719	0.380	0.128	0.719*	0.109	0.041	0.003	0.000	-0.198	0.380*	-0.178	-0.206
W	119	D	0.268	0.006	0.635	0.527	0.065	0.180	0.115	0.635*	0.004	0.000	-0.279	-0.263	-0.234	0.527*
W	120	D	-1.394	0.009	0.886	0.426	0.048	0.036	0.028	0.886*	0.002	0.000	-0.281	-0.206	-0.179	0.426*
W	121	C	-0.075	0.006	0.688	0.502	0.174	0.036	0.688*	0.099	0.003	0.000	-0.287	-0.243	0.502*	-0.238
W	122	B	0.174	0.006	0.659	0.401	0.246	0.659*	0.028	0.065	0.003	0.000	-0.195	0.401*	-0.211	-0.257
W	123	D	0.864	0.006	0.489	0.432	0.108	0.095	0.305	0.489*	0.004	0.000	-0.252	-0.131	-0.196	0.432*
W	124	D	0.291	0.006	0.637	0.389	0.044	0.083	0.233	0.637*	0.003	0.000	-0.233	-0.181	-0.192	0.389*

Appendix B: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	125	B	0.270	0.006	0.623	0.464	0.084	0.623*	0.192	0.095	0.005	0.001	-0.252	0.464*	-0.204	-0.219
W	126	A	0.486	0.006	0.594	0.343	0.594*	0.116	0.167	0.121	0.003	0.000	0.343*	-0.144	-0.181	-0.144
W	127	C	-0.605	0.007	0.801	0.489	0.029	0.135	0.801*	0.031	0.003	0.000	-0.216	-0.346	0.489*	-0.186
W	128	B	0.119	0.006	0.666	0.456	0.066	0.666*	0.199	0.064	0.004	0.000	-0.234	0.456*	-0.184	-0.302
W	129	C	0.735	0.006	0.540	0.345	0.147	0.120	0.540*	0.188	0.004	0.000	-0.193	-0.155	0.345*	-0.112
W	130	B	0.400	0.006	0.585	0.379	0.181	0.585*	0.114	0.116	0.003	0.000	-0.150	0.379*	-0.145	-0.231
W	131	A	-0.011	0.006	0.704	0.253	0.704*	0.025	0.023	0.245	0.003	0.000	0.253*	-0.151	-0.172	-0.132
W	132	B	0.122	0.006	0.639	0.414	0.097	0.639*	0.143	0.118	0.004	0.000	-0.191	0.414*	-0.166	-0.234
W	133	C	-0.060	0.006	0.711	0.441	0.092	0.108	0.711*	0.085	0.003	0.000	-0.201	-0.252	0.441*	-0.193
W	134	D	1.015	0.006	0.482	0.400	0.356	0.070	0.087	0.482*	0.005	0.000	-0.234	-0.223	-0.075	0.400*
W	163	D	-1.073	0.008	0.822	0.320	0.063	0.018	0.095	0.822*	0.002	0.000	-0.266	-0.173	-0.094	0.320*
W	164	A	-0.940	0.008	0.839	0.538	0.839*	0.061	0.073	0.025	0.003	0.000	0.538*	-0.241	-0.376	-0.230
W	165	C	-1.020	0.008	0.850	0.428	0.038	0.060	0.850*	0.049	0.003	0.000	-0.268	-0.251	0.428*	-0.158
W	166	A	-0.488	0.007	0.775	0.378	0.775*	0.081	0.044	0.096	0.003	0.000	0.378*	-0.218	-0.219	-0.154
W	167	B	-0.991	0.008	0.832	0.509	0.086	0.832*	0.044	0.035	0.003	0.000	-0.295	0.509*	-0.246	-0.267
W	168	A	0.097	0.006	0.687	0.568	0.687*	0.155	0.036	0.119	0.003	0.000	0.568*	-0.381	-0.155	-0.274
W	169	D	0.387	0.006	0.605	0.384	0.293	0.046	0.054	0.605*	0.002	0.000	-0.212	-0.225	-0.162	0.384*
W	170	A	0.710	0.006	0.555	0.279	0.555*	0.238	0.097	0.107	0.003	0.000	0.279*	-0.034	-0.169	-0.214
W	171	A	-0.373	0.007	0.739	0.433	0.739*	0.090	0.079	0.090	0.002	0.000	0.433*	-0.244	-0.191	-0.214
W	172	C	0.233	0.006	0.631	0.453	0.125	0.076	0.631*	0.164	0.003	0.000	-0.239	-0.271	0.453*	-0.160
W	173	B	1.019	0.006	0.482	0.341	0.152	0.482*	0.200	0.162	0.003	0.000	-0.163	0.341*	-0.199	-0.065
W	174	D	0.289	0.006	0.649	0.407	0.038	0.100	0.210	0.649*	0.003	0.000	-0.230	-0.093	-0.280	0.407*
W	175	B	0.146	0.006	0.656	0.433	0.111	0.656*	0.124	0.105	0.004	0.000	-0.174	0.433*	-0.201	-0.246
W	176	A	-0.871	0.008	0.828	0.535	0.828*	0.082	0.030	0.056	0.004	0.000	0.535*	-0.364	-0.245	-0.219
W	177	B	0.001	0.006	0.674	0.479	0.121	0.674*	0.130	0.072	0.003	0.000	-0.301	0.479*	-0.220	-0.171
W	178	C	1.921	0.006	0.317	0.419	0.474	0.113	0.317*	0.092	0.003	0.000	-0.235	-0.064	0.419*	-0.165
W	179	B	0.070	0.006	0.703	0.503	0.077	0.703*	0.074	0.143	0.003	0.000	-0.280	0.503*	-0.288	-0.202
W	180	B	0.112	0.006	0.673	0.530	0.085	0.673*	0.161	0.077	0.003	0.000	-0.197	0.530*	-0.271	-0.316
W	181	A	0.075	0.006	0.689	0.382	0.689*	0.103	0.087	0.117	0.003	0.000	0.382*	-0.266	-0.218	-0.080
W	182	D	0.236	0.006	0.654	0.521	0.167	0.096	0.079	0.654*	0.004	0.000	-0.217	-0.303	-0.253	0.521*
W	183	D	0.799	0.006	0.475	0.180	0.142	0.247	0.131	0.475*	0.005	0.000	-0.009	-0.121	-0.074	0.180*
W	184	C	0.205	0.006	0.643	0.505	0.075	0.150	0.643*	0.125	0.007	0.000	-0.261	-0.212	0.505*	-0.260

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	63	A	1.190	0.021	0.408	0.436	0.408*	0.328	0.199	0.057	0.009	0.000	0.436*	-0.066	-0.326	-0.173
A	64	C	0.576	0.020	0.513	0.409	0.119	0.231	0.513*	0.124	0.013	0.000	-0.211	-0.166	0.409*	-0.163
A	65	C	-0.098	0.021	0.661	0.488	0.018	0.284	0.661*	0.032	0.005	0.000	-0.147	-0.350	0.488*	-0.235
A	66	C	-1.385	0.027	0.855	0.364	0.045	0.078	0.855*	0.018	0.005	0.000	-0.206	-0.196	0.364*	-0.166
A	67	D	0.447	0.020	0.569	0.532	0.070	0.184	0.171	0.569*	0.005	0.000	-0.281	-0.281	-0.190	0.532*
A	68	D	0.525	0.020	0.517	0.235	0.050	0.268	0.159	0.517*	0.006	0.000	-0.265	-0.020	-0.107	0.235*
A	69	D	-0.202	0.022	0.710	0.637	0.109	0.077	0.099	0.710*	0.006	0.000	-0.371	-0.263	-0.305	0.637*
A	70	B	0.095	0.021	0.628	0.413	0.081	0.628*	0.237	0.048	0.005	0.000	-0.170	0.413*	-0.228	-0.208
A	71	C	-0.953	0.024	0.815	0.462	0.059	0.068	0.815*	0.052	0.005	0.000	-0.246	-0.228	0.462*	-0.233
A	72	C	0.069	0.021	0.660	0.494	0.158	0.122	0.660*	0.055	0.006	0.000	-0.340	-0.192	0.494*	-0.154
A	73	D	-0.179	0.021	0.708	0.556	0.136	0.045	0.105	0.708*	0.006	0.000	-0.388	-0.194	-0.220	0.556*
A	74	B	0.005	0.021	0.628	0.363	0.139	0.628*	0.152	0.073	0.008	0.000	-0.163	0.363*	-0.106	-0.263
A	75	B	0.436	0.021	0.549	0.443	0.063	0.549*	0.293	0.089	0.005	0.000	-0.228	0.443*	-0.257	-0.127
A	76	D	0.687	0.020	0.528	0.455	0.036	0.168	0.263	0.528*	0.005	0.000	-0.223	-0.361	-0.089	0.455*
A	77	D	0.554	0.020	0.502	0.412	0.151	0.222	0.117	0.502*	0.008	0.000	-0.210	-0.111	-0.223	0.412*
B	63	A	1.207	0.021	0.395	0.456	0.395*	0.225	0.299	0.068	0.013	0.000	0.456*	-0.104	-0.309	-0.106
B	64	B	-0.820	0.024	0.822	0.563	0.076	0.822*	0.033	0.064	0.006	0.000	-0.338	0.563*	-0.227	-0.291
B	65	B	-0.643	0.023	0.749	0.317	0.191	0.749*	0.041	0.013	0.006	0.000	-0.200	0.317*	-0.164	-0.123
B	66	A	0.278	0.021	0.610	0.505	0.610*	0.241	0.083	0.059	0.006	0.000	0.505*	-0.196	-0.325	-0.248
B	67	D	-0.449	0.022	0.736	0.475	0.117	0.049	0.093	0.736*	0.005	0.000	-0.284	-0.244	-0.181	0.475*
B	68	C	0.090	0.021	0.608	0.384	0.138	0.093	0.608*	0.154	0.006	0.000	-0.057	-0.184	0.384*	-0.281
B	69	A	0.497	0.020	0.555	0.520	0.555*	0.052	0.058	0.330	0.005	0.000	0.520*	-0.236	-0.255	-0.283
B	70	B	-0.106	0.021	0.666	0.457	0.038	0.666*	0.097	0.193	0.006	0.000	-0.225	0.457*	-0.292	-0.184
B	71	D	-0.521	0.022	0.755	0.545	0.082	0.092	0.066	0.755*	0.005	0.000	-0.254	-0.317	-0.244	0.545*
B	72	D	0.412	0.020	0.542	0.189	0.085	0.347	0.021	0.542*	0.005	0.000	-0.195	-0.009	-0.157	0.189*
B	73	C	-0.715	0.023	0.785	0.470	0.055	0.110	0.785*	0.045	0.005	0.000	-0.190	-0.291	0.470*	-0.219
B	74	A	-0.484	0.022	0.707	0.395	0.707*	0.106	0.149	0.032	0.005	0.000	0.395*	-0.140	-0.222	-0.253
B	75	A	-0.069	0.021	0.677	0.521	0.677*	0.210	0.061	0.047	0.005	0.000	0.521*	-0.302	-0.259	-0.217
B	76	B	0.397	0.020	0.566	0.503	0.119	0.566*	0.162	0.143	0.009	0.000	-0.164	0.503*	-0.254	-0.247
B	77	C	0.701	0.020	0.519	0.528	0.127	0.103	0.519*	0.244	0.007	0.000	-0.180	-0.093	0.528*	-0.377

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	63	D	0.344	0.020	0.593	0.497	0.062	0.076	0.262	0.593*	0.006	0.000	-0.213	-0.242	-0.263	0.497*
C	64	B	-0.045	0.021	0.633	0.217	0.243	0.633*	0.085	0.031	0.008	0.000	0.011?	0.217*	-0.227	-0.192
C	65	D	0.942	0.020	0.462	0.523	0.065	0.286	0.181	0.462*	0.007	0.000	-0.196	-0.297	-0.172	0.523*
C	66	A	0.199	0.020	0.572	0.366	0.572*	0.106	0.097	0.220	0.005	0.000	0.366*	-0.140	-0.075	-0.251
C	67	D	0.167	0.020	0.626	0.504	0.184	0.113	0.070	0.626*	0.006	0.000	-0.221	-0.243	-0.268	0.504*
C	68	B	-0.711	0.023	0.707	0.212	0.227	0.707*	0.034	0.027	0.005	0.000	-0.054	0.212*	-0.169	-0.195
C	69	C	0.963	0.020	0.444	0.350	0.287	0.175	0.444*	0.088	0.005	0.000	-0.228	-0.075	0.35*	-0.110
C	70	B	0.085	0.021	0.611	0.391	0.132	0.611*	0.065	0.188	0.005	0.000	-0.119	0.391*	-0.226	-0.213
C	71	B	-0.456	0.022	0.683	0.149	0.150	0.683*	0.086	0.076	0.005	0.000	0.097?	0.149*	-0.130	-0.212
C	72	D	0.077	0.021	0.628	0.466	0.083	0.147	0.135	0.628*	0.006	0.000	-0.211	-0.130	-0.317	0.466*
C	73	B	0.680	0.020	0.519	0.354	0.134	0.519*	0.206	0.136	0.005	0.000	-0.351	0.354*	-0.064	-0.059
C	74	C	0.183	0.020	0.595	0.376	0.276	0.079	0.595*	0.045	0.006	0.000	-0.140	-0.269	0.376*	-0.179
C	75	A	-0.789	0.023	0.808	0.580	0.808*	0.067	0.068	0.051	0.005	0.000	0.58*	-0.311	-0.317	-0.266
C	76	B	-0.773	0.023	0.794	0.445	0.064	0.794*	0.084	0.052	0.005	0.000	-0.263	0.445*	-0.181	-0.237
C	77	A	0.458	0.020	0.547	0.465	0.547*	0.196	0.155	0.096	0.007	0.000	0.465*	-0.182	-0.217	-0.226
D	63	A	1.076	0.020	0.425	0.381	0.425*	0.111	0.227	0.230	0.007	0.000	0.381*	-0.285	-0.139	-0.063
D	64	B	-0.878	0.024	0.808	0.498	0.045	0.808*	0.106	0.035	0.006	0.000	-0.234	0.498*	-0.327	-0.182
D	65	C	-0.184	0.021	0.705	0.527	0.104	0.105	0.705*	0.079	0.008	0.000	-0.252	-0.251	0.527*	-0.263
D	66	A	-0.433	0.022	0.720	0.383	0.72*	0.048	0.053	0.173	0.006	0.000	0.383*	-0.201	-0.194	-0.189
D	67	C	0.397	0.020	0.558	0.433	0.196	0.168	0.558*	0.071	0.007	0.000	-0.091	-0.283	0.433*	-0.229
D	68	D	-0.326	0.022	0.706	0.540	0.188	0.072	0.027	0.706*	0.006	0.000	-0.275	-0.347	-0.211	0.54*
D	69	B	-0.554	0.022	0.740	0.482	0.096	0.74*	0.110	0.047	0.007	0.000	-0.175	0.482*	-0.293	-0.253
D	70	B	0.433	0.020	0.602	0.572	0.030	0.602*	0.226	0.135	0.006	0.000	-0.137	0.572*	-0.351	-0.280
D	71	A	-0.558	0.022	0.757	0.380	0.757*	0.069	0.050	0.117	0.006	0.000	0.38*	-0.232	-0.175	-0.161
D	72	B	-0.631	0.023	0.785	0.540	0.021	0.785*	0.152	0.037	0.006	0.000	-0.160	0.54*	-0.382	-0.256
D	73	B	0.789	0.020	0.489	0.450	0.224	0.489*	0.195	0.082	0.011	0.000	-0.257	0.45*	-0.159	-0.147
D	74	C	-0.281	0.021	0.689	0.470	0.130	0.074	0.689*	0.101	0.006	0.000	-0.172	-0.304	0.47*	-0.220
D	75	C	0.124	0.021	0.615	0.419	0.061	0.132	0.615*	0.185	0.006	0.000	-0.224	-0.208	0.419*	-0.170
D	76	D	0.917	0.020	0.510	0.474	0.158	0.171	0.155	0.51*	0.006	0.000	-0.179	-0.199	-0.230	0.474*
D	77	D	0.399	0.020	0.565	0.428	0.139	0.156	0.132	0.565*	0.008	0.000	-0.192	-0.193	-0.178	0.428*

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	63	D	0.537	0.020	0.567	0.500	0.139	0.194	0.095	0.567*	0.005	0.000	-0.178	-0.266	-0.235	0.500*
E	64	A	0.008	0.021	0.632	0.452	0.632*	0.251	0.085	0.023	0.008	0.000	0.452*	-0.246	-0.247	-0.191
E	65	A	-1.340	0.026	0.862	0.362	0.862*	0.013	0.038	0.083	0.005	0.000	0.362*	-0.155	-0.202	-0.208
E	66	D	-0.489	0.022	0.707	0.364	0.080	0.096	0.112	0.707*	0.005	0.000	-0.225	-0.155	-0.148	0.364*
E	67	D	0.565	0.020	0.583	0.637	0.148	0.151	0.113	0.583*	0.005	0.000	-0.415	-0.313	-0.135	0.637*
E	68	C	0.777	0.020	0.446	0.276	0.178	0.220	0.446*	0.148	0.007	0.000	-0.037	-0.165	0.276*	-0.117
E	69	D	-0.060	0.021	0.641	0.442	0.061	0.128	0.163	0.641*	0.007	0.000	-0.160	-0.231	-0.228	0.442*
E	70	B	0.545	0.020	0.508	0.317	0.226	0.508*	0.143	0.117	0.006	0.000	-0.146	0.317*	-0.167	-0.082
E	71	C	0.309	0.020	0.506	0.210	0.120	0.247	0.506*	0.120	0.007	0.000	-0.172	-0.001	0.210*	-0.112
E	72	B	0.024	0.021	0.648	0.503	0.122	0.648*	0.140	0.084	0.005	0.000	-0.286	0.503*	-0.206	-0.226
E	73	C	0.598	0.020	0.496	0.344	0.256	0.133	0.496*	0.107	0.007	0.000	-0.184	-0.142	0.344*	-0.101
E	74	D	0.044	0.021	0.632	0.453	0.070	0.223	0.069	0.632*	0.006	0.000	-0.250	-0.158	-0.299	0.453*
E	75	B	0.016	0.021	0.658	0.521	0.039	0.658*	0.122	0.176	0.005	0.000	-0.158	0.521*	-0.209	-0.358
E	76	D	0.172	0.020	0.628	0.528	0.122	0.107	0.137	0.628*	0.006	0.000	-0.335	-0.266	-0.146	0.528*
E	77	C	-0.228	0.021	0.662	0.476	0.156	0.114	0.662*	0.061	0.007	0.000	-0.298	-0.227	0.476*	-0.130
F	63	D	-0.291	0.021	0.707	0.453	0.053	0.159	0.072	0.707*	0.009	0.000	-0.220	-0.279	-0.144	0.453*
F	64	C	0.232	0.020	0.625	0.522	0.204	0.100	0.625*	0.063	0.008	0.000	-0.237	-0.342	0.522*	-0.156
F	65	D	0.731	0.020	0.521	0.512	0.160	0.073	0.240	0.521*	0.006	0.000	-0.144	-0.167	-0.339	0.512*
F	66	C	0.295	0.020	0.583	0.539	0.183	0.211	0.583*	0.015	0.007	0.000	-0.397	-0.206	0.539*	-0.106
F	67	C	-1.646	0.029	0.889	0.365	0.018	0.063	0.889*	0.024	0.005	0.000	-0.179	-0.199	0.365*	-0.178
F	68	B	0.232	0.020	0.589	0.465	0.253	0.589*	0.083	0.068	0.007	0.000	-0.190	0.465*	-0.261	-0.229
F	69	B	-1.205	0.026	0.834	0.360	0.112	0.834*	0.029	0.019	0.006	0.000	-0.187	0.360*	-0.194	-0.202
F	70	A	1.340	0.021	0.405	0.408	0.405*	0.041	0.293	0.254	0.006	0.000	0.408*	-0.213	-0.281	-0.034
F	71	C	-0.944	0.024	0.800	0.327	0.057	0.055	0.800*	0.083	0.006	0.000	-0.207	-0.212	0.327*	-0.073
F	72	C	0.634	0.020	0.496	0.382	0.143	0.241	0.496*	0.112	0.008	0.000	-0.160	-0.102	0.382*	-0.238
F	73	B	0.786	0.020	0.450	0.181	0.093	0.450*	0.389	0.059	0.01	0.000	-0.103	0.181*	-0.038	-0.110
F	74	B	-0.471	0.022	0.718	0.462	0.149	0.718*	0.056	0.070	0.006	0.000	-0.200	0.462*	-0.269	-0.231
F	75	C	-0.828	0.023	0.802	0.455	0.130	0.025	0.802*	0.037	0.006	0.000	-0.344	-0.184	0.455*	-0.117
F	76	C	1.103	0.020	0.403	0.385	0.332	0.165	0.403*	0.092	0.009	0.000	-0.075	-0.204	0.385*	-0.213
F	77	D	0.130	0.020	0.653	0.403	0.041	0.194	0.106	0.653*	0.007	0.000	-0.147	-0.321	-0.065	0.403*

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	63	B	0.301	0.020	0.576	0.364	0.207	0.576*	0.184	0.026	0.007	0.000	-0.081	0.364*	-0.309	-0.088
G	64	D	-0.147	0.021	0.660	0.462	0.061	0.076	0.197	0.660*	0.006	0.000	-0.279	-0.300	-0.149	0.462*
G	65	D	0.378	0.020	0.604	0.567	0.084	0.263	0.044	0.604*	0.005	0.000	-0.299	-0.365	-0.105	0.567*
G	66	C	0.389	0.020	0.573	0.566	0.079	0.284	0.573*	0.059	0.005	0.000	-0.278	-0.326	0.566*	-0.193
G	67	A	-0.683	0.023	0.761	0.347	0.761*	0.027	0.177	0.030	0.005	0.000	0.347*	-0.166	-0.219	-0.148
G	68	C	1.731	0.021	0.297	0.051	0.275	0.314	0.297*	0.101	0.012	0.000	0.124?	-0.138	0.051*	-0.004
G	69	B	0.927	0.020	0.461	0.345	0.018	0.461*	0.471	0.045	0.005	0.000	-0.163	0.345*	-0.205	-0.171
G	70	A	-0.563	0.022	0.706	0.218	0.706*	0.100	0.161	0.027	0.005	0.000	0.218*	-0.186	-0.009	-0.169
G	71	B	-0.388	0.022	0.696	0.418	0.174	0.696*	0.075	0.049	0.006	0.000	-0.207	0.418*	-0.237	-0.179
G	72	C	-0.195	0.021	0.704	0.593	0.083	0.182	0.704*	0.024	0.006	0.000	-0.303	-0.403	0.593*	-0.115
G	73	A	-0.314	0.021	0.755	0.573	0.755*	0.094	0.117	0.029	0.005	0.000	0.573*	-0.313	-0.350	-0.180
G	74	A	0.270	0.020	0.588	0.305	0.588*	0.138	0.097	0.172	0.005	0.000	0.305*	-0.026	-0.210	-0.175
G	75	A	-0.821	0.023	0.788	0.481	0.788*	0.056	0.096	0.054	0.006	0.000	0.481*	-0.239	-0.291	-0.186
G	76	D	0.929	0.020	0.493	0.574	0.317	0.145	0.040	0.493*	0.005	0.000	-0.427	-0.120	-0.171	0.574*
G	77	C	-0.143	0.021	0.648	0.368	0.024	0.203	0.648*	0.119	0.006	0.000	-0.138	-0.188	0.368*	-0.200
H	63	B	0.165	0.021	0.624	0.543	0.238	0.624*	0.088	0.043	0.006	0.000	-0.457	0.543*	-0.122	-0.105
H	64	A	-1.193	0.026	0.847	0.449	0.847*	0.053	0.037	0.057	0.005	0.000	0.449*	-0.244	-0.212	-0.235
H	65	D	-0.442	0.022	0.717	0.398	0.091	0.044	0.142	0.717*	0.006	0.000	-0.361	-0.175	-0.079	0.398*
H	66	D	1.801	0.022	0.332	0.496	0.097	0.458	0.106	0.332*	0.006	0.000	-0.123	-0.318	-0.089	0.496*
H	67	B	-0.424	0.022	0.726	0.467	0.098	0.726*	0.100	0.071	0.006	0.000	-0.233	0.467*	-0.230	-0.223
H	68	C	0.119	0.021	0.630	0.407	0.054	0.106	0.630*	0.204	0.005	0.000	-0.150	-0.349	0.407*	-0.106
H	69	D	-0.359	0.022	0.702	0.541	0.064	0.078	0.148	0.702*	0.007	0.000	-0.272	-0.286	-0.255	0.541*
H	70	B	1.664	0.022	0.354	0.460	0.574?	0.354*	0.050	0.018	0.005	0.000	-0.275	0.460*	-0.244	-0.142
H	71	B	0.056	0.021	0.649	0.525	0.059	0.649*	0.155	0.130	0.006	0.000	-0.217	0.525*	-0.257	-0.278
H	72	B	0.204	0.021	0.616	0.490	0.119	0.616*	0.159	0.100	0.006	0.000	-0.211	0.490*	-0.217	-0.260
H	73	B	0.146	0.021	0.615	0.497	0.122	0.615*	0.114	0.144	0.006	0.000	-0.075	0.497*	-0.275	-0.336
H	74	C	-0.290	0.022	0.710	0.546	0.090	0.078	0.710*	0.115	0.006	0.000	-0.299	-0.192	0.546*	-0.302
H	75	A	-0.533	0.023	0.751	0.533	0.751*	0.113	0.081	0.050	0.005	0.000	0.533*	-0.297	-0.324	-0.165
H	76	B	-0.234	0.022	0.696	0.502	0.090	0.696*	0.126	0.082	0.006	0.000	-0.336	0.502*	-0.216	-0.185
H	77	D	1.040	0.021	0.406	0.308	0.163	0.123	0.301	0.406*	0.007	0.000	-0.100	-0.203	-0.073	0.308*

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	63	C	0.678	0.021	0.516	0.485	0.145	0.264	0.516*	0.068	0.007	0.000	-0.221	-0.280	0.485*	-0.111
I	64	C	0.192	0.021	0.605	0.465	0.226	0.067	0.605*	0.094	0.008	0.000	-0.295	-0.132	0.465*	-0.199
I	65	C	0.761	0.021	0.502	0.391	0.297	0.099	0.502*	0.096	0.006	0.000	-0.127	-0.239	0.391*	-0.182
I	66	B	0.501	0.021	0.511	0.311	0.103	0.511*	0.110	0.271	0.005	0.000	-0.172	0.311*	-0.132	-0.113
I	67	D	-0.415	0.023	0.706	0.473	0.100	0.149	0.040	0.706*	0.005	0.000	-0.307	-0.201	-0.202	0.473*
I	68	D	-0.113	0.022	0.682	0.458	0.137	0.072	0.104	0.682*	0.006	0.000	-0.163	-0.252	-0.263	0.458*
I	69	D	1.033	0.021	0.448	0.439	0.409	0.043	0.095	0.448*	0.005	0.000	-0.169	-0.222	-0.266	0.439*
I	70	B	0.958	0.021	0.453	0.425	0.078	0.453*	0.249	0.214	0.007	0.000	-0.116	0.425*	-0.236	-0.162
I	71	D	-0.136	0.022	0.647	0.448	0.058	0.157	0.132	0.647*	0.007	0.000	-0.233	-0.276	-0.135	0.448*
I	72	B	0.203	0.021	0.632	0.625	0.032	0.632*	0.190	0.140	0.005	0.000	-0.162	0.625*	-0.376	-0.324
I	73	C	0.473	0.021	0.514	0.321	0.133	0.245	0.514*	0.100	0.007	0.000	-0.187	-0.165	0.321*	-0.045
I	74	A	-0.988	0.025	0.841	0.437	0.841*	0.026	0.060	0.068	0.005	0.000	0.437*	-0.194	-0.173	-0.301
I	75	C	-1.105	0.026	0.835	0.466	0.023	0.119	0.835*	0.018	0.005	0.000	-0.194	-0.343	0.466*	-0.155
I	76	B	0.461	0.021	0.573	0.463	0.091	0.573*	0.182	0.149	0.006	0.000	-0.195	0.463*	-0.142	-0.298
I	77	A	0.327	0.021	0.579	0.512	0.579*	0.356	0.033	0.025	0.006	0.000	0.512*	-0.340	-0.253	-0.200
J	63	B	0.315	0.021	0.592	0.495	0.228	0.592*	0.139	0.030	0.011	0.000	-0.260	0.495*	-0.277	-0.131
J	64	B	0.794	0.021	0.509	0.512	0.061	0.509*	0.210	0.215	0.006	0.000	-0.152	0.512*	-0.207	-0.295
J	65	A	1.017	0.021	0.421	0.382	0.421*	0.243	0.151	0.178	0.007	0.000	0.382*	-0.065	-0.278	-0.122
J	66	C	0.319	0.021	0.531	0.181	0.148	0.191	0.531*	0.124	0.007	0.000	-0.195	-0.005	0.181*	-0.016
J	67	B	0.308	0.021	0.576	0.435	0.246	0.576*	0.116	0.053	0.01	0.000	-0.200	0.435*	-0.260	-0.133
J	68	A	-0.788	0.024	0.755	0.305	0.755*	0.153	0.052	0.035	0.005	0.000	0.305*	-0.190	-0.145	-0.097
J	69	D	-1.602	0.030	0.886	0.416	0.042	0.030	0.037	0.886*	0.005	0.000	-0.245	-0.197	-0.191	0.416*
J	70	C	0.432	0.021	0.552	0.393	0.043	0.145	0.552*	0.255	0.005	0.000	-0.105	-0.279	0.393*	-0.144
J	71	C	0.024	0.021	0.66	0.526	0.022	0.282	0.660*	0.031	0.005	0.000	-0.197	-0.377	0.526*	-0.218
J	72	D	0.227	0.021	0.587	0.405	0.217	0.126	0.063	0.587*	0.006	0.000	-0.172	-0.223	-0.165	0.405*
J	73	B	-1.183	0.026	0.851	0.482	0.024	0.851*	0.047	0.071	0.006	0.000	-0.175	0.482*	-0.246	-0.306
J	74	D	0.355	0.021	0.55	0.346	0.081	0.051	0.312	0.550*	0.006	0.000	-0.243	-0.152	-0.127	0.346*
J	75	A	-0.147	0.022	0.695	0.565	0.695*	0.184	0.047	0.067	0.006	0.000	0.565*	-0.357	-0.250	-0.216
J	76	D	-0.021	0.022	0.661	0.537	0.082	0.112	0.137	0.661*	0.009	0.000	-0.241	-0.245	-0.277	0.537*
J	77	C	-0.902	0.025	0.818	0.524	0.021	0.118	0.818*	0.036	0.008	0.000	-0.179	-0.349	0.524*	-0.262

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	63	A	0.452	0.021	0.566	0.425	0.566*	0.092	0.302	0.035	0.006	0.000	0.425*	-0.146	-0.274	-0.157
K	64	A	-0.785	0.024	0.786	0.470	0.786*	0.064	0.061	0.082	0.007	0.000	0.470*	-0.225	-0.227	-0.251
K	65	D	-0.969	0.025	0.800	0.366	0.130	0.044	0.021	0.800*	0.006	0.000	-0.161	-0.284	-0.143	0.366*
K	66	A	0.696	0.021	0.530	0.504	0.530*	0.258	0.128	0.077	0.007	0.000	0.504*	-0.228	-0.252	-0.204
K	67	B	-0.930	0.025	0.815	0.461	0.100	0.815*	0.056	0.023	0.006	0.000	-0.313	0.461*	-0.185	-0.194
K	68	C	0.263	0.021	0.616	0.625	0.115	0.061	0.616*	0.201	0.007	0.000	-0.337	-0.243	0.625*	-0.309
K	69	A	0.597	0.021	0.548	0.526	0.548*	0.147	0.167	0.131	0.007	0.000	0.526*	-0.269	-0.243	-0.181
K	70	D	0.525	0.021	0.567	0.541	0.242	0.124	0.059	0.567*	0.007	0.000	-0.240	-0.304	-0.211	0.541*
K	71	B	-0.292	0.022	0.677	0.396	0.111	0.677*	0.046	0.160	0.006	0.000	-0.343	0.396*	-0.160	-0.080
K	72	D	0.586	0.021	0.557	0.481	0.118	0.197	0.121	0.557*	0.007	0.000	-0.233	-0.178	-0.239	0.481*
K	73	D	0.807	0.021	0.492	0.568	0.244	0.152	0.104	0.492*	0.007	0.000	-0.221	-0.298	-0.217	0.568*
K	74	B	-0.907	0.025	0.789	0.425	0.032	0.789*	0.100	0.073	0.006	0.000	-0.115	0.425*	-0.295	-0.194
K	75	B	0.781	0.021	0.481	0.289	0.249	0.481*	0.166	0.098	0.006	0.000	0.018?	0.289*	-0.230	-0.174
K	76	D	0.760	0.021	0.461	0.329	0.265	0.087	0.180	0.461*	0.007	0.000	-0.065	-0.201	-0.164	0.329*
K	77	C	0.111	0.021	0.618	0.340	0.116	0.186	0.618*	0.073	0.007	0.000	-0.133	-0.154	0.340*	-0.185
L	63	D	-0.319	0.022	0.695	0.554	0.088	0.144	0.064	0.695*	0.009	0.000	-0.294	-0.276	-0.242	0.554*
L	64	C	-0.530	0.023	0.758	0.531	0.035	0.095	0.758*	0.104	0.008	0.000	-0.205	-0.303	0.531*	-0.280
L	65	A	1.157	0.021	0.400	0.353	0.400*	0.353	0.157	0.081	0.009	0.000	0.353*	-0.146	-0.132	-0.160
L	66	D	0.714	0.021	0.485	0.479	0.245	0.118	0.144	0.485*	0.007	0.000	-0.255	-0.163	-0.177	0.479*
L	67	A	0.265	0.021	0.631	0.598	0.631*	0.088	0.227	0.047	0.007	0.000	0.598*	-0.157	-0.438	-0.218
L	68	C	-0.383	0.022	0.739	0.462	0.089	0.067	0.739*	0.098	0.007	0.000	-0.244	-0.196	0.462*	-0.234
L	69	A	0.149	0.021	0.618	0.424	0.618*	0.138	0.155	0.079	0.009	0.000	0.424*	-0.164	-0.265	-0.144
L	70	D	0.355	0.021	0.580	0.472	0.135	0.100	0.179	0.580*	0.006	0.000	-0.110	-0.277	-0.255	0.472*
L	71	C	-0.480	0.023	0.734	0.534	0.060	0.173	0.734*	0.025	0.008	0.000	-0.254	-0.354	0.534*	-0.166
L	72	D	1.102	0.021	0.455	0.559	0.345	0.089	0.106	0.455*	0.006	0.000	-0.338	-0.154	-0.194	0.559*
L	73	B	-0.669	0.023	0.749	0.460	0.068	0.749*	0.072	0.104	0.006	0.000	-0.245	0.460*	-0.312	-0.140
L	74	B	0.273	0.021	0.595	0.472	0.125	0.595*	0.154	0.118	0.007	0.000	-0.237	0.472*	-0.250	-0.150
L	75	D	0.609	0.021	0.521	0.451	0.097	0.118	0.256	0.521*	0.007	0.000	-0.264	-0.309	-0.074	0.451*
L	76	C	-0.493	0.023	0.740	0.377	0.116	0.099	0.740*	0.040	0.006	0.000	-0.227	-0.167	0.377*	-0.153
L	77	B	-0.934	0.024	0.777	0.410	0.084	0.777*	0.097	0.035	0.006	0.000	-0.236	0.410*	-0.201	-0.171

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	A	-2.073	0.010	0.905	0.296	0.905*	0.030	0.022	0.039	0.004	0.000	0.296*	-0.133	-0.116	-0.186
W	2	C	-0.475	0.006	0.748	0.507	0.082	0.068	0.748*	0.098	0.004	0.000	-0.310	-0.205	0.507*	-0.245
W	3	B	-0.745	0.007	0.768	0.389	0.042	0.768*	0.131	0.053	0.006	0.000	-0.163	0.389*	-0.242	-0.169
W	4	B	-0.538	0.007	0.702	0.334	0.070	0.702*	0.062	0.161	0.005	0.000	-0.116	0.334*	-0.223	-0.155
W	5	B	-0.095	0.006	0.651	0.502	0.238	0.651*	0.054	0.052	0.005	0.000	-0.419	0.502*	-0.168	-0.053
W	6	C	0.498	0.006	0.539	0.471	0.135	0.099	0.539*	0.221	0.006	0.000	-0.202	-0.207	0.471*	-0.222
W	7	D	-0.724	0.007	0.772	0.520	0.062	0.066	0.096	0.772*	0.005	0.000	-0.201	-0.286	-0.294	0.520*
W	8	A	-1.134	0.007	0.810	0.282	0.810*	0.064	0.080	0.039	0.007	0.000	0.282*	-0.140	-0.138	-0.132
W	9	B	-1.261	0.008	0.842	0.392	0.012	0.842*	0.099	0.043	0.004	0.000	-0.127	0.392*	-0.227	-0.250
W	10	B	0.075	0.006	0.613	0.480	0.325	0.613*	0.039	0.019	0.004	0.000	-0.383	0.480*	-0.195	-0.044
W	11	B	-0.203	0.006	0.682	0.488	0.081	0.682*	0.121	0.109	0.007	0.000	-0.215	0.488*	-0.219	-0.272
W	12	A	-0.083	0.006	0.685	0.513	0.685*	0.168	0.067	0.076	0.004	0.000	0.513*	-0.342	-0.269	-0.121
W	13	D	0.548	0.006	0.558	0.588	0.039	0.183	0.215	0.558*	0.005	0.000	-0.203	-0.264	-0.339	0.588*
W	14	C	-0.517	0.007	0.738	0.448	0.072	0.142	0.738*	0.042	0.006	0.000	-0.160	-0.324	0.448*	-0.156
W	15	B	-0.676	0.007	0.763	0.506	0.099	0.763*	0.075	0.058	0.005	0.000	-0.287	0.506*	-0.258	-0.213
W	16	C	0.804	0.006	0.505	0.515	0.129	0.169	0.505*	0.191	0.006	0.000	-0.207	-0.161	0.515*	-0.295
W	17	B	-0.156	0.006	0.660	0.412	0.239	0.660*	0.053	0.043	0.005	0.000	-0.203	0.412*	-0.295	-0.151
W	18	C	-0.205	0.006	0.663	0.338	0.059	0.181	0.663*	0.089	0.008	0.000	-0.158	-0.183	0.338*	-0.136
W	19	D	0.494	0.006	0.544	0.495	0.105	0.096	0.249	0.544*	0.005	0.000	-0.105	-0.250	-0.296	0.495*
W	20	B	0.429	0.006	0.577	0.402	0.037	0.577*	0.071	0.309	0.006	0.000	-0.214	0.402*	-0.214	-0.196
W	21	D	0.317	0.006	0.588	0.527	0.118	0.128	0.160	0.588*	0.007	0.000	-0.178	-0.234	-0.302	0.527*
W	22	A	0.752	0.006	0.475	0.374	0.475*	0.159	0.224	0.138	0.006	0.000	0.374*	-0.156	-0.120	-0.196
W	23	D	0.896	0.006	0.475	0.522	0.191	0.127	0.202	0.475*	0.006	0.000	-0.158	-0.276	-0.234	0.522*
W	24	C	-0.296	0.006	0.696	0.526	0.099	0.126	0.696*	0.071	0.007	0.000	-0.274	-0.245	0.526*	-0.252
W	131	B	0.276	0.006	0.581	0.417	0.148	0.581*	0.236	0.030	0.005	0.000	-0.272	0.417*	-0.191	-0.105
W	132	C	-0.175	0.006	0.651	0.370	0.035	0.138	0.651*	0.170	0.006	0.000	-0.240	-0.342	0.370*	-0.005
W	133	C	0.216	0.006	0.598	0.415	0.112	0.144	0.598*	0.144	0.004	0.000	-0.206	-0.158	0.415*	-0.210
W	134	D	0.106	0.006	0.613	0.449	0.123	0.115	0.144	0.613*	0.005	0.000	-0.217	-0.175	-0.231	0.449*
W	135	A	0.538	0.006	0.557	0.533	0.557*	0.108	0.152	0.178	0.005	0.000	0.533*	-0.131	-0.226	-0.347
W	136	D	-0.889	0.007	0.767	0.376	0.131	0.048	0.050	0.767*	0.004	0.000	-0.223	-0.182	-0.161	0.376*
W	137	D	0.832	0.006	0.490	0.538	0.153	0.184	0.168	0.490*	0.004	0.000	-0.233	-0.230	-0.228	0.538*
W	138	D	-0.767	0.007	0.777	0.459	0.112	0.048	0.058	0.777*	0.004	0.000	-0.236	-0.252	-0.221	0.459*
W	139	C	-0.160	0.006	0.666	0.445	0.123	0.117	0.666*	0.089	0.004	0.000	-0.133	-0.261	0.445*	-0.252
W	140	C	-0.755	0.007	0.740	0.276	0.031	0.056	0.740*	0.170	0.004	0.000	-0.186	-0.176	0.276*	-0.102
W	141	B	0.166	0.006	0.595	0.377	0.214	0.595*	0.098	0.089	0.004	0.000	-0.162	0.377*	-0.212	-0.160
W	142	C	0.568	0.006	0.521	0.505	0.069	0.083	0.521*	0.322	0.004	0.000	-0.192	-0.132	0.505*	-0.335
W	143	D	-0.789	0.007	0.773	0.544	0.087	0.075	0.060	0.773*	0.005	0.000	-0.282	-0.283	-0.263	0.544*

Appendix C: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	144	C	1.122	0.006	0.419	0.398	0.296	0.145	0.419*	0.135	0.005	0.000	-0.109	-0.220	0.398*	-0.172
W	145	A	-0.305	0.006	0.673	0.447	0.673*	0.101	0.136	0.085	0.005	0.000	0.447*	-0.190	-0.282	-0.163
W	146	C	0.352	0.006	0.580	0.499	0.085	0.244	0.580*	0.085	0.005	0.000	-0.315	-0.287	0.499*	-0.089
W	147	A	-0.695	0.007	0.757	0.468	0.757*	0.065	0.137	0.035	0.006	0.000	0.468*	-0.231	-0.296	-0.164
W	148	B	0.577	0.006	0.562	0.438	0.085	0.562*	0.178	0.170	0.005	0.000	0.002?	0.438*	-0.287	-0.261
W	149	C	0.027	0.006	0.640	0.469	0.189	0.101	0.640*	0.065	0.004	0.000	-0.162	-0.302	0.469*	-0.243
W	150	A	0.771	0.006	0.497	0.489	0.497*	0.245	0.191	0.063	0.004	0.000	0.489*	-0.208	-0.230	-0.220
W	151	A	-0.220	0.006	0.684	0.524	0.684*	0.076	0.122	0.112	0.006	0.000	0.524*	-0.283	-0.210	-0.284
W	152	B	-0.476	0.006	0.733	0.451	0.163	0.733*	0.072	0.027	0.005	0.000	-0.277	0.451*	-0.238	-0.151
W	153	D	0.306	0.006	0.568	0.505	0.141	0.131	0.154	0.568*	0.006	0.000	-0.181	-0.235	-0.265	0.505*
W	154	C	0.153	0.006	0.595	0.541	0.092	0.116	0.595*	0.191	0.006	0.000	-0.162	-0.196	0.541*	-0.368
W	193	B	0.479	0.006	0.520	0.379	0.291	0.520*	0.120	0.065	0.005	0.000	-0.118	0.379*	-0.227	-0.210
W	194	A	0.623	0.006	0.516	0.425	0.516*	0.165	0.133	0.181	0.004	0.000	0.425*	-0.181	-0.239	-0.140
W	195	A	0.393	0.006	0.539	0.377	0.539*	0.208	0.149	0.099	0.004	0.000	0.377*	-0.351	-0.053	-0.057
W	196	C	-0.826	0.007	0.785	0.493	0.055	0.073	0.785*	0.083	0.004	0.000	-0.250	-0.290	0.493*	-0.216
W	197	A	-0.560	0.007	0.740	0.525	0.740*	0.130	0.093	0.031	0.005	0.000	0.525*	-0.302	-0.289	-0.190
W	198	C	2.283	0.007	0.196	0.158	0.474	0.202	0.196*	0.123	0.004	0.000	-0.042	-0.066	0.158*	-0.017
W	199	B	-0.424	0.006	0.725	0.547	0.040	0.725*	0.181	0.049	0.005	0.000	-0.128	0.547*	-0.424	-0.210
W	200	D	0.216	0.006	0.616	0.585	0.102	0.160	0.117	0.616*	0.005	0.000	-0.312	-0.282	-0.236	0.585*
W	201	A	0.081	0.006	0.606	0.397	0.606*	0.085	0.230	0.075	0.005	0.000	0.397*	-0.214	-0.165	-0.205
W	202	D	0.406	0.006	0.563	0.522	0.109	0.168	0.154	0.563*	0.006	0.000	-0.208	-0.269	-0.229	0.522*
W	203	B	0.107	0.006	0.614	0.392	0.047	0.614*	0.170	0.164	0.005	0.000	-0.163	0.392*	-0.283	-0.106
W	204	B	0.474	0.006	0.523	0.359	0.094	0.523*	0.291	0.088	0.005	0.000	-0.204	0.359*	-0.107	-0.216
W	205	C	-0.025	0.006	0.647	0.504	0.134	0.119	0.647*	0.096	0.004	0.000	-0.230	-0.239	0.504*	-0.253
W	206	D	0.813	0.006	0.484	0.529	0.138	0.216	0.156	0.484*	0.005	0.000	-0.186	-0.194	-0.298	0.529*
W	207	D	-0.014	0.006	0.646	0.567	0.026	0.214	0.109	0.646*	0.004	0.000	-0.205	-0.373	-0.239	0.567*
W	208	D	1.451	0.006	0.380	0.490	0.217	0.225	0.173	0.380*	0.006	0.000	-0.233	-0.160	-0.169	0.490*
W	209	C	-0.477	0.006	0.712	0.399	0.104	0.105	0.712*	0.073	0.005	0.000	-0.127	-0.235	0.399*	-0.223
W	210	C	-0.735	0.007	0.772	0.444	0.086	0.065	0.772*	0.073	0.004	0.000	-0.239	-0.219	0.444*	-0.209
W	211	A	-0.640	0.007	0.744	0.430	0.744*	0.112	0.065	0.074	0.005	0.000	0.430*	-0.253	-0.250	-0.131
W	212	C	0.351	0.006	0.530	0.295	0.182	0.216	0.530*	0.067	0.005	0.000	-0.128	-0.101	0.295*	-0.178
W	213	D	0.085	0.006	0.685	0.481	0.111	0.063	0.136	0.685*	0.005	0.000	-0.146	-0.225	-0.325	0.481*
W	214	B	-0.125	0.006	0.640	0.450	0.070	0.640*	0.196	0.088	0.006	0.000	-0.215	0.450*	-0.182	-0.274

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	67	C	-0.961	0.025	0.780	0.487	0.086	0.093	0.780*	0.031	0.010	0.000	-0.238	-0.303	0.487*	-0.167
A	68	D	-0.018	0.022	0.433	0.428	0.086	0.069	0.401	0.433*	0.011	0.000	-0.104	-0.170	-0.252	0.428*
A	69	B	0.136	0.022	0.674	0.403	0.175	0.674*	0.064	0.076	0.012	0.000	-0.188	0.403*	-0.218	-0.176
A	70	B	-0.390	0.023	0.752	0.453	0.045	0.752*	0.151	0.043	0.008	0.000	-0.203	0.453*	-0.259	-0.213
A	71	C	0.000	0.022	0.566	0.364	0.282	0.078	0.566*	0.066	0.008	0.000	-0.191	-0.166	0.364*	-0.132
A	72	D	-0.941	0.025	0.709	0.280	0.027	0.061	0.196	0.709*	0.008	0.000	-0.157	-0.159	-0.119	0.280*
A	73	D	-0.085	0.022	0.564	0.486	0.142	0.163	0.119	0.564*	0.012	0.000	-0.215	-0.243	-0.185	0.486*
A	74	D	-0.166	0.022	0.452	0.604	0.353	0.143	0.042	0.452*	0.009	0.000	-0.360	-0.218	-0.177	0.604*
A	75	C	-0.137	0.022	0.487	0.437	0.174	0.136	0.487*	0.194	0.010	0.000	-0.077	-0.239	0.437*	-0.226
A	76	C	-0.107	0.022	0.439	0.407	0.191	0.225	0.439*	0.134	0.012	0.000	-0.243	-0.046	0.407*	-0.205
A	77	A	0.995	0.022	0.471	0.410	0.471*	0.299	0.109	0.111	0.011	0.000	0.410*	-0.200	-0.208	-0.102
A	78	C	0.996	0.022	0.604	0.503	0.107	0.152	0.604*	0.125	0.013	0.000	-0.271	-0.294	0.503*	-0.117
A	79	A	0.938	0.022	0.490	0.487	0.490*	0.143	0.293	0.060	0.016	0.000	0.487*	-0.278	-0.180	-0.185
A	80	A	0.834	0.022	0.436	0.301	0.436*	0.237	0.196	0.119	0.012	0.000	0.301*	-0.098	-0.133	-0.120
A	81	C	0.976	0.022	0.280	0.266	0.171	0.474	0.280*	0.064	0.011	0.000	-0.121	-0.076	0.266*	-0.084
B	67	A	-0.961	0.025	0.780	0.431	0.780*	0.087	0.081	0.039	0.013	0.000	0.431*	-0.211	-0.236	-0.167
B	68	A	-0.018	0.022	0.600	0.481	0.600*	0.144	0.141	0.103	0.012	0.000	0.481*	-0.239	-0.216	-0.183
B	69	D	0.136	0.022	0.570	0.269	0.175	0.102	0.140	0.507*	0.013	0.000	0.058?	-0.180	-0.231	0.269*
B	70	D	-0.390	0.023	0.678	0.444	0.157	0.119	0.036	0.678*	0.010	0.000	-0.293	-0.127	-0.210	0.444*
B	71	B	0.000	0.022	0.600	0.489	0.161	0.600*	0.137	0.090	0.011	0.000	-0.198	0.489*	-0.221	-0.240
B	72	D	-0.941	0.025	0.767	0.430	0.097	0.031	0.095	0.767*	0.009	0.000	-0.212	-0.135	-0.256	0.430*
B	73	A	-0.085	0.022	0.616	0.419	0.616*	0.147	0.162	0.065	0.011	0.000	0.419*	-0.183	-0.204	-0.172
B	74	B	-0.166	0.022	0.628	0.345	0.233	0.628*	0.075	0.052	0.012	0.000	-0.188	0.345*	-0.158	-0.115
B	75	C	-0.137	0.022	0.626	0.302	0.263	0.065	0.626*	0.035	0.011	0.000	-0.079	-0.233	0.302*	-0.174
B	76	D	-0.107	0.022	0.619	0.294	0.319	0.039	0.014	0.619*	0.010	0.000	-0.191	-0.093	-0.132	0.294*
B	77	B	0.995	0.022	0.407	0.226	0.086	0.407*	0.323	0.162	0.022	0.000	-0.098	0.226*	-0.038	-0.129
B	78	D	0.996	0.022	0.397	0.437	0.056	0.219	0.316	0.397*	0.012	0.000	-0.208	-0.170	-0.162	0.437*
B	79	C	0.938	0.022	0.409	0.319	0.138	0.339	0.409*	0.105	0.009	0.000	-0.269	0.026?	0.319*	-0.182
B	80	C	0.834	0.022	0.428	0.571	0.415	0.076	0.428*	0.069	0.012	0.000	-0.340	-0.184	0.571*	-0.174
B	81	A	0.976	0.022	0.405	0.497	0.405*	0.262	0.224	0.091	0.018	0.000	0.497*	-0.182	-0.252	-0.123

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	67	C	-2.362	0.038	0.923	0.341	0.011	0.031	0.923*	0.026	0.009	0.000	-0.126	-0.187	0.341*	-0.156
C	68	A	-1.757	0.031	0.875	0.335	0.875*	0.065	0.038	0.012	0.010	0.000	0.335*	-0.171	-0.194	-0.093
C	69	A	0.402	0.021	0.514	0.479	0.514*	0.288	0.099	0.083	0.015	0.000	0.479*	-0.218	-0.208	-0.198
C	70	C	0.576	0.021	0.482	0.359	0.160	0.253	0.482*	0.090	0.016	0.000	-0.165	-0.111	0.359*	-0.171
C	71	B	1.067	0.022	0.380	-0.115	0.031	0.380*	0.066	0.512?	0.010	0.000	-0.143	-0.115*	-0.066	0.235?
C	72	C	-1.575	0.029	0.852	0.393	0.034	0.050	0.852*	0.055	0.010	0.000	-0.172	-0.232	0.393*	-0.159
C	73	C	-0.446	0.023	0.686	0.529	0.031	0.241	0.686*	0.032	0.010	0.000	-0.188	-0.367	0.529*	-0.195
C	74	B	-0.078	0.022	0.615	0.368	0.110	0.615*	0.068	0.194	0.014	0.000	-0.162	0.368*	-0.177	-0.153
C	75	B	1.057	0.022	0.384	0.417	0.337	0.384*	0.130	0.135	0.015	0.000	-0.218	0.417*	-0.088	-0.148
C	76	A	0.313	0.021	0.538	0.334	0.538*	0.208	0.116	0.123	0.016	0.000	0.334*	-0.160	-0.137	-0.111
C	77	A	-0.070	0.022	0.611	0.515	0.611*	0.250	0.073	0.055	0.012	0.000	0.515*	-0.331	-0.202	-0.146
C	78	B	1.050	0.022	0.386	0.250	0.176	0.386*	0.341	0.071	0.025	0.000	-0.021	0.250*	-0.169	-0.065
C	79	A	0.187	0.022	0.557	0.495	0.557*	0.197	0.194	0.040	0.011	0.000	0.495*	-0.306	-0.214	-0.088
C	80	D	0.450	0.021	0.500	0.384	0.068	0.091	0.330	0.500*	0.011	0.000	-0.128	-0.219	-0.161	0.384*
C	81	D	1.638	0.024	0.269	0.265	0.077	0.349	0.282	0.269*	0.022	0.000	-0.140	-0.040	-0.090	0.265*
D	67	C	-1.338	0.027	0.821	0.386	0.019	0.087	0.821*	0.062	0.011	0.000	-0.131	-0.221	0.386*	-0.188
D	68	D	0.476	0.021	0.511	0.305	0.110	0.345	0.018	0.511*	0.017	0.000	-0.132	-0.155	-0.124	0.305*
D	69	B	-1.256	0.027	0.815	0.394	0.090	0.815*	0.066	0.019	0.009	0.000	-0.293	0.394*	-0.113	-0.145
D	70	B	-1.094	0.026	0.792	0.385	0.081	0.792*	0.086	0.030	0.011	0.000	-0.271	0.385*	-0.122	-0.153
D	71	C	-0.704	0.024	0.740	0.532	0.056	0.125	0.740*	0.071	0.009	0.000	-0.187	-0.323	0.532*	-0.248
D	72	A	-1.372	0.027	0.828	0.449	0.828*	0.066	0.048	0.048	0.011	0.000	0.449*	-0.207	-0.240	-0.207
D	73	B	0.643	0.021	0.477	0.425	0.056	0.477*	0.121	0.337	0.009	0.000	-0.263	0.425*	-0.320	-0.055
D	74	D	0.663	0.021	0.465	0.557	0.218	0.182	0.124	0.465*	0.011	0.000	-0.132	-0.336	-0.216	0.557*
D	75	C	0.940	0.022	0.404	0.282	0.164	0.317	0.404*	0.089	0.026	0.000	-0.129	-0.051	0.282*	-0.169
D	76	B	1.115	0.022	0.374	0.331	0.265	0.374*	0.094	0.257	0.010	0.000	0.098?	0.331*	-0.150	-0.317
D	77	D	1.039	0.022	0.397	0.423	0.131	0.255	0.204	0.397*	0.013	0.000	-0.182	-0.144	-0.151	0.423*
D	78	A	1.282	0.022	0.347	0.379	0.347*	0.348	0.209	0.073	0.022	0.000	0.379*	-0.105	-0.212	-0.092
D	79	A	1.466	0.023	0.320	0.345	0.320*	0.065	0.113	0.492	0.010	0.000	0.345*	-0.102	0.039?	-0.254
D	80	C	1.452	0.023	0.312	0.029	0.291	0.315	0.312*	0.061	0.020	0.000	0.135?	-0.064	0.029*	-0.106
D	81	B	0.029	0.022	0.593	0.495	0.261	0.593*	0.080	0.054	0.012	0.000	-0.256	0.495*	-0.231	-0.197

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	67	B	-1.239	0.026	0.813	0.294	0.077	0.813*	0.075	0.025	0.010	0.000	-0.086	0.294*	-0.216	-0.108
E	68	B	-2.397	0.038	0.927	0.304	0.006	0.927*	0.016	0.045	0.007	0.000	-0.093	0.304*	-0.089	-0.219
E	69	C	-0.968	0.024	0.768	0.353	0.109	0.050	0.768*	0.063	0.010	0.000	-0.097	-0.220	0.353*	-0.214
E	70	D	-0.975	0.024	0.772	0.309	0.022	0.050	0.148	0.772*	0.008	0.000	-0.165	-0.232	-0.108	0.309*
E	71	C	1.240	0.022	0.350	0.356	0.227	0.145	0.350*	0.263	0.015	0.000	-0.029	-0.105	0.356*	-0.237
E	72	C	0.903	0.021	0.422	0.650	0.273	0.148	0.422*	0.147	0.010	0.000	-0.395	-0.137	0.650*	-0.224
E	73	A	0.449	0.021	0.509	0.425	0.509*	0.139	0.268	0.075	0.009	0.000	0.425*	0.067?	-0.382	-0.192
E	74	B	0.644	0.021	0.463	0.468	0.073	0.463*	0.300	0.151	0.013	0.000	-0.164	0.468*	-0.244	-0.168
E	75	B	-0.022	0.021	0.605	0.474	0.087	0.605*	0.126	0.165	0.017	0.000	-0.157	0.474*	-0.189	-0.284
E	76	C	0.092	0.021	0.590	0.190	0.115	0.073	0.590*	0.213	0.008	0.000	-0.019	-0.134	0.190*	-0.089
E	77	D	1.163	0.022	0.371	0.447	0.208	0.284	0.128	0.371*	0.008	0.000	-0.219	-0.236	-0.012	0.447*
E	78	D	-0.276	0.022	0.646	0.442	0.100	0.104	0.137	0.646*	0.013	0.000	-0.185	-0.209	-0.217	0.442*
E	79	D	-0.237	0.022	0.642	0.236	0.022	0.086	0.241	0.642*	0.009	0.000	-0.174	-0.092	-0.108	0.236*
E	80	A	0.777	0.021	0.440	0.298	0.440*	0.198	0.172	0.179	0.011	0.000	0.298*	-0.152	-0.123	-0.060
E	81	A	1.681	0.023	0.274	0.275	0.274*	0.278	0.323	0.102	0.023	0.000	0.275*	-0.066	-0.114	-0.086
F	67	B	-1.061	0.025	0.786	0.397	0.085	0.786*	0.063	0.058	0.009	0.000	-0.243	0.397*	-0.172	-0.156
F	68	D	-0.328	0.022	0.663	0.503	0.076	0.156	0.095	0.663*	0.010	0.000	-0.215	-0.365	-0.110	0.503*
F	69	C	-0.175	0.022	0.633	0.381	0.230	0.085	0.633*	0.044	0.007	0.000	-0.133	-0.262	0.381*	-0.190
F	70	D	-0.200	0.022	0.642	0.544	0.078	0.090	0.179	0.642*	0.011	0.000	-0.204	-0.234	-0.315	0.544*
F	71	A	0.813	0.021	0.444	0.481	0.444*	0.183	0.267	0.095	0.011	0.000	0.481*	-0.110	-0.286	-0.181
F	72	A	-0.365	0.022	0.674	0.283	0.674*	0.063	0.247	0.009	0.007	0.000	0.283*	-0.299	-0.083	-0.095
F	73	C	-0.184	0.022	0.639	0.479	0.108	0.203	0.639*	0.038	0.012	0.000	-0.225	-0.290	0.479*	-0.136
F	74	C	0.255	0.021	0.557	0.291	0.199	0.128	0.557*	0.104	0.013	0.000	0.003?	-0.283	0.291*	-0.108
F	75	A	0.980	0.021	0.413	0.478	0.413*	0.183	0.247	0.144	0.012	0.000	0.478*	-0.158	-0.235	-0.160
F	76	D	0.448	0.021	0.514	0.477	0.151	0.161	0.166	0.514*	0.008	0.000	-0.193	-0.224	-0.190	0.477*
F	77	B	0.361	0.021	0.528	0.259	0.150	0.528*	0.153	0.160	0.010	0.000	-0.039	0.259*	-0.168	-0.106
F	78	D	-0.230	0.022	0.647	0.563	0.112	0.100	0.132	0.647*	0.009	0.000	-0.262	-0.300	-0.234	0.563*
F	79	D	1.295	0.022	0.351	0.375	0.128	0.155	0.355	0.351*	0.010	0.000	-0.142	-0.063	-0.195	0.375*
F	80	B	0.137	0.021	0.569	0.332	0.225	0.569*	0.132	0.058	0.017	0.000	-0.142	0.332*	-0.195	-0.102
F	81	C	1.341	0.022	0.335	0.355	0.389	0.167	0.335*	0.097	0.012	0.000	-0.046	-0.287	0.355*	-0.065

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	67	B	-0.732	0.023	0.734	0.376	0.097	0.734*	0.093	0.067	0.008	0.000	-0.220	0.376*	-0.117	-0.197
G	68	A	-0.739	0.023	0.737	0.421	0.737*	0.100	0.047	0.104	0.012	0.000	0.421*	-0.314	-0.188	-0.108
G	69	C	0.112	0.021	0.580	0.400	0.208	0.068	0.580*	0.132	0.011	0.000	-0.351	-0.171	0.400*	0.018?
G	70	D	-1.222	0.026	0.813	0.476	0.064	0.041	0.074	0.813*	0.009	0.000	-0.219	-0.202	-0.284	0.476*
G	71	C	0.158	0.021	0.569	0.568	0.059	0.333	0.569*	0.024	0.014	0.000	-0.155	-0.444	0.568*	-0.105
G	72	D	-2.256	0.036	0.913	0.322	0.042	0.019	0.018	0.913*	0.008	0.000	-0.182	-0.134	-0.140	0.322*
G	73	C	1.122	0.022	0.370	0.372	0.114	0.495	0.370*	0.013	0.008	0.000	-0.300	-0.108	0.372*	-0.117
G	74	A	0.030	0.021	0.590	0.511	0.590*	0.174	0.099	0.128	0.010	0.000	0.511*	-0.205	-0.280	-0.215
G	75	D	0.774	0.021	0.444	0.268	0.077	0.422	0.049	0.444*	0.008	0.000	-0.144	-0.079	-0.182	0.268*
G	76	A	0.703	0.021	0.457	0.487	0.457*	0.111	0.231	0.192	0.008	0.000	0.487*	-0.166	-0.221	-0.203
G	77	B	-1.129	0.025	0.800	0.435	0.046	0.800*	0.066	0.080	0.008	0.000	-0.225	0.435*	-0.145	-0.271
G	78	D	2.166	0.026	0.203	0.279	0.157	0.476	0.153	0.203*	0.010	0.000	-0.249	0.053?	-0.087	0.279*
G	79	C	0.790	0.021	0.440	0.295	0.087	0.113	0.440*	0.351	0.009	0.000	-0.153	-0.082	0.295*	-0.126
G	80	B	1.170	0.022	0.360	0.279	0.340	0.360*	0.178	0.104	0.017	0.000	-0.070	0.279*	-0.091	-0.156
G	81	C	1.282	0.022	0.334	0.250	0.173	0.351	0.334*	0.127	0.014	0.000	-0.173	-0.049	0.250*	-0.029
H	67	D	-0.546	0.023	0.706	0.527	0.078	0.147	0.058	0.706*	0.011	0.000	-0.288	-0.262	-0.210	0.527*
H	68	D	-0.079	0.022	0.617	0.508	0.075	0.175	0.125	0.617*	0.008	0.000	-0.216	-0.264	-0.215	0.508*
H	69	A	-0.503	0.023	0.696	0.481	0.696*	0.095	0.128	0.070	0.010	0.000	0.481*	-0.191	-0.269	-0.218
H	70	D	-0.057	0.022	0.611	0.571	0.112	0.130	0.134	0.611*	0.013	0.000	-0.127	-0.328	-0.311	0.571*
H	71	C	-0.061	0.022	0.617	0.473	0.094	0.204	0.617*	0.074	0.011	0.000	-0.273	-0.199	0.473*	-0.190
H	72	C	-1.067	0.025	0.787	0.352	0.068	0.093	0.787*	0.041	0.011	0.000	-0.199	-0.145	0.352*	-0.165
H	73	C	0.016	0.021	0.598	0.508	0.085	0.247	0.598*	0.059	0.011	0.000	-0.188	-0.306	0.508*	-0.188
H	74	C	0.618	0.021	0.476	0.395	0.169	0.111	0.476*	0.228	0.015	0.000	-0.337	-0.284	0.395*	0.089?
H	75	B	-0.147	0.022	0.628	0.555	0.081	0.628*	0.173	0.106	0.011	0.000	-0.180	0.555*	-0.337	-0.230
H	76	C	0.837	0.021	0.433	0.503	0.234	0.130	0.433*	0.192	0.011	0.000	-0.295	-0.199	0.503*	-0.096
H	77	B	-0.024	0.022	0.609	0.473	0.089	0.609*	0.195	0.096	0.012	0.000	-0.172	0.473*	-0.314	-0.124
H	78	A	0.148	0.021	0.576	0.206	0.576*	0.064	0.054	0.294	0.011	0.000	0.206*	-0.133	-0.126	-0.050
H	79	?	NS	NS	NS	NS	0.127	0.371	0.299	0.182	0.020	0.000	0.008?	0.147?	-0.033	-0.114
H	80	C	1.010	0.022	0.409	0.382	0.184	0.219	0.409*	0.173	0.015	0.000	-0.288	-0.194	0.382*	0.065?
H	81	D	0.813	0.021	0.440	0.583	0.209	0.196	0.143	0.440*	0.012	0.000	-0.309	-0.255	-0.117	0.583*

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	67	B	-1.808	0.031	0.874	0.236	0.068	0.874*	0.016	0.036	0.007	0.000	-0.116	0.236*	-0.121	-0.098
I	68	B	-0.756	0.024	0.749	0.430	0.112	0.749*	0.079	0.052	0.008	0.000	-0.298	0.430*	-0.149	-0.161
I	69	C	-0.037	0.022	0.614	0.368	0.062	0.177	0.614*	0.136	0.010	0.000	-0.141	-0.146	0.368*	-0.209
I	70	B	-0.734	0.024	0.745	0.286	0.075	0.745*	0.109	0.061	0.010	0.000	-0.120	0.286*	-0.165	-0.105
I	71	B	-0.450	0.023	0.695	0.429	0.095	0.695*	0.176	0.026	0.008	0.000	-0.192	0.429*	-0.270	-0.137
I	72	C	0.791	0.021	0.441	0.395	0.239	0.090	0.441*	0.214	0.015	0.000	-0.153	-0.096	0.395*	-0.212
I	73	C	0.188	0.021	0.567	0.248	0.076	0.139	0.567*	0.204	0.014	0.000	-0.135	-0.110	0.248*	-0.080
I	74	A	0.035	0.021	0.593	0.608	0.593*	0.160	0.136	0.100	0.011	0.000	0.608*	-0.261	-0.342	-0.222
I	75	B	0.321	0.021	0.536	0.443	0.213	0.536*	0.135	0.103	0.013	0.000	-0.190	0.443*	-0.233	-0.148
I	76	D	0.775	0.021	0.443	0.407	0.097	0.180	0.271	0.443*	0.009	0.000	-0.158	-0.266	-0.084	0.407*
I	77	C	0.725	0.021	0.463	0.136	0.065	0.224	0.463*	0.232	0.015	0.000	-0.177	-0.075	0.136*	0.054?
I	78	A	-0.421	0.022	0.684	0.509	0.684*	0.114	0.119	0.071	0.012	0.000	0.509*	-0.284	-0.244	-0.188
I	79	B	0.965	0.022	0.409	0.392	0.071	0.409*	0.284	0.227	0.009	0.000	0.003	0.392*	-0.208	-0.201
I	80	D	1.342	0.022	0.341	0.483	0.294	0.165	0.185	0.341*	0.015	0.000	-0.213	-0.177	-0.127	0.483*
I	81	B	0.462	0.021	0.522	0.359	0.096	0.522*	0.275	0.089	0.018	0.000	-0.165	0.359*	-0.147	-0.159
J	67	D	-0.411	0.023	0.671	0.389	0.107	0.076	0.138	0.671*	0.009	0.000	-0.318	-0.131	-0.094	0.389*
J	68	B	-0.920	0.025	0.761	0.456	0.124	0.761*	0.080	0.026	0.010	0.000	-0.331	0.456*	-0.202	-0.078
J	69	C	-0.343	0.023	0.671	0.395	0.034	0.250	0.671*	0.037	0.008	0.000	-0.213	-0.225	0.395*	-0.168
J	70	C	-0.071	0.022	0.619	0.515	0.330	0.024	0.619*	0.019	0.008	0.000	-0.415	-0.137	0.515*	-0.126
J	71	D	-0.008	0.022	0.604	0.511	0.162	0.054	0.171	0.604*	0.009	0.000	-0.221	-0.218	-0.271	0.511*
J	72	A	0.272	0.022	0.556	0.492	0.556*	0.098	0.125	0.211	0.009	0.000	0.492*	-0.243	-0.219	-0.201
J	73	A	0.101	0.022	0.582	0.480	0.582*	0.185	0.100	0.123	0.010	0.000	0.480*	-0.285	-0.261	-0.088
J	74	B	0.441	0.022	0.510	0.592	0.317	0.510*	0.092	0.070	0.012	0.000	-0.388	0.592*	-0.178	-0.184
J	75	C	-0.827	0.024	0.748	0.475	0.065	0.171	0.748*	0.008	0.009	0.000	-0.226	-0.335	0.475*	-0.082
J	76	D	-0.244	0.022	0.643	0.545	0.078	0.204	0.065	0.643*	0.010	0.000	-0.229	-0.334	-0.190	0.545*
J	77	D	-0.255	0.022	0.650	0.531	0.194	0.062	0.087	0.650*	0.008	0.000	-0.330	-0.183	-0.218	0.531*
J	78	C	0.196	0.022	0.567	0.139	0.161	0.208	0.567*	0.050	0.014	0.000	-0.043	-0.019	0.139*	-0.124
J	79	D	0.441	0.022	0.515	0.383	0.044	0.275	0.154	0.515*	0.012	0.000	-0.189	-0.166	-0.168	0.383*
J	80	D	1.417	0.023	0.331	0.393	0.257	0.207	0.188	0.331*	0.017	0.000	-0.028	-0.197	-0.189	0.393*
J	81	C	0.824	0.022	0.434	0.352	0.047	0.213	0.434*	0.296	0.010	0.000	-0.203	-0.002	0.352*	-0.248

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	67	D	-1.376	0.028	0.825	0.381	0.071	0.012	0.085	0.825*	0.007	0.000	-0.172	-0.136	-0.246	0.381*
K	68	A	-0.925	0.025	0.770	0.490	0.770*	0.103	0.047	0.072	0.007	0.000	0.490*	-0.255	-0.204	-0.262
K	69	B	-0.918	0.025	0.759	0.375	0.090	0.759*	0.077	0.066	0.007	0.000	-0.210	0.375*	-0.112	-0.210
K	70	C	0.371	0.022	0.518	0.359	0.179	0.163	0.518*	0.127	0.014	0.000	-0.171	-0.142	0.359*	-0.127
K	71	B	-1.509	0.029	0.850	0.439	0.045	0.850*	0.077	0.020	0.008	0.000	-0.200	0.439*	-0.273	-0.173
K	72	B	0.346	0.022	0.535	0.273	0.108	0.535*	0.151	0.195	0.010	0.000	-0.081	0.273*	-0.154	-0.094
K	73	C	0.000	0.022	0.595	0.429	0.170	0.127	0.595*	0.098	0.010	0.000	-0.187	-0.236	0.429*	-0.139
K	74	D	0.232	0.022	0.553	0.287	0.067	0.182	0.188	0.553*	0.011	0.000	-0.101	-0.081	-0.175	0.287*
K	75	B	-0.892	0.025	0.761	0.357	0.142	0.761*	0.044	0.045	0.007	0.000	-0.166	0.357*	-0.229	-0.139
K	76	C	1.040	0.022	0.378	0.321	0.197	0.235	0.378*	0.176	0.014	0.000	-0.151	-0.115	0.321*	-0.077
K	77	C	1.210	0.023	0.357	0.368	0.167	0.414	0.357*	0.049	0.013	0.000	-0.237	-0.114	0.368*	-0.065
K	78	A	0.585	0.022	0.485	0.327	0.485*	0.130	0.360	0.016	0.009	0.000	0.327*	-0.219	-0.126	-0.085
K	79	A	0.584	0.022	0.479	0.559	0.479*	0.150	0.238	0.121	0.012	0.000	0.559*	-0.270	-0.268	-0.149
K	80	A	1.214	0.023	0.358	0.303	0.358*	0.389	0.105	0.133	0.015	0.000	0.303*	-0.054	-0.153	-0.152
K	81	A	2.336	0.028	0.182	0.223	0.182*	0.215	0.370	0.211	0.022	0.000	0.223*	0.065?	-0.132	-0.079
L	67	A	-1.117	0.026	0.791	0.431	0.791*	0.099	0.060	0.037	0.013	0.000	0.431*	-0.258	-0.210	-0.138
L	68	D	-1.048	0.026	0.785	0.336	0.063	0.100	0.040	0.785*	0.012	0.000	-0.182	-0.130	-0.171	0.336*
L	69	B	-0.401	0.023	0.671	0.432	0.034	0.671*	0.158	0.126	0.010	0.000	-0.171	0.432*	-0.269	-0.159
L	70	C	-0.030	0.022	0.608	0.287	0.049	0.292	0.608*	0.039	0.011	0.000	-0.186	-0.115	0.287*	-0.133
L	71	A	-0.300	0.023	0.656	0.450	0.656*	0.257	0.029	0.048	0.010	0.000	0.450*	-0.269	-0.185	-0.207
L	72	D	-1.054	0.026	0.785	0.495	0.022	0.046	0.136	0.785*	0.011	0.000	-0.146	-0.225	-0.329	0.495*
L	73	B	0.308	0.022	0.537	0.561	0.197	0.537*	0.160	0.094	0.012	0.000	-0.226	0.561*	-0.237	-0.286
L	74	B	1.812	0.025	0.257	0.235	0.024	0.257*	0.057	0.653?	0.009	0.000	-0.082	0.235*	-0.168	-0.066
L	75	C	1.030	0.023	0.392	0.440	0.242	0.285	0.392*	0.063	0.017	0.000	-0.241	-0.147	0.440*	-0.099
L	76	C	-0.123	0.023	0.617	0.491	0.023	0.296	0.617*	0.053	0.011	0.000	-0.166	-0.387	0.491*	-0.073
L	77	A	1.186	0.023	0.364	0.317	0.364*	0.301	0.240	0.082	0.012	0.000	0.317*	-0.250	0.025?	-0.099
L	78	A	0.851	0.022	0.424	0.338	0.424*	0.270	0.209	0.087	0.010	0.000	0.338*	-0.043	-0.190	-0.180
L	79	B	0.955	0.022	0.406	0.337	0.100	0.406*	0.144	0.338	0.012	0.000	-0.049	0.337*	-0.118	-0.186
L	80	D	1.292	0.023	0.345	0.393	0.156	0.119	0.363	0.345*	0.017	0.000	-0.106	-0.118	-0.187	0.393*
L	81	D	1.379	0.023	0.326	0.442	0.228	0.218	0.209	0.326*	0.019	0.000	-0.161	-0.113	-0.171	0.442*

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	C	-2.110	0.010	0.903	0.276	0.037	0.050	0.903*	0.003	0.007	0.000	-0.119	-0.189	0.276*	-0.042
W	2	A	-0.944	0.007	0.768	0.457	0.768*	0.114	0.069	0.042	0.008	0.000	0.457*	-0.237	-0.237	-0.210
W	3	D	-0.428	0.007	0.682	0.479	0.041	0.181	0.088	0.682*	0.008	0.000	-0.106	-0.340	-0.196	0.479*
W	4	C	-0.451	0.007	0.682	0.474	0.055	0.141	0.682*	0.114	0.008	0.000	-0.152	-0.186	0.474*	-0.332
W	5	A	0.897	0.006	0.416	0.433	0.416*	0.230	0.196	0.148	0.009	0.000	0.433*	-0.192	-0.279	-0.016
W	6	B	-0.255	0.006	0.639	0.441	0.114	0.639*	0.180	0.059	0.008	0.000	-0.221	0.441*	-0.220	-0.177
W	7	D	-0.267	0.006	0.648	0.496	0.019	0.074	0.253	0.648*	0.007	0.000	-0.134	-0.285	-0.296	0.496*
W	8	A	0.074	0.006	0.579	0.507	0.579*	0.275	0.081	0.057	0.008	0.000	0.507*	-0.267	-0.264	-0.181
W	9	B	0.366	0.006	0.522	0.481	0.142	0.522*	0.249	0.081	0.007	0.000	-0.158	0.481*	-0.254	-0.224
W	10	A	-0.531	0.007	0.693	0.576	0.693*	0.078	0.108	0.113	0.008	0.000	0.576*	-0.243	-0.318	-0.268
W	11	A	0.443	0.006	0.509	0.483	0.509*	0.213	0.188	0.080	0.010	0.000	0.483*	-0.281	-0.157	-0.178
W	12	B	-0.077	0.006	0.613	0.405	0.109	0.613*	0.203	0.059	0.016	0.000	-0.180	0.405*	-0.226	-0.135
W	13	D	0.270	0.006	0.553	0.258	0.330	0.040	0.068	0.553*	0.008	0.000	-0.172	-0.108	-0.046	0.258*
W	14	D	1.436	0.007	0.317	0.441	0.115	0.364	0.192	0.317*	0.012	0.000	-0.090	-0.147	-0.227	0.441*
W	15	C	0.269	0.006	0.548	0.278	0.042	0.362	0.548*	0.040	0.008	0.000	-0.158	-0.145	0.278*	-0.108
W	16	D	0.724	0.006	0.446	0.494	0.232	0.179	0.131	0.446*	0.012	0.000	-0.103	-0.309	-0.194	0.494*
W	17	B	-0.793	0.007	0.751	0.393	0.078	0.751*	0.085	0.079	0.008	0.000	-0.221	0.393*	-0.158	-0.191
W	18	B	0.389	0.006	0.511	0.542	0.245	0.511*	0.188	0.045	0.010	0.000	-0.253	0.542*	-0.297	-0.140
W	19	C	0.173	0.006	0.566	0.376	0.095	0.121	0.566*	0.202	0.016	0.000	-0.138	-0.249	0.376*	-0.115
W	20	C	0.052	0.006	0.577	0.534	0.171	0.186	0.577*	0.059	0.008	0.000	-0.278	-0.269	0.534*	-0.162
W	21	D	0.977	0.006	0.394	0.552	0.046	0.419	0.134	0.394*	0.008	0.000	-0.210	-0.383	-0.059	0.552*
W	22	D	0.298	0.006	0.536	0.638	0.033	0.195	0.228	0.536*	0.008	0.000	-0.133	-0.284	-0.393	0.638*
W	23	C	0.605	0.006	0.475	0.209	0.247	0.169	0.475*	0.093	0.015	0.000	0.022?	-0.172	0.209*	-0.106
W	24	A	1.125	0.006	0.375	0.327	0.375*	0.302	0.194	0.115	0.014	0.000	0.327*	-0.001	-0.218	-0.168
W	141	A	-1.409	0.008	0.831	0.322	0.831*	0.034	0.039	0.090	0.007	0.000	0.322*	-0.205	-0.216	-0.091
W	142	C	-0.627	0.007	0.724	0.193	0.041	0.179	0.724*	0.049	0.007	0.000	-0.098	-0.052	0.193*	-0.148
W	143	A	-0.672	0.007	0.713	0.449	0.713*	0.141	0.069	0.067	0.010	0.000	0.449*	-0.233	-0.202	-0.219
W	144	D	0.183	0.006	0.540	0.462	0.166	0.119	0.167	0.540*	0.007	0.000	-0.268	-0.135	-0.191	0.462*
W	145	A	-0.317	0.006	0.640	0.529	0.640*	0.112	0.069	0.173	0.007	0.000	0.529*	-0.165	-0.209	-0.354
W	146	A	-0.911	0.007	0.764	0.442	0.764*	0.063	0.070	0.095	0.008	0.000	0.442*	-0.214	-0.272	-0.173
W	147	B	-0.196	0.006	0.638	0.437	0.175	0.638*	0.135	0.043	0.008	0.000	-0.262	0.437*	-0.166	-0.190
W	148	B	0.672	0.006	0.465	0.379	0.092	0.465*	0.389	0.048	0.007	0.000	-0.253	0.379*	-0.133	-0.170
W	149	D	0.068	0.006	0.581	0.487	0.125	0.104	0.179	0.581*	0.011	0.000	-0.202	-0.257	-0.205	0.487*
W	150	B	0.900	0.006	0.418	0.176	0.119	0.418*	0.337	0.113	0.012	0.000	-0.242	0.176*	0.048?	-0.051

Appendix D: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Mathematics

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	151	A	-0.041	0.006	0.600	0.450	0.600*	0.159	0.157	0.076	0.008	0.000	0.450*	-0.195	-0.274	-0.127
W	152	B	-0.041	0.006	0.630	0.539	0.070	0.630*	0.068	0.226	0.006	0.000	-0.235	0.539*	-0.109	-0.378
W	153	C	0.590	0.006	0.480	0.343	0.196	0.202	0.480*	0.109	0.014	0.000	-0.072	-0.260	0.343*	-0.070
W	154	D	0.600	0.006	0.456	0.362	0.075	0.322	0.139	0.456*	0.008	0.000	-0.252	-0.026	-0.250	0.362*
W	155	B	0.046	0.006	0.589	0.361	0.115	0.589*	0.118	0.168	0.010	0.000	-0.152	0.361*	-0.200	-0.131
W	156	C	0.299	0.006	0.539	0.407	0.127	0.211	0.539*	0.111	0.012	0.000	-0.231	-0.218	0.407*	-0.062
W	157	C	-0.311	0.006	0.657	0.512	0.081	0.165	0.657*	0.088	0.009	0.000	-0.213	-0.298	0.512*	-0.207
W	158	B	0.011	0.006	0.599	0.384	0.135	0.599*	0.111	0.143	0.012	0.000	-0.089	0.384*	-0.255	-0.176
W	159	C	0.169	0.006	0.563	0.524	0.276	0.095	0.563*	0.058	0.008	0.000	-0.308	-0.286	0.524*	-0.098
W	160	C	0.611	0.006	0.480	0.371	0.076	0.199	0.480*	0.239	0.007	0.000	-0.186	-0.077	0.371*	-0.212
W	161	D	2.133	0.007	0.202	0.330	0.268	0.274	0.245	0.202*	0.011	0.000	0.014?	-0.214	-0.062	0.330*
W	162	C	0.077	0.006	0.570	0.427	0.133	0.120	0.570*	0.167	0.011	0.000	-0.202	-0.176	0.427*	-0.188
W	163	D	1.653	0.007	0.271	0.074	0.124	0.406	0.191	0.271*	0.009	0.000	-0.071	0.090?	-0.092	0.074*
W	164	B	1.579	0.007	0.312	0.272	0.130	0.312*	0.383	0.161	0.014	0.000	-0.021	0.272*	-0.105	-0.150
W	207	B	-0.961	0.007	0.759	0.322	0.051	0.759*	0.054	0.129	0.007	0.000	-0.213	0.322*	-0.216	-0.080
W	208	B	-0.790	0.007	0.736	0.331	0.046	0.736*	0.176	0.034	0.008	0.000	-0.167	0.331*	-0.156	-0.196
W	209	C	-0.984	0.007	0.767	0.460	0.053	0.076	0.767*	0.096	0.008	0.000	-0.205	-0.300	0.460*	-0.182
W	210	C	-0.812	0.007	0.751	0.475	0.059	0.125	0.751*	0.058	0.007	0.000	-0.243	-0.226	0.475*	-0.250
W	211	A	-0.010	0.006	0.603	0.402	0.603*	0.169	0.146	0.073	0.009	0.000	0.402*	-0.238	-0.168	-0.121
W	212	C	0.568	0.006	0.492	0.401	0.289	0.173	0.492*	0.034	0.012	0.000	-0.307	-0.102	0.401*	-0.059
W	213	A	-0.176	0.006	0.629	0.455	0.629*	0.039	0.060	0.265	0.007	0.000	0.455*	-0.226	-0.262	-0.223
W	214	D	-0.258	0.006	0.641	0.515	0.032	0.095	0.223	0.641*	0.008	0.000	-0.177	-0.298	-0.270	0.515*
W	215	B	-0.009	0.006	0.603	0.393	0.062	0.603*	0.162	0.164	0.008	0.000	-0.174	0.393*	-0.229	-0.135
W	216	A	0.416	0.006	0.511	0.599	0.511*	0.122	0.253	0.106	0.008	0.000	0.599*	-0.248	-0.387	-0.109
W	217	B	0.380	0.006	0.525	0.495	0.208	0.525*	0.127	0.132	0.008	0.000	-0.205	0.495*	-0.245	-0.194
W	218	D	1.413	0.007	0.316	0.495	0.192	0.232	0.249	0.316*	0.011	0.000	-0.283	-0.252	0.009?	0.495*
W	219	D	0.207	0.006	0.556	0.415	0.066	0.071	0.299	0.556*	0.007	0.000	-0.269	-0.222	-0.145	0.415*
W	220	B	-0.027	0.006	0.594	0.576	0.135	0.594*	0.113	0.149	0.008	0.000	-0.162	0.576*	-0.327	-0.300
W	221	C	0.545	0.006	0.485	0.314	0.254	0.135	0.485*	0.116	0.010	0.000	-0.249	-0.201	0.314*	0.115?
W	222	D	0.908	0.006	0.413	0.448	0.188	0.206	0.186	0.413*	0.008	0.000	-0.193	-0.101	-0.225	0.448*
W	223	D	0.751	0.006	0.444	0.423	0.110	0.310	0.127	0.444*	0.008	0.000	-0.325	-0.105	-0.131	0.423*
W	224	D	-0.021	0.006	0.598	0.425	0.087	0.149	0.153	0.598*	0.012	0.000	-0.210	-0.166	-0.209	0.425*
W	225	C	0.206	0.006	0.563	0.390	0.103	0.205	0.563*	0.119	0.010	0.000	-0.153	-0.204	0.390*	-0.148
W	226	B	0.629	0.006	0.468	0.319	0.158	0.468*	0.149	0.215	0.010	0.000	-0.148	0.319*	-0.252	0.005?
W	227	A	0.539	0.006	0.483	0.539	0.483*	0.177	0.229	0.101	0.010	0.000	0.539*	-0.277	-0.262	-0.118
W	228	A	0.954	0.006	0.414	0.386	0.414*	0.236	0.256	0.083	0.012	0.000	0.386*	-0.257	-0.026	-0.187

**Appendix E: 2003 PSSA Grade Five Task Analysis
Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	75	1	-1.38	0.06	2.839	0.597	0.026	0.071	0.363	0.210	0.225	0.102	-0.246	-0.311	-0.234	0.045	0.291	0.329
A	75	2	-1.48	0.03														
A	75	3	1.31	0.02														
A	75	4	1.31	0.02														
A	75	5	2.76	0.03														
B	75	1	-0.55	0.03	1.732	0.675	0.158	0.356	0.210	0.161	0.085	0.026	-0.528	-0.199	0.173	0.299	0.297	0.205
B	75	2	1.45	0.02														
B	75	3	1.80	0.03														
B	75	4	2.70	0.03														
B	75	5	3.74	0.06														
C	75	1	0.29	0.03	1.985	0.628	0.211	0.206	0.203	0.203	0.114	0.062	-0.529	-0.138	0.074	0.271	0.249	0.250
C	75	2	0.85	0.02														
C	75	3	1.36	0.02														
C	75	4	2.42	0.03														
C	75	5	2.90	0.04														
D	75	1	-0.07	0.03	2.074	0.665	0.143	0.178	0.290	0.260	0.097	0.030	-0.449	-0.288	0.021	0.323	0.302	0.196
D	75	2	0.23	0.02														
D	75	3	1.41	0.02														
D	75	4	2.86	0.03														
D	75	5	3.60	0.06														
E	75	1	1.55	0.03	2.635	0.719	0.207	0.047	0.183	0.188	0.206	0.167	-0.547	-0.134	-0.134	0.079	0.289	0.438
E	75	2	-0.86	0.03														
E	75	3	0.94	0.03														
E	75	4	1.37	0.02														
E	75	5	2.20	0.03														
F	75	1	0.66	0.03	2.067	0.555	0.167	0.098	0.409	0.193	0.080	0.050	-0.398	-0.184	0.054	0.158	0.235	0.266
F	75	2	-0.72	0.03														
F	75	3	2.06	0.02														
F	75	4	2.74	0.03														
F	75	5	2.86	0.05														
G	75	1	1.76	0.03	2.816	0.700	0.176	0.027	0.091	0.319	0.272	0.112	-0.584	-0.109	-0.121	0.076	0.325	0.322
G	75	2	-0.87	0.03														
G	75	3	-0.44	0.03														
G	75	4	1.53	0.02														
G	75	5	2.87	0.03														

**Appendix E: 2003 PSSA Grade Five Task Analysis
Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
H	75	1	0.25	0.02	1.541	0.620	0.252	0.305	0.199	0.152	0.067	0.023	-0.515	-0.081	0.170	0.306	0.247	0.192
H	75	2	1.51	0.02														
H	75	3	1.92	0.03														
H	75	4	2.97	0.04														
H	75	5	3.73	0.07														
I	75	1	-0.51	0.03	2.046	0.629	0.121	0.236	0.318	0.198	0.050	0.076	-0.429	-0.310	0.113	0.270	0.167	0.304
I	75	2	0.48	0.02														
I	75	3	1.84	0.02														
I	75	4	3.25	0.03														
I	75	5	1.93	0.04														
J	75	1	0.38	0.03	2.803	0.654	0.171	0.127	0.102	0.139	0.236	0.222	-0.462	-0.204	-0.108	0.015	0.231	0.436
J	75	2	0.73	0.03														
J	75	3	0.61	0.03														
J	75	4	0.81	0.03														
J	75	5	1.90	0.03														
K	75	1	-0.27	0.03	2.190	0.595	0.132	0.193	0.208	0.330	0.075	0.055	-0.469	-0.154	-0.053	0.307	0.193	0.236
K	75	2	0.60	0.03														
K	75	3	0.80	0.02														
K	75	4	3.25	0.03														
K	75	5	2.68	0.05														
L	75	1	-0.74	0.04	2.629	0.660	0.098	0.194	0.130	0.223	0.253	0.098	-0.433	-0.307	-0.076	0.118	0.329	0.308
L	75	2	0.86	0.03														
L	75	3	0.43	0.03														
L	75	4	1.38	0.03														
L	75	5	3.02	0.04														
W	25	1	-1.53	0.01	2.363	0.561	0.054	0.193	0.255	0.363	0.097	0.037	-0.335	-0.337	-0.029	0.277	0.200	0.187
W	25	2	0.15	0.01														
W	25	3	0.74	0.01														
W	25	4	3.06	0.01														
W	25	5	3.21	0.01														
W	135	1	0.92	0.01	2.029	0.669	0.230	0.097	0.285	0.214	0.136	0.035	-0.567	-0.075	0.036	0.224	0.339	0.237
W	135	2	-0.33	0.01														
W	135	3	1.52	0.01														
W	135	4	2.27	0.01														
W	135	5	3.80	0.02														
W	185	1	-0.93	0.01	2.193	0.663	0.111	0.284	0.197	0.227	0.065	0.115	-0.429	-0.337	0.041	0.273	0.209	0.351
W	185	2	0.97	0.01														
W	185	3	1.09	0.01														
W	185	4	3.00	0.01														
W	185	5	1.54	0.01														

**Appendix F: 2003 PSSA Grade Eight Task Analysis
Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	85	1	-1.24	0.03	1.828	0.631	0.123	0.379	0.185	0.187	0.091	0.031	-0.422	-0.257	0.087	0.313	0.281	0.215
A	85	2	1.23	0.02														
A	85	3	1.17	0.03														
A	85	4	2.52	0.03														
A	85	5	3.50	0.06														
B	85	1	-0.76	0.04	2.500	0.671	0.094	0.134	0.251	0.222	0.276	0.019	-0.374	-0.327	-0.120	0.132	0.458	0.182
B	85	2	-0.55	0.03														
B	85	3	0.78	0.02														
B	85	4	1.11	0.02														
B	85	5	4.83	0.07														
C	85	1	0.12	0.03	1.824	0.673	0.245	0.213	0.212	0.177	0.088	0.061	-0.557	-0.082	0.083	0.252	0.289	0.301
C	85	2	0.55	0.02														
C	85	3	1.28	0.03														
C	85	4	2.35	0.03														
C	85	5	2.53	0.04														
D	85	1	0.83	0.03	2.019	0.751	0.314	0.136	0.120	0.200	0.087	0.139	-0.600	-0.125	0.017	0.242	0.257	0.461
D	85	2	0.61	0.03														
D	85	3	0.46	0.03														
D	85	4	2.30	0.03														
D	85	5	1.57	0.03														
E	85	1	-0.51	0.03	2.244	0.665	0.147	0.200	0.272	0.140	0.101	0.135	-0.448	-0.252	0.023	0.145	0.227	0.415
E	85	2	0.01	0.02														
E	85	3	1.53	0.03														
E	85	4	1.75	0.03														
E	85	5	1.66	0.03														
F	85	1	-1.26	0.03	2.044	0.723	0.124	0.404	0.158	0.053	0.113	0.142	-0.490	-0.298	0.127	0.114	0.270	0.472
F	85	2	1.44	0.02														
F	85	3	2.12	0.03														
F	85	4	0.75	0.03														
F	85	5	1.77	0.03														
G	85	1	-0.76	0.03	2.470	0.723	0.103	0.154	0.288	0.197	0.114	0.138	-0.415	-0.295	-0.141	0.166	0.286	0.440
G	85	2	-0.46	0.03														
G	85	3	1.12	0.02														
G	85	4	1.87	0.03														
G	85	5	1.71	0.03														

Appendix F: 2003 PSSA Grade Eight Task Analysis Open Ended Tasks for Mathematics

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
H	85	1	0.09	0.02	1.370	0.614	0.303	0.338	0.194	0.038	0.083	0.040	-0.447	-0.073	0.191	0.155	0.328	0.286
H	85	2	1.46	0.02														
H	85	3	3.17	0.03														
H	85	4	1.29	0.04														
H	85	5	3.34	0.06														
I	85	1	0.45	0.02	1.667	0.711	0.340	0.257	0.118	0.052	0.121	0.106	-0.594	-0.026	0.120	0.110	0.337	0.426
I	85	2	1.51	0.03														
I	85	3	2.04	0.03														
I	85	4	0.83	0.03														
I	85	5	2.30	0.04														
J	85	1	0.99	0.02	1.531	0.685	0.403	0.186	0.114	0.107	0.131	0.054	-0.589	-0.001	0.120	0.224	0.375	0.300
J	85	2	1.27	0.03														
J	85	3	1.34	0.03														
J	85	4	1.53	0.03														
J	85	5	3.12	0.05														
K	85	1	0.05	0.02	1.850	0.731	0.263	0.270	0.172	0.045	0.119	0.125	-0.587	-0.130	0.163	0.122	0.298	0.443
K	85	2	1.09	0.03														
K	85	3	2.48	0.03														
K	85	4	0.64	0.03														
K	85	5	2.03	0.04														
L	85	1	0.33	0.03	2.275	0.743	0.250	0.158	0.134	0.158	0.098	0.197	-0.578	-0.163	0.010	0.137	0.231	0.505
L	85	2	0.52	0.03														
L	85	3	0.66	0.03														
L	85	4	1.79	0.03														
L	85	5	1.15	0.03														
W	25	1	0.76	0.01	2.185	0.705	0.291	0.116	0.068	0.267	0.141	0.114	-0.570	-0.125	-0.026	0.193	0.308	0.386
W	25	2	0.94	0.01														
W	25	3	-0.56	0.01														
W	25	4	1.98	0.01														
W	25	5	2.21	0.01														
W	155	1	-0.85	0.01	2.822	0.720	0.090	0.121	0.217	0.199	0.178	0.192	-0.419	-0.275	-0.196	0.026	0.261	0.483
W	155	2	-0.58	0.01														
W	155	3	0.58	0.01														
W	155	4	1.16	0.01														
W	155	5	1.55	0.01														
W	215	1	-0.28	0.01	2.418	0.746	0.156	0.168	0.243	0.130	0.122	0.177	-0.520	-0.234	-0.056	0.109	0.255	0.497
W	215	2	-0.14	0.01														
W	215	3	1.39	0.01														
W	215	4	1.34	0.01														
W	215	5	1.46	0.01														

**Appendix G: 2003 PSSA Grade Eleven Task Analysis
Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	91	1	0.64	0.03	2.111	0.663	0.261	0.104	0.174	0.222	0.169	0.064	-0.527	-0.166	0.094	0.158	0.336	0.292
A	91	2	-0.40	0.03														
A	91	3	0.34	0.03														
A	91	4	1.41	0.03														
A	91	5	2.67	0.05														
B	91	1	-1.37	0.03	2.221	0.778	0.122	0.369	0.08	0.121	0.167	0.132	-0.443	-0.403	0.036	0.197	0.367	0.438
B	91	2	1.68	0.03														
B	91	3	0.21	0.03														
B	91	4	0.78	0.03														
B	91	5	1.82	0.03														
C	91	1	0.68	0.03	1.624	0.772	0.369	0.184	0.148	0.096	0.12	0.075	-0.615	-0.072	0.142	0.23	0.365	0.412
C	91	2	0.67	0.03														
C	91	3	1.36	0.03														
C	91	4	1.16	0.03														
C	91	5	2.29	0.04														
D	91	1	1.09	0.02	1.035	0.681	0.527	0.239	0.057	0.041	0.077	0.05	-0.552	0.081	0.195	0.213	0.372	0.343
D	91	2	2.32	0.03														
D	91	3	1.70	0.04														
D	91	4	1.10	0.04														
D	91	5	2.49	0.05														
E	91	1	0.62	0.02	1.165	0.74	0.406	0.249	0.227	0.024	0.044	0.042	-0.595	-0.042	0.402	0.184	0.304	0.333
E	91	2	0.84	0.03														
E	91	3	3.56	0.04														
E	91	4	1.17	0.04														
E	91	5	2.16	0.06														
F	91	1	1.14	0.03	1.588	0.776	0.43	0.142	0.106	0.097	0.149	0.069	-0.682	0.011	0.117	0.234	0.422	0.368
F	91	2	0.80	0.03														
F	91	3	1.05	0.03														
F	91	4	0.97	0.03														
F	91	5	2.59	0.04														
G	91	1	1.38	0.02	1.037	0.718	0.512	0.161	0.187	0.064	0.032	0.036	-0.669	0.128	0.351	0.295	0.224	0.295
G	91	2	0.67	0.03														
G	91	3	2.43	0.04														
G	91	4	2.48	0.05														
G	91	5	2.02	0.06														

**Appendix G: 2003 PSSA Grade Eleven Task Analysis
Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
H	91	1	-0.15	0.02	1.176	0.676	0.275	0.322	0.355	0.022	0.011	0.006	-0.533	-0.083	0.507	0.174	0.154	0.132
H	91	2	0.64	0.02														
H	91	3	4.25	0.05														
H	91	4	2.74	0.08														
H	91	5	3.09	0.13														
I	91	1	1.94	0.03	1.437	0.725	0.504	0.082	0.113	0.11	0.125	0.06	-0.621	0.016	0.087	0.239	0.414	0.348
I	91	2	0.25	0.03														
I	91	3	1.06	0.03														
I	91	4	1.32	0.03														
I	91	5	2.62	0.05														
J	91	1	1.59	0.02	0.907	0.747	0.576	0.163	0.13	0.04	0.057	0.027	-0.703	0.186	0.36	0.247	0.344	0.282
J	91	2	1.19	0.03														
J	91	3	2.69	0.04														
J	91	4	1.56	0.04														
J	91	5	3.00	0.07														
K	91	1	-0.32	0.03	1.478	0.727	0.258	0.349	0.194	0.075	0.069	0.048	-0.519	-0.148	0.228	0.271	0.331	0.326
K	91	2	1.12	0.03														
K	91	3	2.06	0.03														
K	91	4	1.69	0.04														
K	91	5	2.38	0.05														
L	91	1	0.55	0.03	2.206	0.769	0.275	0.126	0.139	0.177	0.103	0.172	-0.59	-0.162	-0.016	0.212	0.255	0.488
L	91	2	0.06	0.03														
L	91	3	0.35	0.03														
L	91	4	1.59	0.03														
L	91	5	1.01	0.03														
W	25	1	0.72	0.01	1.1	0.682	0.429	0.252	0.221	0.01	0.038	0.044	-0.593	0.051	0.388	0.1	0.246	0.327
W	25	2	0.90	0.01														
W	25	3	4.53	0.01														
W	25	4	0.40	0.01														
W	25	5	2.05	0.02														
W	165	1	0.28	0.01	0.951	0.628	0.421	0.378	0.09	0.042	0.046	0.016	-0.495	0.078	0.293	0.234	0.305	0.206
W	165	2	2.33	0.01														
W	165	3	2.29	0.01														
W	165	4	1.76	0.01														
W	165	5	3.43	0.02														
W	229	1	0.07	0.01	1.919	0.746	0.262	0.195	0.214	0.09	0.14	0.093	-0.581	-0.179	0.166	0.122	0.353	0.397
W	229	2	0.19	0.01														
W	229	3	1.60	0.01														
W	229	4	0.86	0.01														
W	229	5	2.13	0.01														

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	84	B	-0.956	0.027	0.858	0.510	0.088	0.858*	0.022	0.029	0.002	0.000	-0.347	0.510*	-0.188	-0.276
A	85	B	-0.060	0.023	0.744	0.603	0.083	0.744*	0.128	0.043	0.002	0.000	-0.253	0.603*	-0.403	-0.261
A	86	A	2.037	0.022	0.311	0.266	0.311*	0.376	0.173	0.137	0.003	0.000	0.266*	-0.096	-0.108	-0.087
A	87	C	-0.163	0.023	0.753	0.543	0.037	0.088	0.753*	0.120	0.002	0.000	-0.244	-0.296	0.543*	-0.302
A	88	A	0.386	0.021	0.616	0.397	0.616*	0.063	0.208	0.110	0.003	0.000	0.397*	-0.231	-0.208	-0.147
A	89	A	2.765	0.024	0.195	0.162	0.195*	0.468	0.303	0.031	0.003	0.000	0.162*	-0.183	0.174?	-0.266
A	90	D	-1.113	0.028	0.863	0.475	0.048	0.063	0.024	0.863*	0.003	0.000	-0.310	-0.236	-0.220	0.475*
A	91	C	-0.982	0.027	0.851	0.519	0.055	0.047	0.851*	0.045	0.002	0.000	-0.269	-0.289	0.519*	-0.272
A	92	D	-0.696	0.026	0.822	0.483	0.109	0.034	0.032	0.822*	0.003	0.000	-0.287	-0.236	-0.255	0.483*
A	93	D	-1.263	0.030	0.876	0.531	0.037	0.061	0.024	0.876*	0.003	0.000	-0.294	-0.303	-0.265	0.531*
A	94	D	-0.564	0.025	0.784	0.557	0.106	0.067	0.040	0.784*	0.002	0.000	-0.323	-0.280	-0.271	0.557*
A	95	A	0.035	0.022	0.717	0.561	0.717*	0.089	0.105	0.086	0.003	0.000	0.561*	-0.261	-0.312	-0.271
A	96	B	0.089	0.022	0.711	0.533	0.070	0.711*	0.117	0.100	0.002	0.000	-0.245	0.533*	-0.215	-0.347
A	97	B	0.174	0.022	0.679	0.508	0.067	0.679*	0.137	0.113	0.004	0.000	-0.303	0.508*	-0.259	-0.207
A	98	B	-0.473	0.024	0.805	0.600	0.045	0.805*	0.075	0.073	0.003	0.000	-0.325	0.600*	-0.294	-0.334
A	99	A	-0.575	0.025	0.792	0.507	0.792*	0.075	0.075	0.055	0.003	0.000	0.507*	-0.298	-0.224	-0.269
A	100	C	0.225	0.022	0.689	0.467	0.095	0.158	0.689*	0.055	0.003	0.000	-0.324	-0.159	0.467*	-0.249
A	101	D	0.173	0.022	0.690	0.584	0.079	0.164	0.064	0.690*	0.003	0.000	-0.293	-0.308	-0.286	0.584*
A	102	A	0.266	0.022	0.658	0.461	0.658*	0.107	0.103	0.128	0.004	0.000	0.461*	-0.226	-0.199	-0.242
A	103	B	-0.850	0.026	0.834	0.478	0.105	0.834*	0.037	0.019	0.005	0.000	-0.257	0.478*	-0.290	-0.249
A	104	A	0.816	0.021	0.537	0.351	0.537*	0.138	0.183	0.138	0.004	0.000	0.351*	-0.153	-0.188	-0.124
A	105	A	0.359	0.021	0.631	0.411	0.631*	0.183	0.051	0.132	0.003	0.000	0.411*	-0.187	-0.249	-0.190
A	106	C	-0.064	0.023	0.727	0.523	0.043	0.150	0.727*	0.075	0.004	0.000	-0.264	-0.254	0.523*	-0.306
A	107	B	-0.047	0.023	0.695	0.251	0.065	0.695*	0.043	0.192	0.003	0.000	-0.302	0.251*	-0.279	0.059?
A	108	C	0.693	0.021	0.587	0.501	0.051	0.173	0.587*	0.186	0.004	0.000	-0.223	-0.255	0.501*	-0.242
A	109	A	0.114	0.022	0.704	0.501	0.704*	0.095	0.082	0.115	0.005	0.000	0.501*	-0.191	-0.258	-0.298

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	84	B	-0.907	0.027	0.862	0.506	0.090	0.862*	0.020	0.025	0.002	0.000	-0.355	0.506*	-0.189	-0.269
B	85	B	-0.094	0.023	0.761	0.588	0.078	0.761*	0.121	0.039	0.001	0.000	-0.255	0.588*	-0.406	-0.239
B	86	A	1.955	0.021	0.316	0.264	0.316*	0.376	0.175	0.132	0.002	0.000	0.264*	-0.108	-0.100	-0.084
B	87	C	-0.283	0.023	0.762	0.534	0.038	0.083	0.762*	0.116	0.001	0.000	-0.245	-0.308	0.534*	-0.287
B	88	A	0.301	0.021	0.634	0.384	0.634*	0.063	0.196	0.104	0.003	0.000	0.384*	-0.238	-0.195	-0.147
B	89	A	2.730	0.024	0.191	0.151	0.191*	0.473	0.303	0.030	0.003	0.000	0.151*	-0.178	0.171?	-0.264
B	90	D	-1.145	0.029	0.870	0.461	0.046	0.062	0.020	0.870*	0.001	0.000	-0.311	-0.224	-0.229	0.461*
B	91	C	-1.032	0.028	0.860	0.489	0.055	0.044	0.860*	0.039	0.002	0.000	-0.266	-0.268	0.489*	-0.258
B	92	D	-0.700	0.026	0.835	0.483	0.104	0.031	0.028	0.835*	0.002	0.000	-0.303	-0.242	-0.247	0.483*
B	93	D	-1.279	0.030	0.888	0.527	0.029	0.057	0.024	0.888*	0.002	0.000	-0.287	-0.303	-0.281	0.527*
B	94	D	-0.590	0.025	0.803	0.557	0.100	0.062	0.033	0.803*	0.001	0.000	-0.323	-0.306	-0.261	0.557*
B	95	A	0.085	0.022	0.730	0.577	0.730*	0.083	0.100	0.085	0.002	0.000	0.577*	-0.275	-0.317	-0.289
B	96	B	0.143	0.022	0.714	0.523	0.066	0.714*	0.117	0.101	0.002	0.000	-0.251	0.523*	-0.202	-0.348
B	97	A	-1.096	0.028	0.883	0.520	0.883*	0.070	0.029	0.016	0.002	0.000	0.520*	-0.320	-0.310	-0.231
B	98	C	0.424	0.021	0.685	0.539	0.147	0.071	0.685*	0.093	0.003	0.000	-0.294	-0.267	0.539*	-0.245
B	99	A	-1.331	0.030	0.900	0.524	0.900*	0.033	0.037	0.027	0.003	0.000	0.524*	-0.317	-0.260	-0.277
B	100	B	0.143	0.022	0.672	0.314	0.117	0.672*	0.126	0.081	0.003	0.000	-0.227	0.314*	-0.058	-0.185
B	101	B	-0.609	0.025	0.812	0.480	0.132	0.812*	0.031	0.022	0.002	0.000	-0.285	0.480*	-0.284	-0.248
B	102	A	-0.732	0.026	0.844	0.527	0.844*	0.061	0.053	0.041	0.002	0.000	0.527*	-0.306	-0.264	-0.277
B	103	C	1.164	0.020	0.475	0.303	0.054	0.187	0.475*	0.278	0.006	0.000	-0.244	-0.136	0.303*	-0.074
B	104	A	1.247	0.020	0.465	0.290	0.465*	0.110	0.289	0.133	0.003	0.000	0.290*	-0.182	-0.113	-0.092
B	105	D	-0.277	0.023	0.762	0.516	0.159	0.043	0.033	0.762*	0.002	0.000	-0.255	-0.315	-0.324	0.516*
B	106	C	1.179	0.020	0.475	0.276	0.159	0.266	0.475*	0.097	0.003	0.000	-0.283	0.090?	0.276*	-0.231
B	107	D	1.896	0.021	0.323	0.190	0.338	0.155	0.180	0.323*	0.003	0.000	0.081?	-0.188	-0.138	0.190*
B	108	D	0.031	0.022	0.696	0.470	0.087	0.069	0.145	0.696*	0.003	0.000	-0.240	-0.218	-0.251	0.470*
B	109	D	0.122	0.022	0.677	0.450	0.228	0.049	0.043	0.677*	0.003	0.000	-0.252	-0.224	-0.253	0.405*

Appendix H: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	84	A	-1.317	0.031	0.892	0.384	0.892*	0.043	0.043	0.019	0.002	0.001	0.384*	-0.205	-0.190	-0.240
C	85	C	0.357	0.021	0.669	0.433	0.055	0.095	0.669*	0.178	0.003	0.000	-0.278	-0.258	0.433*	-0.156
C	86	D	0.765	0.021	0.592	0.455	0.099	0.235	0.073	0.592*	0.002	0.000	-0.297	-0.152	-0.252	0.455*
C	87	B	-1.196	0.030	0.892	0.507	0.059	0.892*	0.024	0.024	0.002	0.000	-0.346	0.507*	-0.195	-0.268
C	88	C	0.075	0.022	0.725	0.483	0.195	0.028	0.725*	0.051	0.002	0.000	-0.244	-0.275	0.483*	-0.312
C	89	D	0.297	0.022	0.700	0.538	0.167	0.042	0.088	0.700*	0.002	0.000	-0.341	-0.226	-0.241	0.538*
C	90	A	0.512	0.021	0.625	0.431	0.625*	0.082	0.113	0.178	0.002	0.000	0.431*	-0.157	-0.209	-0.246
C	91	C	0.342	0.021	0.650	0.374	0.078	0.093	0.650*	0.177	0.003	0.000	-0.149	-0.207	0.374*	-0.189
C	92	A	-0.224	0.023	0.728	0.268	0.728*	0.065	0.116	0.089	0.002	0.000	0.268*	-0.146	-0.186	-0.062
C	93	A	0.564	0.021	0.634	0.467	0.634*	0.293	0.029	0.042	0.002	0.000	0.467*	-0.294	-0.245	-0.221
C	94	B	0.472	0.021	0.661	0.466	0.145	0.661*	0.033	0.157	0.003	0.000	-0.334	0.466*	-0.229	-0.153
C	95	A	-0.622	0.026	0.855	0.527	0.855*	0.058	0.047	0.037	0.002	0.000	0.527*	-0.289	-0.276	-0.284
C	96	D	-0.535	0.025	0.778	0.387	0.032	0.074	0.114	0.778*	0.002	0.000	-0.216	-0.204	-0.201	0.387*
C	97	B	-0.810	0.027	0.860	0.524	0.093	0.860*	0.022	0.023	0.002	0.000	-0.383	0.524*	-0.178	-0.260
C	98	B	-0.055	0.023	0.763	0.598	0.076	0.763*	0.116	0.043	0.002	0.000	-0.256	0.598*	-0.388	-0.280
C	99	A	1.898	0.021	0.335	0.269	0.335*	0.371	0.179	0.113	0.003	0.000	0.269*	-0.095	-0.112	-0.102
C	100	C	0.043	0.022	0.736	0.552	0.037	0.090	0.736*	0.134	0.002	0.000	-0.258	-0.299	0.552*	-0.302
C	101	A	0.605	0.021	0.587	0.384	0.587*	0.061	0.248	0.101	0.003	0.000	0.384*	-0.211	-0.218	-0.126
C	102	A	2.603	0.023	0.229	0.202	0.229*	0.451	0.285	0.032	0.003	0.000	0.202*	-0.175	0.129?	-0.285
C	103	D	-0.868	0.027	0.858	0.501	0.050	0.063	0.024	0.858*	0.006	0.000	-0.324	-0.231	-0.259	0.501*
C	104	C	-0.661	0.026	0.844	0.532	0.063	0.044	0.844*	0.046	0.003	0.000	-0.294	-0.274	0.532*	-0.281
C	105	D	-0.483	0.025	0.823	0.502	0.107	0.038	0.030	0.823*	0.002	0.000	-0.304	-0.263	-0.241	0.502*
C	106	D	-1.048	0.029	0.881	0.532	0.036	0.055	0.025	0.881*	0.003	0.000	-0.293	-0.296	-0.277	0.532*
C	107	D	-0.387	0.024	0.786	0.588	0.111	0.063	0.038	0.786*	0.002	0.000	-0.348	-0.312	-0.262	0.588*
C	108	A	0.323	0.021	0.692	0.557	0.692*	0.086	0.125	0.093	0.004	0.000	0.557*	-0.226	-0.333	-0.264
C	109	B	0.130	0.022	0.716	0.514	0.050	0.716*	0.126	0.104	0.004	0.000	-0.236	0.514*	-0.222	-0.327

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	84	C	-1.064	0.029	0.886	0.482	0.073	0.024	0.886*	0.016	0.002	0.000	-0.377	-0.216	0.482*	-0.136
D	85	D	1.352	0.020	0.473	0.395	0.382	0.061	0.079	0.473*	0.004	0.000	-0.155	-0.254	-0.203	0.395*
D	86	B	-1.043	0.028	0.866	0.438	0.046	0.866*	0.037	0.049	0.002	0.000	-0.220	0.438*	-0.222	-0.255
D	87	A	0.512	0.021	0.658	0.438	0.658*	0.130	0.107	0.103	0.002	0.000	0.438*	-0.207	-0.219	-0.214
D	88	C	-0.700	0.026	0.846	0.501	0.060	0.059	0.846*	0.032	0.002	0.000	-0.230	-0.304	0.501*	-0.269
D	89	A	0.174	0.022	0.676	0.291	0.676*	0.052	0.071	0.198	0.002	0.000	0.291*	-0.227	-0.143	-0.107
D	90	C	1.595	0.020	0.435	0.366	0.278	0.228	0.435*	0.056	0.003	0.000	-0.138	-0.171	0.366*	-0.180
D	91	A	-0.988	0.028	0.882	0.529	0.882*	0.049	0.036	0.031	0.002	0.000	0.529*	-0.294	-0.305	-0.254
D	92	D	1.676	0.020	0.375	0.185	0.134	0.193	0.294	0.375*	0.003	0.000	-0.157	-0.089	0.013?	0.185*
D	93	B	2.126	0.021	0.297	0.166	0.143	0.297*	0.196	0.361	0.003	0.000	0.019?	0.166*	-0.098	-0.078
D	94	C	1.383	0.020	0.476	0.424	0.133	0.201	0.476*	0.187	0.003	0.000	-0.221	-0.130	0.424*	-0.201
D	95	C	0.287	0.021	0.694	0.448	0.109	0.066	0.694*	0.128	0.003	0.000	-0.181	-0.242	0.448*	-0.249
D	96	D	1.489	0.020	0.404	0.314	0.065	0.093	0.435	0.404*	0.002	0.000	-0.174	-0.125	-0.137	0.314*
D	97	B	-0.737	0.026	0.854	0.523	0.093	0.854*	0.027	0.023	0.003	0.000	-0.360	0.523*	-0.205	-0.264
D	98	B	-0.026	0.022	0.759	0.582	0.082	0.759*	0.110	0.047	0.003	0.000	-0.251	0.582*	-0.375	-0.265
D	99	A	1.946	0.021	0.326	0.281	0.326*	0.381	0.173	0.117	0.003	0.000	0.281*	-0.112	-0.119	-0.079
D	100	C	0.008	0.022	0.748	0.554	0.041	0.086	0.748*	0.122	0.002	0.000	-0.250	-0.309	0.554*	-0.295
D	101	A	0.231	0.022	0.653	0.409	0.653*	0.064	0.174	0.106	0.003	0.000	0.409*	-0.243	-0.209	-0.158
D	102	A	2.503	0.023	0.236	0.199	0.236*	0.441	0.288	0.030	0.004	0.000	0.199*	-0.189	0.138?	-0.264
D	103	D	-0.854	0.027	0.855	0.511	0.050	0.061	0.027	0.855*	0.008	0.000	-0.319	-0.242	-0.253	0.511*
D	104	C	-0.734	0.026	0.844	0.535	0.060	0.043	0.844*	0.050	0.003	0.000	-0.292	-0.282	0.535*	-0.275
D	105	D	-0.484	0.025	0.819	0.503	0.111	0.035	0.032	0.819*	0.003	0.000	-0.297	-0.267	-0.248	0.503*
D	106	D	-1.038	0.028	0.880	0.543	0.035	0.056	0.025	0.880*	0.003	0.000	-0.297	-0.303	-0.283	0.543*
D	107	D	-0.366	0.024	0.785	0.578	0.103	0.066	0.043	0.785*	0.003	0.000	-0.326	-0.305	-0.273	0.578*
D	108	A	0.340	0.021	0.692	0.571	0.692*	0.086	0.123	0.095	0.004	0.000	0.571*	-0.247	-0.329	-0.267
D	109	B	0.088	0.022	0.728	0.502	0.065	0.728*	0.111	0.092	0.004	0.000	-0.235	0.502*	-0.220	-0.308

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	84	B	0.147	0.022	0.704	0.496	0.056	0.704*	0.123	0.114	0.003	0.000	-0.249	0.496*	-0.255	-0.249
E	85	B	-0.504	0.025	0.828	0.586	0.032	0.828*	0.068	0.070	0.002	0.000	-0.287	0.586*	-0.300	-0.348
E	86	A	-0.910	0.027	0.845	0.454	0.845*	0.056	0.057	0.040	0.002	0.000	0.454*	-0.263	-0.227	-0.233
E	87	C	0.042	0.022	0.724	0.459	0.081	0.154	0.724*	0.037	0.003	0.000	-0.311	-0.196	0.459*	-0.221
E	88	D	0.151	0.022	0.723	0.555	0.075	0.143	0.057	0.723*	0.003	0.000	-0.303	-0.284	-0.271	0.555*
E	89	A	0.101	0.022	0.705	0.471	0.705*	0.069	0.109	0.114	0.003	0.000	0.471*	-0.211	-0.217	-0.274
E	90	B	-1.129	0.029	0.873	0.394	0.090	0.873*	0.025	0.011	0.002	0.000	-0.232	0.394*	-0.247	-0.200
E	91	A	0.815	0.020	0.553	0.364	0.553*	0.134	0.176	0.133	0.003	0.000	0.364*	-0.129	-0.225	-0.132
E	92	A	0.135	0.022	0.686	0.425	0.686*	0.159	0.035	0.118	0.002	0.000	0.425*	-0.212	-0.237	-0.217
E	93	C	-0.202	0.023	0.774	0.521	0.031	0.123	0.774*	0.070	0.002	0.000	-0.220	-0.279	0.521*	-0.321
E	94	B	0.082	0.022	0.687	0.220	0.070	0.687*	0.032	0.209	0.002	0.000	-0.301	0.220*	-0.240	0.057?
E	95	C	0.416	0.021	0.642	0.503	0.045	0.149	0.642*	0.162	0.002	0.000	-0.243	-0.239	0.503*	-0.270
E	96	A	-0.153	0.023	0.771	0.482	0.771*	0.095	0.070	0.061	0.003	0.000	0.482*	-0.188	-0.267	-0.303
E	97	C	1.043	0.020	0.500	0.277	0.416	0.063	0.500*	0.017	0.005	0.000	-0.121	-0.198	0.277*	-0.185
E	98	B	-0.933	0.027	0.866	0.470	0.059	0.866*	0.040	0.033	0.003	0.000	-0.289	0.470*	-0.227	-0.230
E	99	A	0.180	0.022	0.696	0.478	0.696*	0.136	0.072	0.093	0.004	0.000	0.478*	-0.207	-0.272	-0.245
E	100	A	-0.058	0.023	0.745	0.478	0.745*	0.084	0.091	0.077	0.003	0.000	0.478*	-0.256	-0.256	-0.212
E	101	C	-0.008	0.022	0.752	0.515	0.059	0.046	0.752*	0.139	0.003	0.000	-0.290	-0.269	0.515*	-0.260
E	102	C	0.042	0.022	0.724	0.555	0.117	0.086	0.724*	0.069	0.004	0.000	-0.248	-0.280	0.555*	-0.324
E	103	D	-0.575	0.025	0.826	0.527	0.037	0.077	0.053	0.826*	0.007	0.000	-0.237	-0.318	-0.270	0.527*
E	104	A	-0.299	0.024	0.788	0.531	0.788*	0.052	0.099	0.058	0.003	0.000	0.531*	-0.292	-0.272	-0.274
E	105	B	0.949	0.020	0.526	0.399	0.185	0.526*	0.207	0.078	0.003	0.000	-0.096	0.399*	-0.248	-0.205
E	106	D	0.640	0.021	0.600	0.506	0.085	0.104	0.207	0.600*	0.004	0.000	-0.218	-0.265	-0.245	0.506*
E	107	B	2.138	0.021	0.289	0.227	0.184	0.289*	0.132	0.390	0.004	0.000	-0.137	0.227*	-0.159	0.023?
E	108	B	0.430	0.021	0.654	0.504	0.130	0.654*	0.131	0.081	0.004	0.000	-0.239	0.504*	-0.283	-0.207
E	109	D	-0.050	0.023	0.736	0.460	0.071	0.096	0.094	0.736*	0.004	0.000	-0.278	-0.285	-0.138	0.460*

Appendix H: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
F	84	A	-1.040	0.028	0.891	0.480	0.891*	0.070	0.023	0.015	0.001	0.000	0.480*	-0.300	-0.283	-0.217
F	85	C	0.331	0.021	0.708	0.539	0.144	0.054	0.708*	0.091	0.003	0.000	-0.326	-0.239	0.539*	-0.248
F	86	A	-1.595	0.034	0.931	0.435	0.931*	0.025	0.022	0.019	0.002	0.000	0.435*	-0.244	-0.216	-0.254
F	87	B	-0.106	0.023	0.730	0.296	0.097	0.730*	0.103	0.066	0.003	0.000	-0.218	0.296*	-0.062	-0.170
F	88	B	-0.665	0.026	0.832	0.442	0.127	0.832*	0.022	0.017	0.002	0.000	-0.279	0.442*	-0.257	-0.228
F	89	A	-0.887	0.027	0.870	0.508	0.870*	0.047	0.045	0.036	0.002	0.000	0.508*	-0.281	-0.247	-0.295
F	90	C	1.034	0.020	0.504	0.288	0.044	0.148	0.504*	0.302	0.002	0.000	-0.257	-0.143	0.288*	-0.077
F	91	A	0.979	0.020	0.508	0.300	0.508*	0.107	0.269	0.114	0.003	0.000	0.300*	-0.188	-0.130	-0.092
F	92	D	-0.376	0.024	0.785	0.483	0.152	0.036	0.025	0.785*	0.002	0.000	-0.267	-0.288	-0.278	0.483*
F	93	C	1.166	0.020	0.488	0.280	0.152	0.266	0.488*	0.091	0.003	0.000	-0.311	0.081?	0.280*	-0.205
F	94	D	1.811	0.021	0.330	0.157	0.362	0.142	0.164	0.330*	0.003	0.000	0.083?	-0.166	-0.137	0.157*
F	95	D	0.045	0.022	0.702	0.414	0.081	0.085	0.129	0.702*	0.002	0.000	-0.197	-0.207	-0.215	0.414*
F	96	D	0.047	0.022	0.711	0.444	0.205	0.044	0.038	0.711*	0.002	0.000	-0.280	-0.199	-0.223	0.444*
F	97	A	-0.663	0.026	0.877	0.471	0.877*	0.049	0.050	0.021	0.002	0.000	0.471*	-0.304	-0.267	-0.178
F	98	D	0.392	0.021	0.668	0.534	0.109	0.108	0.112	0.668*	0.002	0.000	-0.248	-0.218	-0.322	0.534*
F	99	C	-0.343	0.024	0.794	0.507	0.087	0.058	0.794*	0.058	0.003	0.000	-0.305	-0.256	0.507*	-0.233
F	100	C	-0.374	0.024	0.789	0.522	0.118	0.031	0.789*	0.059	0.002	0.000	-0.301	-0.282	0.522*	-0.259
F	101	B	-0.081	0.023	0.750	0.464	0.054	0.75*	0.104	0.089	0.003	0.000	-0.289	0.464*	-0.183	-0.259
F	102	D	-0.708	0.026	0.844	0.490	0.050	0.063	0.040	0.844*	0.003	0.000	-0.245	-0.279	-0.258	0.490*
F	103	A	1.777	0.020	0.359	0.270	0.359*	0.184	0.139	0.311	0.006	0.000	0.270*	-0.131	-0.216	0.008?
F	104	C	0.072	0.022	0.713	0.500	0.085	0.123	0.713*	0.076	0.003	0.000	-0.278	-0.230	0.500*	-0.251
F	105	B	1.256	0.020	0.445	0.289	0.107	0.445*	0.249	0.196	0.003	0.000	-0.207	0.289*	-0.104	-0.073
F	106	D	1.976	0.021	0.298	0.223	0.155	0.434	0.109	0.298*	0.004	0.000	-0.183	0.112?	-0.268	0.223*
F	107	A	2.069	0.021	0.285	0.101	0.285*	0.429	0.203	0.080	0.003	0.000	0.101*	0.223?	-0.219	-0.226
F	108	B	0.972	0.020	0.542	0.419	0.095	0.542*	0.269	0.091	0.003	0.000	-0.174	0.419*	-0.186	-0.239
F	109	A	1.730	0.020	0.362	0.208	0.362*	0.130	0.036	0.468	0.004	0.000	0.208*	0.010?	-0.222	-0.109

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	84	A	1.357	0.020	0.469	0.349	0.469*	0.351	0.047	0.130	0.003	0.000	0.349*	-0.223	-0.134	-0.099
G	85	C	-0.249	0.023	0.776	0.429	0.024	0.027	0.776*	0.169	0.003	0.000	-0.216	-0.192	0.429*	-0.287
G	86	B	0.214	0.022	0.687	0.518	0.118	0.687*	0.053	0.138	0.003	0.000	-0.231	0.518*	-0.249	-0.297
G	87	A	-0.335	0.024	0.785	0.412	0.785*	0.033	0.123	0.056	0.002	0.000	0.412*	-0.188	-0.240	-0.218
G	88	D	-0.469	0.025	0.797	0.433	0.062	0.058	0.080	0.797*	0.004	0.000	-0.238	-0.250	-0.191	0.433*
G	89	D	0.162	0.022	0.701	0.416	0.097	0.054	0.146	0.701*	0.003	0.000	-0.229	-0.243	-0.173	0.416*
G	90	B	0.193	0.022	0.712	0.531	0.164	0.712*	0.032	0.090	0.003	0.000	-0.336	0.531*	-0.188	-0.268
G	91	B	-0.953	0.028	0.867	0.471	0.045	0.867*	0.058	0.027	0.002	0.000	-0.240	0.471*	-0.299	-0.208
G	92	C	0.268	0.022	0.659	0.390	0.112	0.045	0.659*	0.181	0.003	0.000	-0.264	-0.239	0.390*	-0.117
G	93	C	1.312	0.020	0.447	0.356	0.124	0.308	0.447*	0.118	0.004	0.000	-0.184	-0.163	0.356*	-0.107
G	94	A	0.514	0.021	0.644	0.435	0.644*	0.053	0.046	0.254	0.003	0.000	0.435*	-0.274	-0.209	-0.221
G	95	D	0.340	0.021	0.639	0.418	0.160	0.080	0.118	0.639*	0.003	0.000	-0.133	-0.239	-0.247	0.418*
G	96	B	-0.136	0.023	0.734	0.383	0.187	0.734*	0.047	0.029	0.002	0.000	-0.185	0.383*	-0.243	-0.233
G	97	A	-1.163	0.029	0.876	0.423	0.876*	0.043	0.049	0.028	0.002	0.002	0.423*	-0.216	-0.192	-0.285
G	98	C	0.435	0.021	0.646	0.418	0.059	0.102	0.646*	0.189	0.004	0.000	-0.269	-0.259	0.418*	-0.131
G	99	D	0.765	0.021	0.592	0.472	0.103	0.228	0.074	0.592*	0.003	0.000	-0.287	-0.179	-0.239	0.472*
G	100	B	-1.101	0.029	0.876	0.529	0.063	0.876*	0.030	0.028	0.003	0.000	-0.339	0.529*	-0.228	-0.274
G	101	C	0.137	0.022	0.710	0.479	0.200	0.034	0.710*	0.053	0.003	0.000	-0.221	-0.281	0.479*	-0.315
G	102	D	0.429	0.021	0.665	0.576	0.197	0.046	0.088	0.665*	0.003	0.000	-0.365	-0.248	-0.235	0.576*
G	103	A	0.822	0.021	0.570	0.433	0.570*	0.095	0.117	0.212	0.006	0.000	0.433*	-0.145	-0.192	-0.246
G	104	C	0.605	0.021	0.587	0.370	0.097	0.108	0.587*	0.205	0.003	0.000	-0.176	-0.202	0.370*	-0.148
G	105	A	-0.133	0.023	0.714	0.280	0.714*	0.072	0.118	0.092	0.004	0.000	0.280*	-0.175	-0.178	-0.056
G	106	A	0.704	0.021	0.601	0.468	0.601*	0.320	0.030	0.047	0.003	0.000	0.468*	-0.276	-0.272	-0.223
G	107	B	0.355	0.021	0.670	0.510	0.143	0.670*	0.041	0.142	0.004	0.000	-0.361	0.510*	-0.244	-0.162
G	108	A	-0.498	0.025	0.836	0.558	0.836*	0.066	0.051	0.044	0.003	0.000	0.558*	-0.302	-0.274	-0.312
G	109	D	-0.136	0.023	0.726	0.408	0.044	0.098	0.127	0.726*	0.004	0.000	-0.239	-0.197	-0.201	0.408*

Appendix H: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	84	A	-1.495	0.033	0.912	0.371	0.912*	0.047	0.024	0.015	0.002	0.000	0.371*	-0.216	-0.210	-0.177
H	85	D	2.076	0.021	0.332	0.340	0.190	0.316	0.158	0.332*	0.004	0.000	-0.181	0.114?	-0.372	0.340*
H	86	A	-0.322	0.024	0.802	0.573	0.802*	0.032	0.045	0.119	0.002	0.000	0.573*	-0.221	-0.279	-0.389
H	87	B	0.500	0.021	0.666	0.558	0.105	0.666*	0.079	0.147	0.003	0.000	-0.322	0.558*	-0.265	-0.243
H	88	B	0.175	0.022	0.712	0.474	0.046	0.712*	0.111	0.129	0.002	0.000	-0.246	0.474*	-0.212	-0.271
H	89	D	-0.170	0.023	0.757	0.455	0.114	0.088	0.037	0.757*	0.003	0.000	-0.282	-0.165	-0.276	0.455*
H	90	C	-0.844	0.027	0.867	0.473	0.047	0.045	0.867*	0.038	0.002	0.000	-0.312	-0.220	0.473*	-0.224
H	91	D	-0.910	0.027	0.845	0.409	0.034	0.083	0.036	0.845*	0.003	0.000	-0.194	-0.211	-0.266	0.409*
H	92	C	-0.401	0.024	0.827	0.506	0.066	0.041	0.827*	0.063	0.003	0.000	-0.299	-0.237	0.506*	-0.261
H	93	C	1.017	0.020	0.522	0.407	0.194	0.071	0.522*	0.209	0.003	0.000	-0.286	-0.274	0.407*	-0.033
H	94	B	-0.359	0.024	0.786	0.504	0.068	0.786*	0.081	0.061	0.004	0.000	-0.280	0.504*	-0.245	-0.260
H	95	A	0.091	0.022	0.694	0.406	0.694*	0.081	0.087	0.135	0.003	0.000	0.406*	-0.238	-0.217	-0.159
H	96	D	-0.127	0.023	0.753	0.464	0.065	0.102	0.077	0.753*	0.003	0.000	-0.234	-0.259	-0.216	0.464*
H	97	C	-1.029	0.028	0.877	0.484	0.073	0.026	0.877*	0.022	0.002	0.000	-0.357	-0.226	0.484*	-0.164
H	98	D	1.367	0.020	0.451	0.385	0.368	0.069	0.108	0.451*	0.003	0.000	-0.101	-0.268	-0.222	0.385*
H	99	B	-0.599	0.025	0.826	0.482	0.063	0.826*	0.047	0.062	0.003	0.000	-0.238	0.482*	-0.259	-0.263
H	100	A	0.539	0.021	0.641	0.454	0.641*	0.134	0.107	0.115	0.003	0.000	0.454*	-0.207	-0.217	-0.229
H	101	C	-0.658	0.026	0.839	0.501	0.064	0.060	0.839*	0.035	0.003	0.000	-0.234	-0.297	0.501*	-0.272
H	102	A	0.054	0.022	0.687	0.309	0.687*	0.060	0.077	0.173	0.003	0.000	0.309*	-0.274	-0.156	-0.077
H	103	C	1.644	0.020	0.421	0.371	0.280	0.229	0.421*	0.064	0.006	0.000	-0.119	-0.162	0.371*	-0.216
H	104	A	-0.890	0.027	0.868	0.548	0.868*	0.052	0.040	0.037	0.003	0.000	0.548*	-0.313	-0.311	-0.256
H	105	D	1.638	0.020	0.371	0.204	0.130	0.191	0.304	0.371*	0.003	0.000	-0.166	-0.077	-0.012	0.204*
H	106	B	1.970	0.021	0.304	0.147	0.145	0.304*	0.194	0.354	0.003	0.000	0.008?	0.147*	-0.112	-0.040
H	107	C	1.302	0.020	0.487	0.445	0.121	0.211	0.487*	0.178	0.004	0.000	-0.213	-0.147	0.445*	-0.225
H	108	C	0.223	0.022	0.695	0.469	0.098	0.081	0.695*	0.124	0.003	0.000	-0.176	-0.272	0.469*	-0.250
H	109	D	1.616	0.020	0.381	0.290	0.069	0.109	0.438	0.381*	0.004	0.000	-0.191	-0.116	-0.099	0.290*

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	84	C	1.021	0.021	0.491	0.231	0.435	0.058	0.491*	0.013	0.003	0.000	-0.081	-0.213	0.231*	-0.171
I	85	B	-1.230	0.031	0.893	0.444	0.042	0.893*	0.031	0.030	0.002	0.000	-0.269	0.444*	-0.211	-0.225
I	86	A	0.153	0.023	0.713	0.473	0.713*	0.147	0.054	0.085	0.003	0.000	0.473*	-0.239	-0.237	-0.247
I	87	A	-0.248	0.024	0.773	0.468	0.773*	0.075	0.076	0.074	0.002	0.000	0.468*	-0.250	-0.253	-0.216
I	88	C	-0.075	0.023	0.768	0.502	0.056	0.044	0.768*	0.129	0.003	0.000	-0.300	-0.245	0.502*	-0.255
I	89	C	-0.113	0.024	0.755	0.546	0.095	0.077	0.755*	0.070	0.003	0.000	-0.241	-0.267	0.546*	-0.337
I	90	D	-0.679	0.027	0.842	0.517	0.034	0.073	0.047	0.842*	0.003	0.000	-0.234	-0.338	-0.237	0.517*
I	91	A	-0.334	0.025	0.787	0.518	0.787*	0.050	0.103	0.057	0.003	0.000	0.518*	-0.284	-0.246	-0.294
I	92	B	0.973	0.021	0.533	0.405	0.190	0.533*	0.193	0.080	0.004	0.000	-0.138	0.405*	-0.228	-0.187
I	93	D	0.655	0.021	0.613	0.470	0.086	0.103	0.195	0.613*	0.004	0.000	-0.187	-0.266	-0.221	0.470*
I	94	B	2.180	0.022	0.297	0.276	0.173	0.297*	0.118	0.408	0.004	0.000	-0.143	0.276*	-0.167	-0.023
I	95	B	0.622	0.021	0.624	0.472	0.155	0.624*	0.137	0.080	0.003	0.000	-0.220	0.472*	-0.261	-0.190
I	96	D	-0.149	0.024	0.767	0.443	0.061	0.089	0.081	0.767*	0.003	0.000	-0.281	-0.272	-0.130	0.443*
I	97	B	-0.751	0.027	0.850	0.537	0.098	0.850*	0.024	0.025	0.003	0.000	-0.368	0.537*	-0.210	-0.266
I	98	B	0.030	0.023	0.757	0.600	0.077	0.757*	0.115	0.047	0.003	0.000	-0.242	0.600*	-0.394	-0.277
I	99	A	2.085	0.022	0.323	0.248	0.323*	0.380	0.177	0.117	0.003	0.000	0.248*	-0.079	-0.107	-0.089
I	100	C	0.030	0.023	0.747	0.556	0.041	0.087	0.747*	0.122	0.003	0.000	-0.263	-0.295	0.556*	-0.301
I	101	A	0.267	0.022	0.662	0.402	0.662*	0.055	0.180	0.099	0.004	0.000	0.402*	-0.254	-0.195	-0.161
I	102	A	2.581	0.023	0.222	0.172	0.222*	0.437	0.305	0.032	0.005	0.000	0.172*	-0.173	0.149?	-0.261
I	103	D	-0.878	0.028	0.854	0.508	0.048	0.063	0.026	0.854*	0.009	0.000	-0.326	-0.215	-0.272	0.508*
I	104	C	-0.636	0.026	0.841	0.536	0.062	0.043	0.841*	0.050	0.003	0.000	-0.284	-0.279	0.536*	-0.283
I	105	D	-0.454	0.025	0.816	0.514	0.110	0.037	0.033	0.816*	0.004	0.000	-0.300	-0.259	-0.263	0.514*
I	106	D	-0.976	0.029	0.880	0.560	0.037	0.053	0.026	0.88*	0.004	0.000	-0.307	-0.310	-0.282	0.560*
I	107	D	-0.411	0.025	0.791	0.590	0.099	0.063	0.042	0.791*	0.004	0.000	-0.329	-0.310	-0.280	0.590*
I	108	A	0.182	0.022	0.716	0.577	0.716*	0.086	0.097	0.098	0.004	0.000	0.577*	-0.265	-0.314	-0.284
I	109	B	0.001	0.023	0.748	0.510	0.065	0.748*	0.101	0.082	0.005	0.000	-0.248	0.510*	-0.218	-0.313

Appendix H: 2003 PSSA Grade Five Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	84	A	-0.672	0.027	0.878	0.450	0.878*	0.057	0.046	0.018	0.002	0.000	0.450*	-0.313	-0.242	-0.150
J	85	D	0.265	0.022	0.685	0.515	0.112	0.098	0.102	0.685*	0.002	0.000	-0.265	-0.178	-0.324	0.515*
J	86	C	-0.684	0.027	0.833	0.493	0.064	0.049	0.833*	0.052	0.002	0.000	-0.294	-0.263	0.493*	-0.227
J	87	C	-0.775	0.027	0.841	0.483	0.086	0.025	0.841*	0.045	0.002	0.000	-0.292	-0.256	0.483*	-0.240
J	88	B	-0.097	0.024	0.754	0.451	0.043	0.754*	0.108	0.093	0.003	0.000	-0.261	0.451*	-0.188	-0.270
J	89	D	-0.803	0.027	0.849	0.466	0.045	0.061	0.043	0.849*	0.002	0.000	-0.187	-0.291	-0.264	0.466*
J	90	A	1.645	0.021	0.381	0.262	0.381*	0.173	0.122	0.321	0.003	0.000	0.262*	-0.166	-0.232	0.035?
J	91	C	-0.354	0.025	0.783	0.459	0.059	0.099	0.783*	0.057	0.002	0.000	-0.256	-0.229	0.459*	-0.237
J	92	B	1.402	0.021	0.441	0.287	0.096	0.441*	0.229	0.230	0.003	0.000	-0.183	0.287*	-0.128	-0.070
J	93	D	2.018	0.022	0.301	0.233	0.160	0.441	0.096	0.301*	0.003	0.000	-0.180	0.076?	-0.249	0.233*
J	94	A	2.180	0.022	0.268	0.078	0.268*	0.441	0.212	0.078	0.002	0.000	0.078*	0.272?	-0.246	-0.240
J	95	B	1.023	0.021	0.537	0.410	0.089	0.537*	0.264	0.108	0.002	0.000	-0.164	0.410*	-0.186	-0.228
J	96	A	1.695	0.021	0.364	0.192	0.364*	0.136	0.029	0.468	0.002	0.000	0.192*	0.021?	-0.182	-0.128
J	97	B	-0.733	0.027	0.852	0.523	0.094	0.852*	0.027	0.025	0.002	0.000	-0.359	0.523*	-0.206	-0.270
J	98	B	0.024	0.023	0.754	0.589	0.084	0.754*	0.113	0.047	0.002	0.000	-0.245	0.589*	-0.395	-0.260
J	99	A	2.080	0.022	0.308	0.248	0.308*	0.388	0.185	0.116	0.002	0.000	0.248*	-0.087	-0.098	-0.088
J	100	C	-0.014	0.023	0.745	0.542	0.039	0.087	0.745*	0.127	0.002	0.000	-0.248	-0.296	0.542*	-0.298
J	101	A	0.567	0.021	0.612	0.393	0.612*	0.077	0.192	0.116	0.003	0.000	0.393*	-0.238	-0.187	-0.152
J	102	A	2.637	0.024	0.218	0.186	0.218*	0.440	0.307	0.032	0.003	0.000	0.186*	-0.179	0.145?	-0.281
J	103	D	-0.859	0.028	0.856	0.502	0.053	0.062	0.024	0.856*	0.005	0.000	-0.333	-0.232	-0.251	0.502*
J	104	C	-0.788	0.027	0.845	0.540	0.058	0.045	0.845*	0.050	0.002	0.000	-0.297	-0.294	0.540*	-0.272
J	105	D	-0.535	0.026	0.821	0.522	0.103	0.038	0.035	0.821*	0.003	0.000	-0.301	-0.270	-0.281	0.522*
J	106	D	-1.060	0.030	0.882	0.554	0.037	0.054	0.024	0.882*	0.003	0.000	-0.316	-0.317	-0.267	0.554*
J	107	D	-0.388	0.025	0.795	0.574	0.099	0.061	0.043	0.795*	0.002	0.000	-0.339	-0.288	-0.275	0.574*
J	108	A	0.168	0.023	0.709	0.562	0.709*	0.085	0.108	0.094	0.003	0.000	0.562*	-0.257	-0.315	-0.274
J	109	B	0.344	0.022	0.699	0.519	0.070	0.699*	0.124	0.104	0.004	0.000	-0.231	0.519*	-0.219	-0.330

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	84	B	-0.954	0.029	0.874	0.505	0.083	0.874*	0.018	0.021	0.003	0.000	-0.362	0.505*	-0.179	-0.253
K	85	B	-0.156	0.024	0.776	0.579	0.071	0.776*	0.111	0.040	0.002	0.000	-0.243	0.579*	-0.405	-0.235
K	86	A	1.990	0.022	0.317	0.247	0.317*	0.376	0.170	0.133	0.003	0.000	0.247*	-0.105	-0.090	-0.070
K	87	C	-0.123	0.024	0.768	0.527	0.035	0.078	0.768*	0.116	0.002	0.000	-0.250	-0.294	0.527*	-0.286
K	88	A	0.484	0.022	0.640	0.395	0.640*	0.058	0.191	0.108	0.003	0.000	0.395*	-0.220	-0.201	-0.170
K	89	A	2.731	0.024	0.195	0.154	0.195*	0.465	0.309	0.027	0.004	0.000	0.154*	-0.180	0.174?	-0.277
K	90	D	-1.181	0.031	0.883	0.459	0.042	0.056	0.017	0.883*	0.002	0.000	-0.310	-0.224	-0.217	0.459*
K	91	C	-0.949	0.029	0.867	0.496	0.049	0.041	0.867*	0.040	0.003	0.000	-0.269	-0.277	0.496*	-0.252
K	92	D	-0.772	0.027	0.845	0.467	0.095	0.030	0.028	0.845*	0.002	0.000	-0.287	-0.235	-0.236	0.467*
K	93	D	-1.242	0.031	0.897	0.531	0.032	0.048	0.020	0.897*	0.002	0.000	-0.290	-0.307	-0.269	0.531*
K	94	D	-0.662	0.027	0.815	0.549	0.092	0.057	0.033	0.815*	0.002	0.000	-0.326	-0.295	-0.247	0.549*
K	95	A	0.032	0.023	0.743	0.573	0.743*	0.079	0.099	0.077	0.003	0.000	0.573*	-0.263	-0.327	-0.285
K	96	B	0.034	0.023	0.732	0.507	0.065	0.732*	0.108	0.093	0.002	0.000	-0.248	0.507*	-0.201	-0.327
K	97	A	1.394	0.021	0.461	0.327	0.461*	0.351	0.052	0.133	0.004	0.000	0.327*	-0.177	-0.158	-0.105
K	98	C	-0.076	0.024	0.757	0.455	0.031	0.032	0.757*	0.176	0.004	0.000	-0.225	-0.221	0.455*	-0.290
K	99	B	0.404	0.022	0.679	0.540	0.126	0.679*	0.056	0.136	0.003	0.000	-0.242	0.540*	-0.251	-0.313
K	100	A	-0.232	0.024	0.781	0.451	0.781*	0.037	0.119	0.060	0.003	0.000	0.451*	-0.237	-0.260	-0.214
K	101	D	-0.283	0.024	0.771	0.440	0.077	0.061	0.087	0.771*	0.004	0.000	-0.258	-0.253	-0.174	0.440*
K	102	D	0.339	0.022	0.687	0.454	0.098	0.058	0.154	0.687*	0.003	0.000	-0.231	-0.244	-0.217	0.454*
K	103	B	0.393	0.022	0.684	0.529	0.177	0.684*	0.042	0.090	0.006	0.000	-0.314	0.529*	-0.222	-0.249
K	104	B	-0.643	0.027	0.848	0.518	0.058	0.848*	0.059	0.032	0.003	0.000	-0.297	0.518*	-0.302	-0.217
K	105	C	0.603	0.021	0.599	0.361	0.105	0.049	0.599*	0.243	0.004	0.000	-0.229	-0.217	0.361*	-0.123
K	106	C	1.312	0.021	0.480	0.368	0.098	0.292	0.480*	0.126	0.004	0.000	-0.184	-0.201	0.368*	-0.092
K	107	A	0.546	0.022	0.640	0.413	0.640*	0.059	0.051	0.247	0.003	0.000	0.413*	-0.269	-0.203	-0.191
K	108	D	0.237	0.022	0.663	0.428	0.146	0.062	0.126	0.663*	0.004	0.000	-0.129	-0.236	-0.278	0.428*
K	109	B	-0.154	0.024	0.739	0.379	0.178	0.739*	0.048	0.031	0.004	0.000	-0.179	0.379*	-0.226	-0.246

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
L	84	B	-0.965	0.029	0.869	0.518	0.081	0.869*	0.021	0.026	0.003	0.000	-0.338	0.518*	-0.200	-0.276
L	85	B	-0.137	0.024	0.770	0.591	0.074	0.770*	0.113	0.039	0.003	0.000	-0.224	0.591*	-0.405	-0.264
L	86	A	2.044	0.022	0.319	0.272	0.319*	0.374	0.173	0.130	0.004	0.000	0.272*	-0.113	-0.102	-0.069
L	87	C	-0.167	0.024	0.764	0.537	0.034	0.075	0.764*	0.123	0.003	0.000	-0.237	-0.297	0.537*	-0.297
L	88	A	0.370	0.022	0.642	0.380	0.642*	0.059	0.192	0.103	0.005	0.000	0.380*	-0.225	-0.188	-0.147
L	89	A	2.724	0.024	0.194	0.142	0.194*	0.461	0.316	0.025	0.004	0.000	0.142*	-0.173	0.173?	-0.255
L	90	D	-1.123	0.030	0.876	0.464	0.040	0.058	0.022	0.876*	0.003	0.000	-0.294	-0.222	-0.227	0.464*
L	91	C	-0.934	0.029	0.866	0.506	0.052	0.041	0.866*	0.039	0.003	0.000	-0.264	-0.265	0.506*	-0.269
L	92	D	-0.658	0.027	0.838	0.477	0.098	0.032	0.027	0.838*	0.004	0.000	-0.281	-0.246	-0.233	0.477*
L	93	D	-1.169	0.031	0.889	0.545	0.033	0.054	0.021	0.889*	0.004	0.000	-0.281	-0.323	-0.264	0.545*
L	94	D	-0.585	0.026	0.806	0.569	0.102	0.054	0.035	0.806*	0.003	0.000	-0.339	-0.280	-0.266	0.569*
L	95	A	0.063	0.023	0.734	0.566	0.734*	0.083	0.099	0.080	0.004	0.000	0.566*	-0.271	-0.290	-0.288
L	96	B	0.056	0.023	0.729	0.522	0.067	0.729*	0.111	0.089	0.004	0.000	-0.230	0.522*	-0.221	-0.331
L	97	A	-1.181	0.031	0.892	0.466	0.892*	0.056	0.028	0.021	0.003	0.000	0.466*	-0.277	-0.253	-0.206
L	98	D	2.006	0.022	0.344	0.320	0.182	0.311	0.157	0.344*	0.006	0.000	-0.160	0.100?	-0.345	0.320*
L	99	A	-0.248	0.024	0.799	0.602	0.799*	0.042	0.055	0.100	0.005	0.000	0.602*	-0.286	-0.315	-0.336
L	100	B	0.552	0.022	0.652	0.540	0.108	0.652*	0.078	0.158	0.004	0.000	-0.310	0.540*	-0.263	-0.217
L	101	B	0.263	0.023	0.707	0.513	0.057	0.707*	0.107	0.126	0.004	0.000	-0.322	0.513*	-0.231	-0.232
L	102	D	-0.052	0.024	0.744	0.483	0.116	0.095	0.040	0.744*	0.005	0.000	-0.259	-0.197	-0.302	0.483*
L	103	C	-0.624	0.027	0.843	0.532	0.051	0.053	0.843*	0.045	0.007	0.000	-0.309	-0.266	0.532*	-0.256
L	104	D	-0.747	0.027	0.834	0.441	0.043	0.081	0.037	0.834*	0.004	0.000	-0.254	-0.203	-0.248	0.441*
L	105	C	-0.452	0.026	0.820	0.540	0.060	0.050	0.820*	0.066	0.004	0.000	-0.258	-0.274	0.540*	-0.305
L	106	C	1.023	0.021	0.539	0.394	0.169	0.073	0.539*	0.213	0.005	0.000	-0.288	-0.267	0.394*	-0.016
L	107	B	-0.202	0.024	0.770	0.516	0.073	0.770*	0.090	0.062	0.005	0.000	-0.277	0.516*	-0.266	-0.237
L	108	A	0.093	0.023	0.696	0.450	0.696*	0.096	0.075	0.130	0.005	0.000	0.450*	-0.282	-0.226	-0.160
L	109	D	0.089	0.023	0.724	0.494	0.077	0.110	0.084	0.724*	0.005	0.000	-0.246	-0.244	-0.243	0.494*

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	26	A	0.163	0.006	0.670	0.340	0.670*	0.052	0.040	0.235	0.003	0.000	0.340*	-0.202	-0.211	-0.165
W	27	B	-0.162	0.007	0.733	0.469	0.056	0.733*	0.125	0.084	0.002	0.000	-0.297	0.469*	-0.277	-0.156
W	28	B	-0.197	0.007	0.728	0.306	0.157	0.728*	0.075	0.039	0.001	0.000	-0.052	0.306*	-0.293	-0.184
W	29	D	0.403	0.006	0.633	0.471	0.113	0.107	0.144	0.633*	0.003	0.000	-0.219	-0.167	-0.287	0.471*
W	30	A	-0.395	0.007	0.778	0.499	0.778*	0.085	0.079	0.056	0.002	0.000	0.499*	-0.222	-0.252	-0.318
W	31	B	0.245	0.006	0.660	0.441	0.171	0.660*	0.106	0.061	0.002	0.000	-0.269	0.441*	-0.131	-0.261
W	32	C	-0.106	0.007	0.740	0.558	0.073	0.137	0.740*	0.048	0.002	0.000	-0.238	-0.338	0.558*	-0.291
W	33	C	-0.504	0.007	0.787	0.535	0.084	0.064	0.787*	0.063	0.002	0.000	-0.299	-0.302	0.535*	-0.237
W	34	B	0.293	0.006	0.659	0.411	0.128	0.659*	0.102	0.109	0.002	0.000	-0.019	0.411*	-0.259	-0.339
W	35	B	1.675	0.006	0.351	0.155	0.255	0.351*	0.274	0.117	0.003	0.000	-0.092	0.155*	0.028?	-0.130
W	36	D	1.489	0.006	0.418	0.316	0.342	0.074	0.164	0.418*	0.002	0.000	-0.097	-0.158	-0.173	0.316*
W	37	D	0.237	0.006	0.674	0.481	0.073	0.066	0.184	0.674*	0.003	0.000	-0.314	-0.318	-0.155	0.481*
W	38	D	0.364	0.006	0.634	0.474	0.085	0.058	0.222	0.634*	0.002	0.000	-0.223	-0.279	-0.233	0.474*
W	39	A	-1.099	0.008	0.882	0.432	0.882*	0.068	0.020	0.028	0.002	0.000	0.432*	-0.247	-0.238	-0.239
W	40	C	0.733	0.006	0.573	0.500	0.136	0.138	0.573*	0.151	0.003	0.000	-0.315	-0.210	0.500*	-0.173
W	41	A	1.085	0.006	0.499	0.358	0.499*	0.033	0.268	0.197	0.003	0.000	0.358*	-0.245	-0.134	-0.178
W	42	C	0.077	0.006	0.684	0.448	0.155	0.070	0.684*	0.088	0.003	0.000	-0.216	-0.296	0.448*	-0.174
W	43	C	0.531	0.006	0.603	0.381	0.193	0.092	0.603*	0.110	0.003	0.000	-0.045	-0.227	0.381*	-0.311
W	44	B	-1.116	0.008	0.871	0.505	0.042	0.871*	0.045	0.039	0.002	0.000	-0.272	0.505*	-0.261	-0.286
W	45	C	0.352	0.006	0.653	0.479	0.130	0.122	0.653*	0.092	0.002	0.000	-0.310	-0.194	0.479*	-0.190
W	46	B	1.174	0.006	0.467	0.321	0.192	0.467*	0.095	0.241	0.005	0.000	-0.248	0.321*	-0.198	0.000?
W	47	A	1.002	0.006	0.503	0.366	0.503*	0.049	0.197	0.246	0.004	0.000	0.366*	-0.296	-0.231	-0.050
W	48	C	0.803	0.006	0.573	0.421	0.226	0.062	0.573*	0.135	0.003	0.000	-0.249	-0.238	0.421*	-0.120
W	49	C	1.774	0.006	0.366	0.243	0.148	0.311	0.366*	0.169	0.006	0.000	-0.066	-0.126	0.243*	-0.077
W	50	D	1.153	0.006	0.498	0.349	0.281	0.180	0.038	0.498*	0.003	0.000	-0.136	-0.158	-0.245	0.349*
W	51	A	1.851	0.006	0.360	0.340	0.360*	0.077	0.432	0.128	0.004	0.000	0.340*	-0.192	-0.090	-0.184
W	136	D	-0.962	0.008	0.844	0.495	0.097	0.030	0.028	0.844*	0.001	0.000	-0.292	-0.269	-0.266	0.495*
W	137	A	-2.094	0.012	0.942	0.412	0.942*	0.023	0.020	0.014	0.001	0.000	0.412*	-0.229	-0.258	-0.190
W	138	B	-0.689	0.008	0.816	0.504	0.109	0.816*	0.046	0.028	0.001	0.000	-0.316	0.504*	-0.225	-0.279
W	139	C	-0.347	0.007	0.770	0.539	0.032	0.136	0.770*	0.060	0.002	0.000	-0.216	-0.408	0.539*	-0.189
W	140	A	-1.187	0.009	0.867	0.506	0.867*	0.037	0.056	0.039	0.002	0.000	0.506*	-0.255	-0.280	-0.286
W	141	D	-0.967	0.008	0.841	0.509	0.034	0.070	0.054	0.841*	0.001	0.000	-0.237	-0.297	-0.282	0.509*
W	142	B	0.243	0.006	0.668	0.442	0.156	0.668*	0.140	0.034	0.001	0.000	-0.242	0.442*	-0.208	-0.243
W	143	C	0.003	0.007	0.735	0.447	0.127	0.105	0.735*	0.031	0.002	0.000	-0.183	-0.321	0.447*	-0.194

Appendix H: 2003 PSSA Grade Five Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	144	D	0.865	0.006	0.525	0.444	0.231	0.156	0.086	0.525*	0.002	0.000	-0.390	-0.055	-0.117	0.444*
W	145	C	0.290	0.006	0.639	0.365	0.136	0.182	0.639*	0.040	0.003	0.000	-0.170	-0.196	0.365*	-0.186
W	146	C	-0.590	0.007	0.817	0.557	0.097	0.037	0.817*	0.047	0.002	0.000	-0.342	-0.252	0.557*	-0.292
W	147	D	0.993	0.006	0.527	0.392	0.296	0.069	0.106	0.527*	0.002	0.000	-0.092	-0.288	-0.249	0.392*
W	148	D	-0.211	0.007	0.747	0.479	0.063	0.057	0.132	0.747*	0.002	0.000	-0.299	-0.208	-0.245	0.479*
W	149	A	0.303	0.006	0.667	0.395	0.667*	0.092	0.149	0.089	0.003	0.000	0.395*	-0.340	-0.126	-0.131
W	150	A	-1.075	0.008	0.871	0.493	0.871*	0.045	0.045	0.036	0.002	0.000	0.493*	-0.296	-0.280	-0.215
W	151	C	-0.328	0.007	0.764	0.505	0.063	0.071	0.764*	0.099	0.003	0.000	-0.267	-0.285	0.505*	-0.237
W	152	A	0.287	0.006	0.659	0.430	0.659*	0.154	0.093	0.092	0.002	0.000	0.430*	-0.193	-0.268	-0.176
W	153	C	0.479	0.006	0.609	0.365	0.134	0.120	0.609*	0.134	0.002	0.000	-0.155	-0.216	0.365*	-0.145
W	154	A	-0.124	0.007	0.713	0.459	0.713*	0.178	0.050	0.057	0.003	0.000	0.459*	-0.239	-0.268	-0.229
W	155	B	-0.866	0.008	0.840	0.561	0.087	0.840*	0.040	0.030	0.002	0.000	-0.352	0.561*	-0.279	-0.271
W	156	D	-0.969	0.008	0.833	0.355	0.049	0.076	0.040	0.833*	0.003	0.000	-0.200	-0.150	-0.228	0.355*
W	157	B	0.702	0.006	0.560	0.380	0.169	0.560*	0.168	0.100	0.003	0.000	-0.169	0.380*	-0.176	-0.181
W	158	A	-0.150	0.007	0.739	0.436	0.739*	0.148	0.051	0.059	0.002	0.000	0.436*	-0.209	-0.303	-0.191
W	159	A	-0.434	0.007	0.742	0.406	0.742*	0.158	0.052	0.046	0.002	0.000	0.406*	-0.175	-0.276	-0.227
W	160	D	-0.013	0.007	0.714	0.566	0.166	0.061	0.056	0.714*	0.002	0.000	-0.285	-0.330	-0.285	0.566*
W	161	C	0.631	0.006	0.606	0.468	0.050	0.298	0.606*	0.043	0.003	0.000	-0.261	-0.237	0.468*	-0.288

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	94	D	-0.618	0.024	0.818	0.459	0.064	0.031	0.082	0.818*	0.006	0.000	-0.167	-0.302	-0.257	0.459*
A	95	D	-1.490	0.031	0.894	0.491	0.023	0.050	0.029	0.894*	0.004	0.000	-0.256	-0.273	-0.254	0.491*
A	96	A	-0.902	0.026	0.825	0.408	0.825*	0.083	0.066	0.022	0.003	0.000	0.408*	-0.230	-0.202	-0.211
A	97	C	0.323	0.021	0.612	0.335	0.016	0.358	0.612*	0.010	0.003	0.000	-0.178	-0.231	0.335*	-0.193
A	98	C	0.278	0.021	0.637	0.438	0.076	0.138	0.637*	0.145	0.004	0.000	-0.240	-0.205	0.438*	-0.187
A	99	C	1.068	0.020	0.427	0.291	0.306	0.119	0.427*	0.143	0.005	0.000	-0.147	-0.223	0.291*	0.021?
A	100	C	-0.062	0.022	0.648	0.249	0.017	0.154	0.648*	0.177	0.004	0.000	-0.244	-0.144	0.249*	-0.064
A	101	A	-0.735	0.025	0.814	0.544	0.814*	0.113	0.045	0.024	0.004	0.000	0.544*	-0.312	-0.291	-0.270
A	102	B	-0.951	0.026	0.851	0.440	0.039	0.851*	0.080	0.026	0.004	0.000	-0.251	0.440*	-0.244	-0.190
A	103	C	0.495	0.020	0.601	0.359	0.315	0.027	0.601*	0.053	0.004	0.000	-0.116	-0.252	0.359*	-0.314
A	104	B	0.298	0.021	0.659	0.422	0.057	0.659*	0.227	0.054	0.004	0.000	-0.257	0.422*	-0.144	-0.304
A	105	C	0.653	0.020	0.534	0.347	0.111	0.211	0.534*	0.139	0.004	0.000	-0.184	-0.132	0.347*	-0.147
A	106	A	-0.660	0.024	0.806	0.515	0.806*	0.044	0.065	0.080	0.003	0.000	0.515*	-0.258	-0.312	-0.229
A	107	A	0.691	0.020	0.571	0.403	0.571*	0.256	0.078	0.089	0.005	0.000	0.403*	-0.220	-0.129	-0.199
A	108	C	-1.102	0.027	0.863	0.494	0.072	0.049	0.863*	0.014	0.003	0.000	-0.264	-0.311	0.494*	-0.209
A	109	B	0.124	0.021	0.680	0.454	0.122	0.680*	0.027	0.167	0.003	0.000	-0.177	0.454*	-0.289	-0.256
A	110	B	0.691	0.020	0.560	0.145	0.021	0.560*	0.338	0.077	0.004	0.000	-0.230	0.145*	0.142?	-0.356
A	111	C	-1.365	0.029	0.870	0.429	0.047	0.053	0.870*	0.027	0.003	0.000	-0.225	-0.206	0.429*	-0.247
A	112	A	-2.169	0.039	0.937	0.435	0.937*	0.023	0.020	0.013	0.007	0.000	0.435*	-0.217	-0.236	-0.208
A	113	C	-1.075	0.027	0.867	0.535	0.036	0.041	0.867*	0.052	0.004	0.000	-0.304	-0.341	0.535*	-0.205
A	114	C	-0.574	0.024	0.791	0.517	0.044	0.034	0.791*	0.127	0.004	0.000	-0.304	-0.239	0.517*	-0.279
A	115	B	-2.059	0.037	0.941	0.496	0.023	0.941*	0.017	0.015	0.004	0.000	-0.298	0.496*	-0.252	-0.228
A	116	D	-0.918	0.026	0.847	0.549	0.066	0.034	0.050	0.847*	0.004	0.000	-0.267	-0.306	-0.296	0.549*
A	117	C	-0.662	0.024	0.792	0.383	0.052	0.069	0.792*	0.083	0.004	0.000	-0.180	-0.239	0.383*	-0.157
A	118	A	0.273	0.021	0.630	0.431	0.630*	0.060	0.149	0.155	0.005	0.000	0.431*	-0.228	-0.266	-0.130
A	119	B	-0.753	0.025	0.812	0.478	0.100	0.812*	0.051	0.032	0.004	0.000	-0.253	0.478*	-0.234	-0.267
A	120	B	-0.888	0.026	0.844	0.527	0.082	0.844*	0.045	0.024	0.004	0.000	-0.279	0.527*	-0.316	-0.242
A	121	C	-0.774	0.025	0.797	0.471	0.070	0.041	0.797*	0.089	0.004	0.000	-0.259	-0.193	0.471*	-0.259
A	122	C	1.296	0.020	0.415	0.299	0.072	0.303	0.415*	0.205	0.005	0.000	-0.253	-0.015	0.299*	-0.155
A	123	B	1.526	0.020	0.378	0.296	0.076	0.378*	0.378	0.164	0.005	0.000	-0.190	0.296*	-0.110	-0.075
A	124	D	2.036	0.022	0.265	0.209	0.255	0.202	0.274	0.265*	0.004	0.000	0.012?	-0.018	-0.176	0.209*
A	125	A	1.796	0.021	0.318	0.270	0.318*	0.469	0.070	0.139	0.005	0.000	0.270*	0.051?	-0.241	-0.224
A	126	B	0.386	0.020	0.625	0.505	0.153	0.625*	0.190	0.028	0.004	0.000	-0.286	0.505*	-0.249	-0.197
A	127	A	2.098	0.022	0.247	0.174	0.247*	0.214	0.422	0.112	0.004	0.000	0.174*	-0.035	-0.017	-0.126
A	128	D	-0.695	0.025	0.810	0.553	0.056	0.072	0.057	0.810*	0.004	0.000	-0.289	-0.283	-0.278	0.553*
A	129	D	-0.968	0.026	0.858	0.535	0.037	0.047	0.053	0.858*	0.005	0.000	-0.280	-0.292	-0.267	0.535*

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	94	D	-0.632	0.024	0.818	0.450	0.061	0.031	0.084	0.818*	0.005	0.000	-0.172	-0.287	-0.245	0.450*
B	95	D	-1.419	0.030	0.899	0.475	0.022	0.049	0.026	0.899*	0.004	0.000	-0.236	-0.269	-0.244	0.475*
B	96	A	-0.817	0.025	0.818	0.412	0.818*	0.083	0.072	0.023	0.003	0.000	0.412*	-0.241	-0.195	-0.207
B	97	C	0.389	0.020	0.606	0.339	0.019	0.362	0.606*	0.010	0.003	0.000	-0.183	-0.230	0.339*	-0.197
B	98	C	0.238	0.021	0.640	0.447	0.076	0.134	0.640*	0.145	0.004	0.000	-0.252	-0.220	0.447*	-0.176
B	99	C	1.154	0.020	0.420	0.284	0.307	0.116	0.420*	0.151	0.006	0.000	-0.137	-0.242	0.284*	0.035?
B	100	C	-0.055	0.021	0.666	0.273	0.016	0.148	0.666*	0.166	0.004	0.000	-0.248	-0.154	0.273*	-0.082
B	101	A	-0.650	0.024	0.822	0.542	0.822*	0.109	0.044	0.021	0.004	0.000	0.542*	-0.310	-0.305	-0.251
B	102	B	-0.921	0.026	0.852	0.430	0.037	0.852*	0.082	0.026	0.004	0.000	-0.236	0.430*	-0.257	-0.164
B	103	C	0.407	0.020	0.610	0.347	0.310	0.026	0.610*	0.049	0.004	0.000	-0.121	-0.239	0.347*	-0.291
B	104	B	0.301	0.020	0.652	0.410	0.060	0.652*	0.228	0.055	0.004	0.000	-0.265	0.410*	-0.124	-0.297
B	105	C	0.752	0.020	0.538	0.353	0.110	0.210	0.538*	0.138	0.004	0.000	-0.173	-0.144	0.353*	-0.151
B	106	A	-0.581	0.024	0.800	0.530	0.800*	0.047	0.067	0.082	0.004	0.000	0.530*	-0.277	-0.312	-0.233
B	107	A	0.633	0.020	0.567	0.380	0.567*	0.256	0.081	0.093	0.004	0.000	0.380*	-0.187	-0.135	-0.202
B	108	C	-1.078	0.027	0.868	0.483	0.072	0.044	0.868*	0.013	0.003	0.000	-0.258	-0.303	0.483*	-0.212
B	109	B	0.062	0.021	0.678	0.466	0.113	0.678*	0.028	0.178	0.004	0.000	-0.162	0.466*	-0.289	-0.281
B	110	B	0.725	0.020	0.559	0.145	0.026	0.559*	0.336	0.075	0.004	0.000	-0.266	0.145*	0.140?	-0.320
B	111	C	-1.139	0.028	0.866	0.424	0.047	0.057	0.866*	0.026	0.004	0.000	-0.201	-0.220	0.424*	-0.242
B	112	D	-0.620	0.024	0.797	0.467	0.057	0.097	0.042	0.797*	0.006	0.000	-0.241	-0.199	-0.286	0.467*
B	113	A	-1.060	0.027	0.866	0.456	0.866*	0.096	0.013	0.021	0.004	0.000	0.456*	-0.309	-0.219	-0.191
B	114	C	-0.146	0.022	0.730	0.449	0.080	0.068	0.730*	0.118	0.004	0.000	-0.207	-0.260	0.449*	-0.204
B	115	C	1.863	0.021	0.285	0.264	0.239	0.284	0.285*	0.187	0.004	0.000	-0.107	-0.072	0.264*	-0.078
B	116	A	-1.139	0.028	0.872	0.471	0.872*	0.037	0.048	0.039	0.004	0.000	0.471*	-0.167	-0.281	-0.278
B	117	A	-0.896	0.026	0.854	0.581	0.854*	0.054	0.050	0.038	0.004	0.000	0.581*	-0.332	-0.337	-0.233
B	118	D	0.823	0.020	0.504	0.213	0.122	0.266	0.102	0.504*	0.006	0.000	-0.147	0.037?	-0.209	0.213*
B	119	C	-0.230	0.022	0.742	0.420	0.041	0.065	0.742*	0.147	0.004	0.000	-0.275	-0.257	0.420*	-0.151
B	120	A	0.408	0.020	0.617	0.373	0.617*	0.203	0.116	0.059	0.005	0.000	0.373*	-0.114	-0.275	-0.150
B	121	D	-0.066	0.022	0.688	0.382	0.239	0.039	0.029	0.688*	0.005	0.000	-0.127	-0.315	-0.289	0.382*
B	122	A	0.549	0.020	0.593	0.458	0.593*	0.106	0.054	0.242	0.005	0.000	0.458*	-0.312	-0.237	-0.147
B	123	D	0.470	0.020	0.592	0.454	0.054	0.121	0.229	0.592*	0.005	0.000	-0.290	-0.247	-0.153	0.454*
B	124	B	0.973	0.020	0.495	0.337	0.166	0.495*	0.230	0.104	0.006	0.000	-0.099	0.337*	-0.163	-0.164
B	125	B	0.848	0.020	0.483	0.304	0.154	0.483*	0.214	0.144	0.006	0.000	-0.213	0.304*	-0.084	-0.081
B	126	D	-1.170	0.028	0.878	0.544	0.035	0.051	0.032	0.878*	0.004	0.000	-0.283	-0.278	-0.295	0.544*
B	127	B	1.841	0.021	0.244	-0.080	0.079	0.244*	0.038	0.634?	0.005	0.000	-0.245	-0.080*	-0.259	0.339?
B	128	C	0.356	0.020	0.611	0.316	0.059	0.111	0.611*	0.213	0.005	0.000	-0.266	-0.170	0.316*	-0.062
B	129	B	0.137	0.021	0.685	0.423	0.099	0.685*	0.165	0.045	0.006	0.000	-0.195	0.423*	-0.214	-0.219

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	94	B	0.659	0.020	0.558	0.253	0.164	0.558*	0.233	0.039	0.006	0.000	-0.095	0.253*	-0.086	-0.220
C	95	A	-1.186	0.028	0.872	0.491	0.872*	0.049	0.055	0.022	0.003	0.000	0.491*	-0.260	-0.294	-0.224
C	96	D	-0.013	0.021	0.713	0.515	0.029	0.224	0.030	0.713*	0.003	0.000	-0.240	-0.345	-0.233	0.515*
C	97	A	1.027	0.020	0.499	0.415	0.499*	0.329	0.108	0.062	0.002	0.000	0.415*	-0.194	-0.238	-0.141
C	98	B	0.156	0.021	0.662	0.351	0.127	0.662*	0.148	0.059	0.005	0.000	-0.239	0.351*	-0.148	-0.103
C	99	C	0.283	0.021	0.601	0.273	0.123	0.160	0.601*	0.112	0.004	0.000	-0.073	-0.140	0.273*	-0.162
C	100	C	-0.580	0.024	0.826	0.563	0.092	0.043	0.826*	0.037	0.003	0.000	-0.339	-0.276	0.563*	-0.272
C	101	B	0.242	0.021	0.668	0.490	0.114	0.668*	0.104	0.109	0.004	0.000	-0.311	0.490*	-0.200	-0.197
C	102	D	-0.678	0.024	0.812	0.562	0.095	0.037	0.053	0.812*	0.003	0.000	-0.355	-0.292	-0.229	0.562*
C	103	C	-1.309	0.029	0.862	0.399	0.026	0.040	0.862*	0.069	0.003	0.000	-0.193	-0.240	0.399*	-0.202
C	104	B	0.373	0.020	0.625	0.397	0.121	0.625*	0.122	0.128	0.004	0.000	-0.158	0.397*	-0.179	-0.222
C	105	D	-0.095	0.022	0.711	0.491	0.065	0.052	0.169	0.711*	0.003	0.000	-0.279	-0.233	-0.248	0.491*
C	106	A	-0.281	0.022	0.743	0.486	0.743*	0.134	0.047	0.073	0.003	0.000	0.486*	-0.278	-0.266	-0.205
C	107	B	-0.790	0.025	0.812	0.422	0.058	0.812*	0.076	0.050	0.003	0.000	-0.208	0.422*	-0.247	-0.191
C	108	D	1.297	0.020	0.411	0.304	0.112	0.282	0.190	0.411*	0.005	0.000	-0.147	-0.069	-0.163	0.304*
C	109	C	-0.027	0.021	0.724	0.501	0.040	0.037	0.724*	0.196	0.003	0.000	-0.252	-0.235	0.501*	-0.306
C	110	A	-1.195	0.028	0.877	0.450	0.877*	0.078	0.023	0.019	0.003	0.000	0.450*	-0.229	-0.273	-0.266
C	111	A	-0.186	0.022	0.712	0.363	0.712*	0.062	0.143	0.081	0.003	0.000	0.363*	-0.228	-0.189	-0.128
C	112	D	-0.489	0.023	0.803	0.508	0.065	0.036	0.092	0.803*	0.005	0.000	-0.195	-0.321	-0.286	0.508*
C	113	D	-1.214	0.028	0.874	0.513	0.032	0.056	0.034	0.874*	0.004	0.000	-0.254	-0.294	-0.266	0.513*
C	114	A	-0.680	0.024	0.804	0.456	0.804*	0.097	0.068	0.027	0.003	0.000	0.456*	-0.274	-0.219	-0.219
C	115	C	0.275	0.021	0.622	0.337	0.020	0.341	0.622*	0.014	0.003	0.000	-0.213	-0.206	0.337*	-0.231
C	116	C	0.189	0.021	0.673	0.501	0.071	0.129	0.673*	0.124	0.003	0.000	-0.268	-0.256	0.501*	-0.217
C	117	C	1.305	0.020	0.413	0.308	0.300	0.127	0.413*	0.155	0.005	0.000	-0.146	-0.248	0.308*	0.021?
C	118	C	-0.009	0.021	0.643	0.265	0.019	0.159	0.643*	0.176	0.003	0.000	-0.246	-0.151	0.265*	-0.076
C	119	A	-0.705	0.024	0.821	0.562	0.821*	0.097	0.051	0.028	0.003	0.000	0.562*	-0.315	-0.317	-0.261
C	120	B	-0.836	0.025	0.833	0.446	0.043	0.833*	0.087	0.034	0.003	0.000	-0.235	0.446*	-0.256	-0.207
C	121	C	0.470	0.020	0.614	0.371	0.295	0.033	0.614*	0.055	0.003	0.000	-0.128	-0.265	0.371*	-0.290
C	122	B	0.375	0.020	0.640	0.424	0.069	0.640*	0.232	0.056	0.004	0.000	-0.299	0.424*	-0.119	-0.300
C	123	C	0.708	0.020	0.536	0.339	0.105	0.222	0.536*	0.134	0.004	0.000	-0.168	-0.128	0.339*	-0.160
C	124	A	-0.568	0.024	0.798	0.547	0.798*	0.060	0.067	0.072	0.003	0.000	0.547*	-0.311	-0.310	-0.229
C	125	A	0.502	0.020	0.598	0.395	0.598*	0.243	0.069	0.086	0.004	0.000	0.395*	-0.204	-0.175	-0.189
C	126	C	-1.054	0.027	0.850	0.503	0.076	0.054	0.850*	0.017	0.003	0.000	-0.262	-0.316	0.503*	-0.227
C	127	B	0.164	0.021	0.670	0.465	0.112	0.670*	0.036	0.179	0.003	0.000	-0.156	0.465*	-0.317	-0.264
C	128	B	0.725	0.020	0.524	0.147	0.028	0.524*	0.362	0.082	0.003	0.000	-0.277	0.147*	0.163?	-0.351
C	129	C	-1.039	0.027	0.848	0.427	0.051	0.063	0.848*	0.034	0.004	0.000	-0.200	-0.224	0.427*	-0.250

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	94	B	1.155	0.019	0.450	0.426	0.211	0.450*	0.191	0.141	0.006	0.000	-0.179	0.426*	-0.125	-0.225
D	95	B	1.235	0.019	0.424	0.286	0.159	0.424*	0.158	0.253	0.006	0.000	-0.166	0.286*	-0.081	-0.089
D	96	D	0.274	0.020	0.639	0.447	0.168	0.071	0.115	0.639*	0.006	0.000	-0.151	-0.220	-0.286	0.447*
D	97	D	-0.715	0.024	0.840	0.602	0.048	0.040	0.068	0.840*	0.004	0.000	-0.266	-0.316	-0.360	0.602*
D	98	B	-0.546	0.023	0.797	0.386	0.152	0.797*	0.024	0.024	0.004	0.000	-0.213	0.386*	-0.246	-0.201
D	99	C	-0.126	0.022	0.752	0.478	0.093	0.085	0.752*	0.065	0.005	0.000	-0.267	-0.249	0.478*	-0.196
D	100	A	-0.194	0.022	0.721	0.323	0.721*	0.038	0.214	0.022	0.004	0.000	0.323*	-0.242	-0.125	-0.242
D	101	C	-0.454	0.023	0.815	0.571	0.064	0.073	0.815*	0.044	0.004	0.000	-0.282	-0.359	0.571*	-0.235
D	102	D	-0.979	0.026	0.858	0.438	0.019	0.055	0.064	0.858*	0.004	0.000	-0.229	-0.259	-0.209	0.438*
D	103	C	0.451	0.020	0.591	0.323	0.117	0.054	0.591*	0.232	0.005	0.000	-0.191	-0.243	0.323*	-0.071
D	104	B	0.786	0.020	0.550	0.380	0.084	0.550*	0.292	0.070	0.005	0.000	-0.211	0.380*	-0.169	-0.164
D	105	B	-1.356	0.029	0.887	0.425	0.042	0.887*	0.045	0.022	0.004	0.000	-0.270	0.425*	-0.206	-0.184
D	106	A	-0.192	0.022	0.722	0.375	0.722*	0.178	0.048	0.047	0.004	0.000	0.375*	-0.200	-0.217	-0.159
D	107	D	0.028	0.021	0.723	0.352	0.045	0.145	0.083	0.723*	0.004	0.000	-0.277	-0.130	-0.155	0.352*
D	108	A	1.319	0.020	0.382	0.126	0.382*	0.250	0.145	0.217	0.006	0.000	0.126*	0.048?	-0.169	-0.025
D	109	D	-0.845	0.025	0.820	0.490	0.069	0.075	0.033	0.820*	0.004	0.000	-0.240	-0.248	-0.285	0.490*
D	110	C	-0.998	0.026	0.845	0.405	0.068	0.022	0.845*	0.062	0.004	0.000	-0.159	-0.283	0.405*	-0.224
D	111	A	-0.365	0.023	0.766	0.453	0.766*	0.182	0.036	0.012	0.004	0.000	0.453*	-0.274	-0.282	-0.203
D	112	D	-0.461	0.023	0.799	0.487	0.066	0.036	0.092	0.799*	0.006	0.000	-0.198	-0.308	-0.250	0.487*
D	113	D	-1.139	0.027	0.872	0.518	0.032	0.057	0.036	0.872*	0.004	0.000	-0.279	-0.271	-0.267	0.518*
D	114	A	-0.635	0.024	0.802	0.443	0.802*	0.093	0.071	0.029	0.004	0.000	0.443*	-0.253	-0.214	-0.213
D	115	C	0.311	0.020	0.619	0.361	0.021	0.342	0.619*	0.014	0.004	0.000	-0.227	-0.221	0.361*	-0.220
D	116	C	0.303	0.020	0.653	0.468	0.072	0.132	0.653*	0.140	0.004	0.000	-0.254	-0.233	0.468*	-0.194
D	117	C	1.177	0.019	0.411	0.313	0.295	0.124	0.411*	0.164	0.006	0.000	-0.140	-0.251	0.313*	0.012?
D	118	C	0.094	0.021	0.638	0.265	0.021	0.163	0.638*	0.174	0.004	0.000	-0.264	-0.144	0.265*	-0.063
D	119	A	-0.715	0.024	0.827	0.566	0.827*	0.092	0.052	0.024	0.005	0.000	0.566*	-0.302	-0.330	-0.265
D	120	B	-0.711	0.024	0.832	0.477	0.041	0.832*	0.087	0.036	0.004	0.000	-0.254	0.477*	-0.269	-0.213
D	121	C	0.487	0.020	0.615	0.377	0.289	0.035	0.615*	0.057	0.004	0.000	-0.116	-0.269	0.377*	-0.297
D	122	B	0.299	0.020	0.649	0.411	0.066	0.649*	0.227	0.053	0.005	0.000	-0.297	0.411*	-0.107	-0.288
D	123	C	0.827	0.019	0.532	0.336	0.117	0.182	0.532*	0.164	0.006	0.000	-0.154	-0.115	0.336*	-0.165
D	124	A	-0.502	0.023	0.795	0.539	0.795*	0.057	0.064	0.080	0.005	0.000	0.539*	-0.300	-0.315	-0.215
D	125	A	0.539	0.020	0.584	0.382	0.584*	0.244	0.082	0.085	0.005	0.000	0.382*	-0.204	-0.152	-0.166
D	126	C	-0.897	0.026	0.849	0.518	0.078	0.051	0.849*	0.018	0.004	0.000	-0.262	-0.327	0.518*	-0.231
D	127	B	0.230	0.020	0.666	0.466	0.112	0.666*	0.034	0.184	0.004	0.000	-0.163	0.466*	-0.315	-0.254
D	128	B	0.670	0.020	0.546	0.159	0.032	0.546*	0.339	0.078	0.004	0.000	-0.278	0.159*	0.145?	-0.321
D	129	C	-0.957	0.026	0.843	0.445	0.052	0.064	0.843*	0.035	0.005	0.000	-0.193	-0.228	0.445*	-0.267

Appendix I: 2003 PSSA Grade Eight Item Analysis
Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	94	A	-2.585	0.045	0.961	0.348	0.961*	0.014	0.013	0.008	0.004	0.000	0.348*	-0.160	-0.199	-0.179
E	95	C	-1.404	0.029	0.896	0.490	0.027	0.033	0.896*	0.041	0.003	0.000	-0.284	-0.311	0.490*	-0.206
E	96	C	-0.614	0.024	0.805	0.482	0.038	0.027	0.805*	0.125	0.004	0.000	-0.251	-0.219	0.482*	-0.299
E	97	B	-2.436	0.043	0.953	0.427	0.021	0.953*	0.015	0.010	0.002	0.000	-0.263	0.427*	-0.217	-0.206
E	98	D	-1.009	0.026	0.865	0.528	0.060	0.029	0.044	0.865*	0.002	0.000	-0.276	-0.284	-0.296	0.528*
E	99	C	-0.605	0.024	0.799	0.353	0.052	0.064	0.799*	0.081	0.003	0.000	-0.164	-0.233	0.353*	-0.147
E	100	A	0.093	0.021	0.659	0.428	0.659*	0.052	0.130	0.156	0.004	0.000	0.428*	-0.213	-0.270	-0.159
E	101	B	-0.955	0.026	0.840	0.441	0.084	0.84*	0.045	0.028	0.003	0.000	-0.253	0.441*	-0.210	-0.245
E	102	B	-1.161	0.027	0.864	0.469	0.075	0.864*	0.035	0.023	0.003	0.000	-0.254	0.469*	-0.272	-0.245
E	103	C	-0.955	0.026	0.821	0.439	0.058	0.034	0.821*	0.085	0.003	0.000	-0.245	-0.182	0.439*	-0.256
E	104	C	0.916	0.020	0.484	0.295	0.073	0.213	0.484*	0.227	0.004	0.000	-0.240	-0.065	0.295*	-0.122
E	105	B	1.325	0.020	0.410	0.323	0.078	0.41*	0.349	0.160	0.003	0.000	-0.220	0.323*	-0.116	-0.102
E	106	D	1.974	0.021	0.284	0.213	0.258	0.200	0.254	0.284*	0.003	0.000	0.002?	-0.030	-0.178	0.213*
E	107	A	1.868	0.021	0.305	0.254	0.305*	0.475	0.065	0.151	0.004	0.000	0.254*	0.059?	-0.221	-0.236
E	108	B	0.284	0.020	0.653	0.490	0.137	0.653*	0.185	0.022	0.002	0.000	-0.289	0.490*	-0.255	-0.190
E	109	A	2.006	0.021	0.263	0.183	0.263*	0.189	0.431	0.113	0.003	0.000	0.183*	-0.060	-0.014	-0.135
E	110	D	-0.762	0.025	0.829	0.510	0.050	0.066	0.053	0.829*	0.002	0.000	-0.266	-0.287	-0.247	0.510*
E	111	D	-1.145	0.027	0.881	0.512	0.033	0.039	0.045	0.881*	0.002	0.000	-0.283	-0.296	-0.246	0.512*
E	112	D	-1.032	0.026	0.873	0.522	0.049	0.035	0.039	0.873*	0.004	0.000	-0.268	-0.298	-0.264	0.522*
E	113	C	-1.109	0.027	0.894	0.514	0.045	0.034*	0.894	0.025	0.002	0.000	-0.305	-0.277	0.514*	-0.242
E	114	A	-1.670	0.032	0.917	0.452	0.917*	0.035	0.036	0.009	0.002	0.000	0.452*	-0.306	-0.219	-0.208
E	115	B	-2.063	0.037	0.941	0.409	0.014	0.941*	0.024	0.018	0.002	0.000	-0.209	0.409*	-0.238	-0.210
E	116	C	-0.894	0.025	0.860	0.587	0.044	0.047	0.860*	0.046	0.003	0.000	-0.330	-0.284	0.587*	-0.326
E	117	B	-0.505	0.023	0.782	0.434	0.090	0.782*	0.077	0.047	0.004	0.000	-0.240	0.434*	-0.237	-0.183
E	118	C	1.514	0.020	0.420	0.343	0.031	0.163	0.420*	0.382	0.004	0.000	-0.292	-0.236	0.343*	-0.049
E	119	D	0.654	0.020	0.562	0.424	0.030	0.318	0.087	0.562*	0.002	0.000	-0.283	-0.195	-0.227	0.424*
E	120	C	-0.406	0.023	0.770	0.521	0.100	0.080	0.770*	0.046	0.003	0.000	-0.270	-0.250	0.521*	-0.298
E	121	B	0.024	0.021	0.696	0.484	0.057	0.696*	0.110	0.134	0.003	0.000	-0.228	0.484*	-0.147	-0.339
E	122	C	0.066	0.021	0.689	0.442	0.037	0.154	0.689*	0.116	0.004	0.000	-0.269	-0.239	0.442*	-0.186
E	123	B	0.508	0.020	0.589	0.373	0.159	0.589*	0.174	0.073	0.004	0.000	-0.186	0.373*	-0.134	-0.213
E	124	B	-0.701	0.024	0.806	0.497	0.071	0.806*	0.050	0.069	0.004	0.000	-0.321	0.497*	-0.293	-0.166
E	125	A	1.329	0.020	0.423	0.298	0.423*	0.337	0.125	0.111	0.005	0.000	0.298*	-0.014	-0.192	-0.217
E	126	A	0.591	0.020	0.573	0.413	0.573*	0.100	0.236	0.086	0.004	0.000	0.413*	-0.180	-0.159	-0.263
E	127	D	2.622	0.024	0.159	0.107	0.071	0.719?	0.048	0.159*	0.003	0.000	-0.207	0.181?	-0.274	0.107*
E	128	D	0.166	0.021	0.638	0.320	0.257	0.059	0.043	0.638*	0.003	0.000	-0.070	-0.263	-0.259	0.320*
E	129	A	1.165	0.020	0.390	0.203	0.390*	0.408	0.038	0.158	0.004	0.000	0.203*	-0.042	-0.245	-0.062

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
F	94	D	-0.721	0.024	0.817	0.441	0.050	0.088	0.037	0.817*	0.008	0.000	-0.229	-0.186	-0.276	0.441*
F	95	A	-1.371	0.029	0.886	0.435	0.886*	0.088	0.007	0.016	0.003	0.000	0.435*	-0.323	-0.154	-0.191
F	96	C	-0.155	0.022	0.744	0.450	0.068	0.067	0.744*	0.117	0.004	0.000	-0.202	-0.261	0.450*	-0.217
F	97	C	2.059	0.021	0.273	0.288	0.253	0.273	0.273*	0.196	0.005	0.000	-0.125	-0.051	0.288*	-0.104
F	98	A	-1.208	0.028	0.879	0.419	0.879*	0.035	0.047	0.035	0.005	0.000	0.419*	-0.108	-0.264	-0.276
F	99	A	-1.070	0.027	0.881	0.568	0.881*	0.042	0.045	0.029	0.003	0.000	0.568*	-0.290	-0.341	-0.269
F	100	D	0.713	0.020	0.530	0.224	0.122	0.256	0.086	0.530*	0.005	0.000	-0.172	0.017?	-0.185	0.224*
F	101	C	-0.216	0.022	0.752	0.399	0.032	0.058	0.752*	0.154	0.004	0.000	-0.260	-0.232	0.399*	-0.173
F	102	A	0.237	0.020	0.658	0.380	0.658*	0.186	0.103	0.048	0.004	0.000	0.380*	-0.153	-0.269	-0.129
F	103	D	-0.193	0.022	0.718	0.375	0.222	0.032	0.023	0.718*	0.004	0.000	-0.154	-0.288	-0.275	0.375*
F	104	A	0.525	0.020	0.601	0.452	0.601*	0.092	0.049	0.254	0.004	0.000	0.452*	-0.301	-0.241	-0.163
F	105	D	0.286	0.020	0.621	0.443	0.045	0.107	0.223	0.621*	0.003	0.000	-0.265	-0.253	-0.171	0.443*
F	106	B	0.921	0.019	0.504	0.354	0.159	0.504*	0.224	0.108	0.005	0.000	-0.117	0.354*	-0.189	-0.144
F	107	B	0.806	0.019	0.497	0.317	0.151	0.497*	0.202	0.146	0.004	0.000	-0.214	0.317*	-0.093	-0.093
F	108	D	-1.327	0.029	0.890	0.524	0.035	0.044	0.028	0.890*	0.003	0.000	-0.263	-0.279	-0.291	0.524*
F	109	B	1.791	0.020	0.250	-0.057	0.077	0.250*	0.035	0.635?	0.003	0.000	-0.247	-0.057*	-0.248	0.305?
F	110	C	0.438	0.020	0.618	0.335	0.060	0.116	0.618*	0.203	0.003	0.000	-0.277	-0.153	0.335*	-0.092
F	111	B	0.068	0.021	0.694	0.389	0.091	0.694*	0.172	0.040	0.003	0.000	-0.187	0.389*	-0.210	-0.182
F	112	B	-0.711	0.024	0.846	0.551	0.058	0.846*	0.045	0.044	0.007	0.000	-0.324	0.551*	-0.253	-0.259
F	113	A	-0.250	0.022	0.788	0.547	0.788*	0.078	0.087	0.043	0.004	0.000	0.547*	-0.315	-0.285	-0.232
F	114	C	-1.296	0.029	0.882	0.478	0.038	0.034	0.882*	0.042	0.004	0.000	-0.267	-0.302	0.478*	-0.180
F	115	D	0.478	0.020	0.621	0.481	0.066	0.182	0.127	0.621*	0.004	0.000	-0.205	-0.223	-0.254	0.481*
F	116	C	-0.510	0.023	0.773	0.402	0.031	0.158	0.773*	0.034	0.004	0.000	-0.258	-0.207	0.402*	-0.199
F	117	B	0.192	0.020	0.650	0.291	0.125	0.650*	0.107	0.111	0.006	0.000	-0.087	0.291*	-0.134	-0.176
F	118	C	0.102	0.021	0.701	0.568	0.082	0.083	0.701*	0.131	0.004	0.000	-0.258	-0.262	0.568*	-0.314
F	119	B	-0.862	0.025	0.834	0.427	0.088	0.834*	0.032	0.041	0.004	0.000	-0.198	0.427*	-0.263	-0.218
F	120	A	-1.205	0.028	0.893	0.545	0.893*	0.049	0.031	0.023	0.004	0.000	0.545*	-0.312	-0.294	-0.253
F	121	B	-0.843	0.025	0.835	0.376	0.082	0.835*	0.039	0.040	0.004	0.000	-0.069	0.376*	-0.265	-0.293
F	122	C	0.253	0.020	0.654	0.393	0.043	0.042	0.654*	0.256	0.005	0.000	-0.239	-0.272	0.393*	-0.164
F	123	D	1.440	0.020	0.370	0.255	0.328	0.085	0.212	0.370*	0.004	0.000	-0.069	-0.217	-0.045	0.255*
F	124	B	-0.538	0.023	0.756	0.313	0.154	0.756*	0.047	0.039	0.004	0.000	-0.025	0.313*	-0.281	-0.277
F	125	A	0.673	0.020	0.563	0.369	0.563*	0.180	0.045	0.206	0.005	0.000	0.369*	-0.230	-0.285	-0.056
F	126	D	0.465	0.020	0.613	0.469	0.166	0.099	0.117	0.613*	0.005	0.000	-0.154	-0.190	-0.316	0.469*
F	127	A	3.536	0.032	0.084	0.039	0.084*	0.177	0.357	0.378	0.005	0.000	0.039*	-0.121	0.093?	0.005?
F	128	D	-0.911	0.026	0.827	0.462	0.082	0.041	0.046	0.827*	0.004	0.000	-0.201	-0.243	-0.281	0.462*
F	129	C	-0.291	0.022	0.793	0.544	0.077	0.080	0.793*	0.045	0.005	0.000	-0.328	-0.262	0.544*	-0.231

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	94	D	-0.243	0.022	0.785	0.564	0.059	0.062	0.088	0.785*	0.006	0.000	-0.208	-0.301	-0.342	0.564*
G	95	C	0.962	0.020	0.507	0.311	0.043	0.036	0.507*	0.410	0.004	0.000	-0.252	-0.285	0.311*	-0.085
G	96	A	-2.007	0.036	0.936	0.409	0.936*	0.019	0.012	0.030	0.003	0.000	0.409*	-0.213	-0.240	-0.209
G	97	B	0.384	0.020	0.645	0.473	0.269	0.645*	0.059	0.023	0.004	0.000	-0.274	0.473*	-0.272	-0.207
G	98	A	-0.922	0.026	0.849	0.471	0.849*	0.038	0.023	0.086	0.003	0.000	0.471*	-0.249	-0.267	-0.252
G	99	D	0.398	0.020	0.617	0.364	0.110	0.131	0.138	0.617*	0.004	0.000	-0.213	-0.076	-0.216	0.364*
G	100	C	0.060	0.021	0.692	0.486	0.045	0.119	0.692*	0.140	0.004	0.000	-0.256	-0.301	0.486*	-0.184
G	101	A	-1.624	0.032	0.917	0.488	0.917*	0.035	0.028	0.017	0.003	0.000	0.488*	-0.273	-0.266	-0.244
G	102	B	0.112	0.021	0.640	0.397	0.032	0.640*	0.266	0.058	0.004	0.000	-0.279	0.397*	-0.114	-0.348
G	103	C	-1.430	0.030	0.896	0.486	0.010	0.027	0.896*	0.063	0.004	0.000	-0.184	-0.236	0.486*	-0.335
G	104	B	0.703	0.020	0.555	0.351	0.105	0.555*	0.128	0.208	0.004	0.000	-0.237	0.351*	-0.143	-0.107
G	105	D	0.449	0.020	0.607	0.368	0.099	0.223	0.067	0.607*	0.004	0.000	-0.186	-0.150	-0.206	0.368*
G	106	C	-0.847	0.025	0.870	0.525	0.038	0.063	0.870*	0.026	0.004	0.000	-0.222	-0.361	0.525*	-0.230
G	107	A	-0.451	0.023	0.775	0.483	0.775*	0.055	0.036	0.131	0.004	0.000	0.483*	-0.262	-0.238	-0.261
G	108	C	1.623	0.020	0.359	0.264	0.328	0.138	0.359*	0.170	0.005	0.000	-0.116	-0.122	0.264*	-0.052
G	109	D	0.144	0.021	0.671	0.413	0.059	0.197	0.069	0.671*	0.004	0.000	-0.209	-0.179	-0.251	0.413*
G	110	A	-0.889	0.026	0.846	0.504	0.846*	0.090	0.035	0.025	0.004	0.000	0.504*	-0.246	-0.302	-0.290
G	111	D	-1.089	0.027	0.862	0.540	0.090	0.021	0.023	0.862*	0.003	0.000	-0.328	-0.273	-0.280	0.540*
G	112	B	0.620	0.020	0.552	0.194	0.164	0.552*	0.240	0.038	0.007	0.000	-0.082	0.194*	-0.030	-0.205
G	113	A	-0.868	0.025	0.846	0.492	0.846*	0.063	0.062	0.025	0.005	0.000	0.492*	-0.251	-0.291	-0.230
G	114	D	0.102	0.021	0.700	0.528	0.032	0.231	0.033	0.700*	0.004	0.000	-0.256	-0.328	-0.269	0.528*
G	115	A	1.038	0.020	0.515	0.434	0.515*	0.317	0.106	0.059	0.004	0.000	0.434*	-0.198	-0.257	-0.152
G	116	B	0.242	0.021	0.627	0.334	0.134	0.627*	0.169	0.064	0.005	0.000	-0.221	0.334*	-0.120	-0.125
G	117	C	0.344	0.020	0.586	0.294	0.137	0.162	0.586*	0.110	0.004	0.000	-0.079	-0.146	0.294*	-0.171
G	118	C	-0.525	0.023	0.819	0.577	0.091	0.049	0.819*	0.036	0.004	0.000	-0.330	-0.298	0.577*	-0.275
G	119	B	0.327	0.020	0.666	0.503	0.107	0.666*	0.106	0.117	0.004	0.000	-0.303	0.503*	-0.203	-0.220
G	120	D	-0.460	0.023	0.792	0.589	0.103	0.041	0.058	0.792*	0.004	0.000	-0.365	-0.305	-0.242	0.589*
G	121	C	-1.259	0.028	0.846	0.434	0.035	0.043	0.846*	0.072	0.004	0.000	-0.206	-0.249	0.434*	-0.221
G	122	B	0.360	0.020	0.645	0.413	0.115	0.645*	0.119	0.116	0.005	0.000	-0.190	0.413*	-0.197	-0.196
G	123	D	0.108	0.021	0.694	0.491	0.068	0.056	0.177	0.694*	0.004	0.000	-0.259	-0.257	-0.240	0.491*
G	124	A	-0.233	0.022	0.738	0.480	0.738*	0.134	0.050	0.074	0.005	0.000	0.480*	-0.283	-0.282	-0.159
G	125	B	-0.706	0.024	0.809	0.458	0.064	0.809*	0.074	0.048	0.004	0.000	-0.223	0.458*	-0.268	-0.204
G	126	D	1.481	0.020	0.387	0.304	0.127	0.265	0.216	0.387*	0.005	0.000	-0.153	-0.084	-0.120	0.304*
G	127	C	0.060	0.021	0.707	0.511	0.044	0.041	0.707*	0.203	0.004	0.000	-0.267	-0.269	0.511*	-0.282
G	128	A	-0.952	0.026	0.853	0.465	0.853*	0.091	0.032	0.020	0.004	0.000	0.465*	-0.226	-0.295	-0.265
G	129	A	-0.152	0.022	0.714	0.381	0.714*	0.055	0.148	0.078	0.005	0.000	0.381*	-0.238	-0.194	-0.138

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	94	A	-1.582	0.032	0.916	0.483	0.916*	0.029	0.019	0.031	0.005	0.000	0.483*	-0.292	-0.247	-0.218
H	95	A	-0.466	0.024	0.770	0.419	0.770*	0.165	0.031	0.029	0.005	0.000	0.419*	-0.227	-0.254	-0.227
H	96	D	1.081	0.020	0.482	0.402	0.130	0.229	0.154	0.482*	0.004	0.000	-0.073	-0.235	-0.184	0.402*
H	97	B	-0.755	0.025	0.832	0.504	0.081	0.832*	0.041	0.041	0.004	0.000	-0.324	0.504*	-0.266	-0.177
H	98	A	-1.105	0.028	0.863	0.437	0.863*	0.034	0.025	0.075	0.004	0.000	0.437*	-0.191	-0.225	-0.266
H	99	D	0.339	0.021	0.634	0.394	0.072	0.214	0.075	0.634*	0.004	0.000	-0.169	-0.178	-0.236	0.394*
H	100	C	-1.140	0.028	0.878	0.512	0.038	0.036	0.878*	0.043	0.004	0.000	-0.234	-0.282	0.512*	-0.290
H	101	B	-0.233	0.023	0.733	0.447	0.031	0.733*	0.151	0.082	0.004	0.000	-0.194	0.447*	-0.185	-0.318
H	102	C	0.617	0.020	0.608	0.538	0.086	0.230	0.608*	0.071	0.004	0.000	-0.257	-0.268	0.538*	-0.261
H	103	B	0.571	0.020	0.619	0.433	0.133	0.619*	0.060	0.183	0.005	0.000	-0.191	0.433*	-0.269	-0.183
H	104	A	0.358	0.021	0.596	0.237	0.596*	0.072	0.239	0.088	0.005	0.000	0.237*	-0.225	0.021?	-0.196
H	105	B	1.935	0.021	0.324	0.307	0.162	0.324*	0.276	0.232	0.005	0.000	-0.151	0.307*	-0.173	0.001?
H	106	D	-0.624	0.024	0.819	0.591	0.051	0.057	0.070	0.819*	0.004	0.000	-0.307	-0.279	-0.332	0.591*
H	107	D	0.518	0.020	0.565	0.228	0.108	0.173	0.150	0.565*	0.004	0.000	-0.126	-0.055	-0.119	0.228*
H	108	A	0.502	0.020	0.586	0.360	0.586*	0.096	0.073	0.240	0.004	0.000	0.360*	-0.252	-0.310	-0.026
H	109	C	0.011	0.022	0.691	0.354	0.063	0.133	0.691*	0.108	0.005	0.000	-0.133	-0.208	0.354*	-0.160
H	110	B	-0.083	0.022	0.712	0.503	0.038	0.712*	0.211	0.035	0.003	0.000	-0.263	0.503*	-0.323	-0.189
H	111	C	-0.825	0.026	0.823	0.467	0.040	0.072	0.823*	0.062	0.004	0.000	-0.248	-0.273	0.467*	-0.201
H	112	B	0.994	0.020	0.483	0.450	0.201	0.483*	0.200	0.111	0.006	0.000	-0.195	0.450*	-0.185	-0.187
H	113	B	1.327	0.020	0.424	0.302	0.171	0.424*	0.145	0.256	0.005	0.000	-0.185	0.302*	-0.101	-0.074
H	114	D	0.372	0.021	0.622	0.460	0.167	0.079	0.127	0.622*	0.005	0.000	-0.162	-0.230	-0.269	0.460*
H	115	D	-0.604	0.024	0.820	0.607	0.057	0.051	0.069	0.820*	0.004	0.000	-0.261	-0.320	-0.359	0.607*
H	116	B	-0.440	0.023	0.785	0.421	0.150	0.785*	0.032	0.029	0.004	0.000	-0.206	0.421*	-0.270	-0.242
H	117	C	-0.165	0.022	0.742	0.505	0.101	0.091	0.742*	0.062	0.005	0.000	-0.264	-0.260	0.505*	-0.230
H	118	A	-0.143	0.022	0.696	0.350	0.696*	0.048	0.224	0.027	0.004	0.000	0.350*	-0.278	-0.118	-0.246
H	119	C	-0.363	0.023	0.797	0.581	0.073	0.079	0.797*	0.046	0.004	0.000	-0.281	-0.367	0.581*	-0.234
H	120	D	-0.856	0.026	0.833	0.468	0.029	0.062	0.072	0.833*	0.004	0.000	-0.265	-0.244	-0.232	0.468*
H	121	C	0.689	0.020	0.549	0.331	0.138	0.057	0.549*	0.251	0.005	0.000	-0.199	-0.252	0.331*	-0.057
H	122	B	0.777	0.020	0.538	0.389	0.103	0.538*	0.284	0.070	0.006	0.000	-0.240	0.389*	-0.148	-0.168
H	123	B	-1.236	0.029	0.873	0.467	0.048	0.873*	0.050	0.025	0.005	0.000	-0.293	0.467*	-0.224	-0.206
H	124	A	-0.314	0.023	0.746	0.420	0.746*	0.146	0.056	0.047	0.005	0.000	0.420*	-0.204	-0.249	-0.193
H	125	D	0.153	0.021	0.704	0.392	0.047	0.158	0.087	0.704*	0.004	0.000	-0.297	-0.131	-0.201	0.392*
H	126	A	1.164	0.020	0.399	0.133	0.399*	0.238	0.142	0.214	0.005	0.000	0.133*	0.041?	-0.173	-0.022
H	127	D	-0.784	0.025	0.814	0.525	0.073	0.073	0.035	0.814*	0.005	0.001	-0.245	-0.291	-0.281	0.525*
H	128	C	-1.019	0.027	0.860	0.441	0.049	0.027	0.860*	0.060	0.005	0.000	-0.203	-0.277	0.441*	-0.223
H	129	A	-0.227	0.022	0.737	0.464	0.737*	0.201	0.039	0.017	0.006	0.000	0.464*	-0.257	-0.298	-0.226

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	94	D	-1.293	0.029	0.896	0.457	0.036	0.029	0.035	0.896*	0.004	0.000	-0.213	-0.275	-0.224	0.457*
I	95	C	-1.525	0.032	0.915	0.471	0.034	0.026	0.915*	0.021	0.003	0.000	-0.275	-0.230	0.471*	-0.237
I	96	A	-1.931	0.036	0.937	0.396	0.937*	0.024	0.030	0.006	0.003	0.000	0.396*	-0.270	-0.188	-0.168
I	97	B	-2.663	0.049	0.960	0.351	0.011	0.960*	0.015	0.011	0.003	0.000	-0.176	0.351*	-0.190	-0.169
I	98	C	-1.120	0.028	0.882	0.590	0.034	0.037	0.882*	0.044	0.003	0.000	-0.313	-0.284	0.590*	-0.341
I	99	B	-0.689	0.025	0.813	0.390	0.082	0.813*	0.063	0.036	0.005	0.000	-0.222	0.390*	-0.195	-0.179
I	100	C	1.769	0.021	0.385	0.384	0.027	0.180	0.385*	0.404	0.004	0.000	-0.272	-0.231	0.384*	-0.089
I	101	D	0.666	0.020	0.575	0.400	0.021	0.317	0.083	0.575*	0.003	0.000	-0.249	-0.191	-0.225	0.400*
I	102	C	-0.520	0.024	0.798	0.500	0.087	0.080	0.798*	0.032	0.003	0.000	-0.280	-0.247	0.500*	-0.256
I	103	B	-0.176	0.022	0.732	0.477	0.046	0.732*	0.099	0.118	0.004	0.000	-0.215	0.477*	-0.142	-0.348
I	104	C	-0.285	0.023	0.731	0.404	0.027	0.129	0.731*	0.109	0.004	0.000	-0.233	-0.215	0.404*	-0.189
I	105	B	0.778	0.020	0.534	0.315	0.218	0.534*	0.179	0.064	0.005	0.000	-0.172	0.315*	-0.061	-0.209
I	106	B	-0.606	0.024	0.803	0.434	0.068	0.803*	0.039	0.087	0.004	0.000	-0.303	0.434*	-0.245	-0.138
I	107	A	1.494	0.020	0.377	0.300	0.377*	0.323	0.150	0.144	0.006	0.000	0.300*	0.011?	-0.162	-0.234
I	108	A	0.420	0.021	0.603	0.395	0.603*	0.095	0.222	0.075	0.004	0.000	0.395*	-0.180	-0.151	-0.255
I	109	D	2.766	0.026	0.149	0.086	0.089	0.707??	0.051	0.149*	0.004	0.000	-0.180	0.167??	-0.205	0.086*
I	110	D	-0.183	0.022	0.686	0.321	0.222	0.053	0.036	0.686*	0.003	0.000	-0.083	-0.258	-0.247	0.321*
I	111	A	0.879	0.020	0.471	0.219	0.471*	0.339	0.033	0.153	0.003	0.000	0.219*	-0.076	-0.229	-0.060
I	112	D	-0.570	0.024	0.805	0.487	0.067	0.034	0.088	0.805*	0.006	0.000	-0.181	-0.317	-0.267	0.487*
I	113	D	-1.221	0.029	0.879	0.534	0.030	0.052	0.035	0.879*	0.004	0.000	-0.283	-0.273	-0.298	0.534*
I	114	A	-0.839	0.026	0.814	0.438	0.814*	0.087	0.067	0.029	0.004	0.000	0.438*	-0.259	-0.202	-0.222
I	115	C	0.291	0.021	0.640	0.366	0.018	0.324	0.640*	0.015	0.003	0.000	-0.212	-0.230	0.366*	-0.244
I	116	C	0.180	0.021	0.664	0.487	0.074	0.126	0.664*	0.134	0.003	0.000	-0.256	-0.273	0.487*	-0.183
I	117	C	1.136	0.020	0.425	0.295	0.293	0.118	0.425*	0.159	0.005	0.000	-0.136	-0.233	0.295*	0.005?
I	118	C	-0.090	0.022	0.651	0.270	0.023	0.159	0.651*	0.164	0.003	0.000	-0.277	-0.136	0.270*	-0.074
I	119	A	-0.713	0.025	0.829	0.564	0.829*	0.094	0.048	0.024	0.004	0.000	0.564*	-0.318	-0.316	-0.262
I	120	B	-0.794	0.026	0.843	0.446	0.041	0.843*	0.078	0.035	0.003	0.000	-0.245	0.446*	-0.253	-0.194
I	121	C	0.402	0.021	0.624	0.381	0.287	0.032	0.624*	0.052	0.004	0.000	-0.130	-0.282	0.381*	-0.286
I	122	B	0.213	0.021	0.657	0.410	0.062	0.657*	0.227	0.050	0.004	0.000	-0.284	0.410*	-0.129	-0.281
I	123	C	0.937	0.020	0.512	0.338	0.118	0.196	0.512*	0.169	0.005	0.000	-0.172	-0.116	0.338*	-0.149
I	124	A	-0.451	0.024	0.793	0.542	0.793*	0.053	0.067	0.083	0.004	0.000	0.542*	-0.290	-0.308	-0.241
I	125	A	0.477	0.021	0.602	0.396	0.602*	0.229	0.081	0.083	0.005	0.000	0.396*	-0.215	-0.162	-0.173
I	126	C	-0.993	0.027	0.853	0.532	0.076	0.051	0.853*	0.016	0.004	0.000	-0.272	-0.351	0.532*	-0.218
I	127	B	0.200	0.021	0.674	0.464	0.110	0.674*	0.035	0.177	0.004	0.000	-0.146	0.464*	-0.294	-0.278
I	128	B	0.746	0.020	0.521	0.135	0.027	0.521*	0.372	0.076	0.004	0.000	-0.268	0.135*	0.156?	-0.333
I	129	C	-1.201	0.029	0.851	0.430	0.054	0.058	0.851*	0.032	0.005	0.000	-0.206	-0.212	0.430*	-0.253

Appendix I: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	94	B	-0.851	0.026	0.853	0.527	0.054	0.853*	0.041	0.047	0.006	0.000	-0.297	0.527*	-0.252	-0.264
J	95	A	-0.335	0.023	0.798	0.527	0.798*	0.076	0.080	0.041	0.005	0.000	0.527*	-0.300	-0.275	-0.229
J	96	C	-1.375	0.030	0.894	0.468	0.036	0.031	0.894*	0.035	0.004	0.000	-0.254	-0.318	0.468*	-0.164
J	97	D	0.323	0.021	0.651	0.473	0.054	0.164	0.125	0.651*	0.005	0.000	-0.192	-0.221	-0.270	0.473*
J	98	C	-0.721	0.025	0.795	0.391	0.025	0.148	0.795*	0.028	0.004	0.000	-0.266	-0.204	0.391*	-0.200
J	99	B	0.321	0.021	0.610	0.202	0.141	0.610*	0.117	0.124	0.007	0.000	-0.044	0.202*	-0.058	-0.164
J	100	C	0.023	0.022	0.716	0.571	0.079	0.079	0.716*	0.121	0.005	0.000	-0.266	-0.269	0.571*	-0.314
J	101	B	-1.026	0.027	0.852	0.403	0.089	0.852*	0.018	0.038	0.004	0.000	-0.201	0.403*	-0.240	-0.231
J	102	A	-1.460	0.031	0.911	0.509	0.911*	0.041	0.024	0.020	0.004	0.000	0.509*	-0.282	-0.271	-0.259
J	103	B	-1.051	0.028	0.841	0.324	0.091	0.841*	0.030	0.033	0.004	0.000	-0.061	0.324*	-0.218	-0.285
J	104	C	0.328	0.021	0.643	0.368	0.042	0.032	0.643*	0.279	0.005	0.000	-0.212	-0.252	0.368*	-0.174
J	105	D	1.209	0.020	0.412	0.253	0.296	0.092	0.195	0.412*	0.004	0.000	-0.071	-0.210	-0.052	0.253*
J	106	B	-0.749	0.026	0.802	0.378	0.107	0.802*	0.047	0.040	0.004	0.000	-0.069	0.378*	-0.279	-0.304
J	107	A	0.507	0.021	0.592	0.376	0.592*	0.177	0.039	0.188	0.005	0.000	0.376*	-0.245	-0.298	-0.057
J	108	D	0.466	0.021	0.634	0.456	0.158	0.087	0.116	0.634*	0.005	0.000	-0.126	-0.208	-0.324	0.456*
J	109	A	3.562	0.033	0.083	0.027	0.083*	0.163	0.366	0.384	0.004	0.000	0.027*	-0.101	0.115?	-0.030
J	110	D	-1.051	0.028	0.854	0.445	0.081	0.033	0.028	0.854*	0.003	0.000	-0.221	-0.247	-0.254	0.445*
J	111	C	-0.498	0.024	0.815	0.521	0.064	0.080	0.815*	0.037	0.004	0.000	-0.310	-0.270	0.521*	-0.224
J	112	D	-0.463	0.024	0.798	0.508	0.070	0.035	0.091	0.798*	0.006	0.000	-0.212	-0.322	-0.261	0.508*
J	113	D	-1.186	0.029	0.875	0.529	0.031	0.057	0.032	0.875*	0.005	0.000	-0.269	-0.292	-0.279	0.529*
J	114	A	-0.831	0.026	0.811	0.437	0.811*	0.090	0.068	0.027	0.004	0.000	0.437*	-0.237	-0.211	-0.240
J	115	C	0.290	0.021	0.632	0.355	0.021	0.329	0.632*	0.015	0.004	0.000	-0.224	-0.212	0.355*	-0.234
J	116	C	0.263	0.021	0.651	0.470	0.067	0.140	0.651*	0.138	0.004	0.000	-0.252	-0.239	0.470*	-0.193
J	117	C	1.276	0.020	0.412	0.289	0.299	0.126	0.412*	0.157	0.006	0.000	-0.141	-0.235	0.289*	0.032?
J	118	C	0.077	0.022	0.646	0.282	0.025	0.152	0.646*	0.173	0.005	0.000	-0.298	-0.149	0.282*	-0.062
J	119	A	-0.741	0.025	0.824	0.562	0.824*	0.095	0.049	0.027	0.004	0.000	0.562*	-0.310	-0.304	-0.279
J	120	B	-0.794	0.026	0.834	0.464	0.043	0.834*	0.085	0.033	0.004	0.000	-0.257	0.464*	-0.273	-0.179
J	121	C	0.414	0.021	0.616	0.376	0.289	0.031	0.616*	0.059	0.005	0.000	-0.124	-0.247	0.376*	-0.303
J	122	B	0.250	0.021	0.667	0.422	0.063	0.667*	0.216	0.050	0.004	0.000	-0.302	0.422*	-0.129	-0.282
J	123	C	0.788	0.020	0.513	0.337	0.110	0.211	0.513*	0.161	0.005	0.000	-0.169	-0.124	0.337*	-0.146
J	124	A	-0.539	0.024	0.798	0.540	0.798*	0.054	0.066	0.077	0.005	0.000	0.540*	-0.298	-0.323	-0.214
J	125	A	0.674	0.020	0.552	0.371	0.552*	0.258	0.087	0.098	0.005	0.000	0.371*	-0.176	-0.152	-0.177
J	126	C	-0.907	0.027	0.849	0.524	0.078	0.052	0.849*	0.016	0.004	0.000	-0.278	-0.319	0.524*	-0.235
J	127	B	0.225	0.021	0.665	0.470	0.124	0.665*	0.035	0.171	0.004	0.000	-0.160	0.470*	-0.312	-0.261
J	128	B	0.745	0.020	0.541	0.164	0.028	0.541*	0.348	0.078	0.004	0.000	-0.272	0.164*	0.131?	-0.323
J	129	C	-1.145	0.028	0.852	0.449	0.052	0.059	0.852*	0.031	0.006	0.000	-0.224	-0.209	0.449*	-0.271

Appendix I: 2003 PSSA Grade Eight Item Analysis Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	94	D	-0.634	0.025	0.823	0.446	0.064	0.028	0.079	0.823*	0.006	0.000	-0.163	-0.288	-0.257	0.446*
K	95	D	-1.413	0.030	0.898	0.462	0.022	0.046	0.028	0.898*	0.005	0.000	-0.229	-0.255	-0.247	0.462*
K	96	A	-0.821	0.026	0.823	0.407	0.823*	0.083	0.067	0.024	0.004	0.000	0.407*	-0.242	-0.189	-0.208
K	97	C	0.390	0.021	0.628	0.356	0.015	0.344	0.628*	0.010	0.004	0.000	-0.195	-0.252	0.356*	-0.180
K	98	C	0.319	0.021	0.639	0.434	0.075	0.134	0.639*	0.148	0.004	0.000	-0.245	-0.201	0.434*	-0.183
K	99	C	1.128	0.020	0.434	0.295	0.299	0.117	0.434*	0.144	0.005	0.000	-0.138	-0.241	0.295*	0.014?
K	100	C	-0.016	0.022	0.659	0.257	0.017	0.145	0.659*	0.176	0.004	0.000	-0.246	-0.128	0.257*	-0.090
K	101	A	-0.668	0.025	0.822	0.546	0.822*	0.104	0.045	0.024	0.004	0.000	0.546*	-0.312	-0.311	-0.245
K	102	B	-0.933	0.026	0.857	0.419	0.036	0.857*	0.077	0.026	0.004	0.000	-0.237	0.419*	-0.249	-0.161
K	103	C	0.545	0.020	0.615	0.340	0.309	0.026	0.615*	0.045	0.004	0.000	-0.128	-0.231	0.340*	-0.279
K	104	B	0.315	0.021	0.655	0.394	0.062	0.655*	0.228	0.051	0.004	0.000	-0.263	0.394*	-0.108	-0.311
K	105	C	0.744	0.020	0.542	0.345	0.113	0.207	0.542*	0.134	0.005	0.000	-0.174	-0.135	0.345*	-0.149
K	106	A	-0.652	0.025	0.811	0.516	0.811*	0.046	0.064	0.076	0.004	0.000	0.516*	-0.266	-0.319	-0.219
K	107	A	0.561	0.020	0.577	0.384	0.577*	0.251	0.077	0.089	0.005	0.000	0.384*	-0.205	-0.122	-0.202
K	108	C	-1.121	0.028	0.870	0.479	0.071	0.042	0.870*	0.013	0.004	0.000	-0.269	-0.286	0.479*	-0.205
K	109	B	-0.003	0.022	0.694	0.467	0.109	0.694*	0.024	0.169	0.003	0.000	-0.178	0.467*	-0.269	-0.288
K	110	B	0.637	0.020	0.560	0.122	0.025	0.560*	0.339	0.073	0.004	0.000	-0.251	0.122*	0.164?	-0.341
K	111	C	-1.332	0.030	0.876	0.405	0.044	0.051	0.876*	0.026	0.003	0.000	-0.186	-0.218	0.405*	-0.235
K	112	D	-0.059	0.022	0.760	0.603	0.066	0.071	0.096	0.760*	0.007	0.000	-0.218	-0.344	-0.342	0.603*
K	113	C	0.857	0.020	0.519	0.335	0.048	0.040	0.519*	0.389	0.004	0.000	-0.251	-0.311	0.335*	-0.086
K	114	A	-1.841	0.035	0.929	0.463	0.929*	0.022	0.018	0.027	0.004	0.000	0.463*	-0.239	-0.275	-0.223
K	115	B	0.425	0.021	0.629	0.447	0.279	0.629*	0.059	0.029	0.004	0.000	-0.224	0.447*	-0.265	-0.249
K	116	A	-0.773	0.025	0.839	0.486	0.839*	0.042	0.026	0.089	0.004	0.000	0.486*	-0.277	-0.275	-0.238
K	117	D	0.565	0.020	0.591	0.379	0.115	0.138	0.152	0.591*	0.004	0.000	-0.213	-0.085	-0.217	0.379*
K	118	C	0.148	0.021	0.694	0.522	0.051	0.115	0.694*	0.135	0.005	0.000	-0.270	-0.307	0.522*	-0.208
K	119	A	-1.350	0.030	0.899	0.523	0.899*	0.045	0.030	0.021	0.004	0.000	0.523*	-0.301	-0.272	-0.255
K	120	B	0.529	0.020	0.597	0.414	0.042	0.597*	0.295	0.060	0.005	0.000	-0.308	0.414*	-0.098	-0.347
K	121	C	-1.060	0.027	0.869	0.522	0.021	0.035	0.869*	0.071	0.004	0.000	-0.253	-0.269	0.522*	-0.307
K	122	B	0.990	0.020	0.497	0.353	0.102	0.497*	0.192	0.204	0.005	0.000	-0.209	0.353*	-0.141	-0.114
K	123	D	0.692	0.020	0.563	0.374	0.113	0.237	0.082	0.563*	0.004	0.000	-0.175	-0.124	-0.238	0.374*
K	124	C	-0.746	0.025	0.856	0.555	0.042	0.067	0.856*	0.031	0.004	0.000	-0.257	-0.350	0.555*	-0.257
K	125	A	-0.303	0.023	0.753	0.492	0.753*	0.062	0.044	0.137	0.004	0.000	0.492*	-0.264	-0.264	-0.240
K	126	C	1.649	0.020	0.358	0.252	0.332	0.144	0.358*	0.161	0.004	0.000	-0.084	-0.146	0.252*	-0.048
K	127	D	0.313	0.021	0.643	0.433	0.068	0.211	0.073	0.643*	0.005	0.000	-0.243	-0.172	-0.247	0.433*
K	128	A	-0.768	0.025	0.832	0.497	0.832*	0.092	0.042	0.029	0.004	0.000	0.497*	-0.218	-0.316	-0.283
K	129	D	-0.793	0.026	0.838	0.551	0.102	0.029	0.026	0.838*	0.004	0.000	-0.323	-0.294	-0.274	0.551*

Appendix I: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
L	94	D	-0.607	0.024	0.815	0.434	0.064	0.030	0.085	0.815*	0.006	0.000	-0.166	-0.274	-0.241	0.434*
L	95	D	-1.536	0.031	0.896	0.471	0.025	0.047	0.027	0.896*	0.004	0.000	-0.255	-0.246	-0.246	0.471*
L	96	A	-0.805	0.025	0.820	0.409	0.820*	0.084	0.070	0.022	0.004	0.000	0.409*	-0.251	-0.183	-0.199
L	97	C	0.349	0.021	0.607	0.344	0.014	0.364	0.607*	0.011	0.004	0.000	-0.182	-0.236	0.344*	-0.203
L	98	C	0.331	0.021	0.637	0.443	0.076	0.141	0.637*	0.141	0.004	0.000	-0.243	-0.208	0.443*	-0.187
L	99	C	1.190	0.020	0.421	0.274	0.309	0.117	0.421*	0.147	0.005	0.000	-0.139	-0.216	0.274*	0.026?
L	100	C	-0.021	0.022	0.662	0.258	0.016	0.146	0.662*	0.172	0.004	0.000	-0.234	-0.147	0.258*	-0.078
L	101	A	-0.800	0.025	0.824	0.534	0.824*	0.109	0.041	0.021	0.004	0.000	0.534*	-0.321	-0.280	-0.250
L	102	B	-1.020	0.027	0.854	0.439	0.035	0.854*	0.084	0.023	0.004	0.000	-0.227	0.439*	-0.286	-0.152
L	103	C	0.432	0.020	0.608	0.350	0.318	0.023	0.608*	0.046	0.004	0.000	-0.137	-0.232	0.350*	-0.291
L	104	B	0.215	0.021	0.654	0.407	0.058	0.654*	0.233	0.051	0.005	0.000	-0.260	0.407*	-0.123	-0.317
L	105	C	0.795	0.020	0.535	0.346	0.114	0.216	0.535*	0.130	0.005	0.000	-0.175	-0.149	0.346*	-0.131
L	106	A	-0.697	0.025	0.804	0.505	0.804*	0.044	0.068	0.080	0.004	0.000	0.505*	-0.272	-0.292	-0.218
L	107	A	0.584	0.020	0.581	0.394	0.581*	0.250	0.077	0.085	0.006	0.000	0.394*	-0.216	-0.135	-0.190
L	108	C	-1.161	0.028	0.869	0.480	0.070	0.045	0.869*	0.012	0.004	0.000	-0.255	-0.304	0.480*	-0.204
L	109	B	0.114	0.021	0.676	0.467	0.110	0.676*	0.028	0.182	0.004	0.000	-0.170	0.467*	-0.285	-0.276
L	110	B	0.598	0.020	0.565	0.145	0.025	0.565*	0.331	0.075	0.004	0.000	-0.248	0.145*	0.152?	-0.351
L	111	C	-1.251	0.029	0.871	0.424	0.044	0.055	0.871*	0.026	0.004	0.000	-0.184	-0.243	0.424*	-0.234
L	112	A	-1.368	0.030	0.898	0.535	0.898*	0.040	0.024	0.032	0.006	0.000	0.535*	-0.327	-0.275	-0.222
L	113	A	-0.337	0.023	0.746	0.436	0.746*	0.176	0.040	0.034	0.005	0.000	0.436*	-0.201	-0.283	-0.257
L	114	D	1.131	0.020	0.459	0.387	0.124	0.248	0.164	0.459*	0.005	0.000	-0.063	-0.215	-0.180	0.387*
L	115	B	-0.656	0.024	0.824	0.518	0.091	0.824*	0.041	0.040	0.004	0.000	-0.324	0.518*	-0.251	-0.212
L	116	A	-0.954	0.026	0.851	0.487	0.851*	0.037	0.030	0.078	0.004	0.000	0.487*	-0.226	-0.266	-0.271
L	117	D	0.529	0.020	0.605	0.391	0.075	0.239	0.076	0.605*	0.006	0.000	-0.137	-0.159	-0.281	0.391*
L	118	C	-1.026	0.027	0.866	0.545	0.044	0.045	0.866*	0.040	0.005	0.000	-0.262	-0.315	0.545*	-0.273
L	119	B	-0.112	0.022	0.714	0.453	0.038	0.714*	0.160	0.083	0.005	0.000	-0.215	0.453*	-0.173	-0.314
L	120	C	0.626	0.020	0.588	0.536	0.086	0.241	0.588*	0.081	0.004	0.000	-0.252	-0.251	0.536*	-0.268
L	121	B	0.376	0.021	0.634	0.428	0.123	0.634*	0.062	0.175	0.005	0.000	-0.182	0.428*	-0.280	-0.174
L	122	A	0.455	0.020	0.584	0.262	0.584*	0.079	0.244	0.087	0.006	0.000	0.262*	-0.220	-0.007	-0.188
L	123	B	1.857	0.021	0.319	0.271	0.155	0.319*	0.246	0.274	0.006	0.000	-0.158	0.271*	-0.147	0.017?
L	124	D	-0.468	0.023	0.792	0.620	0.051	0.067	0.085	0.792*	0.005	0.000	-0.282	-0.310	-0.354	0.620*
L	125	D	0.606	0.020	0.557	0.285	0.117	0.171	0.149	0.557*	0.006	0.000	-0.144	-0.053	-0.174	0.285*
L	126	A	0.608	0.020	0.566	0.387	0.566*	0.109	0.087	0.233	0.005	0.000	0.387*	-0.265	-0.298	-0.028
L	127	C	0.068	0.021	0.670	0.357	0.064	0.148	0.670*	0.112	0.005	0.001	-0.155	-0.200	0.357*	-0.142
L	128	B	0.020	0.021	0.705	0.504	0.045	0.705*	0.207	0.038	0.005	0.000	-0.269	0.504*	-0.299	-0.207
L	129	C	-0.529	0.024	0.793	0.492	0.048	0.074	0.793*	0.079	0.006	0.000	-0.284	-0.252	0.492*	-0.217

Appendix I: 2003 PSSA Grade Eight Item Analysis
Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	26	A	-0.016	0.006	0.639	0.245	0.639*	0.043	0.081	0.230	0.007	0.000	0.245*	-0.244	-0.176	-0.023
W	27	D	0.252	0.006	0.665	0.437	0.138	0.115	0.077	0.665*	0.005	0.000	-0.248	-0.213	-0.164	0.437*
W	28	D	0.945	0.006	0.485	0.259	0.270	0.058	0.181	0.485*	0.005	0.000	0.11?	-0.124	-0.366	0.259*
W	29	C	-0.952	0.008	0.868	0.494	0.006	0.081	0.868*	0.042	0.002	0.000	-0.167	-0.404	0.494*	-0.176
W	30	A	-0.886	0.007	0.836	0.386	0.836*	0.069	0.012	0.081	0.002	0.000	0.386*	-0.162	-0.176	-0.272
W	31	C	-0.444	0.007	0.753	0.303	0.055	0.102	0.753*	0.087	0.003	0.000	-0.228	-0.080	0.303*	-0.161
W	32	B	-1.727	0.010	0.896	0.344	0.014	0.896*	0.029	0.059	0.002	0.000	-0.218	0.344*	-0.177	-0.175
W	33	A	0.788	0.006	0.513	0.313	0.513*	0.061	0.093	0.330	0.003	0.000	0.313*	-0.254	-0.229	-0.042
W	34	D	0.120	0.006	0.698	0.527	0.154	0.064	0.081	0.698*	0.003	0.000	-0.314	-0.315	-0.156	0.527*
W	35	C	-0.209	0.006	0.749	0.412	0.118	0.049	0.749*	0.080	0.004	0.000	-0.309	-0.190	0.412*	-0.109
W	36	B	-0.005	0.006	0.709	0.337	0.216	0.709*	0.017	0.055	0.003	0.000	-0.208	0.337*	-0.235	-0.126
W	37	B	0.961	0.006	0.511	0.431	0.195	0.511*	0.130	0.160	0.004	0.000	-0.109	0.431*	-0.087	-0.364
W	38	C	1.438	0.006	0.379	0.254	0.389	0.080	0.379*	0.149	0.003	0.000	-0.089	-0.196	0.254*	-0.051
W	39	C	-0.818	0.007	0.834	0.505	0.072	0.031	0.834*	0.059	0.004	0.000	-0.331	-0.209	0.505*	-0.239
W	40	D	0.973	0.006	0.443	0.203	0.186	0.333	0.034	0.443*	0.003	0.000	-0.200	0.080?	-0.283	0.203*
W	41	A	0.900	0.006	0.453	0.048	0.453*	0.204	0.078	0.260	0.004	0.000	0.048*	0.097?	-0.163	-0.023
W	42	B	-0.521	0.007	0.766	0.280	0.159	0.766*	0.037	0.034	0.003	0.000	-0.138	0.280*	-0.197	-0.115
W	43	C	-0.285	0.006	0.746	0.449	0.075	0.061	0.746*	0.115	0.004	0.000	-0.246	-0.245	0.449*	-0.197
W	44	B	-1.004	0.008	0.844	0.414	0.075	0.844*	0.060	0.018	0.003	0.000	-0.214	0.414*	-0.251	-0.182
W	45	B	-0.246	0.006	0.720	0.342	0.041	0.720*	0.217	0.018	0.004	0.000	-0.299	0.342*	-0.132	-0.225
W	46	B	0.928	0.006	0.495	0.362	0.210	0.495*	0.046	0.244	0.004	0.000	-0.223	0.362*	-0.241	-0.067
W	47	C	-1.169	0.008	0.877	0.524	0.080	0.022	0.877*	0.017	0.003	0.000	-0.345	-0.268	0.524*	-0.219
W	48	B	-0.026	0.006	0.698	0.376	0.059	0.698*	0.216	0.024	0.003	0.000	-0.232	0.376*	-0.154	-0.286
W	49	C	0.689	0.006	0.532	0.364	0.126	0.283	0.532*	0.054	0.005	0.000	-0.104	-0.179	0.364*	-0.237
W	50	A	1.042	0.006	0.475	0.294	0.475*	0.211	0.114	0.195	0.005	0.000	0.294*	0.016?	-0.179	-0.215
W	51	B	-1.118	0.008	0.858	0.410	0.055	0.858*	0.074	0.010	0.003	0.000	-0.192	0.410*	-0.265	-0.195
W	52	A	-1.740	0.010	0.919	0.518	0.919*	0.027	0.023	0.027	0.004	0.000	0.518*	-0.250	-0.282	-0.291
W	53	A	-0.641	0.007	0.797	0.517	0.797*	0.119	0.031	0.049	0.003	0.000	0.517*	-0.344	-0.188	-0.247
W	54	B	-0.391	0.007	0.748	0.467	0.087	0.748*	0.097	0.064	0.004	0.000	-0.196	0.467*	-0.300	-0.194
W	55	B	0.509	0.006	0.577	0.217	0.106	0.577*	0.147	0.165	0.005	0.000	-0.066	0.217*	-0.170	-0.043
W	56	C	-0.203	0.006	0.747	0.478	0.153	0.044	0.747*	0.052	0.004	0.000	-0.207	-0.258	0.478*	-0.309
W	57	D	-0.113	0.006	0.705	0.513	0.083	0.116	0.091	0.705*	0.005	0.000	-0.208	-0.189	-0.363	0.513*
W	58	D	1.013	0.006	0.468	0.289	0.184	0.229	0.115	0.468*	0.005	0.000	-0.209	-0.042	-0.104	0.289*
W	59	D	-0.838	0.007	0.830	0.475	0.074	0.058	0.034	0.830*	0.004	0.000	-0.207	-0.281	-0.258	0.475*
W	60	B	-0.241	0.006	0.741	0.401	0.042	0.741*	0.068	0.145	0.004	0.000	-0.283	0.401*	-0.265	-0.114
W	61	B	-0.917	0.007	0.844	0.438	0.060	0.844*	0.045	0.047	0.004	0.000	-0.246	0.438*	-0.268	-0.157

Appendix I: 2003 PSSA Grade Eight Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	156	C	-0.635	0.007	0.772	0.425	0.067	0.116	0.772*	0.041	0.004	0.000	-0.226	-0.208	0.425*	-0.235
W	157	B	1.026	0.006	0.448	0.329	0.113	0.448*	0.339	0.097	0.003	0.000	-0.101	0.329*	-0.112	-0.237
W	158	D	0.222	0.006	0.638	0.442	0.269	0.048	0.042	0.638*	0.003	0.000	-0.250	-0.212	-0.238	0.442*
W	159	C	-0.394	0.007	0.736	0.356	0.032	0.032	0.736*	0.195	0.003	0.000	-0.256	-0.308	0.356*	-0.119
W	160	D	-0.562	0.007	0.788	0.478	0.052	0.030	0.127	0.788*	0.003	0.000	-0.207	-0.319	-0.257	0.478*
W	161	D	0.675	0.006	0.528	0.232	0.187	0.238	0.042	0.528*	0.004	0.000	-0.192	0.024?	-0.211	0.232*
W	162	D	0.473	0.006	0.590	0.323	0.103	0.270	0.034	0.590*	0.003	0.000	-0.202	-0.087	-0.273	0.323*
W	163	A	-0.853	0.007	0.838	0.563	0.838*	0.085	0.037	0.036	0.003	0.000	0.563*	-0.334	-0.299	-0.253
W	164	C	-0.093	0.006	0.731	0.459	0.048	0.096	0.731*	0.123	0.003	0.000	-0.245	-0.272	0.459*	-0.187
W	165	C	-1.653	0.009	0.884	0.406	0.048	0.049	0.884*	0.016	0.003	0.000	-0.187	-0.246	0.406*	-0.221
W	166	C	-0.313	0.007	0.722	0.312	0.025	0.204	0.722*	0.045	0.003	0.000	-0.287	-0.122	0.312*	-0.172
W	167	D	0.832	0.006	0.527	0.423	0.102	0.187	0.180	0.527*	0.004	0.000	-0.208	-0.150	-0.209	0.423*
W	168	A	-0.162	0.006	0.693	0.389	0.693*	0.043	0.092	0.169	0.003	0.000	0.389*	-0.237	-0.237	-0.143
W	169	D	-0.044	0.006	0.707	0.489	0.095	0.083	0.110	0.707*	0.004	0.000	-0.222	-0.285	-0.221	0.489*
W	170	A	-0.373	0.007	0.748	0.324	0.748*	0.097	0.043	0.109	0.003	0.000	0.324*	-0.178	-0.277	-0.072
W	171	B	-1.772	0.010	0.917	0.473	0.034	0.917*	0.028	0.018	0.002	0.000	-0.240	0.473*	-0.275	-0.242
W	172	B	0.540	0.006	0.497	0.290	0.189	0.497*	0.175	0.134	0.004	0.000	-0.105	0.290*	-0.162	-0.096
W	173	B	1.238	0.006	0.429	0.335	0.409	0.429*	0.073	0.086	0.003	0.000	-0.064	0.335*	-0.245	-0.221
W	174	A	-0.720	0.007	0.830	0.443	0.830*	0.088	0.030	0.048	0.004	0.000	0.443*	-0.280	-0.231	-0.171
W	175	B	-0.515	0.007	0.794	0.445	0.038	0.794*	0.108	0.056	0.003	0.000	-0.252	0.445*	-0.197	-0.262
W	176	A	0.700	0.006	0.549	0.272	0.549*	0.298	0.066	0.083	0.004	0.000	0.272*	-0.015	-0.288	-0.166
W	177	A	-0.907	0.007	0.849	0.537	0.849*	0.053	0.060	0.035	0.004	0.000	0.537*	-0.232	-0.329	-0.280
W	178	B	0.543	0.006	0.608	0.469	0.242	0.608*	0.091	0.056	0.004	0.000	-0.206	0.469*	-0.270	-0.230
W	179	C	0.710	0.006	0.544	0.311	0.110	0.271	0.544*	0.071	0.004	0.000	-0.215	-0.018	0.311*	-0.267
W	180	B	-0.167	0.006	0.722	0.374	0.186	0.722*	0.066	0.023	0.004	0.000	-0.163	0.374*	-0.224	-0.254
W	181	C	1.387	0.006	0.381	0.210	0.037	0.032	0.381*	0.547?	0.003	0.000	-0.306	-0.296	0.210*	0.036?
W	182	A	-1.079	0.008	0.864	0.542	0.864*	0.051	0.055	0.026	0.003	0.000	0.542*	-0.278	-0.313	-0.267
W	183	C	0.141	0.006	0.657	0.343	0.123	0.032	0.657*	0.184	0.004	0.000	-0.085	-0.303	0.343*	-0.183
W	184	D	-0.713	0.007	0.816	0.545	0.037	0.033	0.110	0.816*	0.003	0.000	-0.299	-0.292	-0.292	0.545*
W	185	B	-0.641	0.007	0.827	0.457	0.086	0.827*	0.042	0.041	0.004	0.000	-0.270	0.457*	-0.250	-0.184
W	186	B	-1.116	0.008	0.858	0.505	0.054	0.858*	0.040	0.045	0.004	0.000	-0.252	0.505*	-0.296	-0.246
W	187	D	-0.147	0.006	0.700	0.446	0.031	0.082	0.183	0.700*	0.004	0.000	-0.284	-0.201	-0.229	0.446*
W	188	D	-0.555	0.007	0.808	0.549	0.049	0.056	0.084	0.808*	0.004	0.000	-0.286	-0.300	-0.269	0.549*
W	189	C	-1.280	0.008	0.883	0.512	0.054	0.033	0.883*	0.026	0.004	0.000	-0.270	-0.317	0.512*	-0.221
W	190	D	0.882	0.006	0.495	0.395	0.262	0.174	0.064	0.495*	0.005	0.000	-0.072	-0.253	-0.238	0.395*
W	191	A	1.069	0.006	0.473	0.373	0.473*	0.317	0.097	0.106	0.007	0.000	0.373*	-0.086	-0.256	-0.195

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	100	C	0.710	0.022	0.518	0.336	0.312	0.034	0.518*	0.130	0.007	0.000	-0.140	-0.201	0.336*	-0.156
A	101	B	0.196	0.022	0.626	0.413	0.064	0.626*	0.164	0.136	0.009	0.000	-0.267	0.413*	-0.092	-0.249
A	102	D	-0.770	0.026	0.789	0.543	0.087	0.072	0.047	0.789*	0.006	0.000	-0.248	-0.261	-0.330	0.543*
A	103	D	0.236	0.022	0.620	0.452	0.036	0.248	0.089	0.620*	0.006	0.000	-0.171	-0.310	-0.135	0.452*
A	104	C	-0.749	0.026	0.789	0.471	0.076	0.094	0.789*	0.035	0.007	0.000	-0.125	-0.342	0.471*	-0.238
A	105	C	-0.624	0.025	0.761	0.437	0.081	0.041	0.761*	0.112	0.006	0.000	-0.179	-0.278	0.437*	-0.213
A	106	B	-1.219	0.029	0.847	0.462	0.057	0.847*	0.065	0.021	0.009	0.000	-0.269	0.462*	-0.219	-0.239
A	107	C	-1.015	0.028	0.818	0.510	0.038	0.077	0.818*	0.061	0.006	0.000	-0.310	-0.231	0.510*	-0.251
A	108	C	1.027	0.022	0.456	0.401	0.247	0.249	0.456*	0.042	0.006	0.000	-0.117	-0.203	0.401*	-0.236
A	109	D	1.214	0.022	0.419	0.263	0.141	0.252	0.180	0.419*	0.008	0.000	0.017?	-0.105	-0.197	0.263*
A	110	B	0.380	0.022	0.587	0.394	0.213	0.587*	0.057	0.135	0.007	0.000	-0.142	0.394*	-0.264	-0.170
A	111	C	0.148	0.022	0.634	0.458	0.132	0.115	0.634*	0.112	0.007	0.000	-0.287	-0.216	0.458*	-0.124
A	112	A	-1.829	0.035	0.902	0.382	0.902*	0.027	0.033	0.032	0.006	0.000	0.382*	-0.261	-0.212	-0.107
A	113	C	-1.316	0.030	0.858	0.360	0.080	0.024	0.858*	0.031	0.007	0.000	-0.150	-0.246	0.360*	-0.184
A	114	A	-1.663	0.034	0.890	0.442	0.890*	0.026	0.041	0.037	0.006	0.000	0.442*	-0.270	-0.197	-0.218
A	115	D	-0.465	0.025	0.740	0.360	0.075	0.107	0.071	0.740*	0.007	0.000	-0.153	-0.119	-0.253	0.360*
A	116	C	-0.214	0.024	0.698	0.116	0.218	0.052	0.698*	0.026	0.006	0.000	0.159?	-0.312	0.116*	-0.217
A	117	D	-0.128	0.023	0.677	0.537	0.156	0.055	0.105	0.677*	0.006	0.000	-0.208	-0.289	-0.306	0.537*
A	118	C	0.005	0.023	0.659	0.480	0.213	0.088	0.659*	0.033	0.006	0.000	-0.279	-0.197	0.480*	-0.230
A	119	B	-0.936	0.027	0.812	0.556	0.097	0.812*	0.034	0.051	0.006	0.000	-0.284	0.556*	-0.255	-0.325
A	120	D	-0.051	0.023	0.671	0.469	0.204	0.077	0.039	0.671*	0.008	0.000	-0.188	-0.270	-0.280	0.469*
A	121	B	-0.825	0.027	0.798	0.349	0.034	0.798*	0.057	0.104	0.007	0.000	-0.187	0.349*	-0.269	-0.087
A	122	C	0.231	0.022	0.618	0.502	0.143	0.120	0.618*	0.110	0.009	0.000	-0.244	-0.193	0.502*	-0.248
A	123	D	1.143	0.022	0.427	0.236	0.060	0.338	0.166	0.427*	0.011	0.000	-0.219	0.064?	-0.208	0.236*
A	124	A	-1.142	0.029	0.834	0.544	0.834*	0.046	0.078	0.035	0.008	0.000	0.544*	-0.309	-0.283	-0.238
A	125	B	-0.341	0.024	0.721	0.495	0.067	0.721*	0.095	0.106	0.010	0.000	-0.217	0.495*	-0.326	-0.174
A	126	C	-0.456	0.025	0.745	0.291	0.082	0.037	0.745*	0.128	0.007	0.000	-0.171	-0.308	0.291*	-0.014
A	127	A	-0.148	0.023	0.677	0.436	0.677*	0.119	0.033	0.163	0.008	0.000	0.436*	-0.200	-0.286	-0.192
A	128	A	0.339	0.022	0.609	0.310	0.609*	0.126	0.164	0.093	0.007	0.000	0.310*	-0.187	-0.061	-0.170
A	129	D	0.190	0.022	0.627	0.476	0.072	0.188	0.104	0.627*	0.009	0.000	-0.215	-0.185	-0.277	0.476*
A	130	A	-0.415	0.024	0.732	0.508	0.732*	0.079	0.098	0.082	0.008	0.000	0.508*	-0.212	-0.285	-0.234
A	131	C	1.246	0.022	0.410	0.138	0.171	0.243	0.410*	0.165	0.011	0.000	-0.110	-0.095	0.138*	0.085?
A	132	A	-0.639	0.025	0.773	0.407	0.773*	0.033	0.110	0.077	0.007	0.000	0.407*	-0.313	-0.194	-0.139
A	133	B	-0.820	0.027	0.801	0.517	0.036	0.801*	0.058	0.096	0.009	0.000	-0.224	0.517*	-0.277	-0.277
A	134	D	1.131	0.022	0.430	0.330	0.159	0.271	0.132	0.430*	0.009	0.000	-0.146	-0.130	-0.103	0.330*
A	135	A	0.254	0.022	0.606	0.491	0.606*	0.060	0.100	0.225	0.008	0.000	0.491*	-0.289	-0.187	-0.233
A	136	D	1.894	0.023	0.275	0.177	0.518?	0.089	0.110	0.275*	0.008	0.000	0.071?	-0.154	-0.168	0.177*
A	137	A	-1.773	0.035	0.900	0.525	0.900*	0.034	0.035	0.023	0.008	0.000	0.525*	-0.300	-0.295	-0.206
A	138	A	0.330	0.022	0.603	0.259	0.603*	0.075	0.283	0.031	0.008	0.000	0.259*	-0.261	-0.001	-0.228
A	139	C	1.086	0.022	0.438	0.263	0.145	0.299	0.438*	0.109	0.010	0.000	-0.203	-0.004	0.263*	-0.126

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	100	C	0.658	0.021	0.533	0.342	0.299	0.036	0.533*	0.126	0.007	0.000	-0.144	-0.199	0.342*	-0.157
B	101	B	0.135	0.022	0.640	0.414	0.066	0.640*	0.154	0.132	0.008	0.000	-0.281	0.414*	-0.083	-0.243
B	102	D	-0.757	0.026	0.791	0.535	0.085	0.076	0.043	0.791*	0.006	0.000	-0.244	-0.268	-0.311	0.535*
B	103	D	0.249	0.022	0.613	0.445	0.037	0.255	0.087	0.613*	0.007	0.000	-0.187	-0.293	-0.131	0.445*
B	104	C	-0.730	0.026	0.788	0.465	0.078	0.095	0.788*	0.031	0.007	0.000	-0.127	-0.339	0.465*	-0.225
B	105	C	-0.531	0.025	0.760	0.439	0.080	0.042	0.760*	0.112	0.006	0.000	-0.177	-0.285	0.439*	-0.208
B	106	B	-1.194	0.029	0.853	0.459	0.059	0.853*	0.055	0.023	0.010	0.000	-0.259	0.459*	-0.205	-0.248
B	107	C	-0.971	0.027	0.818	0.513	0.039	0.080	0.818*	0.057	0.006	0.000	-0.314	-0.218	0.513*	-0.264
B	108	C	1.010	0.021	0.462	0.415	0.253	0.238	0.462*	0.041	0.006	0.000	-0.126	-0.209	0.415*	-0.241
B	109	D	1.207	0.021	0.420	0.259	0.144	0.254	0.175	0.420*	0.007	0.000	0.018?	-0.099	-0.199	0.259*
B	110	B	0.431	0.022	0.578	0.410	0.211	0.578*	0.064	0.140	0.008	0.000	-0.137	0.410*	-0.293	-0.167
B	111	C	0.080	0.022	0.646	0.441	0.126	0.117	0.646*	0.104	0.007	0.000	-0.295	-0.201	0.441*	-0.103
B	112	A	-1.851	0.036	0.905	0.388	0.905*	0.024	0.033	0.032	0.006	0.000	0.388*	-0.231	-0.240	-0.108
B	113	C	-1.332	0.030	0.860	0.345	0.080	0.023	0.860*	0.031	0.007	0.000	-0.138	-0.236	0.345*	-0.177
B	114	A	-1.705	0.034	0.897	0.448	0.897*	0.023	0.038	0.037	0.006	0.000	0.448*	-0.267	-0.200	-0.222
B	115	D	-0.357	0.024	0.734	0.368	0.070	0.117	0.072	0.734*	0.006	0.000	-0.131	-0.139	-0.262	0.368*
B	116	C	-0.263	0.024	0.710	0.143	0.204	0.053	0.710*	0.026	0.007	0.000	0.143?	-0.317	0.143*	-0.218
B	117	D	0.002	0.023	0.669	0.523	0.159	0.056	0.110	0.669*	0.006	0.000	-0.191	-0.280	-0.306	0.523*
B	118	C	0.074	0.022	0.654	0.482	0.217	0.088	0.654*	0.036	0.005	0.000	-0.285	-0.191	0.482*	-0.226
B	119	B	-0.872	0.027	0.806	0.538	0.099	0.806*	0.038	0.052	0.006	0.000	-0.263	0.538*	-0.272	-0.300
B	120	B	0.422	0.022	0.577	0.316	0.155	0.577*	0.227	0.032	0.009	0.000	-0.147	0.316*	-0.145	-0.141
B	121	B	0.244	0.022	0.615	0.255	0.041	0.615*	0.308	0.030	0.007	0.000	-0.178	0.255*	-0.089	-0.177
B	122	A	-0.324	0.024	0.719	0.374	0.719*	0.060	0.067	0.147	0.007	0.000	0.374*	-0.273	-0.284	-0.040
B	123	D	0.798	0.021	0.496	0.421	0.184	0.161	0.149	0.496*	0.010	0.000	-0.195	-0.168	-0.156	0.421*
B	124	A	-1.218	0.029	0.850	0.512	0.850*	0.050	0.076	0.017	0.006	0.000	0.512*	-0.312	-0.266	-0.207
B	125	C	-0.371	0.024	0.732	0.308	0.054	0.103	0.732*	0.104	0.007	0.000	-0.139	-0.229	0.308*	-0.062
B	126	D	-1.232	0.029	0.850	0.427	0.031	0.061	0.051	0.850*	0.007	0.000	-0.267	-0.171	-0.213	0.427*
B	127	A	0.378	0.022	0.588	0.457	0.588*	0.086	0.266	0.051	0.008	0.000	0.457*	-0.272	-0.166	-0.263
B	128	B	1.502	0.022	0.361	0.186	0.028	0.361*	0.584?	0.021	0.006	0.000	-0.238	0.186*	0.000?	-0.230
B	129	C	-0.440	0.024	0.734	0.505	0.179	0.035	0.734*	0.045	0.007	0.000	-0.328	-0.272	0.505*	-0.143
B	130	?	NS	NS	NS	NS	0.083	0.316	0.253	0.337	0.010	0.000	-0.175	0.121	0.036	-0.012
B	131	A	0.741	0.021	0.508	0.333	0.508*	0.317	0.125	0.043	0.007	0.000	0.333*	-0.078	-0.216	-0.200
B	132	C	-1.322	0.030	0.858	0.501	0.069	0.030	0.858*	0.035	0.007	0.000	-0.267	-0.297	0.501*	-0.209
B	133	B	-0.052	0.023	0.669	0.354	0.087	0.669*	0.081	0.154	0.009	0.000	-0.256	0.354*	-0.255	-0.020
B	134	D	1.437	0.022	0.371	0.236	0.268	0.110	0.243	0.371*	0.008	0.000	0.017?	-0.219	-0.083	0.236*
B	135	A	-0.341	0.024	0.717	0.420	0.717*	0.147	0.087	0.041	0.007	0.000	0.420*	-0.215	-0.193	-0.205
B	136	C	0.040	0.022	0.652	0.251	0.192	0.114	0.652*	0.035	0.007	0.000	-0.070	-0.153	0.251*	-0.137
B	137	D	-1.047	0.028	0.827	0.493	0.099	0.040	0.026	0.827*	0.007	0.000	-0.213	-0.313	-0.268	0.493*
B	138	D	0.137	0.022	0.639	0.520	0.133	0.112	0.108	0.639*	0.008	0.000	-0.230	-0.239	-0.249	0.520*
B	139	B	-1.259	0.030	0.854	0.516	0.060	0.854*	0.055	0.023	0.008	0.000	-0.233	0.516*	-0.314	-0.241

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	100	C	-0.774	0.026	0.794	0.393	0.045	0.052	0.794*	0.104	0.006	0.000	-0.235	-0.308	0.393*	-0.090
C	101	C	0.404	0.022	0.591	0.509	0.081	0.243	0.591*	0.078	0.006	0.000	-0.246	-0.285	0.509*	-0.171
C	102	A	-0.692	0.025	0.783	0.404	0.783*	0.108	0.071	0.031	0.007	0.000	0.404*	-0.218	-0.205	-0.179
C	103	D	-1.532	0.032	0.880	0.555	0.052	0.028	0.035	0.880*	0.005	0.000	-0.276	-0.298	-0.299	0.555*
C	104	A	-1.106	0.028	0.837	0.427	0.837*	0.047	0.062	0.046	0.007	0.000	0.427*	-0.258	-0.264	-0.115
C	105	C	0.386	0.022	0.592	0.223	0.064	0.048	0.592*	0.287	0.009	0.000	-0.295	-0.227	0.223*	0.058?
C	106	A	-0.667	0.025	0.774	0.473	0.774*	0.049	0.045	0.125	0.008	0.000	0.473*	-0.244	-0.230	-0.249
C	107	B	-1.865	0.036	0.906	0.437	0.019	0.906*	0.052	0.017	0.006	0.000	-0.211	0.437*	-0.242	-0.228
C	108	B	1.036	0.021	0.448	0.188	0.419	0.448*	0.054	0.072	0.007	0.000	0.023?	0.188*	-0.147	-0.220
C	109	D	-1.052	0.028	0.830	0.503	0.052	0.063	0.050	0.830*	0.005	0.000	-0.271	-0.259	-0.236	0.503*
C	110	C	0.566	0.021	0.555	0.421	0.087	0.212	0.555*	0.140	0.007	0.000	-0.198	-0.229	0.421*	-0.127
C	111	D	-0.551	0.025	0.759	0.447	0.110	0.087	0.038	0.759*	0.006	0.000	-0.176	-0.225	-0.301	0.447*
C	112	A	0.648	0.021	0.536	0.376	0.536*	0.250	0.101	0.106	0.008	0.000	0.376*	-0.171	-0.285	-0.037
C	113	D	0.358	0.022	0.598	0.424	0.083	0.150	0.162	0.598*	0.007	0.000	-0.262	-0.079	-0.251	0.424*
C	114	A	-1.209	0.029	0.849	0.444	0.849*	0.068	0.041	0.035	0.006	0.000	0.444*	-0.197	-0.251	-0.237
C	115	?	NS	NS	NS	NS	0.169	0.263	0.238	0.323	0.007	0.000	-0.137	0.146	-0.016	0.018
C	116	A	2.133	0.024	0.245	0.215	0.245*	0.038	0.072	0.64?	0.005	0.000	0.215*	-0.270	-0.195	0.050?
C	117	C	2.128	0.024	0.249	0.128	0.400	0.042	0.249*	0.303	0.006	0.000	0.212?	-0.201	0.128*	-0.226
C	118	D	-1.948	0.037	0.915	0.411	0.039	0.020	0.021	0.915*	0.005	0.000	-0.178	-0.235	-0.228	0.411*
C	119	A	-0.302	0.024	0.719	0.360	0.719*	0.148	0.038	0.091	0.005	0.000	0.360*	-0.135	-0.290	-0.153
C	120	C	0.729	0.021	0.520	0.325	0.298	0.040	0.520*	0.134	0.008	0.000	-0.099	-0.243	0.325*	-0.155
C	121	B	0.046	0.022	0.654	0.437	0.067	0.654*	0.130	0.140	0.009	0.000	-0.293	0.437*	-0.122	-0.221
C	122	D	-0.600	0.025	0.764	0.565	0.095	0.079	0.057	0.764*	0.006	0.000	-0.253	-0.269	-0.334	0.565*
C	123	D	0.291	0.022	0.604	0.481	0.042	0.240	0.107	0.604*	0.007	0.000	-0.206	-0.314	-0.140	0.481*
C	124	C	-0.635	0.025	0.772	0.484	0.089	0.099	0.772*	0.034	0.007	0.000	-0.169	-0.339	0.484*	-0.208
C	125	C	-0.505	0.024	0.755	0.440	0.090	0.045	0.755*	0.104	0.006	0.000	-0.167	-0.303	0.440*	-0.205
C	126	B	-1.139	0.028	0.838	0.504	0.061	0.838*	0.065	0.028	0.008	0.000	-0.285	0.504*	-0.241	-0.252
C	127	C	-0.870	0.026	0.806	0.517	0.039	0.080	0.806*	0.069	0.006	0.000	-0.297	-0.219	0.517*	-0.280
C	128	C	1.049	0.021	0.457	0.386	0.266	0.234	0.457*	0.036	0.007	0.000	-0.117	-0.205	0.386*	-0.201
C	129	D	1.303	0.021	0.394	0.238	0.173	0.251	0.172	0.394*	0.011	0.000	0.018?	-0.092	-0.178	0.238*
C	130	B	0.440	0.022	0.579	0.427	0.189	0.579*	0.067	0.158	0.007	0.000	-0.156	0.427*	-0.269	-0.180
C	131	C	0.437	0.022	0.579	0.430	0.122	0.135	0.579*	0.156	0.008	0.000	-0.258	-0.214	0.430*	-0.104
C	132	A	-1.825	0.035	0.908	0.411	0.908*	0.030	0.030	0.027	0.006	0.000	0.411*	-0.278	-0.214	-0.115
C	133	C	-1.307	0.030	0.859	0.384	0.081	0.027	0.859*	0.026	0.007	0.000	-0.181	-0.256	0.384*	-0.167
C	134	A	-1.560	0.032	0.886	0.480	0.886*	0.032	0.043	0.032	0.006	0.000	0.480*	-0.307	-0.234	-0.195
C	135	D	-0.355	0.024	0.727	0.395	0.065	0.128	0.073	0.727*	0.006	0.000	-0.174	-0.174	-0.222	0.395*
C	136	C	-0.182	0.023	0.695	0.155	0.213	0.054	0.695*	0.032	0.006	0.000	0.145?	-0.309	0.155*	-0.249
C	137	D	0.114	0.022	0.644	0.547	0.176	0.063	0.110	0.644*	0.007	0.000	-0.213	-0.285	-0.303	0.547*
C	138	C	0.088	0.022	0.644	0.489	0.213	0.098	0.644*	0.038	0.007	0.000	-0.273	-0.202	0.489*	-0.237
C	139	B	-0.745	0.026	0.783	0.562	0.105	0.783*	0.042	0.060	0.009	0.000	-0.267	0.562*	-0.262	-0.329

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	100	D	1.978	0.023	0.271	0.303	0.300	0.078	0.343	0.271*	0.007	0.000	-0.098	-0.178	-0.057	0.303*
D	101	C	-1.143	0.028	0.841	0.436	0.030	0.064	0.841*	0.058	0.006	0.000	-0.198	-0.256	0.436*	-0.208
D	102	B	0.385	0.021	0.595	0.414	0.158	0.595*	0.040	0.199	0.008	0.000	-0.244	0.414*	-0.300	-0.100
D	103	C	-0.415	0.024	0.741	0.386	0.068	0.032	0.741*	0.154	0.005	0.000	-0.186	-0.211	0.386*	-0.196
D	104	D	-1.251	0.029	0.853	0.525	0.040	0.066	0.034	0.853*	0.007	0.000	-0.291	-0.283	-0.238	0.525*
D	105	D	0.419	0.021	0.587	0.492	0.111	0.265	0.030	0.587*	0.006	0.000	-0.330	-0.197	-0.210	0.492*
D	106	B	-0.256	0.023	0.717	0.411	0.093	0.717*	0.137	0.046	0.008	0.000	-0.151	0.411*	-0.224	-0.230
D	107	D	0.988	0.021	0.468	0.472	0.044	0.445	0.037	0.468*	0.007	0.000	-0.220	-0.264	-0.231	0.472*
D	108	A	1.230	0.021	0.423	0.363	0.423*	0.308	0.142	0.118	0.008	0.000	0.363*	-0.095	-0.213	-0.143
D	109	C	-1.367	0.030	0.867	0.438	0.032	0.073	0.867*	0.024	0.005	0.000	-0.246	-0.231	0.438*	-0.206
D	110	C	-1.350	0.030	0.864	0.416	0.044	0.066	0.864*	0.020	0.006	0.000	-0.202	-0.238	0.416*	-0.191
D	111	A	0.895	0.021	0.493	0.379	0.493*	0.229	0.077	0.194	0.007	0.000	0.379*	-0.101	-0.222	-0.182
D	112	D	-1.661	0.033	0.894	0.541	0.027	0.023	0.051	0.894*	0.006	0.000	-0.234	-0.254	-0.343	0.541*
D	113	B	1.510	0.022	0.361	0.178	0.257	0.361*	0.126	0.249	0.007	0.000	-0.054	0.178*	-0.142	0.001?
D	114	B	0.705	0.021	0.529	0.276	0.207	0.529*	0.114	0.143	0.007	0.000	-0.131	0.276*	-0.034	-0.166
D	115	A	-1.543	0.032	0.885	0.437	0.885*	0.030	0.024	0.055	0.006	0.000	0.437*	-0.205	-0.263	-0.214
D	116	B	1.999	0.023	0.268	0.195	0.074	0.268*	0.043	0.610?	0.005	0.000	-0.176	0.195*	-0.215	0.036?
D	117	D	-1.284	0.029	0.858	0.511	0.042	0.059	0.036	0.858*	0.005	0.000	-0.227	-0.314	-0.239	0.511*
D	118	A	-0.674	0.025	0.780	0.326	0.780*	0.058	0.144	0.013	0.005	0.000	0.326*	-0.195	-0.157	-0.179
D	119	A	-0.056	0.023	0.679	0.319	0.679*	0.106	0.035	0.174	0.005	0.000	0.319*	-0.181	-0.264	-0.077
D	120	C	0.678	0.021	0.534	0.332	0.281	0.038	0.534*	0.140	0.008	0.000	-0.105	-0.238	0.332*	-0.165
D	121	B	0.027	0.022	0.665	0.449	0.062	0.665*	0.128	0.135	0.009	0.000	-0.293	0.449*	-0.119	-0.246
D	122	D	-0.579	0.025	0.771	0.567	0.092	0.076	0.055	0.771*	0.006	0.000	-0.250	-0.271	-0.342	0.567*
D	123	D	0.333	0.022	0.612	0.486	0.043	0.234	0.104	0.612*	0.007	0.000	-0.191	-0.312	-0.160	0.486*
D	124	C	-0.609	0.025	0.772	0.469	0.091	0.099	0.772*	0.031	0.007	0.000	-0.141	-0.349	0.469*	-0.206
D	125	C	-0.515	0.024	0.757	0.440	0.082	0.045	0.757*	0.110	0.006	0.000	-0.182	-0.293	0.440*	-0.199
D	126	B	-1.125	0.028	0.837	0.493	0.060	0.837*	0.066	0.028	0.009	0.000	-0.283	0.493*	-0.234	-0.242
D	127	C	-0.888	0.027	0.809	0.531	0.043	0.074	0.809*	0.067	0.007	0.000	-0.312	-0.232	0.531*	-0.272
D	128	C	1.008	0.021	0.471	0.400	0.257	0.226	0.471*	0.039	0.007	0.000	-0.108	-0.216	0.400*	-0.235
D	129	D	1.324	0.021	0.402	0.260	0.179	0.252	0.156	0.402*	0.011	0.000	0.034?	-0.119	-0.197	0.260*
D	130	B	0.384	0.021	0.601	0.449	0.189	0.601*	0.066	0.137	0.007	0.000	-0.172	0.449*	-0.285	-0.188
D	131	C	0.367	0.022	0.601	0.435	0.119	0.126	0.601*	0.146	0.008	0.000	-0.269	-0.197	0.435*	-0.123
D	132	A	-1.779	0.034	0.902	0.407	0.902*	0.028	0.037	0.027	0.006	0.000	0.407*	-0.268	-0.215	-0.120
D	133	C	-1.335	0.030	0.860	0.393	0.075	0.028	0.86*	0.030	0.007	0.000	-0.180	-0.266	0.393*	-0.169
D	134	A	-1.759	0.034	0.899	0.476	0.899*	0.027	0.040	0.028	0.006	0.000	0.476*	-0.283	-0.240	-0.211
D	135	D	-0.518	0.024	0.751	0.394	0.069	0.113	0.060	0.751*	0.007	0.000	-0.162	-0.154	-0.266	0.394*
D	136	C	-0.225	0.023	0.704	0.141	0.204	0.056	0.704*	0.029	0.007	0.000	0.161?	-0.315	0.141*	-0.234
D	137	D	0.073	0.022	0.659	0.541	0.166	0.060	0.107	0.659*	0.007	0.000	-0.212	-0.276	-0.306	0.541*
D	138	C	0.135	0.022	0.648	0.491	0.213	0.097	0.648*	0.035	0.006	0.000	-0.278	-0.211	0.491*	-0.222
D	139	B	-0.703	0.025	0.789	0.552	0.103	0.789*	0.042	0.057	0.009	0.000	-0.260	0.552*	-0.265	-0.320

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	100	D	-0.162	0.022	0.697	0.408	0.200	0.071	0.025	0.697*	0.007	0.000	-0.177	-0.251	-0.225	0.408*
E	101	B	-1.111	0.028	0.837	0.318	0.024	0.837*	0.047	0.086	0.005	0.000	-0.137	0.318*	-0.276	-0.075
E	102	C	0.137	0.022	0.641	0.490	0.127	0.132	0.641*	0.093	0.007	0.000	-0.242	-0.198	0.490*	-0.243
E	103	D	1.058	0.021	0.449	0.215	0.050	0.330	0.161	0.449*	0.011	0.000	-0.235	0.074?	-0.201	0.215*
E	104	A	-1.199	0.028	0.849	0.515	0.849*	0.036	0.076	0.034	0.006	0.000	0.515*	-0.257	-0.271	-0.265
E	105	B	-0.395	0.023	0.727	0.483	0.069	0.727*	0.083	0.112	0.009	0.000	-0.223	0.483*	-0.298	-0.188
E	106	C	-0.505	0.024	0.754	0.241	0.072	0.026	0.754*	0.142	0.006	0.001	-0.154	-0.261	0.241*	-0.014
E	107	A	-0.317	0.023	0.723	0.416	0.723*	0.108	0.020	0.143	0.006	0.000	0.416*	-0.209	-0.237	-0.202
E	108	A	-0.003	0.022	0.664	0.277	0.664*	0.117	0.131	0.080	0.007	0.000	0.277*	-0.173	-0.052	-0.152
E	109	D	0.124	0.022	0.640	0.398	0.075	0.180	0.096	0.640*	0.008	0.000	-0.191	-0.139	-0.236	0.398*
E	110	A	-0.673	0.025	0.781	0.488	0.781*	0.068	0.082	0.064	0.006	0.000	0.488*	-0.191	-0.302	-0.223
E	111	C	1.385	0.021	0.378	0.149	0.168	0.220	0.378*	0.225	0.009	0.000	-0.126	-0.136	0.149*	0.114?
E	112	A	-0.662	0.025	0.772	0.443	0.772*	0.025	0.113	0.083	0.006	0.000	0.443*	-0.288	-0.244	-0.169
E	113	B	-1.225	0.028	0.850	0.497	0.027	0.850*	0.044	0.073	0.007	0.000	-0.226	0.497*	-0.246	-0.284
E	114	D	0.940	0.021	0.472	0.342	0.140	0.251	0.128	0.472*	0.008	0.000	-0.152	-0.148	-0.110	0.342*
E	115	A	0.046	0.022	0.655	0.489	0.655*	0.059	0.094	0.184	0.008	0.000	0.489*	-0.266	-0.180	-0.258
E	116	D	1.909	0.023	0.278	0.182	0.541?	0.076	0.098	0.278*	0.007	0.000	0.041?	-0.136	-0.165	0.182*
E	117	A	-2.015	0.037	0.920	0.477	0.920*	0.022	0.031	0.021	0.006	0.000	0.477*	-0.240	-0.291	-0.186
E	118	A	0.359	0.021	0.594	0.243	0.594*	0.068	0.303	0.028	0.006	0.000	0.243*	-0.248	0.007?	-0.259
E	119	C	0.753	0.021	0.505	0.278	0.125	0.272	0.505*	0.089	0.009	0.001	-0.213	-0.023	0.278*	-0.144
E	120	B	-2.102	0.038	0.927	0.413	0.027	0.927*	0.023	0.017	0.006	0.000	-0.196	0.413*	-0.241	-0.177
E	121	A	-1.020	0.027	0.826	0.540	0.826*	0.059	0.039	0.069	0.006	0.000	0.540*	-0.241	-0.235	-0.335
E	122	D	-1.113	0.028	0.838	0.493	0.048	0.027	0.079	0.838*	0.006	0.000	-0.258	-0.266	-0.241	0.493*
E	123	B	-1.150	0.028	0.843	0.510	0.069	0.843*	0.024	0.058	0.006	0.000	-0.296	0.51*	-0.232	-0.248
E	124	A	-0.284	0.023	0.715	0.360	0.715*	0.195	0.047	0.036	0.007	0.000	0.360*	-0.116	-0.283	-0.208
E	125	D	1.389	0.021	0.386	0.283	0.181	0.204	0.219	0.386*	0.008	0.000	-0.104	-0.105	-0.092	0.283*
E	126	A	-0.500	0.024	0.752	0.340	0.752*	0.117	0.039	0.085	0.007	0.000	0.340*	-0.152	-0.270	-0.098
E	127	A	-1.286	0.029	0.856	0.519	0.856*	0.060	0.053	0.024	0.006	0.000	0.519*	-0.255	-0.319	-0.209
E	128	C	1.311	0.021	0.397	0.329	0.105	0.043	0.397*	0.447	0.008	0.000	-0.118	-0.272	0.329*	-0.105
E	129	C	1.063	0.021	0.446	0.130	0.040	0.305	0.446*	0.199	0.009	0.000	-0.227	0.009?	0.130*	-0.018
E	130	D	0.961	0.021	0.473	0.420	0.085	0.095	0.338	0.473*	0.008	0.000	-0.272	-0.278	-0.073	0.420*
E	131	C	1.125	0.021	0.427	0.373	0.157	0.207	0.427*	0.200	0.010	0.000	-0.106	-0.238	0.373*	-0.080
E	132	D	-0.665	0.025	0.774	0.578	0.065	0.050	0.104	0.774*	0.007	0.000	-0.247	-0.289	-0.325	0.578*
E	133	B	-0.325	0.023	0.721	0.429	0.095	0.721*	0.065	0.112	0.007	0.000	-0.212	0.429*	-0.309	-0.115
E	134	C	-0.599	0.024	0.769	0.521	0.030	0.128	0.769*	0.065	0.008	0.000	-0.280	-0.330	0.521*	-0.176
E	135	B	-1.008	0.027	0.827	0.499	0.081	0.827*	0.040	0.045	0.007	0.000	-0.231	0.499*	-0.303	-0.233
E	136	C	2.731	0.027	0.160	0.146	0.057	0.094	0.160*	0.682?	0.007	0.000	-0.278	-0.114	0.146*	0.134?
E	137	A	-1.020	0.027	0.833	0.310	0.833*	0.047	0.058	0.055	0.007	0.000	0.310*	-0.197	-0.148	-0.093
E	138	D	-1.110	0.028	0.842	0.521	0.081	0.045	0.025	0.842*	0.007	0.000	-0.261	-0.299	-0.247	0.521*
E	139	B	-0.855	0.026	0.803	0.492	0.129	0.803*	0.039	0.021	0.007	0.000	-0.266	0.492*	-0.286	-0.227

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
F	100	B	0.481	0.021	0.580	0.283	0.166	0.580*	0.215	0.033	0.006	0.000	-0.126	0.283*	-0.143	-0.128
F	101	B	0.016	0.022	0.665	0.207	0.035	0.665*	0.271	0.024	0.005	0.000	-0.134	0.207*	-0.074	-0.182
F	102	A	-0.569	0.024	0.768	0.339	0.768*	0.045	0.057	0.125	0.004	0.000	0.339*	-0.228	-0.282	-0.056
F	103	D	0.800	0.021	0.513	0.417	0.184	0.163	0.133	0.513*	0.008	0.000	-0.216	-0.175	-0.141	0.417*
F	104	A	-1.291	0.029	0.854	0.466	0.854*	0.048	0.078	0.015	0.005	0.000	0.466*	-0.258	-0.268	-0.207
F	105	C	-0.566	0.024	0.764	0.291	0.047	0.089	0.764*	0.094	0.006	0.000	-0.127	-0.223	0.291*	-0.073
F	106	D	-1.566	0.032	0.884	0.371	0.022	0.048	0.042	0.884*	0.004	0.000	-0.239	-0.147	-0.202	0.371*
F	107	A	0.303	0.021	0.609	0.432	0.609*	0.078	0.262	0.044	0.008	0.000	0.432*	-0.236	-0.189	-0.257
F	108	B	1.462	0.021	0.364	0.199	0.020	0.364*	0.596?	0.015	0.004	0.000	-0.205	0.199*	-0.064	-0.197
F	109	C	-0.711	0.025	0.790	0.477	0.151	0.022	0.790*	0.032	0.005	0.000	-0.353	-0.233	0.477*	-0.122
F	110	?	NS	NS	NS	NS	0.068	0.342	0.239	0.342	0.008	0.000	-0.173	0.138	0.029	-0.047
F	111	A	0.860	0.021	0.485	0.287	0.485*	0.390	0.092	0.028	0.005	0.000	0.287*	-0.110	-0.187	-0.148
F	112	C	-1.288	0.029	0.856	0.441	0.079	0.020	0.856*	0.040	0.005	0.000	-0.224	-0.258	0.441*	-0.236
F	113	B	0.252	0.021	0.613	0.341	0.080	0.613*	0.087	0.215	0.006	0.000	-0.256	0.341*	-0.232	-0.046
F	114	D	1.224	0.021	0.419	0.291	0.168	0.107	0.298	0.419*	0.007	0.000	-0.086	-0.174	-0.100	0.291*
F	115	A	-0.361	0.023	0.729	0.381	0.729*	0.133	0.090	0.043	0.005	0.000	0.381*	-0.199	-0.167	-0.204
F	116	C	-0.018	0.022	0.666	0.235	0.200	0.099	0.666*	0.031	0.004	0.000	-0.086	-0.147	0.235*	-0.119
F	117	D	-1.058	0.027	0.834	0.443	0.106	0.035	0.019	0.834*	0.005	0.000	-0.215	-0.285	-0.243	0.443*
F	118	D	0.106	0.022	0.652	0.513	0.120	0.107	0.115	0.652*	0.005	0.000	-0.236	-0.232	-0.261	0.513*
F	119	B	-1.360	0.030	0.864	0.491	0.054	0.864*	0.055	0.022	0.006	0.000	-0.218	0.491*	-0.314	-0.238
F	120	D	0.915	0.021	0.490	0.243	0.048	0.090	0.365	0.490*	0.006	0.000	-0.296	-0.185	0.021?	0.243*
F	121	A	-0.296	0.023	0.725	0.514	0.725*	0.097	0.133	0.038	0.006	0.000	0.514*	-0.272	-0.247	-0.265
F	122	C	-0.741	0.025	0.786	0.541	0.082	0.084	0.786*	0.040	0.006	0.001	-0.262	-0.305	0.541*	-0.254
F	123	B	-0.415	0.024	0.744	0.463	0.061	0.744*	0.161	0.026	0.007	0.000	-0.274	0.463*	-0.218	-0.261
F	124	C	-0.530	0.024	0.758	0.502	0.078	0.129	0.758*	0.029	0.006	0.000	-0.348	-0.209	0.502*	-0.220
F	125	C	-1.248	0.029	0.849	0.609	0.062	0.042	0.849*	0.042	0.005	0.000	-0.356	-0.316	0.609*	-0.274
F	126	A	0.084	0.022	0.656	0.419	0.656*	0.213	0.086	0.039	0.007	0.000	0.419*	-0.175	-0.241	-0.239
F	127	D	-0.324	0.023	0.722	0.308	0.082	0.063	0.126	0.722*	0.007	0.000	-0.139	-0.126	-0.167	0.308*
F	128	B	-0.322	0.023	0.726	0.504	0.087	0.726*	0.063	0.115	0.009	0.000	-0.189	0.504*	-0.220	-0.323
F	129	A	-1.306	0.029	0.857	0.537	0.857*	0.064	0.044	0.029	0.006	0.000	0.537*	-0.320	-0.280	-0.226
F	130	B	0.673	0.021	0.538	0.444	0.111	0.538*	0.233	0.110	0.007	0.000	-0.177	0.444*	-0.178	-0.243
F	131	A	0.372	0.021	0.596	0.405	0.596*	0.111	0.133	0.153	0.007	0.000	0.405*	-0.157	-0.201	-0.186
F	132	C	-0.101	0.022	0.687	0.301	0.073	0.149	0.687*	0.084	0.007	0.000	-0.198	-0.176	0.301*	-0.042
F	133	A	1.069	0.021	0.447	0.449	0.447*	0.219	0.111	0.216	0.007	0.000	0.449*	-0.191	-0.250	-0.124
F	134	A	0.434	0.021	0.584	0.359	0.584*	0.063	0.160	0.186	0.007	0.000	0.359*	-0.227	-0.197	-0.093
F	135	D	0.645	0.021	0.538	0.394	0.070	0.279	0.105	0.538*	0.008	0.000	-0.122	-0.182	-0.224	0.394*
F	136	D	0.979	0.021	0.472	0.332	0.076	0.097	0.348	0.472*	0.007	0.000	-0.093	-0.227	-0.125	0.332*
F	137	C	-1.307	0.029	0.860	0.445	0.034	0.046	0.860*	0.053	0.006	0.000	-0.219	-0.256	0.445*	-0.204
F	138	B	1.131	0.021	0.439	0.299	0.142	0.439*	0.194	0.218	0.007	0.000	-0.114	0.299*	-0.183	-0.053
F	139	B	-1.510	0.031	0.876	0.494	0.050	0.876*	0.049	0.018	0.007	0.000	-0.294	0.494*	-0.233	-0.247

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	100	B	0.120	0.022	0.636	0.487	0.210	0.636*	0.078	0.069	0.006	0.000	-0.380	0.487*	-0.142	-0.114
G	101	A	-0.837	0.026	0.795	0.298	0.795*	0.110	0.031	0.059	0.005	0.000	0.298*	-0.131	-0.218	-0.123
G	102	B	-0.113	0.022	0.683	0.456	0.241	0.683*	0.039	0.029	0.007	0.000	-0.286	0.456*	-0.253	-0.167
G	103	C	-1.364	0.029	0.864	0.513	0.024	0.065	0.864*	0.042	0.005	0.000	-0.260	-0.357	0.513*	-0.179
G	104	D	-0.602	0.024	0.762	0.579	0.085	0.038	0.110	0.762*	0.004	0.000	-0.263	-0.242	-0.366	0.579*
G	105	B	-0.746	0.025	0.787	0.331	0.065	0.787*	0.058	0.083	0.006	0.000	-0.177	0.331*	-0.194	-0.121
G	106	B	-1.073	0.027	0.828	0.491	0.040	0.828*	0.059	0.067	0.005	0.000	-0.215	0.491*	-0.267	-0.268
G	107	D	0.435	0.021	0.574	0.125	0.087	0.076	0.257	0.574*	0.005	0.000	-0.216	-0.241	0.174?	0.125*
G	108	A	0.415	0.021	0.586	0.438	0.586*	0.144	0.099	0.158	0.012	0.000	0.438*	-0.171	-0.157	-0.261
G	109	D	-1.531	0.031	0.876	0.502	0.086	0.017	0.017	0.876*	0.004	0.000	-0.327	-0.236	-0.241	0.502*
G	110	C	0.713	0.021	0.516	0.387	0.111	0.231	0.516*	0.136	0.006	0.000	-0.186	-0.263	0.387*	-0.033
G	111	D	0.193	0.021	0.620	0.447	0.059	0.166	0.149	0.620*	0.006	0.000	-0.255	-0.176	-0.220	0.447*
G	112	C	0.936	0.021	0.474	0.334	0.094	0.213	0.474*	0.213	0.006	0.000	-0.204	-0.017	0.334*	-0.211
G	113	A	0.489	0.021	0.572	0.324	0.572*	0.159	0.100	0.161	0.008	0.000	0.324*	-0.205	-0.138	-0.083
G	114	D	-0.689	0.025	0.769	0.450	0.033	0.031	0.162	0.769*	0.004	0.000	-0.213	-0.258	-0.255	0.450*
G	115	A	0.136	0.022	0.634	0.360	0.634*	0.229	0.098	0.033	0.005	0.000	0.360*	-0.097	-0.291	-0.183
G	116	B	1.938	0.023	0.275	0.203	0.68?	0.275*	0.026	0.015	0.004	0.000	-0.035	0.203*	-0.233	-0.200
G	117	D	-0.853	0.026	0.801	0.387	0.107	0.049	0.039	0.801*	0.004	0.000	-0.131	-0.245	-0.250	0.387*
G	118	A	-1.788	0.034	0.903	0.418	0.903*	0.061	0.020	0.011	0.004	0.000	0.418*	-0.213	-0.280	-0.193
G	119	D	0.259	0.021	0.614	0.502	0.065	0.210	0.107	0.614*	0.005	0.000	-0.255	-0.247	-0.220	0.502*
G	120	C	-0.883	0.026	0.804	0.416	0.039	0.059	0.804*	0.093	0.005	0.000	-0.225	-0.330	0.416*	-0.100
G	121	C	0.441	0.021	0.572	0.515	0.087	0.245	0.572*	0.090	0.006	0.000	-0.244	-0.276	0.515*	-0.182
G	122	A	-0.669	0.025	0.775	0.425	0.775*	0.101	0.083	0.035	0.007	0.000	0.425*	-0.231	-0.212	-0.188
G	123	D	-1.385	0.030	0.865	0.588	0.055	0.035	0.039	0.865*	0.006	0.000	-0.291	-0.306	-0.322	0.588*
G	124	A	-1.027	0.027	0.824	0.455	0.824*	0.054	0.067	0.050	0.005	0.000	0.455*	-0.293	-0.250	-0.141
G	125	C	0.366	0.021	0.582	0.212	0.065	0.058	0.582*	0.287	0.008	0.000	-0.299	-0.254	0.212*	0.093?
G	126	A	-0.481	0.024	0.747	0.495	0.747*	0.051	0.060	0.137	0.006	0.000	0.495*	-0.265	-0.261	-0.235
G	127	B	-1.708	0.033	0.894	0.452	0.025	0.894*	0.056	0.020	0.005	0.000	-0.210	0.452*	-0.251	-0.248
G	128	B	1.206	0.021	0.417	0.198	0.443	0.417*	0.055	0.078	0.007	0.001	0.042?	0.198*	-0.178	-0.235
G	129	D	-0.885	0.026	0.805	0.531	0.054	0.076	0.058	0.805*	0.006	0.000	-0.291	-0.257	-0.262	0.531*
G	130	C	0.443	0.021	0.575	0.410	0.109	0.196	0.575*	0.114	0.006	0.000	-0.206	-0.186	0.410*	-0.158
G	131	D	-0.230	0.023	0.703	0.440	0.123	0.120	0.048	0.703*	0.007	0.000	-0.186	-0.186	-0.302	0.440*
G	132	A	0.729	0.021	0.522	0.350	0.522*	0.259	0.088	0.124	0.007	0.000	0.350*	-0.192	-0.256	-0.009
G	133	D	0.502	0.021	0.557	0.442	0.110	0.186	0.141	0.557*	0.006	0.000	-0.230	-0.106	-0.264	0.442*
G	134	A	-1.085	0.027	0.832	0.480	0.832*	0.076	0.050	0.036	0.006	0.000	0.480*	-0.216	-0.285	-0.243
G	135	?	NS	NS	NS	NS	0.178	0.312	0.280	0.227	0.007	0.000	-0.156	0.172	0.037	-0.051
G	136	A	2.246	0.024	0.227	0.246	0.227*	0.039	0.063	0.665?	0.006	0.000	0.246*	-0.289	-0.248	0.061?
G	137	C	1.968	0.023	0.269	0.168	0.369	0.047	0.269*	0.308	0.007	0.000	0.164?	-0.236	0.168*	-0.190
G	138	D	-1.735	0.033	0.895	0.513	0.037	0.033	0.028	0.895*	0.006	0.000	-0.225	-0.305	-0.267	0.513*
G	139	A	-0.188	0.023	0.701	0.386	0.701*	0.159	0.045	0.088	0.007	0.000	0.386*	-0.142	-0.297	-0.164

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	100	A	-1.796	0.034	0.905	0.469	0.905*	0.040	0.021	0.026	0.007	0.000	0.469*	-0.288	-0.196	-0.207
H	101	C	-0.431	0.024	0.738	0.390	0.068	0.161	0.738*	0.025	0.008	0.000	-0.245	-0.176	0.390*	-0.169
H	102	B	-1.142	0.028	0.841	0.517	0.096	0.841*	0.034	0.022	0.007	0.000	-0.313	0.517*	-0.265	-0.198
H	103	A	-0.500	0.024	0.753	0.346	0.753*	0.042	0.036	0.162	0.007	0.000	0.346*	-0.265	-0.256	-0.080
H	104	D	-1.173	0.028	0.848	0.577	0.060	0.018	0.067	0.848*	0.006	0.000	-0.290	-0.274	-0.329	0.577*
H	105	C	-0.672	0.025	0.781	0.540	0.107	0.050	0.781*	0.055	0.006	0.000	-0.288	-0.286	0.540*	-0.232
H	106	B	0.551	0.021	0.557	0.293	0.276	0.557*	0.077	0.081	0.009	0.000	-0.031	0.293*	-0.187	-0.230
H	107	A	-0.531	0.024	0.758	0.496	0.758*	0.103	0.037	0.095	0.007	0.000	0.496*	-0.154	-0.226	-0.354
H	108	D	-0.486	0.024	0.751	0.465	0.059	0.090	0.087	0.751*	0.013	0.000	-0.247	-0.240	-0.194	0.465*
H	109	A	-0.108	0.022	0.687	0.435	0.687*	0.060	0.116	0.130	0.008	0.000	0.435*	-0.208	-0.114	-0.289
H	110	D	1.637	0.022	0.331	0.267	0.107	0.332	0.221	0.331*	0.008	0.000	-0.172	-0.099	-0.016	0.267*
H	111	C	0.372	0.021	0.596	0.207	0.025	0.193	0.596*	0.180	0.006	0.000	-0.219	0.120?	0.207*	-0.248
H	112	B	1.613	0.022	0.340	0.267	0.211	0.340*	0.411	0.031	0.007	0.000	-0.146	0.267*	-0.011	-0.239
H	113	A	1.819	0.022	0.296	0.074	0.296*	0.105	0.173	0.416	0.010	0.000	0.074*	-0.149	-0.166	0.190?
H	114	B	-1.336	0.030	0.853	0.484	0.047	0.853*	0.071	0.023	0.007	0.000	-0.243	0.484*	-0.238	-0.265
H	115	D	-0.499	0.024	0.756	0.397	0.043	0.102	0.090	0.756*	0.009	0.000	-0.277	-0.095	-0.231	0.397*
H	116	A	-1.572	0.032	0.885	0.435	0.885*	0.037	0.023	0.048	0.007	0.000	0.435*	-0.288	-0.219	-0.152
H	117	D	-0.545	0.024	0.761	0.395	0.150	0.024	0.058	0.761*	0.007	0.000	-0.127	-0.252	-0.282	0.395*
H	118	B	-0.684	0.025	0.787	0.492	0.031	0.787*	0.148	0.028	0.007	0.000	-0.226	0.492*	-0.293	-0.235
H	119	A	-0.858	0.026	0.809	0.505	0.809*	0.145	0.020	0.020	0.007	0.000	0.505*	-0.321	-0.243	-0.229
H	120	D	1.860	0.022	0.285	0.280	0.313	0.081	0.311	0.285*	0.011	0.000	-0.044	-0.192	-0.072	0.280*
H	121	C	-0.880	0.026	0.810	0.475	0.035	0.079	0.810*	0.068	0.008	0.000	-0.225	-0.265	0.475*	-0.210
H	122	B	0.312	0.021	0.603	0.403	0.143	0.603*	0.048	0.197	0.008	0.000	-0.236	0.403*	-0.330	-0.055
H	123	C	-0.640	0.025	0.769	0.466	0.052	0.036	0.769*	0.135	0.008	0.000	-0.228	-0.263	0.466*	-0.219
H	124	D	-0.995	0.027	0.822	0.582	0.045	0.078	0.046	0.822*	0.008	0.000	-0.310	-0.309	-0.259	0.582*
H	125	D	0.359	0.021	0.596	0.501	0.107	0.246	0.044	0.596*	0.008	0.000	-0.304	-0.175	-0.270	0.501*
H	126	B	-0.068	0.022	0.684	0.415	0.109	0.684*	0.151	0.047	0.009	0.000	-0.174	0.415*	-0.183	-0.243
H	127	D	1.088	0.021	0.439	0.431	0.048	0.462	0.043	0.439*	0.008	0.001	-0.226	-0.183	-0.264	0.431*
H	128	A	1.149	0.021	0.425	0.356	0.425*	0.293	0.161	0.109	0.011	0.000	0.356*	-0.057	-0.210	-0.160
H	129	C	-1.253	0.029	0.853	0.480	0.037	0.073	0.853*	0.028	0.008	0.000	-0.253	-0.241	0.480*	-0.224
H	130	C	-1.146	0.028	0.841	0.468	0.051	0.074	0.841*	0.025	0.009	0.000	-0.235	-0.242	0.468*	-0.214
H	131	A	0.889	0.021	0.483	0.363	0.483*	0.262	0.084	0.161	0.010	0.000	0.363*	-0.101	-0.247	-0.127
H	132	D	-1.372	0.030	0.868	0.611	0.036	0.035	0.053	0.868*	0.008	0.000	-0.289	-0.322	-0.320	0.611*
H	133	B	1.347	0.021	0.394	0.221	0.249	0.394*	0.126	0.222	0.009	0.000	-0.061	0.221*	-0.178	-0.003
H	134	B	0.653	0.021	0.542	0.286	0.177	0.542*	0.124	0.148	0.009	0.000	-0.153	0.286*	-0.050	-0.129
H	135	A	-1.461	0.031	0.875	0.513	0.875*	0.038	0.027	0.052	0.008	0.000	0.513*	-0.280	-0.278	-0.222
H	136	B	2.065	0.023	0.254	0.217	0.068	0.254*	0.059	0.610?	0.009	0.000	-0.185	0.217*	-0.281	0.084?
H	137	D	-1.342	0.030	0.860	0.564	0.038	0.059	0.035	0.860*	0.008	0.000	-0.259	-0.330	-0.253	0.564*
H	138	A	-0.393	0.024	0.740	0.322	0.740*	0.085	0.151	0.015	0.009	0.000	0.322*	-0.162	-0.141	-0.191
H	139	A	-0.085	0.022	0.680	0.353	0.680*	0.100	0.043	0.167	0.009	0.000	0.353*	-0.156	-0.306	-0.088

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	100	B	-2.445	0.044	0.947	0.327	0.020	0.947*	0.017	0.011	0.005	0.000	-0.159	0.327*	-0.162	-0.152
I	101	A	-1.258	0.029	0.856	0.509	0.856*	0.052	0.033	0.054	0.005	0.000	0.509*	-0.258	-0.210	-0.310
I	102	D	-1.128	0.028	0.836	0.481	0.037	0.018	0.102	0.836*	0.006	0.000	-0.231	-0.236	-0.288	0.481*
I	103	B	-1.629	0.033	0.889	0.420	0.041	0.889*	0.016	0.049	0.005	0.000	-0.234	0.420*	-0.216	-0.205
I	104	A	-0.411	0.024	0.738	0.328	0.738*	0.186	0.038	0.032	0.006	0.000	0.328*	-0.115	-0.263	-0.192
I	105	D	1.536	0.022	0.357	0.243	0.173	0.223	0.236	0.357*	0.011	0.000	-0.087	-0.084	-0.078	0.243*
I	106	A	-0.634	0.025	0.774	0.301	0.774*	0.106	0.031	0.083	0.006	0.000	0.301*	-0.145	-0.239	-0.092
I	107	A	-1.549	0.032	0.880	0.501	0.88*	0.051	0.043	0.020	0.005	0.000	0.501*	-0.229	-0.320	-0.226
I	108	C	1.194	0.021	0.420	0.329	0.100	0.029	0.420*	0.445	0.006	0.000	-0.130	-0.222	0.329*	-0.146
I	109	C	0.993	0.021	0.477	0.115	0.032	0.286	0.477*	0.197	0.009	0.000	-0.184	-0.021	0.115*	-0.004
I	110	D	0.893	0.021	0.489	0.418	0.112	0.094	0.297	0.489*	0.008	0.000	-0.246	-0.285	-0.072	0.418*
I	111	C	0.976	0.021	0.471	0.400	0.143	0.198	0.471*	0.178	0.009	0.000	-0.121	-0.260	0.400*	-0.101
I	112	D	-1.127	0.028	0.835	0.541	0.046	0.035	0.080	0.835*	0.005	0.000	-0.218	-0.269	-0.342	0.541*
I	113	B	-0.066	0.023	0.670	0.378	0.114	0.670*	0.062	0.147	0.007	0.000	-0.184	0.378*	-0.287	-0.099
I	114	C	-0.420	0.024	0.741	0.498	0.025	0.140	0.741*	0.087	0.006	0.000	-0.254	-0.324	0.498*	-0.184
I	115	B	-1.030	0.027	0.826	0.461	0.093	0.826*	0.035	0.040	0.005	0.000	-0.245	0.461*	-0.256	-0.212
I	116	C	2.871	0.029	0.144	0.147	0.052	0.080	0.144*	0.718?	0.005	0.000	-0.268	-0.094	0.147*	0.107?
I	117	A	-1.092	0.028	0.833	0.265	0.833*	0.045	0.057	0.060	0.006	0.000	0.265*	-0.188	-0.119	-0.076
I	118	D	-1.384	0.030	0.868	0.476	0.068	0.037	0.022	0.868*	0.005	0.000	-0.250	-0.258	-0.240	0.476*
I	119	B	-1.175	0.028	0.837	0.483	0.112	0.837*	0.029	0.016	0.006	0.000	-0.295	0.483*	-0.279	-0.182
I	120	C	0.683	0.021	0.525	0.306	0.268	0.036	0.525*	0.162	0.008	0.000	-0.082	-0.214	0.306*	-0.160
I	121	B	0.164	0.022	0.639	0.431	0.077	0.639*	0.145	0.129	0.009	0.000	-0.291	0.431*	-0.108	-0.219
I	122	D	-0.572	0.025	0.763	0.563	0.097	0.081	0.053	0.763*	0.006	0.000	-0.266	-0.259	-0.328	0.563*
I	123	D	0.341	0.021	0.596	0.498	0.046	0.247	0.104	0.596*	0.008	0.000	-0.209	-0.323	-0.145	0.498*
I	124	C	-0.666	0.025	0.769	0.477	0.092	0.099	0.769*	0.034	0.007	0.000	-0.149	-0.346	0.477*	-0.213
I	125	C	-0.482	0.024	0.757	0.427	0.089	0.045	0.757*	0.104	0.006	0.000	-0.172	-0.281	0.427*	-0.198
I	126	B	-1.151	0.028	0.831	0.476	0.065	0.831*	0.068	0.027	0.009	0.000	-0.277	0.476*	-0.207	-0.253
I	127	C	-0.876	0.026	0.808	0.518	0.040	0.080	0.808*	0.066	0.006	0.000	-0.309	-0.224	0.518*	-0.267
I	128	C	1.067	0.021	0.451	0.389	0.264	0.238	0.451*	0.039	0.007	0.000	-0.092	-0.207	0.389*	-0.248
I	129	D	1.355	0.021	0.392	0.239	0.177	0.248	0.172	0.392*	0.011	0.000	0.027?	-0.089	-0.192	0.239*
I	130	B	0.411	0.021	0.589	0.418	0.180	0.589*	0.064	0.159	0.008	0.000	-0.177	0.418*	-0.289	-0.137
I	131	C	0.166	0.022	0.624	0.452	0.134	0.116	0.624*	0.119	0.008	0.000	-0.283	-0.203	0.452*	-0.126
I	132	A	-1.743	0.034	0.897	0.416	0.897*	0.033	0.037	0.026	0.007	0.000	0.416*	-0.266	-0.204	-0.145
I	133	C	-1.207	0.029	0.851	0.400	0.081	0.031	0.851*	0.031	0.007	0.000	-0.183	-0.253	0.400*	-0.186
I	134	A	-1.567	0.032	0.885	0.481	0.885*	0.031	0.045	0.032	0.007	0.000	0.481*	-0.289	-0.236	-0.209
I	135	D	-0.367	0.024	0.733	0.399	0.079	0.114	0.068	0.733*	0.006	0.000	-0.172	-0.145	-0.268	0.399*
I	136	C	-0.115	0.023	0.695	0.167	0.209	0.058	0.695*	0.030	0.007	0.000	0.142?	-0.320	0.167*	-0.243
I	137	D	0.043	0.022	0.656	0.555	0.169	0.060	0.109	0.656*	0.006	0.000	-0.198	-0.310	-0.319	0.555*
I	138	C	0.132	0.022	0.641	0.493	0.216	0.100	0.641*	0.036	0.007	0.000	-0.290	-0.193	0.493*	-0.226
I	139	B	-0.805	0.026	0.797	0.555	0.099	0.797*	0.042	0.052	0.009	0.000	-0.280	0.555*	-0.262	-0.306

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	100	D	0.652	0.021	0.537	0.253	0.044	0.091	0.323	0.537*	0.005	0.000	-0.305	-0.209	0.021?	0.253*
J	101	A	-0.576	0.025	0.773	0.478	0.773*	0.077	0.120	0.024	0.006	0.000	0.478*	-0.268	-0.251	-0.221
J	102	C	-0.857	0.027	0.810	0.545	0.076	0.074	0.810*	0.034	0.005	0.000	-0.280	-0.312	0.545*	-0.244
J	103	B	-0.576	0.025	0.767	0.426	0.055	0.767*	0.153	0.019	0.006	0.000	-0.241	0.426*	-0.226	-0.228
J	104	C	-0.767	0.026	0.799	0.479	0.068	0.102	0.799*	0.025	0.005	0.000	-0.341	-0.193	0.479*	-0.220
J	105	C	-1.348	0.030	0.867	0.596	0.061	0.030	0.867*	0.037	0.004	0.000	-0.375	-0.267	0.596*	-0.284
J	106	A	0.137	0.022	0.642	0.407	0.642*	0.232	0.087	0.033	0.006	0.000	0.407*	-0.155	-0.267	-0.229
J	107	D	-0.711	0.026	0.780	0.288	0.065	0.047	0.101	0.780*	0.007	0.000	-0.130	-0.117	-0.163	0.288*
J	108	B	-0.336	0.024	0.725	0.518	0.091	0.725*	0.058	0.118	0.008	0.000	-0.202	0.518*	-0.182	-0.359
J	109	A	-1.534	0.032	0.885	0.490	0.885*	0.046	0.041	0.023	0.005	0.000	0.490*	-0.275	-0.271	-0.211
J	110	B	0.677	0.021	0.536	0.433	0.102	0.536*	0.237	0.119	0.006	0.000	-0.191	0.433*	-0.160	-0.236
J	111	A	0.057	0.022	0.655	0.425	0.655*	0.082	0.125	0.132	0.005	0.000	0.425*	-0.179	-0.206	-0.211
J	112	C	-0.182	0.023	0.701	0.279	0.066	0.130	0.701*	0.097	0.006	0.000	-0.155	-0.204	0.279*	-0.028
J	113	A	0.989	0.021	0.465	0.461	0.465*	0.208	0.100	0.221	0.007	0.000	0.461*	-0.188	-0.257	-0.153
J	114	A	0.545	0.021	0.562	0.301	0.562*	0.056	0.170	0.206	0.006	0.000	0.301*	-0.192	-0.171	-0.069
J	115	D	0.663	0.021	0.536	0.392	0.064	0.289	0.105	0.536*	0.006	0.000	-0.092	-0.217	-0.201	0.392*
J	116	D	0.865	0.021	0.492	0.279	0.101	0.084	0.318	0.492*	0.005	0.000	-0.007	-0.167	-0.167	0.279*
J	117	C	-0.934	0.027	0.820	0.402	0.033	0.048	0.820*	0.095	0.004	0.000	-0.193	-0.291	0.402*	-0.153
J	118	B	1.054	0.021	0.452	0.318	0.129	0.452*	0.210	0.205	0.005	0.000	-0.131	0.318*	-0.178	-0.073
J	119	B	-1.552	0.032	0.887	0.466	0.056	0.887*	0.040	0.013	0.005	0.000	-0.293	0.466*	-0.218	-0.220
J	120	C	0.714	0.021	0.529	0.316	0.272	0.039	0.529*	0.154	0.007	0.000	-0.080	-0.252	0.316*	-0.164
J	121	B	0.153	0.022	0.638	0.439	0.071	0.638*	0.148	0.134	0.009	0.000	-0.284	0.439*	-0.117	-0.239
J	122	D	-0.577	0.025	0.769	0.556	0.095	0.077	0.054	0.769*	0.005	0.000	-0.247	-0.274	-0.328	0.556*
J	123	D	0.451	0.022	0.586	0.486	0.049	0.254	0.104	0.586*	0.006	0.000	-0.203	-0.310	-0.147	0.486*
J	124	C	-0.625	0.025	0.773	0.492	0.087	0.103	0.773*	0.030	0.006	0.000	-0.163	-0.358	0.492*	-0.210
J	125	C	-0.546	0.025	0.761	0.431	0.085	0.042	0.761*	0.107	0.005	0.000	-0.179	-0.297	0.431*	-0.192
J	126	B	-1.149	0.029	0.839	0.488	0.056	0.839*	0.070	0.026	0.008	0.000	-0.284	0.488*	-0.228	-0.252
J	127	C	-0.857	0.027	0.813	0.526	0.041	0.078	0.813*	0.062	0.005	0.000	-0.308	-0.234	0.526*	-0.273
J	128	C	1.046	0.021	0.463	0.391	0.259	0.237	0.463*	0.035	0.006	0.000	-0.107	-0.216	0.391*	-0.227
J	129	D	1.338	0.022	0.394	0.243	0.178	0.249	0.169	0.394*	0.010	0.000	0.052?	-0.105	-0.210	0.243*
J	130	B	0.325	0.022	0.612	0.435	0.176	0.612*	0.065	0.140	0.006	0.000	-0.173	0.435*	-0.289	-0.172
J	131	C	0.373	0.022	0.592	0.442	0.150	0.134	0.592*	0.117	0.007	0.000	-0.288	-0.199	0.442*	-0.097
J	132	A	-1.698	0.034	0.895	0.405	0.895*	0.032	0.038	0.029	0.006	0.000	0.405*	-0.276	-0.211	-0.118
J	133	C	-1.212	0.029	0.849	0.395	0.084	0.028	0.849*	0.032	0.007	0.000	-0.183	-0.257	0.395*	-0.185
J	134	A	-1.558	0.032	0.886	0.488	0.886*	0.031	0.043	0.034	0.006	0.000	0.488*	-0.292	-0.250	-0.208
J	135	D	-0.514	0.025	0.754	0.416	0.061	0.103	0.075	0.754*	0.006	0.000	-0.196	-0.161	-0.256	0.416*
J	136	C	-0.061	0.023	0.683	0.137	0.224	0.059	0.683*	0.027	0.006	0.000	0.166?	-0.344	0.137*	-0.222
J	137	D	0.042	0.022	0.664	0.545	0.152	0.062	0.116	0.664*	0.006	0.000	-0.182	-0.301	-0.321	0.545*
J	138	C	0.077	0.022	0.656	0.488	0.205	0.097	0.656*	0.036	0.006	0.000	-0.263	-0.227	0.488*	-0.228
J	139	B	-0.703	0.026	0.790	0.554	0.101	0.790*	0.043	0.057	0.008	0.000	-0.270	0.554*	-0.265	-0.314

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	100	C	0.708	0.021	0.522	0.320	0.315	0.031	0.522*	0.126	0.006	0.000	-0.135	-0.191	0.320*	-0.154
K	101	B	0.111	0.022	0.641	0.405	0.068	0.641*	0.156	0.129	0.007	0.000	-0.272	0.405*	-0.084	-0.243
K	102	D	-0.763	0.026	0.791	0.532	0.081	0.074	0.050	0.791*	0.004	0.000	-0.236	-0.262	-0.324	0.532*
K	103	D	0.217	0.022	0.623	0.455	0.034	0.249	0.090	0.623*	0.005	0.000	-0.173	-0.315	-0.140	0.455*
K	104	C	-0.773	0.026	0.795	0.444	0.077	0.089	0.795*	0.033	0.006	0.000	-0.114	-0.333	0.444*	-0.229
K	105	C	-0.598	0.025	0.760	0.411	0.081	0.042	0.760*	0.113	0.004	0.000	-0.168	-0.280	0.411*	-0.193
K	106	B	-1.308	0.030	0.858	0.456	0.054	0.858*	0.059	0.021	0.008	0.000	-0.268	0.456*	-0.211	-0.242
K	107	C	-1.013	0.028	0.822	0.509	0.038	0.076	0.822*	0.060	0.005	0.000	-0.301	-0.215	0.509*	-0.279
K	108	C	1.004	0.021	0.465	0.395	0.250	0.241	0.465*	0.039	0.005	0.000	-0.117	-0.210	0.395*	-0.223
K	109	D	1.120	0.022	0.432	0.240	0.142	0.243	0.176	0.432*	0.006	0.000	0.022?	-0.084	-0.203	0.240*
K	110	B	0.481	0.022	0.574	0.410	0.217	0.574*	0.062	0.141	0.005	0.000	-0.142	0.410*	-0.287	-0.177
K	111	C	0.132	0.022	0.639	0.457	0.131	0.117	0.639*	0.108	0.005	0.000	-0.301	-0.211	0.457*	-0.119
K	112	A	-1.829	0.035	0.908	0.376	0.908*	0.025	0.032	0.032	0.004	0.000	0.376*	-0.230	-0.246	-0.098
K	113	C	-1.410	0.031	0.865	0.342	0.080	0.019	0.865*	0.031	0.005	0.000	-0.136	-0.232	0.342*	-0.205
K	114	A	-1.783	0.035	0.902	0.438	0.902*	0.024	0.036	0.033	0.005	0.000	0.438*	-0.274	-0.189	-0.224
K	115	D	-0.435	0.024	0.738	0.370	0.077	0.111	0.070	0.738*	0.005	0.000	-0.164	-0.130	-0.252	0.370*
K	116	C	-0.282	0.024	0.710	0.120	0.207	0.051	0.710*	0.027	0.005	0.000	0.158?	-0.306	0.120*	-0.229
K	117	D	-0.110	0.023	0.685	0.509	0.159	0.050	0.101	0.685*	0.005	0.000	-0.198	-0.268	-0.305	0.509*
K	118	C	0.032	0.023	0.662	0.487	0.215	0.085	0.662*	0.033	0.005	0.000	-0.294	-0.195	0.487*	-0.229
K	119	B	-1.021	0.028	0.817	0.524	0.097	0.817*	0.032	0.049	0.004	0.000	-0.264	0.524*	-0.254	-0.305
K	120	B	0.000	0.023	0.660	0.480	0.166	0.660*	0.087	0.079	0.008	0.000	-0.312	0.480*	-0.212	-0.137
K	121	A	-0.566	0.025	0.757	0.341	0.757*	0.125	0.041	0.071	0.006	0.000	0.341*	-0.144	-0.249	-0.135
K	122	B	0.080	0.023	0.648	0.470	0.256	0.648*	0.053	0.035	0.007	0.000	-0.255	0.470*	-0.279	-0.198
K	123	C	-1.162	0.029	0.843	0.546	0.030	0.071	0.843*	0.050	0.006	0.000	-0.266	-0.360	0.546*	-0.211
K	124	D	-0.409	0.024	0.733	0.600	0.096	0.052	0.113	0.733*	0.006	0.000	-0.278	-0.261	-0.349	0.600*
K	125	B	-0.678	0.026	0.775	0.354	0.071	0.775*	0.062	0.086	0.006	0.000	-0.195	0.354*	-0.213	-0.112
K	126	B	-0.944	0.027	0.813	0.494	0.047	0.813*	0.068	0.066	0.006	0.000	-0.225	0.494*	-0.271	-0.247
K	127	D	0.537	0.022	0.558	0.161	0.090	0.079	0.267	0.558*	0.007	0.000	-0.230	-0.250	0.155?	0.161*
K	128	A	0.431	0.022	0.577	0.473	0.577*	0.148	0.109	0.152	0.014	0.000	0.473*	-0.193	-0.188	-0.249
K	129	D	-1.266	0.030	0.854	0.552	0.091	0.025	0.025	0.854*	0.006	0.000	-0.339	-0.269	-0.257	0.552*
K	130	C	0.856	0.021	0.492	0.387	0.128	0.194	0.492*	0.178	0.008	0.000	-0.190	-0.250	0.387*	-0.040
K	131	D	0.245	0.022	0.617	0.474	0.059	0.156	0.161	0.617*	0.006	0.000	-0.243	-0.223	-0.205	0.474*
K	132	C	1.008	0.021	0.453	0.351	0.114	0.228	0.453*	0.198	0.006	0.000	-0.245	-0.045	0.351*	-0.155
K	133	A	0.440	0.022	0.581	0.385	0.581*	0.146	0.101	0.163	0.009	0.000	0.385*	-0.234	-0.197	-0.087
K	134	D	-0.327	0.024	0.716	0.484	0.042	0.038	0.198	0.716*	0.006	0.000	-0.233	-0.265	-0.263	0.484*
K	135	A	0.266	0.022	0.608	0.346	0.608*	0.241	0.105	0.039	0.007	0.000	0.346*	-0.079	-0.284	-0.167
K	136	B	1.913	0.023	0.274	0.199	0.663?	0.274*	0.037	0.019	0.006	0.000	0.014?	0.199*	-0.261	-0.221
K	137	D	-0.545	0.025	0.754	0.393	0.138	0.057	0.044	0.754*	0.006	0.000	-0.114	-0.246	-0.273	0.393*
K	138	A	-1.644	0.033	0.884	0.451	0.884*	0.073	0.021	0.015	0.006	0.000	0.451*	-0.243	-0.263	-0.222
K	139	D	0.271	0.022	0.615	0.497	0.068	0.194	0.116	0.615*	0.007	0.000	-0.249	-0.257	-0.193	0.497*

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
L	100	C	0.694	0.022	0.526	0.345	0.301	0.038	0.526*	0.127	0.007	0.000	-0.142	-0.219	0.345*	-0.152
L	101	B	0.165	0.023	0.636	0.412	0.066	0.636*	0.157	0.132	0.008	0.000	-0.273	0.412*	-0.099	-0.236
L	102	D	-0.772	0.027	0.789	0.540	0.085	0.074	0.048	0.789*	0.005	0.000	-0.254	-0.258	-0.319	0.540*
L	103	D	0.242	0.022	0.622	0.440	0.034	0.249	0.089	0.622*	0.006	0.000	-0.178	-0.308	-0.118	0.440*
L	104	C	-0.803	0.027	0.793	0.447	0.075	0.094	0.793*	0.031	0.006	0.000	-0.116	-0.338	0.447*	-0.218
L	105	C	-0.557	0.025	0.761	0.436	0.081	0.039	0.761*	0.114	0.005	0.000	-0.166	-0.281	0.436*	-0.227
L	106	B	-1.260	0.030	0.853	0.473	0.057	0.853*	0.060	0.020	0.009	0.000	-0.289	0.473*	-0.222	-0.229
L	107	C	-0.980	0.028	0.823	0.523	0.037	0.073	0.823*	0.062	0.005	0.000	-0.309	-0.224	0.523*	-0.287
L	108	C	0.923	0.022	0.475	0.404	0.240	0.241	0.475*	0.037	0.006	0.001	-0.113	-0.230	0.404*	-0.212
L	109	D	1.160	0.022	0.424	0.258	0.142	0.253	0.172	0.424*	0.008	0.000	0.017??	-0.108	-0.188	0.258*
L	110	B	0.393	0.022	0.585	0.396	0.217	0.585*	0.059	0.131	0.007	0.000	-0.130	0.396*	-0.283	-0.172
L	111	C	0.081	0.023	0.647	0.458	0.127	0.112	0.647*	0.107	0.007	0.000	-0.303	-0.204	0.458*	-0.124
L	112	A	-1.872	0.037	0.909	0.377	0.909*	0.024	0.031	0.030	0.006	0.000	0.377*	-0.243	-0.232	-0.091
L	113	C	-1.355	0.031	0.862	0.342	0.084	0.022	0.862*	0.026	0.006	0.000	-0.137	-0.238	0.342*	-0.190
L	114	A	-1.736	0.035	0.898	0.420	0.898*	0.023	0.040	0.033	0.005	0.000	0.420*	-0.264	-0.202	-0.185
L	115	D	-0.447	0.025	0.744	0.359	0.068	0.110	0.072	0.744*	0.006	0.000	-0.148	-0.126	-0.254	0.359*
L	116	C	-0.263	0.024	0.705	0.128	0.210	0.049	0.705*	0.030	0.006	0.000	0.157??	-0.299	0.128*	-0.246
L	117	D	-0.094	0.023	0.679	0.529	0.163	0.052	0.101	0.679*	0.006	0.000	-0.202	-0.289	-0.313	0.529*
L	118	C	0.060	0.023	0.654	0.478	0.217	0.089	0.654*	0.035	0.005	0.000	-0.284	-0.187	0.478*	-0.233
L	119	B	-0.918	0.028	0.813	0.542	0.102	0.813*	0.033	0.047	0.005	0.000	-0.293	0.542*	-0.226	-0.321
L	120	A	-1.239	0.030	0.842	0.546	0.842*	0.064	0.040	0.048	0.006	0.000	0.546*	-0.332	-0.260	-0.241
L	121	C	-0.256	0.024	0.716	0.377	0.070	0.179	0.716*	0.027	0.007	0.000	-0.244	-0.176	0.377	-0.153
L	122	B	-0.954	0.028	0.812	0.556	0.109	0.812*	0.044	0.029	0.006	0.000	-0.323	0.556*	-0.309	-0.227
L	123	A	-0.427	0.025	0.732	0.371	0.732*	0.048	0.047	0.167	0.006	0.000	0.371*	-0.258	-0.286	-0.088
L	124	D	-0.951	0.028	0.815	0.609	0.077	0.027	0.076	0.815*	0.006	0.000	-0.332	-0.303	-0.315	0.609*
L	125	C	-0.612	0.026	0.766	0.551	0.109	0.059	0.766*	0.059	0.006	0.001	-0.292	-0.304	0.551*	-0.229
L	126	B	0.439	0.022	0.579	0.309	0.259	0.579*	0.077	0.077	0.007	0.000	-0.050	0.309*	-0.218	-0.214
L	127	A	-0.531	0.025	0.756	0.537	0.756*	0.099	0.045	0.093	0.006	0.000	0.537*	-0.182	-0.276	-0.352
L	128	D	-0.339	0.024	0.727	0.505	0.058	0.099	0.104	0.727*	0.012	0.000	-0.234	-0.268	-0.240	0.505*
L	129	A	0.034	0.023	0.662	0.447	0.662*	0.079	0.125	0.126	0.007	0.000	0.447*	-0.253	-0.109	-0.272
L	130	D	1.367	0.022	0.382	0.288	0.114	0.274	0.220	0.382*	0.009	0.000	-0.191	-0.107	-0.038	0.288*
L	131	C	0.481	0.022	0.575	0.231	0.032	0.195	0.575*	0.192	0.007	0.000	-0.252	0.086?	0.231*	-0.221
L	132	B	1.613	0.023	0.341	0.250	0.209	0.341*	0.416	0.028	0.007	0.000	-0.167	0.250*	0.004?	-0.224
L	133	A	1.777	0.023	0.304	0.086	0.304*	0.088	0.179	0.422	0.008	0.000	0.086*	-0.215	-0.174	0.211?
L	134	B	-1.140	0.029	0.840	0.503	0.052	0.840*	0.077	0.025	0.006	0.000	-0.255	0.503*	-0.272	-0.245
L	135	D	-0.651	0.026	0.775	0.429	0.043	0.099	0.076	0.775*	0.007	0.001	-0.303	-0.142	-0.219	0.429*
L	136	A	-1.527	0.033	0.875	0.477	0.875*	0.043	0.027	0.048	0.006	0.000	0.477*	-0.316	-0.261	-0.160
L	137	D	-0.404	0.025	0.738	0.424	0.158	0.034	0.063	0.738*	0.007	0.000	-0.127	-0.304	-0.280	0.424*
L	138	B	-0.615	0.026	0.765	0.504	0.037	0.765*	0.159	0.033	0.006	0.000	-0.237	0.504*	-0.292	-0.255
L	139	A	-0.824	0.027	0.794	0.524	0.794*	0.150	0.025	0.024	0.007	0.000	0.524*	-0.327	-0.269	-0.237

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	26	D	0.353	0.006	0.604	0.171	0.094	0.028	0.270	0.604*	0.004	0.000	-0.165	-0.240	0.032?	0.171*
W	27	C	0.608	0.006	0.540	0.328	0.084	0.245	0.540*	0.119	0.012	0.000	-0.190	-0.260	0.328*	0.030?
W	28	D	-0.898	0.008	0.810	0.281	0.088	0.072	0.026	0.810*	0.004	0.000	-0.146	-0.119	-0.179	0.281*
W	29	A	1.129	0.006	0.434	0.343	0.434*	0.272	0.160	0.130	0.004	0.001	0.343*	-0.140	-0.245	-0.025
W	30	D	0.394	0.006	0.593	0.339	0.112	0.147	0.139	0.593*	0.009	0.000	-0.193	-0.128	-0.141	0.339*
W	31	C	0.101	0.006	0.646	0.306	0.054	0.083	0.646*	0.210	0.006	0.000	-0.261	-0.214	0.306*	-0.042
W	32	A	0.800	0.006	0.501	0.151	0.501*	0.287	0.175	0.034	0.004	0.000	0.151*	0.083?	-0.181	-0.191
W	33	B	0.546	0.006	0.553	0.298	0.222	0.553*	0.102	0.118	0.005	0.000	-0.009	0.298*	-0.378	-0.058
W	34	A	0.525	0.006	0.559	0.293	0.559*	0.340	0.073	0.024	0.003	0.000	0.293*	-0.137	-0.167	-0.178
W	35	A	0.026	0.006	0.656	0.491	0.656*	0.080	0.149	0.110	0.005	0.000	0.491*	-0.255	-0.267	-0.189
W	36	A	-1.577	0.009	0.878	0.473	0.878*	0.049	0.052	0.018	0.003	0.000	0.473*	-0.237	-0.294	-0.211
W	37	B	1.280	0.006	0.404	0.032	0.194	0.404*	0.309	0.090	0.003	0.000	-0.044	0.032*	0.145?	-0.192
W	38	C	0.588	0.006	0.555	0.243	0.240	0.097	0.555*	0.104	0.004	0.000	-0.110	-0.171	0.243*	-0.044
W	39	A	0.896	0.006	0.483	0.317	0.483*	0.208	0.178	0.127	0.004	0.000	0.317*	-0.039	-0.256	-0.104
W	40	B	-0.727	0.007	0.787	0.382	0.017	0.787*	0.123	0.069	0.003	0.000	-0.198	0.382*	-0.202	-0.213
W	41	D	-1.314	0.009	0.858	0.533	0.060	0.023	0.055	0.858*	0.004	0.000	-0.338	-0.266	-0.240	0.533*
W	42	B	-1.084	0.008	0.830	0.374	0.040	0.830*	0.088	0.039	0.003	0.000	-0.240	0.374*	-0.215	-0.113
W	43	B	0.270	0.006	0.616	0.216	0.224	0.616*	0.133	0.022	0.005	0.000	-0.092	0.216*	-0.087	-0.179
W	44	D	-0.515	0.007	0.755	0.344	0.081	0.076	0.083	0.755*	0.004	0.000	-0.149	-0.188	-0.168	0.344*
W	45	C	0.558	0.006	0.548	0.224	0.080	0.195	0.548*	0.173	0.004	0.000	-0.204	-0.121	0.224*	0.008?
W	46	C	1.411	0.006	0.374	0.371	0.082	0.097	0.374*	0.440	0.008	0.000	-0.206	-0.116	0.371*	-0.158
W	47	B	-0.789	0.007	0.794	0.508	0.147	0.794*	0.033	0.022	0.003	0.000	-0.305	0.508*	-0.298	-0.226
W	48	C	-0.562	0.007	0.757	0.503	0.098	0.102	0.757*	0.037	0.005	0.000	-0.301	-0.212	0.503*	-0.267
W	49	C	-0.131	0.007	0.696	0.343	0.146	0.034	0.696*	0.115	0.008	0.000	-0.152	-0.220	0.343*	-0.166
W	50	A	0.686	0.006	0.522	0.391	0.522*	0.170	0.205	0.098	0.005	0.000	0.391*	-0.128	-0.203	-0.180
W	51	B	-0.378	0.007	0.731	0.397	0.155	0.731*	0.078	0.032	0.005	0.000	-0.183	0.397*	-0.227	-0.213
W	52	D	0.180	0.006	0.623	0.425	0.197	0.052	0.124	0.623*	0.004	0.000	-0.146	-0.299	-0.210	0.425*
W	53	A	-0.581	0.007	0.763	0.491	0.763*	0.062	0.097	0.072	0.005	0.000	0.491*	-0.281	-0.231	-0.232
W	54	A	-0.571	0.007	0.761	0.482	0.761*	0.075	0.081	0.076	0.006	0.000	0.482*	-0.216	-0.248	-0.253
W	55	C	-0.800	0.008	0.791	0.521	0.062	0.101	0.791*	0.041	0.005	0.000	-0.289	-0.252	0.521*	-0.269
W	56	D	0.370	0.006	0.579	0.370	0.060	0.132	0.222	0.579*	0.007	0.000	-0.244	-0.133	-0.162	0.370*
W	57	C	0.472	0.006	0.576	0.338	0.066	0.104	0.576*	0.247	0.005	0.000	-0.241	-0.184	0.338*	-0.089
W	58	B	1.124	0.006	0.433	0.361	0.309	0.433*	0.115	0.138	0.005	0.000	-0.075	0.361*	-0.247	-0.154
W	59	C	-0.492	0.007	0.754	0.403	0.071	0.107	0.754*	0.063	0.006	0.000	-0.249	-0.195	0.403*	-0.153
W	60	B	0.050	0.006	0.661	0.372	0.159	0.661*	0.110	0.065	0.004	0.000	-0.135	0.372*	-0.200	-0.210
W	61	C	0.663	0.006	0.522	0.156	0.308	0.051	0.522*	0.114	0.005	0.000	0.093?	-0.307	0.156*	-0.127
W	62	C	1.496	0.006	0.359	0.106	0.344	0.219	0.359*	0.073	0.006	0.000	0.098?	-0.079	0.106*	-0.200
W	63	B	-0.180	0.007	0.695	0.414	0.076	0.695*	0.075	0.149	0.005	0.000	-0.279	0.414*	-0.199	-0.143
W	64	C	0.782	0.006	0.494	0.356	0.283	0.128	0.494*	0.090	0.005	0.000	-0.030	-0.252	0.356*	-0.238
W	65	A	-0.643	0.007	0.779	0.472	0.779*	0.111	0.058	0.047	0.005	0.000	0.472*	-0.239	-0.270	-0.215

Appendix J: 2003 PSSA Grade Eleven Item Analysis

Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	166	B	-2.038	0.011	0.921	0.378	0.050	0.921*	0.017	0.009	0.003	0.000	-0.210	0.378*	-0.222	-0.186
W	167	B	-0.915	0.008	0.806	0.508	0.061	0.806*	0.108	0.020	0.005	0.000	-0.216	0.508*	-0.344	-0.225
W	168	B	0.947	0.006	0.468	0.244	0.391	0.468*	0.099	0.037	0.004	0.000	0.029?	0.244*	-0.255	-0.262
W	169	D	0.213	0.006	0.611	0.232	0.042	0.311	0.032	0.611*	0.003	0.001	-0.214	-0.034	-0.256	0.232*
W	170	D	-0.046	0.007	0.664	0.468	0.135	0.076	0.120	0.664*	0.005	0.000	-0.150	-0.269	-0.272	0.468*
W	171	D	-0.098	0.007	0.682	0.469	0.058	0.136	0.120	0.682*	0.004	0.000	-0.204	-0.267	-0.214	0.469*
W	172	D	-0.199	0.007	0.693	0.435	0.085	0.142	0.075	0.693*	0.006	0.000	-0.224	-0.173	-0.257	0.435*
W	173	C	-1.045	0.008	0.826	0.613	0.050	0.073	0.826*	0.046	0.004	0.000	-0.319	-0.352	0.613*	-0.285
W	174	B	0.892	0.006	0.468	0.324	0.087	0.468*	0.250	0.190	0.005	0.000	-0.213	0.324*	-0.144	-0.073
W	175	D	0.226	0.006	0.626	0.412	0.244	0.074	0.052	0.626*	0.004	0.000	-0.109	-0.321	-0.261	0.412*
W	176	A	0.704	0.006	0.524	0.397	0.524*	0.271	0.151	0.049	0.004	0.000	0.397*	-0.150	-0.253	-0.137
W	177	C	-1.423	0.009	0.866	0.577	0.057	0.028	0.866*	0.046	0.003	0.000	-0.345	-0.275	0.577*	-0.291
W	178	A	-1.477	0.009	0.872	0.481	0.872*	0.043	0.061	0.021	0.004	0.000	0.481*	-0.266	-0.277	-0.211
W	179	B	0.551	0.006	0.551	0.465	0.245	0.551*	0.100	0.099	0.006	0.000	-0.212	0.465*	-0.309	-0.122
W	180	B	0.249	0.006	0.609	0.403	0.309	0.609*	0.033	0.045	0.004	0.000	-0.184	0.403*	-0.314	-0.216
W	181	A	0.435	0.006	0.569	0.381	0.569*	0.148	0.154	0.126	0.003	0.000	0.381*	-0.167	-0.121	-0.227
W	182	C	-0.976	0.008	0.823	0.498	0.041	0.027	0.823*	0.104	0.003	0.000	-0.318	-0.282	0.498*	-0.227
W	183	A	-0.087	0.007	0.705	0.358	0.705*	0.047	0.056	0.188	0.003	0.001	0.358*	-0.188	-0.201	-0.170
W	184	A	-0.988	0.008	0.815	0.532	0.815*	0.063	0.067	0.051	0.003	0.000	0.532*	-0.295	-0.300	-0.221
W	185	D	-1.054	0.008	0.825	0.392	0.076	0.063	0.032	0.825*	0.004	0.000	-0.171	-0.182	-0.276	0.392*
W	186	A	-0.988	0.008	0.821	0.442	0.821*	0.094	0.047	0.033	0.005	0.000	0.442*	-0.255	-0.285	-0.130
W	187	A	-1.608	0.009	0.881	0.585	0.881*	0.052	0.035	0.027	0.004	0.000	0.585*	-0.345	-0.315	-0.258
W	188	C	-0.898	0.008	0.819	0.451	0.027	0.086	0.819*	0.063	0.004	0.000	-0.278	-0.198	0.451*	-0.251
W	189	A	-0.257	0.007	0.701	0.521	0.701*	0.073	0.076	0.142	0.007	0.000	0.521*	-0.301	-0.266	-0.219
W	190	B	-0.221	0.007	0.694	0.528	0.167	0.694*	0.064	0.072	0.004	0.000	-0.351	0.528*	-0.219	-0.188
W	191	A	-0.371	0.007	0.735	0.564	0.735*	0.071	0.131	0.058	0.005	0.000	0.564*	-0.330	-0.289	-0.233
W	192	C	-1.132	0.008	0.826	0.414	0.083	0.050	0.826*	0.037	0.004	0.000	-0.215	-0.203	0.414*	-0.219
W	193	B	-1.531	0.009	0.876	0.531	0.031	0.876*	0.057	0.031	0.004	0.000	-0.236	0.531*	-0.330	-0.265
W	194	B	-1.744	0.010	0.893	0.568	0.032	0.893*	0.043	0.027	0.005	0.000	-0.297	0.568*	-0.324	-0.281
W	195	C	0.244	0.006	0.619	0.276	0.048	0.036	0.619*	0.290	0.006	0.000	-0.297	-0.304	0.276*	-0.003
W	196	B	0.763	0.006	0.520	0.207	0.118	0.520*	0.125	0.232	0.005	0.000	-0.185	0.207*	-0.191	0.074?
W	197	B	-1.685	0.010	0.891	0.555	0.036	0.891*	0.049	0.020	0.004	0.000	-0.295	0.555*	-0.331	-0.252
W	198	C	1.119	0.006	0.433	0.167	0.242	0.298	0.433*	0.022	0.004	0.000	-0.145	0.050?	0.167*	-0.220
W	199	D	-0.392	0.007	0.731	0.586	0.123	0.107	0.035	0.731*	0.005	0.000	-0.311	-0.299	-0.296	0.586*
W	200	B	0.695	0.006	0.526	0.352	0.142	0.526*	0.091	0.237	0.004	0.000	-0.196	0.352*	-0.257	-0.051
W	201	B	-0.511	0.007	0.754	0.431	0.133	0.754*	0.054	0.055	0.004	0.000	-0.208	0.431*	-0.261	-0.194
W	202	C	0.084	0.006	0.640	0.425	0.086	0.079	0.640*	0.190	0.004	0.000	-0.294	-0.215	0.425*	-0.130
W	203	D	-0.155	0.007	0.695	0.512	0.143	0.062	0.095	0.695*	0.004	0.000	-0.243	-0.304	-0.220	0.512*
W	204	D	-0.578	0.007	0.757	0.553	0.145	0.052	0.042	0.757*	0.004	0.000	-0.262	-0.333	-0.290	0.553*
W	205	B	-0.607	0.007	0.771	0.467	0.071	0.771*	0.060	0.094	0.005	0.000	-0.293	0.467*	-0.271	-0.149

**Appendix K: 2003 PSSA Grade Five Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
A	110	1	-1.96	0.06	2.031	0.575	0.031	0.170	0.550	0.229	0.019	-0.327	-0.369	0.072	0.345	0.145
A	110	2	-0.56	0.03												
A	110	3	2.41	0.02												
A	110	4	4.83	0.07												
B	110	1	-2.27	0.06	2.036	0.573	0.023	0.181	0.549	0.224	0.021	-0.302	-0.388	0.059	0.351	0.156
B	110	2	-0.42	0.03												
B	110	3	2.43	0.02												
B	110	4	4.67	0.07												
C	110	1	-2.22	0.07	2.063	0.603	0.022	0.173	0.541	0.242	0.021	-0.298	-0.429	0.062	0.370	0.153
C	110	2	-0.41	0.03												
C	110	3	2.40	0.02												
C	110	4	4.86	0.07												
D	110	1	-2.05	0.06	2.065	0.611	0.025	0.173	0.534	0.241	0.025	-0.314	-0.432	0.073	0.360	0.172
D	110	2	-0.39	0.03												
D	110	3	2.35	0.02												
D	110	4	4.55	0.06												
E	110	1	-1.24	0.04	1.601	0.551	0.082	0.367	0.420	0.121	0.008	-0.341	-0.299	0.276	0.300	0.108
E	110	2	0.97	0.02												
E	110	3	3.12	0.03												
E	110	4	5.40	0.11												
F	110	1	-1.88	0.05	1.634	0.501	0.047	0.392	0.440	0.119	0.001	-0.309	-0.298	0.245	0.285	0.038
F	110	2	0.94	0.02												
F	110	3	3.05	0.03												
F	110	4	6.79	0.24												
G	110	1	-1.95	0.06	2.086	0.559	0.025	0.151	0.550	0.253	0.019	-0.305	-0.368	0.033	0.346	0.135
G	110	2	-0.62	0.03												
G	110	3	2.30	0.02												
G	110	4	4.97	0.07												
H	110	1	-2.31	0.07	2.063	0.565	0.020	0.175	0.546	0.235	0.022	-0.270	-0.385	0.029	0.356	0.158
H	110	2	-0.43	0.03												
H	110	3	2.37	0.02												
H	110	4	4.63	0.07												

**Appendix K: 2003 PSSA Grade Five Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
I	110	1	-2.16	0.06	2.061	0.614	0.024	0.175	0.531	0.248	0.020	-0.313	-0.428	0.066	0.378	0.150
I	110	2	-0.38	0.03												
I	110	3	2.35	0.02												
I	110	4	4.86	0.07												
J	110	1	-2.10	0.06	2.068	0.611	0.024	0.175	0.530	0.247	0.023	-0.293	-0.445	0.064	0.377	0.158
J	110	2	-0.37	0.03												
J	110	3	2.30	0.02												
J	110	4	4.59	0.06												
K	110	1	-0.93	0.03	1.560	0.533	0.102	0.369	0.399	0.120	0.008	-0.337	-0.268	0.268	0.297	0.105
K	110	2	1.10	0.02												
K	110	3	3.10	0.03												
K	110	4	5.26	0.11												
L	110	1	-2.00	0.05	1.677	0.514	0.044	0.364	0.458	0.130	0.002	-0.307	-0.309	0.247	0.284	0.480
L	110	2	0.84	0.02												
L	110	3	3.14	0.03												
L	110	4	7.11	0.25												
W	52	1	-2.25	0.02	1.931	0.627	0.031	0.251	0.489	0.208	0.019	-0.310	-0.440	0.135	0.390	0.167
W	52	2	0.03	0.01												
W	52	3	2.41	0.01												
W	52	4	4.66	0.02												
W	162	1	-1.84	0.02	1.972	0.641	0.041	0.232	0.468	0.231	0.028	-0.367	-0.433	0.145	0.370	0.185
W	162	2	-0.02	0.01												
W	162	3	2.21	0.01												
W	162	4	4.50	0.02												

**Appendix L: 2003 PSSA Grade Eight Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
A	130	1	-2.02	0.05	1.921	0.592	0.033	0.213	0.556	0.184	0.011	-0.350	-0.371	0.168	0.332	0.118
A	130	2	-0.30	0.02												
A	130	3	2.42	0.02												
A	130	4	4.67	0.09												
B	130	1	-1.90	0.06	2.096	0.612	0.029	0.156	0.525	0.259	0.028	-0.340	-0.394	0.048	0.363	0.167
B	130	2	-0.65	0.03												
B	130	3	1.91	0.02												
B	130	4	3.94	0.06												
C	130	1	-1.33	0.05	2.059	0.613	0.039	0.116	0.602	0.221	0.019	-0.406	-0.360	0.094	0.330	0.142
C	130	2	-1.08	0.03												
C	130	3	2.26	0.02												
C	130	4	4.26	0.07												
D	130	1	-1.37	0.05	2.055	0.624	0.038	0.123	0.593	0.225	0.018	-0.401	-0.373	0.104	0.336	0.144
D	130	2	-0.98	0.03												
D	130	3	2.23	0.02												
D	130	4	4.33	0.07												
E	130	1	-2.07	0.05	1.936	0.648	0.034	0.246	0.482	0.220	0.017	-0.365	-0.435	0.159	0.390	0.148
E	130	2	0.01	0.02												
E	130	3	2.10	0.02												
E	130	4	4.42	0.07												
F	130	1	-1.41	0.05	2.026	0.616	0.039	0.137	0.591	0.217	0.014	-0.385	-0.366	0.101	0.353	0.121
F	130	2	-0.85	0.03												
F	130	3	2.28	0.02												
F	130	4	4.50	0.08												
G	130	1	-1.84	0.05	1.947	0.604	0.036	0.197	0.551	0.204	0.009	-0.362	-0.373	0.146	0.355	0.101
G	130	2	-0.37	0.02												
G	130	3	2.35	0.02												
G	130	4	5.04	0.10												
H	130	1	-2.00	0.06	2.097	0.614	0.027	0.164	0.517	0.256	0.033	-0.326	-0.401	0.040	0.362	0.188
H	130	2	-0.57	0.03												
H	130	3	1.95	0.02												
H	130	4	3.86	0.05												

**Appendix L: 2003 PSSA Grade Eight Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
I	130	1	-1.54	0.06	2.050	0.600	0.035	0.130	0.596	0.220	0.017	-0.381	-0.369	0.104	0.324	0.134
I	130	2	-0.94	0.03												
I	130	3	2.25	0.02												
I	130	4	4.36	0.07												
J	130	1	-1.41	0.05	2.056	0.627	0.038	0.121	0.596	0.227	0.016	-0.404	-0.374	0.099	0.342	0.137
J	130	2	-1.02	0.03												
J	130	3	2.23	0.02												
J	130	4	4.45	0.08												
K	130	1	-1.95	0.05	1.969	0.648	0.034	0.216	0.505	0.224	0.018	-0.363	-0.431	0.149	0.381	0.148
K	130	2	-0.16	0.02												
K	130	3	2.14	0.02												
K	130	4	4.37	0.07												
L	130	1	-1.39	0.05	2.001	0.607	0.042	0.144	0.592	0.201	0.018	-0.396	-0.344	0.122	0.335	0.127
L	130	2	-0.79	0.03												
L	130	3	2.36	0.02												
L	130	4	4.27	0.07												
W	62	1	-1.80	0.02	2.179	0.633	0.029	0.126	0.502	0.315	0.026	-0.328	-0.416	-0.021	0.396	0.176
W	62	2	-0.94	0.01												
W	62	3	1.63	0.01												
W	62	4	4.17	0.02												
W	192	1	-1.79	0.01	1.974	0.635	0.040	0.201	0.514	0.227	0.016	-0.386	-0.391	0.134	0.368	0.150
W	192	2	-0.31	0.01												
W	192	3	2.12	0.01												
W	192	4	4.36	0.02												

**Appendix M: 2003 PSSA Grade Eleven Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
A	140	1	-0.92	0.04	2.034	0.685	0.079	0.161	0.424	0.300	0.032	-0.443	-0.371	0.097	0.414	0.184
A	140	2	-0.48	0.03												
A	140	3	1.44	0.02												
A	140	4	3.82	0.06												
B	140	1	-0.85	0.04	2.087	0.686	0.073	0.135	0.434	0.326	0.027	-0.457	-0.344	0.053	0.424	0.171
B	140	2	-0.71	0.03												
B	140	3	1.35	0.02												
B	140	4	4.06	0.06												
C	140	1	-0.73	0.04	2.214	0.688	0.072	0.110	0.381	0.386	0.046	-0.439	-0.348	-0.046	0.439	0.216
C	140	2	-0.87	0.03												
C	140	3	1.00	0.02												
C	140	4	3.65	0.05												
D	140	1	-0.79	0.04	2.222	0.685	0.069	0.114	0.375	0.389	0.048	-0.425	-0.362	-0.048	0.438	0.217
D	140	2	-0.80	0.03												
D	140	3	0.99	0.02												
D	140	4	3.66	0.05												
E	140	1	-0.90	0.04	2.042	0.645	0.073	0.148	0.452	0.300	0.023	-0.400	-0.328	0.041	0.419	0.158
E	140	2	-0.62	0.03												
E	140	3	1.49	0.02												
E	140	4	4.16	0.07												
F	140	1	-1.13	0.05	2.191	0.654	0.052	0.120	0.436	0.353	0.035	-0.375	-0.367	-0.053	0.426	0.198
F	140	2	-0.89	0.03												
F	140	3	1.24	0.02												
F	140	4	3.90	0.05												
G	140	1	-0.88	0.04	2.093	0.689	0.075	0.140	0.421	0.328	0.031	-0.468	-0.352	0.054	0.426	0.177
G	140	2	-0.66	0.03												
G	140	3	1.31	0.02												
G	140	4	3.92	0.06												
H	140	1	-0.87	0.04	2.114	0.682	0.070	0.130	0.425	0.344	0.026	-0.448	-0.348	0.041	0.427	0.163
H	140	2	-0.73	0.03												
H	140	3	1.28	0.02												
H	140	4	4.15	0.06												

**Appendix M: 2003 PSSA Grade Eleven Task Analysis
Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	S.E.	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
I	140	1	-0.87	0.04	2.220	0.680	0.066	0.115	0.385	0.381	0.048	-0.410	-0.375	-0.043	0.429	0.222
I	140	2	-0.82	0.03												
I	140	3	1.02	0.02												
I	140	4	3.59	0.05												
J	140	1	-0.80	0.04	2.223	0.675	0.070	0.114	0.377	0.386	0.049	-0.426	-0.353	-0.044	0.427	0.216
J	140	2	-0.80	0.03												
J	140	3	1.00	0.02												
J	140	4	3.59	0.05												
K	140	1	-0.76	0.04	2.048	0.648	0.082	0.142	0.436	0.310	0.026	-0.401	-0.336	0.029	0.428	0.171
K	140	2	-0.65	0.03												
K	140	3	1.43	0.02												
K	140	4	4.10	0.06												
L	140	1	-1.05	0.05	2.208	0.654	0.056	0.111	0.424	0.370	0.035	-0.395	-0.352	-0.053	0.425	0.190
L	140	2	-0.99	0.03												
L	140	3	1.15	0.02												
L	140	4	3.88	0.06												
W	66	1	-0.97	0.01	2.223	0.683	0.059	0.117	0.401	0.377	0.043	-0.403	-0.388	-0.061	0.444	0.215
W	66	2	-0.95	0.01												
W	66	3	1.04	0.01												
W	66	4	3.71	0.01												
W	206	1	-0.76	0.01	2.359	0.660	0.062	0.083	0.344	0.446	0.062	-0.407	-0.320	-0.148	0.414	0.247
W	206	2	-1.07	0.01												
W	206	3	0.60	0.01												
W	206	4	3.49	0.01												

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Mathematics								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
W	10	0.19	0.02	0.02	0.01	6.79	0.65	0.68
W	11	-0.39	0.02	0.04	0.01	-16.47	0.76	0.71
W	12	-0.07	0.02	-0.07	0.01	-0.06	0.70	0.71
W	13	0.29	0.02	0.27	0.01	0.92	0.62	0.64
W	14	1.60	0.02	1.11	0.01	20.37	0.38	0.48
W	15	0.60	0.02	0.52	0.01	3.41	0.56	0.61
W	17	0.60	0.02	0.44	0.01	6.72	0.57	0.62
W	18	0.91	0.02	0.66	0.01	10.53	0.51	0.55
W	19	-0.29	0.02	-0.66	0.01	14.41	0.74	0.81
W	20	0.12	0.02	0.32	0.01	-8.01	0.67	0.64
W	21	-0.64	0.02	-0.49	0.01	-5.60	0.79	0.78
W	22	0.90	0.02	0.91	0.01	-0.36	0.50	0.52
W	23	-0.57	0.02	-0.80	0.01	8.52	0.79	0.81
W	24	0.29	0.02	0.21	0.01	3.45	0.64	0.64
W	111	-1.15	0.03	-0.99	0.01	-5.14	0.86	0.84
W	112	-1.87	0.04	-1.93	0.02	1.54	0.92	0.92
W	113	-1.37	0.03	-1.37	0.02	0.04	0.88	0.90
W	114	-0.34	0.02	-0.77	0.01	15.66	0.74	0.81
W	115	-1.41	0.03	-1.23	0.01	-5.31	0.88	0.86
W	116	-0.86	0.03	-0.99	0.01	4.15	0.81	0.83
W	117	0.55	0.02	0.44	0.01	4.61	0.58	0.60
W	119	0.38	0.02	0.27	0.01	4.87	0.62	0.64
W	120	-1.21	0.03	-1.40	0.02	5.73	0.86	0.89
W	121	0.06	0.02	-0.08	0.01	5.48	0.68	0.69
W	122	0.10	0.02	0.17	0.01	-2.93	0.67	0.66
W	123	0.90	0.02	0.86	0.01	1.76	0.52	0.49
W	124	0.16	0.02	0.29	0.01	-5.26	0.65	0.64
W	125	0.30	0.02	0.27	0.01	1.46	0.63	0.62
W	126	0.50	0.02	0.48	0.01	0.65	0.60	0.59
W	127	-0.87	0.03	-0.61	0.01	-9.16	0.82	0.80
W	128	0.26	0.02	0.12	0.01	5.83	0.64	0.67
W	129	0.65	0.02	0.73	0.01	-3.36	0.57	0.54
W	130	0.69	0.02	0.40	0.01	12.06	0.55	0.59
W	131	-0.45	0.02	-0.01	0.01	-16.48	0.76	0.70
W	132	0.19	0.02	0.12	0.01	2.80	0.66	0.64
W	133	-0.40	0.02	-0.06	0.01	-12.76	0.76	0.71
W	134	2.08	0.02	1.01	0.01	41.71	0.28	0.48
W	164	-1.07	0.03	-0.94	0.01	-4.06	0.84	0.84
W	165	-1.09	0.03	-1.02	0.01	-2.28	0.85	0.85
W	166	-0.59	0.02	-0.49	0.01	-3.55	0.79	0.78
W	167	-0.95	0.03	-0.99	0.01	1.41	0.83	0.83
W	168	0.08	0.02	0.10	0.01	-0.55	0.67	0.69
W	169	0.28	0.02	0.38	0.01	-4.39	0.63	0.61
W	170	0.84	0.02	0.71	0.01	5.70	0.52	0.56
W	171	-0.49	0.02	-0.37	0.01	-4.42	0.77	0.74
W	172	0.25	0.02	0.23	0.01	0.64	0.64	0.63
W	173	1.16	0.02	1.02	0.01	6.19	0.45	0.48
W	174	0.24	0.02	0.29	0.01	-1.95	0.65	0.65
W	175	0.22	0.02	0.14	0.01	3.09	0.64	0.66

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Mathematics								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
W	176	-0.92	0.03	-0.87	0.01	-1.43	0.83	0.83
W	177	-0.26	0.02	0.00	0.01	-9.93	0.73	0.67
W	178	1.87	0.02	1.92	0.01	-2.01	0.33	0.32
W	180	0.15	0.02	0.11	0.01	1.68	0.66	0.67
W	181	-0.08	0.02	0.07	0.01	-5.93	0.70	0.69
W	182	-0.05	0.02	0.23	0.01	-11.10	0.70	0.65
W	183	1.02	0.02	0.80	0.01	9.61	0.48	0.48
W	184	0.15	0.02	0.20	0.01	-2.21	0.66	0.64
A	54	-0.26	0.02	-0.10	0.04	-3.29	0.72	0.72
A	59	0.34	0.02	0.14	0.04	4.34	0.61	0.65
A	60	-1.60	0.03	-1.43	0.05	-2.65	0.89	0.88
B	53	-2.75	0.05	-2.95	0.09	1.87	0.96	0.97
B	55	-0.23	0.02	-0.30	0.04	1.40	0.73	0.72
B	65	0.23	0.02	0.14	0.04	1.97	0.63	0.67
B	66	0.41	0.02	0.45	0.04	-1.00	0.61	0.64
C	53	-2.40	0.04	-2.44	0.08	0.51	0.95	0.96
C	56	-0.48	0.02	-0.30	0.04	-3.57	0.76	0.75
C	64	0.88	0.02	0.53	0.04	7.65	0.51	0.61
C	66	-1.00	0.03	-1.03	0.05	0.56	0.84	0.86
C	67	1.32	0.02	1.37	0.04	-1.05	0.43	0.43
D	53	-0.77	0.03	-0.65	0.05	-2.45	0.80	0.83
D	54	-1.83	0.03	-1.67	0.06	-2.32	0.92	0.92
D	55	-1.56	0.03	-1.41	0.05	-2.34	0.89	0.90
D	56	-0.19	0.02	-0.13	0.04	-1.16	0.72	0.73
D	57	-1.67	0.03	-1.66	0.06	-0.07	0.90	0.92
D	63	-0.49	0.02	-0.53	0.04	0.80	0.77	0.77
D	64	0.48	0.02	0.54	0.04	-1.34	0.59	0.60
D	65	0.81	0.02	0.75	0.04	1.19	0.53	0.52
D	66	-0.42	0.02	-0.42	0.04	-0.09	0.75	0.77
E	53	-2.54	0.05	-2.34	0.08	-2.18	0.95	0.95
E	54	-1.55	0.03	-1.38	0.05	-2.71	0.89	0.90
E	55	-0.41	0.02	-0.36	0.04	-1.10	0.75	0.74
E	56	-0.46	0.02	-0.43	0.04	-0.45	0.76	0.77
E	57	-0.85	0.03	-0.57	0.05	-5.40	0.82	0.80
F	54	-0.13	0.02	-0.48	0.04	7.29	0.70	0.80
G	56	-0.64	0.02	-0.34	0.04	-6.05	0.79	0.76
G	57	-0.30	0.02	-0.31	0.04	0.05	0.74	0.78
G	59	-0.16	0.02	0.06	0.04	-4.63	0.72	0.68
G	63	-0.01	0.02	-0.10	0.04	1.97	0.69	0.70
G	65	-0.25	0.02	-0.20	0.04	-1.07	0.73	0.74
H	57	-0.34	0.02	-0.28	0.04	-1.18	0.75	0.75
H	59	0.23	0.02	-0.03	0.04	5.47	0.64	0.69
I	53	-0.21	0.02	-0.61	0.05	7.79	0.73	0.75
I	54	-1.75	0.03	-1.60	0.06	-2.10	0.91	0.91
I	55	-0.90	0.03	-0.90	0.05	0.15	0.83	0.84
I	56	-0.93	0.03	-0.86	0.05	-1.20	0.83	0.86
I	57	-0.50	0.02	-0.58	0.05	1.49	0.78	0.80
I	59	-0.79	0.03	-0.82	0.05	0.61	0.82	0.82
I	64	1.05	0.02	1.01	0.04	0.77	0.48	0.50

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Mathematics								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
I	66	1.44	0.02	1.25	0.04	4.10	0.40	0.48
I	67	0.48	0.02	0.32	0.04	3.38	0.60	0.62
J	53	-0.93	0.03	-0.98	0.05	0.84	0.83	0.84
J	54	-2.00	0.04	-1.75	0.06	-3.43	0.93	0.93
J	55	0.12	0.02	0.20	0.04	-1.87	0.67	0.66
J	56	-0.35	0.02	-0.36	0.04	0.25	0.75	0.77
J	57	-1.44	0.03	-1.38	0.06	-1.02	0.89	0.89
J	60	-0.22	0.02	-0.09	0.04	-2.68	0.73	0.75
J	61	0.35	0.02	0.43	0.04	-1.66	0.63	0.60
J	66	1.38	0.02	1.46	0.04	-1.69	0.42	0.45
K	53	-1.49	0.03	-1.58	0.06	1.32	0.89	0.90
K	54	-1.34	0.03	-1.24	0.05	-1.56	0.88	0.88
K	55	-0.24	0.02	-0.05	0.04	-4.04	0.73	0.73
K	56	-0.28	0.02	-0.49	0.05	4.17	0.74	0.79
K	57	-0.20	0.02	-0.11	0.04	-1.99	0.73	0.74
K	63	0.77	0.02	0.92	0.04	-3.25	0.54	0.53
K	64	0.29	0.02	0.39	0.04	-2.22	0.63	0.65
L	53	-1.90	0.04	-2.08	0.07	2.29	0.92	0.93
L	54	-2.45	0.04	-2.12	0.07	-4.07	0.95	0.94
L	55	-0.31	0.02	-0.34	0.04	0.68	0.74	0.79
L	56	0.20	0.02	0.27	0.04	-1.38	0.65	0.65
L	57	-0.70	0.02	-0.86	0.05	2.89	0.80	0.81
L	58	-0.62	0.02	-0.14	0.04	-9.87	0.79	0.76
L	61	-0.48	0.02	-0.68	0.05	3.90	0.77	0.80
L	63	0.38	0.02	0.40	0.04	-0.49	0.62	0.65
L	65	1.58	0.02	1.76	0.04	-3.83	0.38	0.35
L	67	0.65	0.02	0.64	0.04	0.31	0.56	0.59

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
W	26	0.30	0.01	0.18	0.01	9.20	0.66	0.67
W	27	-0.11	0.01	-0.15	0.01	2.66	0.72	0.73
W	28	-0.18	0.01	-0.18	0.01	0.30	0.75	0.73
W	29	0.38	0.01	0.41	0.01	-2.78	0.64	0.63
W	30	-0.49	0.01	-0.38	0.01	-7.59	0.79	0.78
W	31	0.24	0.01	0.26	0.01	-1.62	0.66	0.66
W	32	-0.25	0.01	-0.09	0.01	-10.79	0.74	0.74
W	33	-0.61	0.01	-0.49	0.01	-7.98	0.80	0.79
W	34	0.36	0.01	0.31	0.01	3.86	0.65	0.66
W	35	1.75	0.01	1.69	0.01	4.51	0.37	0.35
W	36	1.51	0.01	1.50	0.01	0.40	0.42	0.42
W	37	0.25	0.01	0.25	0.01	0.10	0.66	0.67
W	38	0.37	0.01	0.38	0.01	-0.73	0.65	0.63
W	39	-1.24	0.03	-1.09	0.01	-4.66	0.88	0.88
W	40	0.70	0.02	0.74	0.01	-1.85	0.59	0.57
W	41	1.29	0.02	1.10	0.01	8.21	0.47	0.50
W	42	0.09	0.02	0.09	0.01	-0.07	0.70	0.68
W	43	0.42	0.02	0.54	0.01	-5.06	0.64	0.60
W	44	-1.24	0.03	-1.10	0.02	-3.90	0.89	0.87
W	45	0.25	0.02	0.36	0.01	-4.47	0.67	0.65
W	46	1.29	0.02	1.19	0.01	4.44	0.46	0.47
W	47	1.16	0.02	1.01	0.01	6.48	0.49	0.50
W	48	0.76	0.02	0.81	0.01	-2.50	0.58	0.57
W	49	1.67	0.02	1.79	0.01	-4.77	0.39	0.37
W	50	0.99	0.02	1.17	0.01	-7.76	0.53	0.50
W	51	1.80	0.02	1.86	0.01	-2.80	0.36	0.36
A	84	-0.92	0.03	-0.94	0.05	0.50	0.84	0.86
A	85	-0.11	0.02	-0.05	0.04	-1.23	0.73	0.74
A	86	2.11	0.02	2.05	0.04	1.14	0.30	0.31
A	87	-0.05	0.02	-0.15	0.04	2.03	0.72	0.75
A	88	0.74	0.02	0.40	0.04	7.45	0.58	0.62
A	90	-0.97	0.03	-1.10	0.05	2.21	0.84	0.86
A	91	-0.83	0.03	-0.97	0.05	2.50	0.83	0.85
A	92	-0.67	0.03	-0.68	0.05	0.28	0.81	0.82
A	93	-1.12	0.03	-1.25	0.05	2.16	0.86	0.88
A	94	-0.35	0.02	-0.55	0.05	3.83	0.76	0.78
A	95	0.00	0.02	0.05	0.04	-1.08	0.71	0.72
A	96	0.01	0.02	0.10	0.04	-1.86	0.71	0.71
B	84	-0.92	0.03	-0.89	0.05	-0.37	0.84	0.86
B	85	-0.11	0.02	-0.08	0.04	-0.55	0.73	0.76
B	86	2.11	0.02	1.97	0.04	2.84	0.30	0.32
B	87	-0.05	0.02	-0.27	0.04	4.44	0.72	0.76
B	88	0.74	0.02	0.31	0.04	9.31	0.58	0.63
B	90	-0.97	0.03	-1.13	0.05	2.73	0.84	0.87
B	91	-0.83	0.03	-1.02	0.05	3.35	0.83	0.86
B	92	-0.67	0.03	-0.69	0.05	0.36	0.81	0.84
B	93	-1.12	0.03	-1.27	0.05	2.42	0.86	0.89
B	94	-0.35	0.02	-0.58	0.05	4.32	0.76	0.80
B	95	0.00	0.02	0.10	0.04	-2.14	0.71	0.73

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Reading								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
B	96	0.01	0.02	0.15	0.04	-2.97	0.71	0.71
C	97	-0.92	0.03	-0.80	0.05	-2.12	0.84	0.86
C	98	-0.11	0.02	-0.04	0.04	-1.34	0.73	0.76
C	99	2.11	0.02	1.91	0.04	4.07	0.30	0.34
C	100	-0.05	0.02	0.06	0.04	-2.23	0.72	0.74
C	101	0.74	0.02	0.62	0.04	2.75	0.58	0.59
C	103	-0.97	0.03	-0.86	0.05	-2.03	0.84	0.86
C	104	-0.83	0.03	-0.65	0.05	-3.29	0.83	0.84
C	105	-0.67	0.03	-0.47	0.05	-3.81	0.81	0.82
C	106	-1.12	0.03	-1.03	0.05	-1.43	0.86	0.88
C	107	-0.35	0.02	-0.37	0.04	0.44	0.76	0.79
C	108	0.00	0.02	0.33	0.04	-7.23	0.71	0.69
C	109	0.01	0.02	0.14	0.04	-2.69	0.71	0.72
D	97	-0.92	0.03	-0.72	0.05	-3.49	0.84	0.85
D	98	-0.11	0.02	-0.01	0.04	-1.95	0.73	0.76
D	99	2.11	0.02	1.96	0.04	3.03	0.30	0.33
D	100	-0.05	0.02	0.02	0.04	-1.50	0.72	0.75
D	101	0.74	0.02	0.24	0.04	10.82	0.58	0.65
D	103	-0.97	0.03	-0.84	0.05	-2.29	0.84	0.86
D	104	-0.83	0.03	-0.72	0.05	-1.92	0.83	0.84
D	105	-0.67	0.03	-0.47	0.05	-3.79	0.81	0.82
D	106	-1.12	0.03	-1.02	0.05	-1.60	0.86	0.88
D	107	-0.35	0.02	-0.35	0.04	0.03	0.76	0.79
D	108	0.00	0.02	0.35	0.04	-7.62	0.71	0.69
D	109	0.01	0.02	0.10	0.04	-1.85	0.71	0.73
I	97	-0.92	0.03	-0.74	0.05	-3.13	0.84	0.85
I	98	-0.11	0.02	0.04	0.04	-3.04	0.73	0.76
I	99	2.11	0.02	2.10	0.04	0.15	0.30	0.32
I	100	-0.05	0.02	0.04	0.04	-1.91	0.72	0.75
I	101	0.74	0.02	0.28	0.04	9.77	0.58	0.66
I	103	-0.97	0.03	-0.86	0.05	-1.83	0.84	0.85
I	104	-0.83	0.03	-0.62	0.05	-3.68	0.83	0.84
I	105	-0.67	0.03	-0.44	0.05	-4.26	0.81	0.82
I	106	-1.12	0.03	-0.96	0.05	-2.62	0.86	0.88
I	107	-0.35	0.02	-0.40	0.05	0.89	0.76	0.79
I	108	0.00	0.02	0.19	0.04	-4.09	0.71	0.72
I	109	0.01	0.02	0.01	0.04	0.01	0.71	0.75
J	97	-0.92	0.03	-0.72	0.05	-3.47	0.84	0.85
J	98	-0.11	0.02	0.04	0.04	-2.95	0.73	0.75
J	99	2.11	0.02	2.09	0.04	0.27	0.30	0.31
J	100	-0.05	0.02	0.00	0.04	-1.03	0.72	0.75
J	101	0.74	0.02	0.58	0.04	3.51	0.58	0.61
J	103	-0.97	0.03	-0.85	0.05	-2.14	0.84	0.86
J	104	-0.83	0.03	-0.77	0.05	-0.91	0.83	0.85
J	105	-0.67	0.03	-0.52	0.05	-2.70	0.81	0.82
J	106	-1.12	0.03	-1.05	0.05	-1.17	0.86	0.88
J	107	-0.35	0.02	-0.37	0.05	0.45	0.76	0.80
J	108	0.00	0.02	0.18	0.04	-3.82	0.71	0.71
J	109	0.01	0.02	0.36	0.04	-7.16	0.71	0.70

Appendix N: 2003 PSSA Grade Five Across Year Linking

Grade Five Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
K	84	-0.92	0.03	-0.94	0.05	0.45	0.84	0.87
K	85	-0.11	0.02	-0.14	0.04	0.73	0.73	0.78
K	86	2.11	0.02	2.00	0.04	2.10	0.30	0.32
K	87	-0.05	0.02	-0.11	0.04	1.18	0.72	0.77
K	88	0.74	0.02	0.50	0.04	5.28	0.58	0.64
K	90	-0.97	0.03	-1.17	0.05	3.24	0.84	0.88
K	91	-0.83	0.03	-0.94	0.05	1.90	0.83	0.87
K	92	-0.67	0.03	-0.76	0.05	1.64	0.81	0.85
K	93	-1.12	0.03	-1.23	0.06	1.78	0.86	0.90
K	94	-0.35	0.02	-0.65	0.05	5.52	0.76	0.82
K	95	0.00	0.02	0.05	0.04	-1.02	0.71	0.74
K	96	0.01	0.02	0.05	0.04	-0.69	0.71	0.73
L	84	-0.92	0.03	-0.95	0.05	0.65	0.84	0.87
L	85	-0.11	0.02	-0.12	0.04	0.35	0.73	0.77
L	86	2.11	0.02	2.06	0.04	0.99	0.30	0.32
L	87	-0.05	0.02	-0.15	0.04	2.06	0.72	0.76
L	88	0.74	0.02	0.38	0.04	7.71	0.58	0.64
L	90	-0.97	0.03	-1.11	0.05	2.35	0.84	0.88
L	91	-0.83	0.03	-0.92	0.05	1.65	0.83	0.87
L	92	-0.67	0.03	-0.65	0.05	-0.42	0.81	0.84
L	93	-1.12	0.03	-1.16	0.05	0.63	0.86	0.89
L	94	-0.35	0.02	-0.57	0.05	4.18	0.76	0.81
L	95	0.00	0.02	0.08	0.04	-1.66	0.71	0.73
L	96	0.01	0.02	0.07	0.04	-1.13	0.71	0.73

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Mathematics								
2003		2002		2003			2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2	t-test	Pvalue	Pvalue
W	8	-0.97	0.03	-1.12	0.01	5.35	0.80	0.81
W	9	-1.20	0.03	-1.25	0.02	1.60	0.83	0.84
W	10	-0.05	0.02	0.08	0.01	-5.34	0.65	0.61
W	11	-0.25	0.02	-0.19	0.01	-1.99	0.69	0.68
W	12	-0.28	0.02	-0.07	0.01	-7.92	0.69	0.69
W	13	0.44	0.02	0.56	0.01	-4.92	0.56	0.56
W	14	-0.40	0.02	-0.51	0.01	3.97	0.72	0.74
W	15	-0.49	0.02	-0.67	0.01	6.65	0.73	0.76
W	16	0.62	0.02	0.81	0.01	-7.71	0.52	0.51
W	17	-0.54	0.02	-0.15	0.01	-15.01	0.74	0.66
W	18	-0.02	0.02	-0.20	0.01	6.84	0.65	0.66
W	19	0.45	0.02	0.50	0.01	-2.13	0.56	0.54
W	20	0.50	0.02	0.44	0.01	2.61	0.54	0.58
W	21	0.46	0.02	0.32	0.01	5.62	0.56	0.59
W	22	1.14	0.02	0.76	0.01	15.28	0.41	0.48
W	23	0.71	0.02	0.90	0.01	-7.70	0.50	0.48
W	24	-0.21	0.02	-0.29	0.01	2.95	0.68	0.70
W	131	0.28	0.02	0.28	0.01	-0.24	0.59	0.58
W	132	-0.14	0.02	-0.17	0.01	1.14	0.67	0.65
W	133	0.38	0.02	0.22	0.01	6.43	0.57	0.60
W	134	0.25	0.02	0.11	0.01	5.58	0.60	0.61
W	135	0.50	0.02	0.55	0.01	-2.13	0.55	0.56
W	136	-0.67	0.02	-0.88	0.01	7.68	0.76	0.77
W	137	0.94	0.02	0.84	0.01	4.11	0.46	0.49
W	138	-0.81	0.02	-0.76	0.01	-1.90	0.78	0.78
W	139	0.19	0.02	-0.15	0.01	13.77	0.61	0.67
W	140	-0.43	0.02	-0.75	0.01	11.82	0.72	0.74
W	141	0.10	0.02	0.17	0.01	-3.00	0.62	0.60
W	142	0.49	0.02	0.58	0.01	-3.51	0.55	0.52
W	143	-0.86	0.02	-0.78	0.01	-2.70	0.79	0.77
W	144	1.32	0.02	1.13	0.01	7.42	0.38	0.42
W	146	0.26	0.02	0.36	0.01	-4.23	0.59	0.58
W	147	-0.64	0.02	-0.69	0.01	1.51	0.76	0.76
W	148	0.48	0.02	0.58	0.01	-4.16	0.55	0.56
W	149	-0.15	0.02	0.04	0.01	-7.41	0.67	0.64
W	150	0.59	0.02	0.78	0.01	-7.75	0.53	0.50
W	151	-0.43	0.02	-0.21	0.01	-8.26	0.72	0.68
W	152	-0.64	0.02	-0.47	0.01	-6.25	0.75	0.73
W	154	-0.24	0.02	0.16	0.01	-15.72	0.69	0.60
W	193	0.58	0.02	0.49	0.01	3.81	0.53	0.52
W	194	0.64	0.02	0.63	0.01	0.49	0.52	0.52
W	195	0.47	0.02	0.40	0.01	2.80	0.55	0.54
W	196	-0.82	0.02	-0.82	0.01	0.00	0.78	0.79
W	197	-0.61	0.02	-0.55	0.01	-2.29	0.75	0.74
W	199	-0.34	0.02	-0.42	0.01	2.91	0.71	0.73
W	200	-0.04	0.02	0.22	0.01	-10.33	0.65	0.62
W	202	0.13	0.02	0.41	0.01	-11.62	0.62	0.56
W	203	0.22	0.02	0.12	0.01	4.12	0.60	0.61
W	204	0.41	0.02	0.48	0.01	-2.77	0.57	0.52

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Mathematics								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
W	205	-0.17	0.02	-0.02	0.01	-6.03	0.68	0.65
W	206	1.05	0.02	0.82	0.01	9.47	0.44	0.48
W	207	0.07	0.02	0.00	0.01	2.94	0.63	0.65
W	208	1.35	0.02	1.46	0.01	-4.14	0.37	0.38
W	209	-0.17	0.02	-0.47	0.01	11.61	0.14	0.71
W	210	-0.95	0.03	-0.73	0.01	-7.81	0.80	0.77
W	211	-0.68	0.02	-0.63	0.01	-1.77	0.76	0.74
W	212	0.41	0.02	0.36	0.01	1.89	0.56	0.53
W	213	0.25	0.02	0.09	0.01	6.17	0.60	0.69
W	214	-0.09	0.02	-0.12	0.01	1.03	0.66	0.64
A	63	1.14	0.02	1.20	0.05	-1.04	0.41	0.41
A	64	0.63	0.02	0.58	0.04	0.81	0.52	0.51
A	65	-0.10	0.02	-0.09	0.04	-0.14	0.66	0.66
A	66	-1.23	0.03	-1.38	0.05	2.51	0.83	0.86
A	67	0.39	0.02	0.45	0.04	-1.26	0.56	0.57
A	68	0.55	0.02	0.53	0.04	0.32	0.53	0.52
A	69	-0.31	0.02	-0.19	0.05	-2.45	0.70	0.71
A	70	0.33	0.02	0.10	0.04	4.56	0.58	0.63
A	73	-0.71	0.02	-0.17	0.04	-10.68	0.76	0.71
A	74	0.03	0.02	0.01	0.04	0.24	0.63	0.63
A	75	0.45	0.01	0.44	0.04	0.11	0.55	0.55
A	76	0.57	0.02	0.70	0.05	-2.47	0.53	0.53
B	63	1.39	0.02	1.21	0.05	3.30	0.37	0.40
B	65	-0.69	0.02	-0.63	0.05	-1.02	0.76	0.75
B	69	0.45	0.02	0.51	0.04	-1.17	0.55	0.56
B	70	0.10	0.02	-0.10	0.09	2.21	0.62	0.67
B	72	0.43	0.02	0.42	0.04	0.24	0.56	0.54
B	75	-0.05	0.01	-0.06	0.04	0.18	0.64	0.68
B	77	0.62	0.02	0.71	0.05	-1.87	0.52	0.52
C	63	0.21	0.02	0.35	0.04	-2.93	0.60	0.59
C	64	-0.02	0.02	-0.04	0.04	0.35	0.65	0.63
C	65	0.92	0.02	0.95	0.05	-0.68	0.46	0.46
C	66	0.39	0.02	0.21	0.04	3.76	0.57	0.57
C	67	0.23	0.02	0.18	0.04	1.09	0.60	0.63
C	68	-0.28	0.02	-0.70	0.05	8.11	0.69	0.71
C	69	0.79	0.02	0.97	0.05	-3.55	0.48	0.44
C	70	0.23	0.02	0.09	0.04	2.76	0.60	0.61
C	71	-0.11	0.02	-0.45	0.05	6.66	0.66	0.68
C	72	0.06	0.02	0.09	0.04	-0.51	0.63	0.63
C	75	-1.12	0.03	-0.78	0.05	-6.33	0.82	0.81
D	63	1.11	0.02	1.08	0.05	0.41	0.42	0.43
D	64	-0.98	0.03	-0.87	0.05	-2.03	0.80	0.81
D	65	-0.36	0.02	-0.18	0.04	-3.79	0.71	0.71
D	66	-0.29	0.02	-0.42	0.05	2.61	0.70	0.72
D	67	0.54	0.02	0.40	0.04	2.76	0.54	0.56
D	71	-0.10	0.02	-0.55	0.05	8.78	0.66	0.76
D	73	0.64	0.02	0.80	0.05	-3.09	0.52	0.49
D	74	0.29	0.02	-0.27	0.04	11.42	0.59	0.69
E	63	0.37	0.02	0.54	0.04	-3.64	0.57	0.57

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Mathematics								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
E	64	0.10	0.02	0.02	0.04	1.79	0.63	0.63
E	65	-1.43	0.03	-1.33	0.05	-1.63	0.86	0.86
E	66	-0.34	0.02	-0.48	0.05	2.74	0.71	0.71
E	67	0.36	0.02	0.57	0.04	-4.27	0.58	0.58
E	68	0.90	0.02	0.79	0.05	2.20	0.22	0.45
E	70	0.81	0.02	0.55	0.04	5.19	0.49	0.51
E	71	0.81	0.02	0.32	0.04	10.10	0.48	0.51
E	73	0.74	0.02	0.61	0.04	2.73	0.50	0.50
E	75	-0.22	0.02	0.02	0.04	-4.88	0.69	0.66
E	76	0.15	0.02	0.18	0.04	-0.59	0.62	0.63
E	77	-0.08	0.02	-0.22	0.04	2.75	0.66	0.66
F	66	0.40	0.02	0.30	0.04	1.95	0.57	0.58
F	67	-1.69	0.03	-1.64	0.06	-0.81	0.89	0.89
F	68	0.27	0.02	0.24	0.04	0.58	0.59	0.59
F	71	-0.78	0.02	-0.93	0.05	2.77	0.78	0.80
F	72	0.73	0.02	0.64	0.04	1.73	0.50	0.50
F	73	0.96	0.02	0.79	0.04	3.32	0.45	0.45
F	76	1.17	0.02	1.11	0.05	1.24	0.41	0.40
F	77	0.06	0.02	0.14	0.04	-1.63	0.63	0.65
G	63	0.15	0.02	0.31	0.04	-3.37	0.62	0.58
G	64	0.01	0.02	-0.14	0.04	3.09	0.64	0.66
G	65	0.16	0.02	0.39	0.04	-4.73	0.61	0.60
G	66	0.41	0.02	0.40	0.04	0.31	0.56	0.57
G	67	-0.77	0.02	-0.67	0.05	-1.77	0.77	0.76
G	69	0.97	0.02	0.94	0.05	0.72	0.45	0.46
G	77	-0.05	0.02	-0.13	0.04	1.60	0.65	0.65
H	63	0.10	0.02	0.17	0.05	-1.50	0.63	0.62
H	64	-1.25	0.03	-1.18	0.05	-1.17	0.84	0.85
H	65	-0.67	0.02	-0.43	0.05	-4.49	0.76	0.72
H	66	1.56	0.02	1.81	0.05	-4.32	0.34	0.33
H	67	-0.50	0.02	-0.42	0.05	-1.58	0.73	0.73
H	68	0.25	0.02	0.13	0.05	2.36	0.60	0.63
H	73	0.14	0.02	0.15	0.05	-0.18	0.62	0.62
H	74	-0.28	0.02	-0.28	0.05	0.06	0.70	0.71
H	76	-0.33	0.02	-0.22	0.05	-2.08	0.71	0.70
I	63	0.65	0.02	0.69	0.05	-0.79	0.52	0.52
I	64	0.09	0.02	0.20	0.05	-2.15	0.63	0.61
I	66	0.62	0.02	0.51	0.05	2.08	0.53	0.51
I	67	-0.44	0.02	-0.41	0.05	-0.75	0.73	0.71
I	68	-0.17	0.02	-0.10	0.05	-1.31	0.68	0.68
I	69	0.96	0.02	1.04	0.05	-1.59	0.46	0.45
I	70	0.82	0.02	0.97	0.05	-2.78	0.49	0.45
I	71	0.26	0.02	-0.13	0.05	7.59	0.60	0.65
I	73	0.73	0.02	0.48	0.05	4.82	0.50	0.51
I	75	-1.21	0.03	-1.10	0.05	-2.01	0.84	0.84
I	77	0.57	0.01	0.34	0.05	5.06	0.54	0.58
J	64	0.71	0.02	0.80	0.05	-1.76	0.51	0.51
J	65	1.34	0.02	1.03	0.05	6.10	0.38	0.42
J	67	0.41	0.02	0.32	0.05	1.87	0.09	0.58

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Mathematics								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
J	69	-1.53	0.03	-1.59	0.06	1.00	0.87	0.89
J	71	-0.20	0.02	0.03	0.05	-4.60	0.68	0.66
J	72	0.51	0.01	0.24	0.05	6.01	0.54	0.59
J	73	-1.28	0.03	-1.17	0.05	-1.82	0.85	0.85
J	74	0.40	0.02	0.36	0.05	0.75	0.57	0.55
J	76	-0.30	0.01	-0.01	0.05	-6.17	0.13	0.66
J	77	-1.21	0.03	-0.89	0.05	-5.51	0.84	0.82
K	63	0.67	0.02	0.46	0.05	4.12	0.51	0.57
K	69	0.06	0.02	0.60	0.05	-10.93	0.63	0.55
K	70	0.49	0.02	0.53	0.05	-0.88	0.55	0.57
K	73	0.08	0.01	0.81	0.05	-15.76	0.62	0.49
K	75	0.59	0.02	0.79	0.05	-3.96	0.53	0.48
K	76	1.01	0.02	0.77	0.05	4.91	0.44	0.46
L	63	-0.34	0.02	-0.31	0.05	-0.48	0.71	0.70
L	64	-0.64	0.02	-0.52	0.05	-2.19	0.76	0.76
L	65	1.11	0.02	1.17	0.05	-1.07	0.43	0.40
L	66	0.81	0.02	0.72	0.05	1.74	0.49	0.49
L	67	0.25	0.02	0.27	0.05	-0.36	0.60	0.63
L	68	-0.49	0.02	-0.37	0.05	-2.25	0.73	0.74
L	69	0.11	0.02	0.16	0.05	-1.03	0.63	0.62
L	70	0.14	0.01	0.36	0.05	-4.91	0.60	0.58
L	71	-0.47	0.02	-0.47	0.05	-0.02	0.73	0.73
L	72	1.21	0.02	1.11	0.05	1.90	0.41	0.46
L	73	-0.75	0.02	-0.66	0.05	-1.67	0.77	0.75
L	75	0.85	0.01	0.62	0.05	5.10	0.49	0.52
L	77	-0.57	0.01	-0.93	0.05	6.90	0.74	0.78

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
W	26	0.14	0.01	0.01	0.01	9.06	0.64	0.64
W	27	0.04	0.01	0.27	0.01	-16.86	0.66	0.67
W	28	0.93	0.01	0.97	0.01	-2.31	0.47	0.49
W	29	-1.34	0.01	-0.93	0.02	-23.61	0.87	0.87
W	30	-1.01	0.01	-0.86	0.02	-8.70	0.83	0.84
W	31	-0.48	0.01	-0.42	0.01	-3.98	0.76	0.75
W	32	-1.59	0.01	-1.70	0.02	5.55	0.89	0.90
W	33	0.87	0.01	0.81	0.01	4.18	0.49	0.51
W	34	-0.06	0.01	0.14	0.01	-14.05	0.68	0.70
W	35	-0.49	0.01	-0.19	0.01	-20.16	0.75	0.75
W	36	-0.20	0.01	0.02	0.01	-14.91	0.71	0.71
W	37	0.93	0.01	0.98	0.01	-3.75	0.47	0.51
W	38	1.35	0.01	1.46	0.01	-7.66	0.39	0.38
W	39	-1.13	0.01	-0.80	0.01	-19.99	0.84	0.83
W	40	1.09	0.01	1.00	0.01	6.56	0.44	0.44
W	41	1.07	0.01	0.92	0.01	10.45	0.46	0.45
W	42	-0.46	0.01	-0.50	0.01	2.70	0.75	0.77
W	43	-0.34	0.01	-0.26	0.01	-5.28	0.73	0.75
A	94	-0.65	0.02	-0.59	0.05	-1.04	0.78	0.82
A	95	-1.35	0.03	-1.47	0.06	1.82	0.87	0.89
A	96	-0.66	0.02	-0.88	0.05	3.88	0.78	0.83
A	97	0.33	0.02	0.35	0.04	-0.29	0.61	0.61
A	98	0.23	0.02	0.30	0.04	-1.52	0.63	0.64
A	99	1.15	0.02	1.09	0.04	1.28	0.44	0.43
A	100	0.14	0.02	-0.04	0.05	3.67	0.65	0.65
A	101	-0.73	0.02	-0.71	0.05	-0.32	0.79	0.81
A	102	-0.96	0.03	-0.93	0.05	-0.48	0.83	0.85
A	103	0.38	0.02	0.52	0.04	-2.81	0.60	0.60
A	104	0.08	0.02	0.32	0.04	-4.99	0.66	0.66
A	105	1.62	0.02	0.67	0.04	19.50	0.34	0.53
A	106	-0.53	0.02	-0.64	0.05	1.91	0.77	0.81
A	107	0.56	0.02	0.71	0.04	-3.14	0.56	0.57
A	108	-1.14	0.03	-1.08	0.05	-0.95	0.85	0.86
A	109	0.05	0.02	0.15	0.04	-1.84	0.66	0.68
A	110	0.66	0.02	0.71	0.04	-1.17	0.54	0.56
A	111	-0.96	0.03	-1.34	0.06	5.95	0.83	0.87
B	94	-0.65	0.02	-0.61	0.05	-0.76	0.78	0.82
B	95	-1.35	0.03	-1.40	0.06	0.77	0.87	0.90
B	96	-0.66	0.02	-0.79	0.05	2.44	0.78	0.82
B	97	0.33	0.02	0.41	0.04	-1.65	0.61	0.61
B	98	0.23	0.02	0.26	0.04	-0.69	0.63	0.64
B	99	1.15	0.02	1.18	0.04	-0.49	0.44	0.42
B	100	0.14	0.02	-0.03	0.05	3.54	0.65	0.67
B	101	-0.73	0.02	-0.63	0.05	-1.87	0.79	0.82
B	102	-0.96	0.03	-0.90	0.05	-0.99	0.83	0.85
B	103	0.38	0.02	0.43	0.04	-0.97	0.60	0.61
B	104	0.08	0.02	0.32	0.04	-5.06	0.66	0.65
B	105	1.62	0.02	0.77	0.04	17.44	0.34	0.54
B	106	-0.53	0.02	-0.56	0.05	0.48	0.77	0.80

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
B	107	0.56	0.02	0.66	0.04	-1.95	0.56	0.57
B	108	-1.14	0.03	-1.05	0.05	-1.36	0.85	0.87
B	109	0.05	0.02	0.08	0.04	-0.60	0.66	0.68
B	110	0.66	0.02	0.75	0.04	-1.90	0.54	0.56
B	111	-0.96	0.03	-1.12	0.06	2.51	0.83	0.87
C	112	-0.65	0.02	-0.47	0.05	-3.46	0.78	0.80
C	113	-1.35	0.03	-1.19	0.06	-2.46	0.87	0.87
C	114	-0.66	0.02	-0.66	0.05	0.04	0.78	0.80
C	115	0.33	0.02	0.30	0.04	0.72	0.61	0.62
C	116	0.23	0.02	0.21	0.04	0.31	0.63	0.67
C	117	1.15	0.02	1.33	0.04	-3.58	0.44	0.41
C	118	0.14	0.02	0.01	0.04	2.65	0.65	0.64
C	119	-0.73	0.02	-0.68	0.05	-0.89	0.79	0.82
C	120	-0.96	0.03	-0.81	0.05	-2.51	0.83	0.83
C	121	0.38	0.02	0.49	0.04	-2.31	0.60	0.61
C	122	0.08	0.02	0.40	0.04	-6.63	0.66	0.64
C	123	1.62	0.02	0.73	0.04	18.41	0.34	0.54
C	124	-0.53	0.02	-0.54	0.05	0.24	0.77	0.80
C	125	0.56	0.02	0.52	0.04	0.77	0.56	0.60
C	126	-1.14	0.03	-1.03	0.05	-1.79	0.85	0.85
C	127	0.05	0.02	0.19	0.04	-2.67	0.66	0.67
C	128	0.66	0.02	0.75	0.04	-1.90	0.54	0.52
C	129	-0.96	0.03	-1.02	0.05	0.93	0.83	0.85
D	112	-0.65	0.02	-0.44	0.05	-4.03	0.78	0.80
D	113	-1.35	0.03	-1.12	0.05	-3.70	0.87	0.87
D	114	-0.66	0.02	-0.61	0.05	-0.79	0.78	0.80
D	115	0.33	0.02	0.33	0.04	-0.02	0.61	0.62
D	116	0.23	0.02	0.32	0.04	-2.03	0.63	0.65
D	117	1.15	0.02	1.20	0.04	-0.95	0.44	0.41
D	118	0.14	0.02	0.12	0.04	0.59	0.65	0.64
D	119	-0.73	0.02	-0.69	0.05	-0.69	0.79	0.83
D	120	-0.96	0.03	-0.69	0.05	-4.81	0.83	0.83
D	121	0.38	0.02	0.51	0.04	-2.65	0.60	0.62
D	122	0.08	0.02	0.32	0.04	-5.08	0.66	0.65
D	123	1.62	0.02	0.85	0.04	16.00	0.34	0.53
D	124	-0.53	0.02	-0.48	0.05	-1.00	0.77	0.80
D	125	0.56	0.02	0.56	0.04	0.00	0.56	0.58
D	126	-1.14	0.03	-0.87	0.05	-4.52	0.85	0.85
D	127	0.05	0.02	0.25	0.04	-4.07	0.66	0.67
D	128	0.66	0.02	0.69	0.04	-0.76	0.54	0.55
D	129	-0.96	0.03	-0.93	0.05	-0.48	0.83	0.84
I	112	-0.65	0.02	-0.55	0.05	-1.89	0.78	0.81
I	113	-1.35	0.03	-1.20	0.06	-2.26	0.87	0.88
I	114	-0.66	0.02	-0.82	0.05	2.75	0.78	0.81
I	115	0.33	0.02	0.31	0.05	0.36	0.61	0.64
I	116	0.23	0.02	0.20	0.05	0.50	0.63	0.66
I	117	1.15	0.02	1.16	0.05	-0.10	0.44	0.43
I	118	0.14	0.02	-0.07	0.05	4.13	0.65	0.65
I	119	-0.73	0.02	-0.69	0.05	-0.72	0.79	0.83

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
I	120	-0.96	0.03	-0.77	0.05	-3.17	0.83	0.84
I	121	0.38	0.02	0.42	0.04	-0.85	0.60	0.62
I	122	0.08	0.02	0.23	0.05	-3.17	0.66	0.66
I	123	1.62	0.02	0.96	0.04	13.29	0.34	0.51
I	124	-0.53	0.02	-0.43	0.05	-1.91	0.77	0.79
I	125	0.56	0.02	0.50	0.04	1.28	0.56	0.60
I	126	-1.14	0.03	-0.97	0.05	-2.75	0.85	0.85
I	127	0.05	0.02	0.22	0.05	-3.35	0.66	0.67
I	128	0.66	0.02	0.77	0.04	-2.29	0.54	0.52
I	129	-0.96	0.03	-1.18	0.06	3.43	0.83	0.85
J	112	-0.65	0.02	-0.44	0.05	-3.83	0.78	0.80
J	113	-1.35	0.03	-1.16	0.06	-2.80	0.87	0.88
J	114	-0.66	0.02	-0.81	0.05	2.59	0.78	0.81
J	115	0.33	0.02	0.31	0.05	0.40	0.61	0.63
J	116	0.23	0.02	0.28	0.05	-1.16	0.63	0.65
J	117	1.15	0.02	1.30	0.05	-2.92	0.44	0.41
J	118	0.14	0.02	0.10	0.05	0.88	0.65	0.65
J	119	-0.73	0.02	-0.72	0.05	-0.23	0.79	0.82
J	120	-0.96	0.03	-0.77	0.05	-3.15	0.83	0.83
J	121	0.38	0.02	0.44	0.05	-1.11	0.60	0.62
J	122	0.08	0.02	0.27	0.05	-3.91	0.66	0.67
J	123	1.62	0.02	0.81	0.04	16.29	0.34	0.51
J	124	-0.53	0.02	-0.52	0.05	-0.29	0.77	0.80
J	125	0.56	0.02	0.70	0.04	-2.72	0.56	0.55
J	126	-1.14	0.03	-0.88	0.05	-4.18	0.85	0.85
J	127	0.05	0.02	0.25	0.05	-3.81	0.66	0.67
J	128	0.66	0.02	0.77	0.04	-2.23	0.54	0.54
J	129	-0.96	0.03	-1.12	0.06	2.55	0.83	0.85
K	94	-0.65	0.02	-0.61	0.05	-0.71	0.78	0.82
K	95	-1.35	0.03	-1.39	0.06	0.68	0.87	0.90
K	96	-0.66	0.02	-0.80	0.05	2.44	0.78	0.82
K	97	0.33	0.02	0.41	0.04	-1.64	0.61	0.63
K	98	0.23	0.02	0.34	0.05	-2.32	0.63	0.64
K	99	1.15	0.02	1.15	0.04	0.04	0.44	0.43
K	100	0.14	0.02	0.01	0.05	2.71	0.65	0.66
K	101	-0.73	0.02	-0.65	0.05	-1.50	0.79	0.82
K	102	-0.96	0.03	-0.91	0.05	-0.78	0.83	0.86
K	103	0.38	0.02	0.57	0.04	-3.79	0.60	0.62
K	104	0.08	0.02	0.34	0.05	-5.26	0.66	0.66
K	105	1.62	0.02	0.77	0.04	17.36	0.34	0.54
K	106	-0.53	0.02	-0.63	0.05	1.74	0.77	0.81
K	107	0.56	0.02	0.58	0.04	-0.43	0.56	0.58
K	108	-1.14	0.03	-1.10	0.06	-0.64	0.85	0.87
K	109	0.05	0.02	0.02	0.05	0.69	0.66	0.69
K	110	0.66	0.02	0.66	0.04	-0.04	0.54	0.56
K	111	-0.96	0.03	-1.31	0.06	5.33	0.83	0.88
L	94	-0.65	0.02	-0.58	0.05	-1.22	0.78	0.82
L	95	-1.35	0.03	-1.51	0.06	2.43	0.87	0.90
L	96	-0.66	0.02	-0.78	0.05	2.20	0.78	0.82

Appendix O: 2003 PSSA Grade Eight Across Year Linking

Grade Eight Reading								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
L	97	0.33	0.02	0.37	0.04	-0.81	0.61	0.61
L	98	0.23	0.02	0.35	0.04	-2.57	0.63	0.64
L	99	1.15	0.02	1.21	0.04	-1.22	0.44	0.42
L	100	0.14	0.02	0.00	0.05	2.82	0.65	0.66
L	101	-0.73	0.02	-0.78	0.05	0.79	0.79	0.82
L	102	-0.96	0.03	-1.00	0.05	0.66	0.83	0.85
L	103	0.38	0.02	0.45	0.04	-1.47	0.60	0.61
L	104	0.08	0.02	0.24	0.05	-3.25	0.66	0.65
L	105	1.62	0.02	0.82	0.04	16.33	0.34	0.54
L	106	-0.53	0.02	-0.67	0.05	2.53	0.77	0.80
L	107	0.56	0.02	0.61	0.04	-0.92	0.56	0.58
L	108	-1.14	0.03	-1.14	0.06	0.01	0.85	0.87
L	109	0.05	0.02	0.14	0.05	-1.63	0.66	0.68
L	110	0.66	0.02	0.62	0.04	0.74	0.54	0.57
L	111	-0.96	0.03	-1.23	0.06	4.18	0.83	0.87

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Mathematics								
2003		2002		2003			2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2	t-test	Pvalue	Pvalue
W	6	-0.93	0.03	-0.25	0.01	-25.34	0.77	0.64
W	7	-0.32	0.02	-0.26	0.01	-2.57	0.66	0.65
W	8	0.04	0.02	0.08	0.01	-1.59	0.06	0.58
W	9	0.17	0.02	0.37	0.01	-8.68	0.10	0.52
W	10	-0.42	0.02	-0.52	0.01	4.11	0.69	0.69
W	11	0.39	0.02	0.45	0.01	-2.60	0.16	0.51
W	12	-0.05	0.02	-0.07	0.01	0.55	0.03	0.61
W	13	0.45	0.02	0.28	0.01	7.23	0.82	0.55
W	14	1.33	0.02	1.44	0.01	-4.46	0.82	0.32
W	15	0.65	0.02	0.28	0.01	15.75	0.48	0.55
W	16	0.86	0.02	0.73	0.01	5.44	0.01	0.45
W	17	-0.81	0.02	-0.79	0.01	-1.12	0.44	0.75
W	18	0.32	0.02	0.40	0.01	-3.33	0.01	0.51
W	19	0.22	0.02	0.18	0.01	1.56	0.09	0.57
W	20	-0.21	0.02	0.06	0.01	-11.20	0.65	0.58
W	21	0.88	0.02	0.99	0.01	-4.53	0.02	0.39
W	22	0.27	0.02	0.31	0.01	-1.66	0.05	0.54
W	23	0.57	0.02	0.61	0.01	-2.05	0.93	0.48
W	24	1.49	0.02	1.13	0.01	14.10	0.02	0.38
W	141	-1.67	0.03	-1.40	0.01	-8.30	0.09	0.83
W	142	-0.62	0.02	-0.62	0.01	-0.23	0.09	0.72
W	143	-0.66	0.02	-0.66	0.01	0.00	0.73	0.71
W	145	-0.47	0.02	-0.31	0.01	-6.28	0.70	0.64
W	146	-0.96	0.03	-0.90	0.01	-2.11	0.78	0.76
W	147	-0.12	0.02	-0.19	0.01	2.60	0.63	0.64
W	148	0.82	0.02	0.68	0.01	5.89	0.12	0.47
W	149	0.03	0.02	0.08	0.01	-2.12	0.44	0.58
W	150	0.84	0.02	0.91	0.01	-2.86	0.10	0.42
W	151	-0.02	0.02	-0.03	0.01	0.55	0.10	0.60
W	152	0.00	0.02	-0.03	0.01	1.33	0.18	0.63
W	153	0.72	0.02	0.60	0.01	4.99	0.10	0.48
W	154	0.78	0.02	0.61	0.01	7.20	0.07	0.46
W	155	-0.11	0.02	0.05	0.01	-7.01	0.63	0.59
W	156	0.20	0.02	0.31	0.01	-4.41	0.06	0.54
W	157	-0.24	0.02	-0.30	0.01	2.74	0.07	0.66
W	158	-0.01	0.02	0.02	0.01	-1.18	0.61	0.60
W	159	0.56	0.02	0.18	0.01	16.32	0.10	0.56
W	160	0.92	0.02	0.62	0.01	12.73	0.41	0.48
W	161	1.76	0.02	2.14	0.01	-14.29	0.13	0.20
W	164	1.57	0.02	1.59	0.01	-0.50	0.05	0.31
W	207	-1.07	0.03	-0.95	0.01	-4.15	0.79	0.76
W	208	-0.66	0.02	-0.78	0.01	4.64	0.04	0.74
W	209	-0.50	0.02	-0.98	0.01	18.63	0.10	0.77
W	210	-0.76	0.02	-0.80	0.01	1.78	0.71	0.75
W	211	0.04	0.02	0.00	0.01	1.90	0.08	0.60
W	212	0.57	0.02	0.58	0.01	-0.25	0.49	0.49
W	213	-0.01	0.02	-0.17	0.01	6.70	0.08	0.63
W	214	-0.23	0.02	-0.25	0.01	0.98	0.65	0.64
W	215	0.06	0.02	0.00	0.01	2.59	0.43	0.60

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Mathematics								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
W	216	0.60	0.02	0.42	0.01	7.34	0.19	0.51
W	217	0.49	0.02	0.39	0.01	4.19	0.04	0.53
W	218	1.40	0.02	1.42	0.01	-0.78	0.05	0.32
W	219	0.42	0.02	0.22	0.01	8.66	0.81	0.56
W	220	0.03	0.02	-0.02	0.01	2.15	0.60	0.59
W	221	0.85	0.02	0.55	0.01	12.38	0.16	0.49
W	222	1.32	0.02	0.92	0.01	16.40	0.03	0.41
W	223	0.80	0.02	0.76	0.01	1.75	0.23	0.44
W	227	0.55	0.02	0.55	0.01	-0.01	0.02	0.48
A	70	-0.98	0.03	-0.84	0.03	-3.28	0.78	0.75
A	72	-0.58	0.02	-0.53	0.03	-1.22	0.23	0.71
A	74	0.76	0.02	0.69	0.03	1.72	0.04	0.45
B	67	-1.08	0.03	-0.95	0.03	-2.98	0.79	0.78
B	68	0.08	0.02	-0.01	0.03	2.45	0.58	0.60
B	69	0.22	0.02	0.14	0.03	2.04	0.56	0.57
B	70	-0.45	0.02	-0.38	0.03	-1.71	0.69	0.68
B	71	-0.05	0.02	0.01	0.03	-1.43	0.61	0.60
B	77	1.21	0.02	1.00	0.03	5.55	0.70	0.41
C	67	-2.45	0.04	-2.35	0.05	-1.48	0.90	0.92
C	68	-1.87	0.03	-1.75	0.04	-2.27	0.89	0.88
C	69	0.41	0.02	0.41	0.03	-0.06	0.52	0.51
C	70	0.62	0.02	0.58	0.03	1.04	0.48	0.48
C	71	0.94	0.02	1.07	0.03	-3.56	0.41	0.38
F	72	-0.55	0.02	-0.36	0.03	-5.15	0.71	0.67
G	67	-0.80	0.02	-0.72	0.03	-2.02	0.72	0.73
G	68	-0.76	0.02	-0.73	0.03	-0.77	0.74	0.74
G	69	0.07	0.02	0.12	0.03	-1.28	0.82	0.58
G	70	-1.25	0.03	-1.21	0.04	-0.82	0.59	0.81
G	71	0.02	0.02	0.17	0.03	-4.11	0.60	0.57
H	68	-0.18	0.02	-0.07	0.03	-3.07	0.20	0.62
H	71	-0.17	0.02	-0.05	0.03	-3.10	0.09	0.62
I	69	-0.34	0.02	-0.03	0.03	-8.32	0.67	0.61
I	70	-0.95	0.03	-0.73	0.03	-5.42	0.17	0.75
I	71	-0.44	0.02	-0.44	0.03	-0.06	0.44	0.70
I	72	0.87	0.02	0.80	0.03	2.07	0.35	0.44
I	80	1.32	0.02	1.35	0.03	-0.88	0.81	0.34
J	67	-0.31	0.02	-0.40	0.03	2.47	0.64	0.67
J	68	-0.78	0.02	-0.91	0.03	3.19	0.75	0.76
J	69	-0.31	0.02	-0.33	0.03	0.71	0.67	0.67
J	70	-0.16	0.02	-0.06	0.03	-2.59	0.64	0.62
J	71	0.10	0.02	0.00	0.03	2.81	0.59	0.60
J	72	0.17	0.02	0.28	0.03	-2.90	0.13	0.56
K	67	-1.30	0.03	-1.37	0.04	1.46	0.79	0.83
K	68	-1.00	0.03	-0.92	0.03	-1.89	0.78	0.77
K	69	-0.90	0.03	-0.91	0.03	0.16	0.77	0.76
K	70	0.54	0.02	0.38	0.03	4.22	0.50	0.52
K	71	-1.53	0.03	-1.50	0.04	-0.51	0.85	0.85
L	67	-1.09	0.03	-1.11	0.04	0.31	0.76	0.79
L	68	-1.06	0.03	-1.04	0.04	-0.41	0.79	0.79

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Mathematics								
2003		2002		2003		t-test	2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2		Pvalue	Pvalue
L	69	-0.42	0.02	-0.39	0.03	-0.65	0.69	0.67
L	70	-0.20	0.02	-0.02	0.03	-4.69	0.64	0.61
L	71	-0.36	0.02	-0.29	0.03	-1.68	0.67	0.66

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Reading								
2003		2002		2003			2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2	t-test	Pvalue	Pvalue
W	26	0.41	0.01	0.35	0.01	6.34	0.58	0.60
W	27	0.68	0.01	0.60	0.01	8.10	0.53	0.54
W	28	-0.92	0.01	-0.91	0.01	-1.50	0.82	0.81
W	29	1.12	0.01	1.12	0.01	-0.19	0.43	0.43
W	30	0.31	0.01	0.39	0.01	-7.60	0.61	0.59
W	31	0.09	0.01	0.09	0.01	-0.09	0.65	0.65
W	32	0.75	0.01	0.79	0.01	-4.05	0.51	0.50
W	33	0.54	0.01	0.54	0.01	0.01	0.57	0.55
W	34	0.54	0.01	0.52	0.01	2.08	0.57	0.56
W	35	-0.02	0.01	0.02	0.01	-3.64	0.68	0.66
W	36	-1.60	0.01	-1.58	0.01	-0.92	0.89	0.88
W	37	1.30	0.01	1.27	0.01	2.50	0.40	0.40
W	38	0.63	0.01	0.58	0.01	4.96	0.55	0.56
W	39	1.20	0.01	0.89	0.01	30.50	0.42	0.48
W	40	-0.64	0.01	-0.73	0.01	7.79	0.78	0.79
W	41	-1.32	0.01	-1.32	0.01	0.12	0.87	0.86
W	42	-1.03	0.01	-1.09	0.01	4.49	0.83	0.83
W	43	0.34	0.01	0.26	0.01	7.31	0.60	0.62
W	44	-0.44	0.01	-0.52	0.01	6.64	0.76	0.76
W	45	0.60	0.01	0.55	0.01	5.14	0.55	0.55
W	46	1.47	0.02	1.40	0.01	2.76	0.36	0.37
W	47	-0.78	0.03	-0.80	0.01	0.41	0.80	0.79
W	48	-0.61	0.03	-0.57	0.01	-1.54	0.78	0.76
W	49	-0.13	0.02	-0.14	0.01	0.33	0.70	0.70
W	50	0.76	0.02	0.68	0.01	3.40	0.52	0.52
W	51	-0.25	0.02	-0.39	0.01	5.27	0.72	0.73
W	52	0.10	0.02	0.17	0.01	-2.91	0.65	0.62
W	53	-0.50	0.02	-0.59	0.01	3.41	0.76	0.76
W	54	-0.58	0.03	-0.58	0.01	-0.12	0.77	0.76
W	55	-0.93	0.03	-0.81	0.01	-4.28	0.82	0.79
W	56	0.26	0.02	0.36	0.01	-4.41	0.62	0.58
W	57	0.46	0.02	0.47	0.01	-0.17	0.58	0.58
W	58	1.18	0.02	1.12	0.01	2.67	0.42	0.43
W	59	-0.60	0.03	-0.50	0.01	-3.66	0.78	0.75
W	60	0.09	0.02	0.04	0.01	1.89	0.65	0.66
W	61	0.71	0.02	0.66	0.01	2.18	0.53	0.52
W	62	1.38	0.02	1.49	0.01	-4.51	0.38	0.36
W	63	-0.17	0.02	-0.19	0.01	0.73	0.70	0.70
W	64	0.71	0.02	0.77	0.01	-3.03	0.53	0.49
W	65	-0.66	0.03	-0.65	0.01	-0.31	0.79	0.78
A	100	0.55	0.02	0.70	0.03	-4.07	0.56	0.52
A	101	0.18	0.02	0.19	0.03	-0.15	0.63	0.63
A	102	-0.69	0.03	-0.78	0.04	1.91	0.79	0.79
A	103	0.36	0.02	0.23	0.03	3.48	0.60	0.62
A	104	-0.70	0.03	-0.76	0.04	1.18	0.79	0.79
A	105	-0.47	0.02	-0.63	0.03	3.71	0.75	0.76
A	106	-1.15	0.03	-1.23	0.04	1.60	0.85	0.85
A	107	-0.90	0.03	-1.02	0.04	2.54	0.82	0.82
A	108	0.99	0.02	1.02	0.03	-0.81	0.46	0.46

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Reading								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
A	109	0.92	0.02	1.21	0.03	-7.83	0.48	0.42
A	110	0.62	0.02	0.37	0.03	6.59	0.54	0.59
A	111	0.26	0.02	0.14	0.03	3.13	0.62	0.63
A	112	-1.84	0.04	-1.84	0.05	-0.12	0.91	0.90
A	113	-1.35	0.03	-1.32	0.04	-0.60	0.87	0.86
A	114	-1.72	0.04	-1.67	0.05	-0.82	0.90	0.89
A	115	-0.40	0.02	-0.47	0.03	1.66	0.74	0.74
A	116	-0.27	0.02	-0.22	0.03	-1.21	0.72	0.70
A	117	-0.01	0.02	-0.13	0.03	3.13	0.67	0.68
A	118	0.11	0.02	0.00	0.03	2.93	0.65	0.66
A	119	-0.91	0.03	-0.94	0.04	0.73	0.82	0.81
B	100	0.55	0.02	0.65	0.03	-2.65	0.56	0.53
B	101	0.18	0.02	0.13	0.03	1.48	0.63	0.64
B	102	-0.69	0.03	-0.76	0.04	1.64	0.79	0.79
B	103	0.36	0.02	0.24	0.03	3.17	0.60	0.61
B	104	-0.70	0.03	-0.74	0.04	0.74	0.79	0.79
B	105	-0.47	0.02	-0.54	0.03	1.57	0.75	0.76
B	106	-1.15	0.03	-1.20	0.04	1.10	0.85	0.85
B	107	-0.90	0.03	-0.98	0.04	1.62	0.82	0.82
B	108	0.99	0.02	1.00	0.03	-0.35	0.46	0.46
B	109	0.92	0.02	1.20	0.03	-7.70	0.48	0.42
B	110	0.62	0.02	0.42	0.03	5.26	0.54	0.58
B	111	0.26	0.02	0.07	0.03	4.93	0.62	0.65
B	112	-1.84	0.04	-1.86	0.05	0.24	0.91	0.91
B	113	-1.35	0.03	-1.34	0.04	-0.28	0.87	0.86
B	114	-1.72	0.04	-1.71	0.05	-0.10	0.90	0.90
B	115	-0.40	0.02	-0.36	0.03	-0.95	0.74	0.73
B	116	-0.27	0.02	-0.27	0.03	0.02	0.72	0.71
B	117	-0.01	0.02	-0.01	0.03	-0.18	0.67	0.67
B	118	0.11	0.02	0.07	0.03	1.14	0.65	0.65
B	119	-0.91	0.03	-0.88	0.04	-0.66	0.82	0.81
C	120	0.55	0.02	0.72	0.03	-4.64	0.56	0.52
C	121	0.18	0.02	0.04	0.03	3.82	0.63	0.65
C	122	-0.69	0.03	-0.61	0.03	-1.98	0.79	0.76
C	123	0.36	0.02	0.28	0.03	2.05	0.60	0.60
C	124	-0.70	0.03	-0.64	0.03	-1.44	0.79	0.77
C	125	-0.47	0.02	-0.51	0.03	0.93	0.75	0.76
C	126	-1.15	0.03	-1.15	0.04	-0.03	0.85	0.84
C	127	-0.90	0.03	-0.88	0.04	-0.59	0.82	0.81
C	128	0.99	0.02	1.04	0.03	-1.46	0.46	0.46
C	129	0.92	0.02	1.30	0.03	-10.31	0.48	0.39
C	130	0.62	0.02	0.43	0.03	5.02	0.54	0.58
C	131	0.26	0.02	0.43	0.03	-4.65	0.62	0.58
C	132	-1.84	0.04	-1.83	0.05	-0.17	0.91	0.91
C	133	-1.35	0.03	-1.31	0.04	-0.76	0.87	0.86
C	134	-1.72	0.04	-1.57	0.04	-2.68	0.90	0.89
C	135	-0.40	0.02	-0.36	0.03	-1.00	0.74	0.73
C	136	-0.27	0.02	-0.19	0.03	-2.01	0.72	0.70
C	137	-0.01	0.02	0.11	0.03	-3.13	0.67	0.64

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Reading								
2003		2002		2003			2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2	t-test	Pvalue	Pvalue
C	138	0.11	0.02	0.08	0.03	0.78	0.65	0.64
C	139	-0.91	0.03	-0.75	0.04	-3.53	0.82	0.78
D	120	0.55	0.02	0.67	0.03	-3.22	0.56	0.53
D	121	0.18	0.02	0.02	0.03	4.33	0.63	0.67
D	122	-0.69	0.03	-0.59	0.03	-2.50	0.79	0.77
D	123	0.36	0.02	0.33	0.03	0.89	0.60	0.61
D	124	-0.70	0.03	-0.62	0.03	-2.08	0.79	0.77
D	125	-0.47	0.02	-0.52	0.03	1.17	0.75	0.76
D	126	-1.15	0.03	-1.13	0.04	-0.31	0.85	0.84
D	127	-0.90	0.03	-0.90	0.04	-0.17	0.82	0.81
D	128	0.99	0.02	1.00	0.03	-0.29	0.46	0.47
D	129	0.92	0.02	1.32	0.03	-10.93	0.48	0.40
D	130	0.62	0.02	0.38	0.03	6.55	0.54	0.60
D	131	0.26	0.02	0.36	0.03	-2.75	0.62	0.60
D	132	-1.84	0.04	-1.79	0.05	-0.96	0.91	0.90
D	133	-1.35	0.03	-1.34	0.04	-0.23	0.87	0.86
D	134	-1.72	0.04	-1.77	0.05	0.82	0.90	0.90
D	135	-0.40	0.02	-0.53	0.03	2.96	0.74	0.75
D	136	-0.27	0.02	-0.23	0.03	-0.94	0.72	0.70
D	137	-0.01	0.02	0.07	0.03	-2.07	0.67	0.66
D	138	0.11	0.02	0.13	0.03	-0.48	0.65	0.65
D	139	-0.91	0.03	-0.71	0.03	-4.52	0.82	0.79
I	120	0.55	0.02	0.68	0.03	-3.37	0.56	0.53
I	121	0.18	0.02	0.16	0.03	0.70	0.63	0.64
I	122	-0.69	0.03	-0.58	0.03	-2.66	0.79	0.76
I	123	0.36	0.02	0.33	0.03	0.69	0.60	0.60
I	124	-0.70	0.03	-0.67	0.03	-0.71	0.79	0.77
I	125	-0.47	0.02	-0.49	0.03	0.38	0.75	0.76
I	126	-1.15	0.03	-1.16	0.04	0.22	0.85	0.83
I	127	-0.90	0.03	-0.88	0.04	-0.44	0.82	0.81
I	128	0.99	0.02	1.06	0.03	-1.95	0.46	0.45
I	129	0.92	0.02	1.35	0.03	-11.82	0.48	0.39
I	130	0.62	0.02	0.40	0.03	5.83	0.54	0.59
I	131	0.26	0.02	0.16	0.03	2.67	0.62	0.62
I	132	-1.84	0.04	-1.75	0.05	-1.56	0.91	0.90
I	133	-1.35	0.03	-1.21	0.04	-2.77	0.87	0.85
I	134	-1.72	0.04	-1.57	0.04	-2.55	0.90	0.89
I	135	-0.40	0.02	-0.37	0.03	-0.71	0.74	0.73
I	136	-0.27	0.02	-0.12	0.03	-3.74	0.72	0.70
I	137	-0.01	0.02	0.04	0.03	-1.27	0.67	0.66
I	138	0.11	0.02	0.12	0.03	-0.39	0.65	0.64
I	139	-0.91	0.03	-0.81	0.04	-2.17	0.82	0.80
J	120	0.55	0.02	0.71	0.03	-4.20	0.56	0.53
J	121	0.18	0.02	0.15	0.03	0.98	0.63	0.64
J	122	-0.69	0.03	-0.58	0.03	-2.53	0.79	0.77
J	123	0.36	0.02	0.44	0.03	-2.31	0.60	0.59
J	124	-0.70	0.03	-0.63	0.03	-1.67	0.79	0.77
J	125	-0.47	0.02	-0.55	0.03	1.90	0.75	0.76
J	126	-1.15	0.03	-1.16	0.04	0.19	0.85	0.84

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Reading								
2003		2002		2003			2002	2003
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2	t-test	Pvalue	Pvalue
J	127	-0.90	0.03	-0.86	0.04	-0.85	0.82	0.81
J	128	0.99	0.02	1.04	0.03	-1.35	0.46	0.46
J	129	0.92	0.02	1.33	0.03	-11.26	0.48	0.39
J	130	0.62	0.02	0.32	0.03	8.09	0.54	0.61
J	131	0.26	0.02	0.37	0.03	-2.88	0.62	0.59
J	132	-1.84	0.04	-1.70	0.05	-2.34	0.91	0.90
J	133	-1.35	0.03	-1.22	0.04	-2.65	0.87	0.85
J	134	-1.72	0.04	-1.57	0.04	-2.71	0.90	0.89
J	135	-0.40	0.02	-0.52	0.03	2.83	0.74	0.75
J	136	-0.27	0.02	-0.07	0.03	-5.12	0.72	0.68
J	137	-0.01	0.02	0.03	0.03	-1.22	0.67	0.66
J	138	0.11	0.02	0.07	0.03	1.05	0.65	0.66
J	139	-0.91	0.03	-0.71	0.04	-4.48	0.82	0.79
K	100	0.55	0.02	0.70	0.03	-4.01	0.56	0.52
K	101	0.18	0.02	0.10	0.03	2.10	0.63	0.64
K	102	-0.69	0.03	-0.77	0.04	1.77	0.79	0.79
K	103	0.36	0.02	0.21	0.03	3.98	0.60	0.62
K	104	-0.70	0.03	-0.78	0.04	1.72	0.79	0.80
K	105	-0.47	0.02	-0.61	0.03	3.12	0.75	0.76
K	106	-1.15	0.03	-1.32	0.04	3.33	0.85	0.86
K	107	-0.90	0.03	-1.02	0.04	2.51	0.82	0.82
K	108	0.99	0.02	1.00	0.03	-0.19	0.46	0.47
K	109	0.92	0.02	1.11	0.03	-5.27	0.48	0.43
K	110	0.62	0.02	0.47	0.03	3.86	0.54	0.57
K	111	0.26	0.02	0.12	0.03	3.54	0.62	0.64
K	112	-1.84	0.04	-1.84	0.05	-0.11	0.91	0.91
K	113	-1.35	0.03	-1.42	0.04	1.22	0.87	0.87
K	114	-1.72	0.04	-1.79	0.05	1.22	0.90	0.90
K	115	-0.40	0.02	-0.44	0.03	0.94	0.74	0.74
K	116	-0.27	0.02	-0.29	0.03	0.49	0.72	0.71
K	117	-0.01	0.02	-0.12	0.03	2.70	0.67	0.69
K	118	0.11	0.02	0.02	0.03	2.23	0.65	0.66
K	119	-0.91	0.03	-1.03	0.04	2.53	0.82	0.82
L	100	0.55	0.02	0.69	0.03	-3.61	0.56	0.53
L	101	0.18	0.02	0.16	0.03	0.66	0.63	0.64
L	102	-0.69	0.03	-0.78	0.04	1.95	0.79	0.79
L	103	0.36	0.02	0.23	0.03	3.31	0.60	0.62
L	104	-0.70	0.03	-0.81	0.04	2.35	0.79	0.79
L	105	-0.47	0.02	-0.56	0.03	2.14	0.75	0.76
L	106	-1.15	0.03	-1.27	0.04	2.37	0.85	0.85
L	107	-0.90	0.03	-0.99	0.04	1.78	0.82	0.82
L	108	0.99	0.02	0.92	0.03	2.02	0.46	0.48
L	109	0.92	0.02	1.15	0.03	-6.31	0.48	0.42
L	110	0.62	0.02	0.39	0.03	6.18	0.54	0.59
L	111	0.26	0.02	0.07	0.03	4.84	0.62	0.65
L	112	-1.84	0.04	-1.88	0.05	0.59	0.91	0.91
L	113	-1.35	0.03	-1.36	0.04	0.17	0.87	0.86
L	114	-1.72	0.04	-1.74	0.05	0.43	0.90	0.90
L	115	-0.40	0.02	-0.45	0.03	1.22	0.74	0.74

Appendix P: 2003 PSSA Grade Eleven Across Year Linking

Grade Eleven Reading								
2003		2002		2003		t-test	2002 Pvalue	2003 Pvalue
Form	Sequence	Diff 1	SE 1	Diff 2	SE 2			
L	116	-0.27	0.02	-0.27	0.03	0.02	0.72	0.71
L	117	-0.01	0.02	-0.10	0.03	2.27	0.67	0.68
L	118	0.11	0.02	0.05	0.03	1.48	0.65	0.65
L	119	-0.91	0.03	-0.93	0.04	0.34	0.82	0.81

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	53	White	Black	8	10.03	1.25	0.91	0.2	A+
		White	Hispanic	8	4.92	0.62	0.9	0.3	A+
		Male	Female	8	31.96	3.99	0.87	0.3	A+
A	54	White	Black	8	6.69	0.84	1.09	-0.2	A-
		White	Hispanic	8	6.16	0.77	1.08	-0.2	A-
		Male	Female	8	41.52	5.19	1.1	-0.2	A-
A	55	White	Black	8	5.55	0.69	0.9	0.2	A+
		White	Hispanic	8	2.6	0.32	0.96	0.1	A+
		Male	Female	8	37.31	4.66	1.12	-0.3	A-
A	56	White	Black	8	10.23	1.28	1.1	-0.2	A-
		White	Hispanic	8	11.07	1.38	1.23	-0.5	A-
		Male	Female	8	38.57	4.82	1.22	-0.5	A-
A	57	White	Black	8	21.5	2.69	1.03	-0.1	A-
		White	Hispanic	8	9.84	1.23	1.08	-0.2	A-
		Male	Female	8	25.59	3.2	0.95	0.1	A+
A	58	White	Black	8	16.78	2.1	0.91	0.2	A+
		White	Hispanic	8	9.76	1.22	0.9	0.2	A+
		Male	Female	8	41.07	5.13	0.92	0.2	A+
A	59	White	Black	8	9.67	1.21	0.89	0.3	A+
		White	Hispanic	8	5.8	0.73	0.85	0.4	A+
		Male	Female	8	13.28	1.66	1.08	-0.2	A-
A	60	White	Black	8	10.55	1.32	0.91	0.2	A+
		White	Hispanic	8	3.48	0.44	1.03	-0.1	A-
		Male	Female	8	83.19	10.4	1.03	-0.1	A-
A	61	White	Black	8	8.74	1.09	0.91	0.2	A+
		White	Hispanic	8	6.95	0.87	1.05	-0.1	A-
		Male	Female	8	12.94	1.62	0.98	0.1	A+
A	62	White	Black	8	13.19	1.65	1.06	-0.1	A-
		White	Hispanic	8	9.82	1.23	1.06	-0.1	A-
		Male	Female	8	117.64	14.71	1.25	-0.5	A-
A	63	White	Black	8	21.9	2.74	1.2	-0.4	A-
		White	Hispanic	8	9.43	1.18	1.14	-0.3	A-
		Male	Female	8	27.86	3.48	1.01	0	A-
A	64	White	Black	8	27.8	3.47	0.8	0.5	A+
		White	Hispanic	8	15.43	1.93	0.97	0.1	A+
		Male	Female	8	10.19	1.27	0.96	0.1	A+
A	65	White	Black	8	9.88	1.23	1.06	-0.1	A-
		White	Hispanic	8	25.88	3.24	1.27	-0.6	A-
		Male	Female	8	14.05	1.76	1.06	-0.1	A-
A	66	White	Black	8	22.2	2.78	1.17	-0.4	A-
		White	Hispanic	8	7.14	0.89	1.06	-0.1	A-
		Male	Female	8	10.09	1.26	1.02	0	A-
A	67	White	Black	8	60.29	7.54	0.77	0.6	A+
		White	Hispanic	8	10.4	1.3	0.84	0.4	A+
		Male	Female	8	33.69	4.21	1.09	-0.2	A-
B	53	White	Black	8	6.84	0.85	0.82	0.5	A+
		White	Hispanic	8	6.91	0.86	1.15	-0.3	A-
		Male	Female	8	61.63	7.7	0.64	1.1	B+

**Appendix Q(a): Grade Five Mathematics
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	54	White	Black	8	24.01	3	0.91	0.2	A+
		White	Hispanic	8	12.12	1.52	1.12	-0.3	A-
		Male	Female	8	15.5	1.94	0.98	0	A+
B	55	White	Black	8	23.83	2.98	0.97	0.1	A+
		White	Hispanic	8	16.29	2.04	1.18	-0.4	A-
		Male	Female	8	17.84	2.23	1	0	A-
B	56	White	Black	8	21.63	2.7	1.25	-0.5	A-
		White	Hispanic	8	24.23	3.03	1.59	-1.1	B-
		Male	Female	8	32.45	4.06	0.81	0.5	A+
B	57	White	Black	8	16.16	2.02	1.14	-0.3	A-
		White	Hispanic	8	8.06	1.01	1.04	-0.1	A-
		Male	Female	8	30.93	3.87	1.12	-0.3	A-
B	58	White	Black	8	54.28	6.79	1.41	-0.8	A-
		White	Hispanic	8	18.03	2.25	1.38	-0.8	A-
		Male	Female	8	27.94	3.49	0.97	0.1	A+
B	59	White	Black	8	7.19	0.9	1.04	-0.1	A-
		White	Hispanic	8	20.15	2.52	1.37	-0.7	A-
		Male	Female	8	167.95	20.99	1.44	-0.9	A-
B	60	White	Black	8	26.46	3.31	1.14	-0.3	A-
		White	Hispanic	8	5.41	0.68	0.91	0.2	A+
		Male	Female	8	65	8.13	1.17	-0.4	A-
B	61	White	Black	8	26.78	3.35	1.17	-0.4	A-
		White	Hispanic	8	12.89	1.61	0.92	0.2	A+
		Male	Female	8	30.88	3.86	1.14	-0.3	A-
B	62	White	Black	8	18.34	2.29	1.11	-0.2	A-
		White	Hispanic	8	10.2	1.28	0.99	0	A+
		Male	Female	8	12.88	1.61	0.95	0.1	A+
B	63	White	Black	8	29.94	3.74	1.29	-0.6	A-
		White	Hispanic	8	21.2	2.65	1.46	-0.9	A-
		Male	Female	8	31.96	4	1.19	-0.4	A-
B	64	White	Black	8	5.03	0.63	1.04	-0.1	A-
		White	Hispanic	8	9.8	1.22	0.91	0.2	A+
		Male	Female	8	162.04	20.25	1.37	-0.7	A-
B	65	White	Black	8	52.59	6.57	0.73	0.7	A+
		White	Hispanic	8	9.79	1.22	1	0	A
		Male	Female	8	13.55	1.69	0.93	0.2	A+
B	66	White	Black	8	33.04	4.13	1.32	-0.7	A-
		White	Hispanic	8	41.3	5.16	1.51	-1	A-
		Male	Female	8	315.99	39.5	1.74	-1.3	B-
B	67	White	Black	8	46.07	5.76	1.37	-0.7	A-
		White	Hispanic	8	13.2	1.65	1.23	-0.5	A-
		Male	Female	8	26.32	3.29	1.12	-0.3	A-
C	53	White	Black	8	8.44	1.05	1.09	-0.2	A-
		White	Hispanic	8	26.58	3.32	1.7	-1.2	B-
		Male	Female	8	55.58	6.95	0.65	1	B+
C	54	White	Black	8	5.79	0.72	0.98	0.1	A+
		White	Hispanic	8	8.04	1.01	1.18	-0.4	A-
		Male	Female	8	22.34	2.79	0.88	0.3	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	55	White	Black	8	41.52	5.19	1.37	-0.7	A-
		White	Hispanic	8	32.84	4.1	1.59	-1.1	B-
		Male	Female	8	17.74	2.22	0.92	0.2	A+
C	56	White	Black	8	17.15	2.14	0.95	0.1	A+
		White	Hispanic	8	7.55	0.94	1.05	-0.1	A-
		Male	Female	8	12.17	1.52	1	0	A+
C	57	White	Black	8	19.32	2.42	1.21	-0.4	A-
		White	Hispanic	8	13.2	1.65	1.38	-0.8	A-
		Male	Female	8	172.83	21.6	1.47	-0.9	A-
C	58	White	Black	8	16.4	2.05	0.9	0.2	A+
		White	Hispanic	8	7.2	0.9	0.97	0.1	A+
		Male	Female	8	60.05	7.51	0.81	0.5	A+
C	59	White	Black	8	41.53	5.19	1.28	-0.6	A-
		White	Hispanic	8	14.46	1.81	1.26	-0.5	A-
		Male	Female	8	79.48	9.93	1.25	-0.5	A-
C	60	White	Black	8	27.67	3.46	1.25	-0.5	A-
		White	Hispanic	8	14.57	1.82	0.89	0.3	A+
		Male	Female	8	41.74	5.22	1.12	-0.3	A-
C	61	White	Black	8	10.23	1.28	0.97	0.1	A+
		White	Hispanic	8	7.18	0.9	1.08	-0.2	A-
		Male	Female	8	18.68	2.33	1.04	-0.1	A-
C	62	White	Black	8	8.21	1.03	0.86	0.4	A+
		White	Hispanic	8	5.68	0.71	0.9	0.2	A+
		Male	Female	8	27.32	3.41	1.08	-0.2	A-
C	63	White	Black	8	110.36	13.79	1.6	-1.1	B-
		White	Hispanic	8	48.43	6.05	1.73	-1.3	B-
		Male	Female	8	15.25	1.91	1	0	A-
C	64	White	Black	8	24.03	3	0.81	0.5	A+
		White	Hispanic	8	13.82	1.73	0.96	0.1	A+
		Male	Female	8	205.84	25.73	1.21	-0.5	A-
C	65	White	Black	8	16.86	2.11	1.13	-0.3	A-
		White	Hispanic	8	8.19	1.02	1.29	-0.6	A-
		Male	Female	8	33.68	4.21	0.83	0.4	A+
C	66	White	Black	8	29.39	3.67	1.18	-0.4	A-
		White	Hispanic	8	17.54	2.19	1.29	-0.6	A-
		Male	Female	8	10.15	1.27	1	0	A
C	67	White	Black	8	12.11	1.51	0.99	0	A+
		White	Hispanic	8	12.74	1.59	1.25	-0.5	A-
		Male	Female	8	103.86	12.98	1.32	-0.6	A-
D	53	White	Black	8	43.52	5.44	1.11	-0.2	A-
		White	Hispanic	8	12.43	1.55	1.34	-0.7	A-
		Male	Female	8	47.51	5.94	1.26	-0.5	A-
D	54	White	Black	8	28.17	3.52	1.41	-0.8	A-
		White	Hispanic	8	28.65	3.58	1.56	-1	B-
		Male	Female	8	54.92	6.86	0.68	0.9	A+
D	55	White	Black	8	4.25	0.53	1.11	-0.3	A-
		White	Hispanic	8	16.17	2.02	0.78	0.6	A+
		Male	Female	8	37.24	4.66	0.78	0.6	A+

**Appendix Q(a): Grade Five Mathematics
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	56	White	Black	8	50.89	6.36	1.39	-0.8	A-
		White	Hispanic	8	15.45	1.93	1.29	-0.6	A-
		Male	Female	8	24.49	3.06	1.06	-0.1	A-
D	57	White	Black	8	18.24	2.28	0.77	0.6	A+
		White	Hispanic	8	5.65	0.71	0.78	0.6	A+
		Male	Female	8	33.93	4.24	0.75	0.7	A+
D	58	White	Black	8	50.72	6.34	1.43	-0.8	A-
		White	Hispanic	8	13.8	1.72	1.24	-0.5	A-
		Male	Female	8	15.96	2	1.08	-0.2	A-
D	59	White	Black	8	17.65	2.21	0.83	0.4	A+
		White	Hispanic	8	8.5	1.06	0.89	0.3	A+
		Male	Female	8	20.58	2.57	1.08	-0.2	A-
D	60	White	Black	8	25.94	3.24	1.16	-0.4	A-
		White	Hispanic	8	15	1.88	1.39	-0.8	A-
		Male	Female	8	34.36	4.29	0.82	0.5	A+
D	61	White	Black	8	8.16	1.02	1.06	-0.1	A-
		White	Hispanic	8	6.78	0.85	1.01	0	A-
		Male	Female	8	14.16	1.77	0.97	0.1	A+
D	62	White	Black	8	19.04	2.38	1.16	-0.3	A-
		White	Hispanic	8	6.83	0.85	1.16	-0.3	A-
		Male	Female	8	103.73	12.97	1.3	-0.6	A-
D	63	White	Black	8	6.09	0.76	0.98	0	A+
		White	Hispanic	8	6.22	0.78	0.85	0.4	A+
		Male	Female	8	54.93	6.87	0.82	0.5	A+
D	64	White	Black	8	2.77	0.35	1.01	0	A-
		White	Hispanic	8	12.82	1.6	0.82	0.5	A+
		Male	Female	8	22.23	2.78	0.89	0.3	A+
D	65	White	Black	8	17.44	2.18	0.87	0.3	A+
		White	Hispanic	8	7.27	0.91	0.98	0.1	A+
		Male	Female	8	48.61	6.08	1.05	-0.1	A-
D	66	White	Black	8	14.03	1.75	0.93	0.2	A+
		White	Hispanic	8	4.72	0.59	1.08	-0.2	A-
		Male	Female	8	63.36	7.92	0.8	0.5	A+
D	67	White	Black	8	9.64	1.2	0.97	0.1	A+
		White	Hispanic	8	3.05	0.38	0.98	0.1	A+
		Male	Female	8	130.53	16.32	1.31	-0.6	A-
E	53	White	Black	8	12.89	1.61	1.04	-0.1	A-
		White	Hispanic	8	6.2	0.78	0.84	0.4	A+
		Male	Female	8	34.91	4.36	0.69	0.9	A+
E	54	White	Black	8	108.8	13.6	1.39	-0.8	A-
		White	Hispanic	8	17.2	2.15	1.19	-0.4	A-
		Male	Female	8	11.36	1.42	0.88	0.3	A+
E	55	White	Black	8	26.43	3.3	0.79	0.5	A+
		White	Hispanic	8	23.42	2.93	0.91	0.2	A+
		Male	Female	8	27.24	3.41	1.06	-0.1	A-
E	56	White	Black	8	30.34	3.79	1.2	-0.4	A-
		White	Hispanic	8	11.65	1.46	1.11	-0.2	A-
		Male	Female	8	36.48	4.56	0.83	0.4	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	57	White	Black	8	12.34	1.54	0.97	0.1	A+
		White	Hispanic	8	14.7	1.84	1.28	-0.6	A-
		Male	Female	8	31.93	3.99	0.84	0.4	A+
E	58	White	Black	8	8.67	1.08	1.03	-0.1	A-
		White	Hispanic	8	4.43	0.55	1.04	-0.1	A-
		Male	Female	8	16.55	2.07	1.03	-0.1	A-
E	59	White	Black	8	27.52	3.44	1.2	-0.4	A-
		White	Hispanic	8	13.49	1.69	1.34	-0.7	A-
		Male	Female	8	84.1	10.51	1.27	-0.6	A-
E	60	White	Black	8	38.99	4.87	1.31	-0.6	A-
		White	Hispanic	8	9.39	1.17	1.24	-0.5	A-
		Male	Female	8	11.09	1.39	1	0	A+
E	61	White	Black	8	10.58	1.32	0.89	0.3	A+
		White	Hispanic	8	10.81	1.35	0.94	0.2	A+
		Male	Female	8	55.62	6.95	0.83	0.4	A+
E	62	White	Black	8	34.98	4.37	1.35	-0.7	A-
		White	Hispanic	8	21.11	2.64	1.16	-0.4	A-
		Male	Female	8	109.65	13.71	1.39	-0.8	A-
E	63	White	Black	8	87.74	10.97	1.66	-1.2	B-
		White	Hispanic	8	12.38	1.55	1.31	-0.6	A-
		Male	Female	8	23.87	2.98	0.84	0.4	A+
E	64	White	Black	8	120.04	15.01	1.62	-1.1	B-
		White	Hispanic	8	44.3	5.54	1.36	-0.7	A-
		Male	Female	8	57.08	7.14	1.17	-0.4	A-
E	65	White	Black	8	24.48	3.06	0.85	0.4	A+
		White	Hispanic	8	4.87	0.61	1.09	-0.2	A-
		Male	Female	8	16.84	2.11	0.99	0	A+
E	66	White	Black	8	13.07	1.63	1.02	0	A-
		White	Hispanic	8	8.43	1.05	1.11	-0.3	A-
		Male	Female	8	83.57	10.45	1.25	-0.5	A-
E	67	White	Black	8	9.06	1.13	0.97	0.1	A+
		White	Hispanic	8	19.61	2.45	0.96	0.1	A+
		Male	Female	8	116.35	14.54	0.82	0.5	A+
F	53	White	Black	8	20.46	2.56	1.37	-0.7	A-
		White	Hispanic	8	9.41	1.18	1.1	-0.2	A-
		Male	Female	8	42.9	5.36	0.9	0.3	A+
F	54	White	Black	8	66.76	8.34	1.47	-0.9	A-
		White	Hispanic	8	23.42	2.93	1.41	-0.8	A-
		Male	Female	8	20.06	2.51	0.99	0	A+
F	55	White	Black	8	15.63	1.95	1.16	-0.4	A-
		White	Hispanic	8	16.69	2.09	1.2	-0.4	A-
		Male	Female	8	11.69	1.46	1.09	-0.2	A-
F	56	White	Black	8	28.71	3.59	0.82	0.5	A+
		White	Hispanic	8	14.02	1.75	0.82	0.5	A+
		Male	Female	8	33.19	4.15	0.87	0.3	A+
F	57	White	Black	8	18.04	2.26	1.15	-0.3	A-
		White	Hispanic	8	3.3	0.41	0.95	0.1	A+
		Male	Female	8	7.36	0.92	1.06	-0.1	A-

**Appendix Q(a): Grade Five Mathematics
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	58	White	Black	8	3.57	0.45	1.03	-0.1	A-
		White	Hispanic	8	4.36	0.55	1.11	-0.2	A-
		Male	Female	8	24.84	3.11	1.05	-0.1	A-
F	59	White	Black	8	13.98	1.75	1.11	-0.2	A-
		White	Hispanic	8	17.5	2.19	0.91	0.2	A+
		Male	Female	8	65.81	8.23	0.94	0.2	A+
F	60	White	Black	8	60.23	7.53	1.29	-0.6	A-
		White	Hispanic	8	11.24	1.41	1.2	-0.4	A-
		Male	Female	8	20.06	2.51	0.9	0.2	A+
F	61	White	Black	8	4.02	0.5	0.96	0.1	A+
		White	Hispanic	8	9.22	1.15	1.03	-0.1	A-
		Male	Female	8	131.87	16.48	1.37	-0.7	A-
F	62	White	Black	8	3.84	0.48	1.01	0	A-
		White	Hispanic	8	7.25	0.91	1.15	-0.3	A-
		Male	Female	8	23.86	2.98	1.11	-0.2	A-
F	63	White	Black	8	41.91	5.24	0.75	0.7	A+
		White	Hispanic	8	19.62	2.45	0.68	0.9	A+
		Male	Female	8	117.38	14.67	1.15	-0.3	A-
F	64	White	Black	8	33.06	4.13	1.24	-0.5	A-
		White	Hispanic	8	6.74	0.84	1.14	-0.3	A-
		Male	Female	8	98.66	12.33	1.35	-0.7	A-
F	65	White	Black	8	24.04	3	0.94	0.1	A+
		White	Hispanic	8	57.74	7.22	0.63	1.1	B+
		Male	Female	8	379.73	47.47	1.51	-1	A-
F	66	White	Black	8	12.72	1.59	0.88	0.3	A+
		White	Hispanic	8	18.38	2.3	0.98	0	A+
		Male	Female	8	80.48	10.06	1.26	-0.6	A-
F	67	White	Black	8	34.41	4.3	0.79	0.6	A+
		White	Hispanic	8	4.33	0.54	0.9	0.2	A+
		Male	Female	8	162.91	20.36	1.31	-0.6	A-
G	53	White	Black	8	37.15	4.64	1.27	-0.6	A-
		White	Hispanic	8	20.01	2.5	1.37	-0.7	A-
		Male	Female	8	24.57	3.07	0.84	0.4	A+
G	54	White	Black	8	70.44	8.8	1.73	-1.3	B-
		White	Hispanic	8	20.28	2.53	1.33	-0.7	A-
		Male	Female	8	30.7	3.84	0.93	0.2	A+
G	55	White	Black	8	27.68	3.46	1.28	-0.6	A-
		White	Hispanic	8	24.11	3.01	1.47	-0.9	A-
		Male	Female	8	21.1	2.64	1.01	0	A-
G	56	White	Black	8	18.31	2.29	0.84	0.4	A+
		White	Hispanic	8	8.83	1.1	1.04	-0.1	A-
		Male	Female	8	102.11	12.76	1.37	-0.7	A-
G	57	White	Black	8	28.36	3.55	1.16	-0.4	A-
		White	Hispanic	8	21.56	2.69	1.54	-1	B-
		Male	Female	8	17.61	2.2	0.89	0.3	A+
G	58	White	Black	8	28.57	3.57	0.79	0.6	A+
		White	Hispanic	8	17.42	2.18	1.26	-0.5	A-
		Male	Female	8	49.72	6.22	1.24	-0.5	A-

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	59	White	Black	8	7.35	0.92	1	0	A+
		White	Hispanic	8	3.31	0.41	0.93	0.2	A+
		Male	Female	8	16.48	2.06	0.95	0.1	A+
G	60	White	Black	8	136.76	17.1	1.79	-1.4	B-
		White	Hispanic	8	9.01	1.13	1.25	-0.5	A-
		Male	Female	8	181.93	22.74	1.51	-1	A-
G	61	White	Black	8	27.13	3.39	1.07	-0.2	A-
		White	Hispanic	8	5.97	0.75	1.09	-0.2	A-
		Male	Female	8	52.58	6.57	0.86	0.3	A+
G	62	White	Black	8	9.49	1.19	1.08	-0.2	A-
		White	Hispanic	8	7.17	0.9	0.93	0.2	A+
		Male	Female	8	5.07	0.63	0.97	0.1	A+
G	63	White	Black	8	16.42	2.05	0.97	0.1	A+
		White	Hispanic	8	8.6	1.07	1.07	-0.2	A-
		Male	Female	8	93.76	11.72	0.78	0.6	A+
G	64	White	Black	8	21.13	2.64	1	0	A
		White	Hispanic	8	11.69	1.46	1.19	-0.4	A-
		Male	Female	8	152.52	19.07	1.38	-0.8	A-
G	65	White	Black	8	10.06	1.26	1.06	-0.1	A-
		White	Hispanic	8	4.01	0.5	0.91	0.2	A+
		Male	Female	8	12.91	1.61	1.09	-0.2	A-
G	66	White	Black	8	55.72	6.96	1.25	-0.5	A-
		White	Hispanic	8	11.54	1.44	1.29	-0.6	A-
		Male	Female	8	22.09	2.76	0.92	0.2	A+
G	67	White	Black	8	90.87	11.36	0.65	1	B+
		White	Hispanic	8	9.51	1.19	1	0	A
		Male	Female	8	71.19	8.9	1.23	-0.5	A-
H	53	White	Black	8	97.66	12.21	1.6	-1.1	B-
		White	Hispanic	8	23.35	2.92	1.4	-0.8	A-
		Male	Female	8	31.58	3.95	1.23	-0.5	A-
H	54	White	Black	8	34.2	4.28	1.28	-0.6	A-
		White	Hispanic	8	16.97	2.12	1.36	-0.7	A-
		Male	Female	8	38.82	4.85	0.79	0.6	A+
H	55	White	Black	8	23.6	2.95	0.96	0.1	A+
		White	Hispanic	8	35.02	4.38	1.43	-0.8	A-
		Male	Female	8	95.46	11.93	1.35	-0.7	A-
H	56	White	Black	8	6.65	0.83	0.92	0.2	A+
		White	Hispanic	8	5.73	0.72	0.88	0.3	A+
		Male	Female	8	703.43	87.93	2.36	-2	C-
H	57	White	Black	8	15.96	1.99	1.21	-0.4	A-
		White	Hispanic	8	2.28	0.28	1.06	-0.1	A-
		Male	Female	8	61.11	7.64	1.08	-0.2	A-
H	58	White	Black	8	37.48	4.69	1.26	-0.5	A-
		White	Hispanic	8	13.32	1.67	1.06	-0.1	A-
		Male	Female	8	24.85	3.11	0.86	0.4	A+
H	59	White	Black	8	71.57	8.95	0.66	1	A+
		White	Hispanic	8	16.08	2.01	0.8	0.5	A+
		Male	Female	8	6.06	0.76	1	0	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	60	White	Black	8	23.09	2.89	1.14	-0.3	A-
		White	Hispanic	8	3.09	0.39	0.93	0.2	A+
		Male	Female	8	32.4	4.05	1.15	-0.3	A-
H	61	White	Black	8	3.12	0.39	1.02	0	A-
		White	Hispanic	8	31.27	3.91	1.42	-0.8	A-
		Male	Female	8	104.79	13.1	0.64	1.1	B+
H	62	White	Black	8	18.85	2.36	1.22	-0.5	A-
		White	Hispanic	8	8.05	1.01	1.22	-0.5	A-
		Male	Female	8	22.59	2.82	1.04	-0.1	A-
H	63	White	Black	8	30.46	3.81	1.25	-0.5	A-
		White	Hispanic	8	12.89	1.61	1.16	-0.3	A-
		Male	Female	8	124.93	15.62	1.31	-0.6	A-
H	64	White	Black	8	31.22	3.9	0.78	0.6	A+
		White	Hispanic	8	8.25	1.03	0.92	0.2	A+
		Male	Female	8	78.14	9.77	1.19	-0.4	A-
H	65	White	Black	8	18.65	2.33	0.9	0.3	A+
		White	Hispanic	8	4.32	0.54	0.98	0	A+
		Male	Female	8	13.45	1.68	0.96	0.1	A+
H	66	White	Black	8	28.78	3.6	0.8	0.5	A+
		White	Hispanic	8	9.1	1.14	0.87	0.3	A+
		Male	Female	8	12.15	1.52	1.07	-0.2	A-
H	67	White	Black	8	99.89	12.49	1.81	-1.4	B-
		White	Hispanic	8	34.57	4.32	1.75	-1.3	B-
		Male	Female	8	317.62	39.7	1.77	-1.3	B-
I	53	White	Black	8	62.33	7.79	0.67	1	A+
		White	Hispanic	8	22.5	2.81	0.8	0.5	A+
		Male	Female	8	24.44	3.06	1.11	-0.3	A-
I	54	White	Black	8	9.92	1.24	1.03	-0.1	A-
		White	Hispanic	8	7.01	0.88	0.85	0.4	A+
		Male	Female	8	20.61	2.58	0.82	0.5	A+
I	55	White	Black	8	12.94	1.62	1.04	-0.1	A-
		White	Hispanic	8	5.8	0.73	1.07	-0.2	A-
		Male	Female	8	30.13	3.77	1.14	-0.3	A-
I	56	White	Black	8	70.29	8.79	1.54	-1	B-
		White	Hispanic	8	31.21	3.9	1.48	-0.9	A-
		Male	Female	8	37.07	4.63	1.3	-0.6	A-
I	57	White	Black	8	5.17	0.65	1.03	-0.1	A-
		White	Hispanic	8	29.87	3.73	1.35	-0.7	A-
		Male	Female	8	22.34	2.79	1	0	A+
I	58	White	Black	8	16.95	2.12	0.9	0.3	A+
		White	Hispanic	8	12.84	1.6	0.9	0.2	A+
		Male	Female	8	34.75	4.34	0.86	0.3	A+
I	59	White	Black	8	22.38	2.8	0.91	0.2	A+
		White	Hispanic	8	9.41	1.18	0.92	0.2	A+
		Male	Female	8	11.32	1.41	0.93	0.2	A+
I	60	White	Black	8	51.29	6.41	1.44	-0.9	A-
		White	Hispanic	8	27.81	3.48	1.33	-0.7	A-
		Male	Female	8	17.26	2.16	1.07	-0.2	A-

**Appendix Q(a): Grade Five Mathematics
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	61	White	Black	8	9.34	1.17	1.01	0	A-
		White	Hispanic	8	12.8	1.6	0.8	0.5	A+
		Male	Female	8	30.5	3.81	0.9	0.3	A+
I	62	White	Black	8	8.99	1.12	0.97	0.1	A+
		White	Hispanic	8	15.43	1.93	0.98	0	A+
		Male	Female	8	80.93	10.12	1.25	-0.5	A-
I	63	White	Black	8	6.66	0.83	0.93	0.2	A+
		White	Hispanic	8	5.28	0.66	1.05	-0.1	A-
		Male	Female	8	11.87	1.48	1	0	A-
I	64	White	Black	8	14.34	1.79	0.9	0.3	A+
		White	Hispanic	8	6.16	0.77	0.88	0.3	A+
		Male	Female	8	27.97	3.5	0.95	0.1	A+
I	65	White	Black	8	7.19	0.9	0.93	0.2	A+
		White	Hispanic	8	10.09	1.26	0.75	0.7	A+
		Male	Female	8	23.58	2.95	0.97	0.1	A+
I	66	White	Black	8	43.69	5.46	1.4	-0.8	A-
		White	Hispanic	8	4.85	0.61	1.06	-0.1	A-
		Male	Female	8	109.27	13.66	1.29	-0.6	A-
I	67	White	Black	8	19.96	2.5	0.83	0.4	A+
		White	Hispanic	8	20.06	2.51	0.75	0.7	A+
		Male	Female	8	22.14	2.77	0.91	0.2	A+
J	53	White	Black	8	3.73	0.47	0.99	0	A+
		White	Hispanic	8	8.86	1.11	0.99	0	A+
		Male	Female	8	41.74	5.22	0.82	0.5	A+
J	54	White	Black	8	11.34	1.42	1.07	-0.2	A-
		White	Hispanic	8	21.26	2.66	1.51	-1	A-
		Male	Female	8	38.49	4.81	1.01	0	A-
J	55	White	Black	8	24.93	3.12	1.25	-0.5	A-
		White	Hispanic	8	5.93	0.74	1.02	0	A-
		Male	Female	8	136.85	17.11	1.36	-0.7	A-
J	56	White	Black	8	23.28	2.91	1.14	-0.3	A-
		White	Hispanic	8	4.89	0.61	1.02	-0.1	A-
		Male	Female	8	8.63	1.08	1.06	-0.1	A-
J	57	White	Black	8	10.32	1.29	1.05	-0.1	A-
		White	Hispanic	8	2.91	0.36	1.05	-0.1	A-
		Male	Female	8	52.91	6.61	1.21	-0.5	A-
J	58	White	Black	8	23.11	2.89	1.19	-0.4	A-
		White	Hispanic	8	14.57	1.82	1.05	-0.1	A-
		Male	Female	8	34.08	4.26	0.86	0.4	A+
J	59	White	Black	8	11.45	1.43	1.03	-0.1	A-
		White	Hispanic	8	7.03	0.88	1.09	-0.2	A-
		Male	Female	8	23	2.88	0.96	0.1	A+
J	60	White	Black	8	17.17	2.15	1.15	-0.3	A-
		White	Hispanic	8	19.62	2.45	1.21	-0.5	A-
		Male	Female	8	191.1	23.89	1.53	-1	A-
J	61	White	Black	8	42.82	5.35	0.75	0.7	A+
		White	Hispanic	8	11.28	1.41	0.81	0.5	A+
		Male	Female	8	22.98	2.87	1.05	-0.1	A-

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	62	White	Black	8	14.03	1.75	1.19	-0.4	A-
		White	Hispanic	8	53.44	6.68	1.61	-1.1	B-
		Male	Female	8	87.44	10.93	1.3	-0.6	A-
J	63	White	Black	8	26.61	3.33	1.17	-0.4	A-
		White	Hispanic	8	8.07	1.01	1.09	-0.2	A-
		Male	Female	8	91.14	11.39	1.27	-0.6	A-
J	64	White	Black	8	15.73	1.97	1.15	-0.3	A-
		White	Hispanic	8	5.52	0.69	0.87	0.3	A+
		Male	Female	8	33.5	4.19	0.91	0.2	A+
J	65	White	Black	8	15.04	1.88	1.13	-0.3	A-
		White	Hispanic	8	7.53	0.94	1.05	-0.1	A-
		Male	Female	8	32.08	4.01	0.8	0.5	A+
J	66	White	Black	8	34.16	4.27	1.41	-0.8	A-
		White	Hispanic	8	7.27	0.91	1.24	-0.5	A-
		Male	Female	8	60.86	7.61	1.24	-0.5	A-
J	67	White	Black	8	9.42	1.18	0.89	0.3	A+
		White	Hispanic	8	7.75	0.97	0.97	0.1	A+
		Male	Female	8	39.74	4.97	0.82	0.5	A+
K	53	White	Black	8	4.99	0.62	0.93	0.2	A+
		White	Hispanic	8	10.95	1.37	1.02	0	A-
		Male	Female	8	22.27	2.78	0.84	0.4	A+
K	54	White	Black	8	47.15	5.89	1.43	-0.8	A-
		White	Hispanic	8	10.9	1.36	1.03	-0.1	A-
		Male	Female	8	15.21	1.9	0.88	0.3	A+
K	55	White	Black	8	30	3.75	1.18	-0.4	A-
		White	Hispanic	8	9.11	1.14	1.12	-0.3	A-
		Male	Female	8	30.52	3.81	0.85	0.4	A+
K	56	White	Black	8	38.33	4.79	1.21	-0.5	A-
		White	Hispanic	8	10.45	1.31	1.13	-0.3	A-
		Male	Female	8	47.03	5.88	1.18	-0.4	A-
K	57	White	Black	8	42.33	5.29	1.36	-0.7	A-
		White	Hispanic	8	6.32	0.79	1.08	-0.2	A-
		Male	Female	8	12.63	1.58	0.97	0.1	A+
K	58	White	Black	8	11.19	1.4	1.07	-0.2	A-
		White	Hispanic	8	8.65	1.08	1.05	-0.1	A-
		Male	Female	8	4.78	0.6	1.01	0	A-
K	59	White	Black	8	45.73	5.72	0.76	0.7	A+
		White	Hispanic	8	2.25	0.28	1.09	-0.2	A-
		Male	Female	8	13.89	1.74	0.93	0.2	A+
K	60	White	Black	8	24.82	3.1	1.26	-0.5	A-
		White	Hispanic	8	9.44	1.18	1.26	-0.5	A-
		Male	Female	8	17.79	2.22	0.95	0.1	A+
K	61	White	Black	8	8.26	1.03	1.07	-0.2	A-
		White	Hispanic	8	8.44	1.05	0.89	0.3	A+
		Male	Female	8	35.47	4.43	1	0	A-
K	62	White	Black	8	24.47	3.06	1.23	-0.5	A-
		White	Hispanic	8	2.33	0.29	1.12	-0.3	A-
		Male	Female	8	38.15	4.77	0.88	0.3	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	63	White	Black	8	9.44	1.18	0.9	0.2	A+
		White	Hispanic	8	13.2	1.65	1.16	-0.3	A-
		Male	Female	8	11.16	1.4	1	0	A
K	64	White	Black	8	12.1	1.51	0.97	0.1	A+
		White	Hispanic	8	13.6	1.7	1.02	0	A-
		Male	Female	8	82.5	10.31	0.79	0.5	A+
K	65	White	Black	8	56.92	7.11	1.43	-0.8	A-
		White	Hispanic	8	9.45	1.18	1.22	-0.5	A-
		Male	Female	8	265.56	33.2	1.59	-1.1	B-
K	66	White	Black	8	57.24	7.16	1.47	-0.9	A-
		White	Hispanic	8	10.17	1.27	1.16	-0.4	A-
		Male	Female	8	18.23	2.28	1.08	-0.2	A-
K	67	White	Black	8	33.8	4.22	0.75	0.7	A+
		White	Hispanic	8	15.17	1.9	0.97	0.1	A+
		Male	Female	8	22.46	2.81	0.9	0.2	A+
L	53	White	Black	8	15.34	1.92	0.82	0.5	A+
		White	Hispanic	8	10.64	1.33	0.71	0.8	A+
		Male	Female	8	24.6	3.07	0.76	0.6	A+
L	54	White	Black	8	24.14	3.02	1.35	-0.7	A-
		White	Hispanic	8	6.74	0.84	1.19	-0.4	A-
		Male	Female	8	79.8	9.97	0.56	1.4	B+
L	55	White	Black	8	27.2	3.4	1.25	-0.5	A-
		White	Hispanic	8	17.94	2.24	1.37	-0.7	A-
		Male	Female	8	170.65	21.33	1.42	-0.8	A-
L	56	White	Black	8	15.3	1.91	1.01	0	A-
		White	Hispanic	8	5.66	0.71	1.08	-0.2	A-
		Male	Female	8	36.14	4.52	1.09	-0.2	A-
L	57	White	Black	8	14.4	1.8	0.88	0.3	A+
		White	Hispanic	8	15.35	1.92	0.79	0.6	A+
		Male	Female	8	36.02	4.5	0.88	0.3	A+
L	58	White	Black	8	85.67	10.71	1.54	-1	B-
		White	Hispanic	8	40.82	5.1	1.74	-1.3	B-
		Male	Female	8	75.38	9.42	1.28	-0.6	A-
L	59	White	Black	8	15.12	1.89	0.93	0.2	A+
		White	Hispanic	8	16.09	2.01	0.82	0.5	A+
		Male	Female	8	96.87	12.11	1.26	-0.5	A-
L	60	White	Black	8	12.11	1.51	1.17	-0.4	A-
		White	Hispanic	8	12.85	1.61	1.3	-0.6	A-
		Male	Female	8	83.62	10.45	0.76	0.6	A+
L	61	White	Black	8	11.11	1.39	0.94	0.1	A+
		White	Hispanic	8	10.4	1.3	1.19	-0.4	A-
		Male	Female	8	27.03	3.38	1.17	-0.4	A-
L	62	White	Black	8	13.84	1.73	1.07	-0.2	A-
		White	Hispanic	8	11.26	1.41	1.02	0	A-
		Male	Female	8	23.62	2.95	1.11	-0.3	A-
L	63	White	Black	8	13.84	1.73	1.11	-0.3	A-
		White	Hispanic	8	10.73	1.34	0.96	0.1	A+
		Male	Female	8	26.09	3.26	0.96	0.1	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Five Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	DF	Chi	Mean	Odds	Effect	Code
					Squared	Square	Ratio		
L	64	White	Black	8	7.42	0.93	0.97	0.1	A+
		White	Hispanic	8	14.47	1.81	0.82	0.5	A+
		Male	Female	8	66.98	8.37	1.13	-0.3	A-
L	65	White	Black	8	11.88	1.49	1.12	-0.3	A-
		White	Hispanic	8	46.28	5.78	0.95	0.1	A+
		Male	Female	8	156.81	19.6	1.45	-0.9	A-
L	66	White	Black	8	11.54	1.44	1.18	-0.4	A-
		White	Hispanic	8	19.32	2.41	1.25	-0.5	A-
		Male	Female	8	13.26	1.66	1.03	-0.1	A-
L	67	White	Black	8	9.03	1.13	1.03	-0.1	A-
		White	Hispanic	8	9.41	1.18	0.8	0.5	A+
		Male	Female	8	26.9	3.36	0.93	0.2	A+

Appendix Q(a): Grade Five Mathematics Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

-Selected Response--	Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code						
HMM056M	167	1	2	8	703.43	87.93	2.36	-2.0	C-						
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	**REFERENCE**			
											-*	0.97	749	0.99	836
											--*	0.93	657	0.97	758
											---	0.90	706	0.96	750
											----	0.87	764	0.95	796
											-----	0.81	724	0.94	698
											-----*	0.79	796	0.91	708
											-----*	0.73	689	0.87	741
											-----*	0.58	618	0.68	820
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total	

Appendix Q(b): Grade Five Mathematics
Between Group DIF Analysis -- Constructed Response Items

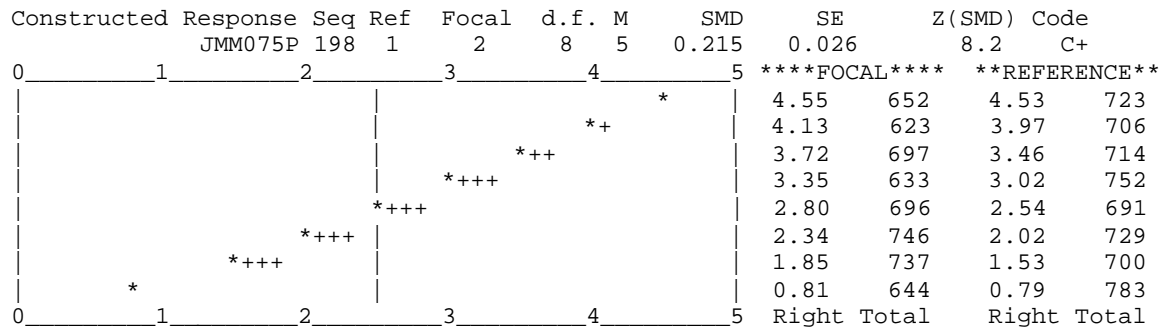
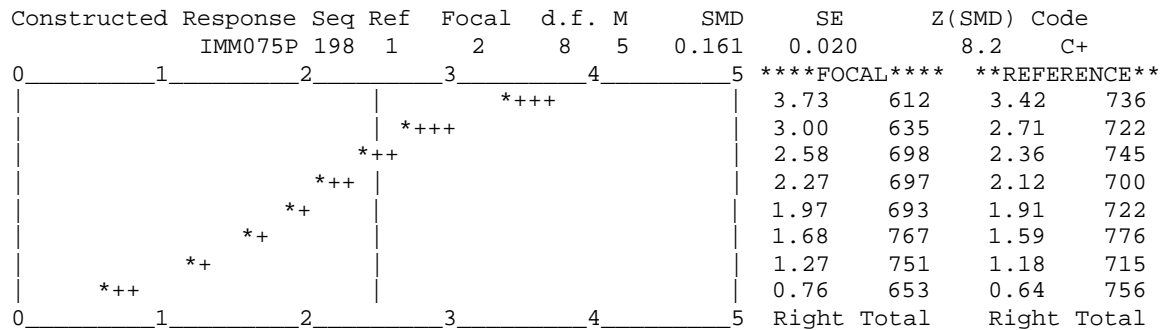
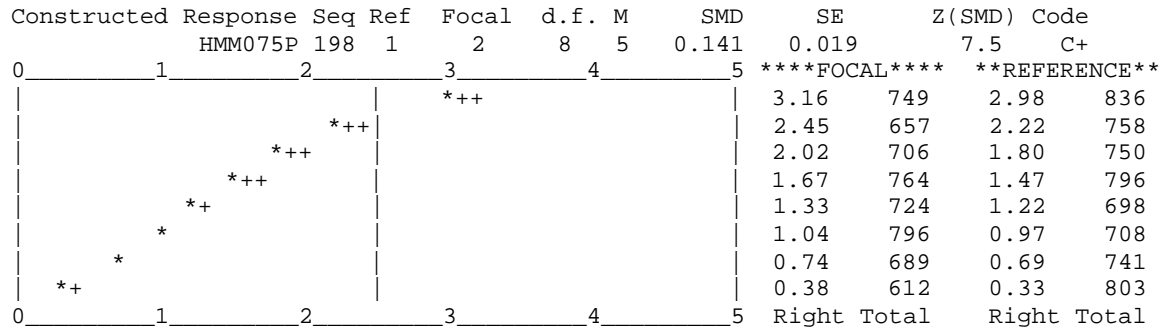
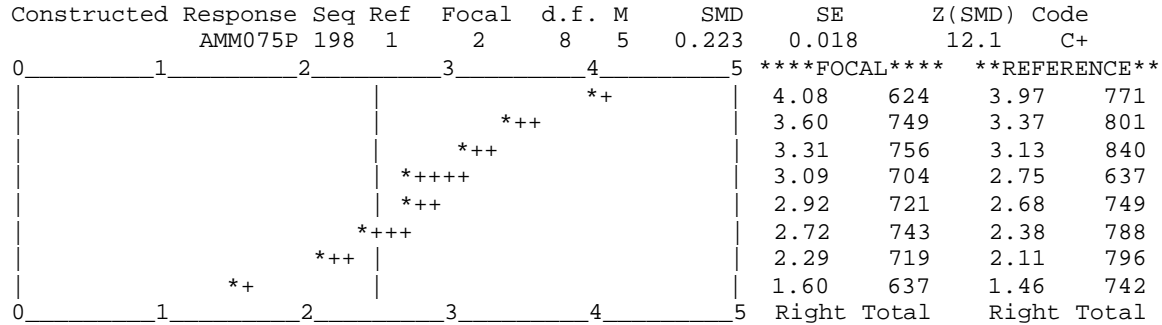
Grade Five Mathematics -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	75	White	Black	8	5	-0.029	0.026	-1.1	AA-
		White	Hispanic	8	5	-0.056	0.039	-1.4	AA-
		Male	Female	8	5	0.223	0.018	12.1	CC+
B	75	White	Black	8	5	-0.162	0.022	-7.5	CC-
		White	Hispanic	8	5	-0.014	0.034	-0.4	AA-
		Male	Female	8	5	0.017	0.017	1	AA+
C	75	White	Black	8	5	-0.014	0.029	-0.5	AA-
		White	Hispanic	8	5	0.124	0.049	2.5	BB+
		Male	Female	8	5	0.038	0.022	1.8	AA+
D	75	White	Black	8	5	-0.032	0.026	-1.2	AA-
		White	Hispanic	8	5	-0.023	0.039	-0.6	AA-
		Male	Female	8	5	0.019	0.018	1.1	AA+
E	75	White	Black	8	5	-0.132	0.033	-4	BB-
		White	Hispanic	8	5	-0.032	0.053	-0.6	AA-
		Male	Female	8	5	-0.034	0.022	-1.5	AA-
F	75	White	Black	8	5	0.009	0.029	0.3	AA+
		White	Hispanic	8	5	0.093	0.046	2	BB+
		Male	Female	8	5	0.100	0.020	5	BB+
G	75	White	Black	8	5	0.094	0.035	2.7	BB+
		White	Hispanic	8	5	0.026	0.054	0.5	AA+
		Male	Female	8	5	0.024	0.021	1.1	AA+
H	75	White	Black	8	5	0.058	0.024	2.5	BB+
		White	Hispanic	8	5	0.117	0.038	3.1	BB+
		Male	Female	8	5	0.141	0.019	7.5	CC+
I	75	White	Black	8	5	-0.048	0.026	-1.8	AA-
		White	Hispanic	8	5	-0.008	0.043	-0.2	AA-
		Male	Female	8	5	0.161	0.020	8.2	CC+
J	75	White	Black	8	5	-0.173	0.040	-4.4	BB-
		White	Hispanic	8	5	0.067	0.062	1.1	AA+
		Male	Female	8	5	0.215	0.026	8.2	CC+
K	75	White	Black	8	5	-0.040	0.031	-1.3	AA-
		White	Hispanic	8	5	0.094	0.047	2	AA+
		Male	Female	8	5	0.033	0.021	1.6	AA+
L	75	White	Black	8	5	-0.110	0.032	-3.4	BB-
		White	Hispanic	8	5	-0.030	0.050	-0.6	AA-
		Male	Female	8	5	0.246	0.022	11.1	CC+

Appendix Q(b): Grade Five Mathematics

Between Group DIF Analysis – Constructed Response Items

Item Characteristics Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Appendix Q(b): Grade Five Mathematics Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
LMM075P	198	1	2	8	5	0.246	0.022	11.1	C+	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5	4.12	595	3.99	709	
						3.76	621	3.49	738	
						3.45	735	3.10	778	
						3.12	702	2.77	771	
						2.71	701	2.42	653	
						2.37	704	2.09	678	
						1.71	695	1.49	731	
						0.84	597	0.82	753	
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	

Reference Group = White, Focal Group = African American

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
BMM075P	198	1	2	8	5	-0.162	0.022	-7.5	C-	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5	3.15	46	3.24	1438	
						2.41	56	2.57	1271	
						1.89	107	2.21	1198	
						1.67	136	1.89	1184	
						1.37	254	1.62	1244	
						1.10	311	1.22	1056	
						0.76	465	0.91	881	
						0.35	566	0.48	677	
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	84	White	Black	8	7.71	0.96	1.07	-0.1	A-
		White	Hispanic	8	3.76	0.47	0.95	0.1	A+
		Male	Female	8	19.61	2.45	0.94	0.1	A+
A	85	White	Black	8	18.46	2.31	1.21	-0.4	A-
		White	Hispanic	8	17.85	2.23	1.38	-0.8	A-
		Male	Female	8	16.98	2.12	0.9	0.2	A+
A	86	White	Black	8	14.32	1.79	1	0	A+
		White	Hispanic	8	15.67	1.96	0.84	0.4	A+
		Male	Female	8	41.79	5.22	1.19	-0.4	A-
A	87	White	Black	8	5.77	0.72	1.01	0	A-
		White	Hispanic	8	10.39	1.3	0.97	0.1	A+
		Male	Female	8	43.37	5.42	0.89	0.3	A+
A	88	White	Black	8	31.18	3.9	0.77	0.6	A+
		White	Hispanic	8	21.14	2.64	0.73	0.7	A+
		Male	Female	8	12.49	1.56	0.99	0	A+
A	89	White	Black	8	8.1	1.01	0.95	0.1	A+
		White	Hispanic	8	10.42	1.3	0.97	0.1	A+
		Male	Female	8	14.54	1.82	1	0	A
A	90	White	Black	8	2.82	0.35	0.93	0.2	A+
		White	Hispanic	8	6.83	0.85	1.13	-0.3	A-
		Male	Female	8	22.78	2.85	0.94	0.2	A+
A	91	White	Black	8	7.67	0.96	0.93	0.2	A+
		White	Hispanic	8	6.33	0.79	0.89	0.3	A+
		Male	Female	8	79.86	9.98	0.65	1	B+
A	92	White	Black	8	17.47	2.18	1.09	-0.2	A-
		White	Hispanic	8	26.01	3.25	1.38	-0.7	A-
		Male	Female	8	25.07	3.13	0.84	0.4	A+
A	93	White	Black	8	24.46	3.06	0.88	0.3	A+
		White	Hispanic	8	4.5	0.56	0.97	0.1	A+
		Male	Female	8	13.03	1.63	1.05	-0.1	A-
A	94	White	Black	8	30.29	3.79	0.75	0.7	A+
		White	Hispanic	8	22.51	2.81	0.95	0.1	A+
		Male	Female	8	230.56	28.82	1.64	-1.2	B-
A	95	White	Black	8	6.55	0.82	1.07	-0.2	A-
		White	Hispanic	8	28.65	3.58	1.28	-0.6	A-
		Male	Female	8	15.93	1.99	0.9	0.3	A+
A	96	White	Black	8	23.79	2.97	1.24	-0.5	A-
		White	Hispanic	8	8.19	1.02	1.06	-0.1	A-
		Male	Female	8	36.64	4.58	1.14	-0.3	A-
A	97	White	Black	8	5	0.62	0.94	0.2	A+
		White	Hispanic	8	11.22	1.4	1.23	-0.5	A-
		Male	Female	8	64.72	8.09	1.29	-0.6	A-
A	98	White	Black	8	37.45	4.68	1.29	-0.6	A-
		White	Hispanic	8	3.04	0.38	1.01	0	A-
		Male	Female	8	47.59	5.95	1.15	-0.3	A-
A	99	White	Black	8	19.57	2.45	0.84	0.4	A+
		White	Hispanic	8	7.74	0.97	0.81	0.5	A+
		Male	Female	8	34.34	4.29	0.86	0.4	A+

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	100	White	Black	8	12.68	1.59	1.12	-0.3	A-
		White	Hispanic	8	10.34	1.29	0.98	0	A+
		Male	Female	8	24.31	3.04	1.08	-0.2	A-
A	101	White	Black	8	4.29	0.54	0.98	0	A+
		White	Hispanic	8	5.34	0.67	1.03	-0.1	A-
		Male	Female	8	14.37	1.8	0.97	0.1	A+
A	102	White	Black	8	19.3	2.41	0.86	0.4	A+
		White	Hispanic	8	7.79	0.97	0.84	0.4	A+
		Male	Female	8	60.47	7.56	0.89	0.3	A+
A	103	White	Black	8	11.06	1.38	1.16	-0.3	A-
		White	Hispanic	8	8.47	1.06	1.07	-0.2	A-
		Male	Female	8	67.64	8.45	1.19	-0.4	A-
A	104	White	Black	8	31.22	3.9	0.79	0.5	A+
		White	Hispanic	8	5.83	0.73	1.01	0	A-
		Male	Female	8	26.92	3.36	1.02	0	A-
A	105	White	Black	8	7.88	0.98	0.9	0.2	A+
		White	Hispanic	8	6.36	0.79	0.88	0.3	A+
		Male	Female	8	96.86	12.11	0.76	0.7	A+
A	106	White	Black	8	21.66	2.71	1.21	-0.4	A-
		White	Hispanic	8	11.24	1.4	1.17	-0.4	A-
		Male	Female	8	217.68	27.21	1.4	-0.8	A-
A	107	White	Black	8	32.79	4.1	1.21	-0.4	A-
		White	Hispanic	8	19.71	2.46	1.08	-0.2	A-
		Male	Female	8	110.68	13.83	0.79	0.5	A+
A	108	White	Black	8	15.99	2	1.1	-0.2	A-
		White	Hispanic	8	6.17	0.77	0.83	0.4	A+
		Male	Female	8	29.64	3.71	1.16	-0.4	A-
A	109	White	Black	8	12.8	1.6	1.05	-0.1	A-
		White	Hispanic	8	3.54	0.44	0.96	0.1	A+
		Male	Female	8	14.11	1.76	1.06	-0.1	A-
B	84	White	Black	8	16.32	2.04	1.21	-0.5	A-
		White	Hispanic	8	12.46	1.56	1.34	-0.7	A-
		Male	Female	8	19.26	2.41	0.92	0.2	A+
B	85	White	Black	8	11.47	1.43	1.05	-0.1	A-
		White	Hispanic	8	27.2	3.4	1.04	-0.1	A-
		Male	Female	8	21.1	2.64	0.91	0.2	A+
B	86	White	Black	8	8.55	1.07	1.06	-0.1	A-
		White	Hispanic	8	17.58	2.2	0.85	0.4	A+
		Male	Female	8	38.66	4.83	1.17	-0.4	A-
B	87	White	Black	8	20.5	2.56	0.94	0.2	A+
		White	Hispanic	8	4.43	0.55	1.03	-0.1	A-
		Male	Female	8	33.87	4.23	0.84	0.4	A+
B	88	White	Black	8	44.96	5.62	0.74	0.7	A+
		White	Hispanic	8	28.55	3.57	0.69	0.9	A+
		Male	Female	8	7.58	0.95	0.94	0.1	A+
B	89	White	Black	8	15.78	1.97	0.92	0.2	A+
		White	Hispanic	8	11.5	1.44	0.92	0.2	A+
		Male	Female	8	15.05	1.88	1.03	-0.1	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	90	White	Black	8	4.05	0.51	1.02	0	A-
		White	Hispanic	8	9.52	1.19	0.85	0.4	A+
		Male	Female	8	35.9	4.49	0.81	0.5	A+
B	91	White	Black	8	5.64	0.71	1.03	-0.1	A-
		White	Hispanic	8	11.41	1.43	0.81	0.5	A+
		Male	Female	8	95.24	11.91	0.64	1.1	B+
B	92	White	Black	8	26.91	3.36	1.28	-0.6	A-
		White	Hispanic	8	39.09	4.89	1.65	-1.2	B-
		Male	Female	8	25.18	3.15	0.83	0.4	A+
B	93	White	Black	8	7.96	0.99	0.93	0.2	A+
		White	Hispanic	8	3.39	0.42	0.86	0.4	A+
		Male	Female	8	27.31	3.41	0.89	0.3	A+
B	94	White	Black	8	51.01	6.38	0.66	1	A+
		White	Hispanic	8	11.74	1.47	0.74	0.7	A+
		Male	Female	8	220.5	27.56	1.61	-1.1	B-
B	95	White	Black	8	15.15	1.89	1.15	-0.3	A-
		White	Hispanic	8	17.49	2.19	1.12	-0.3	A-
		Male	Female	8	8.66	1.08	0.97	0.1	A+
B	96	White	Black	8	19.86	2.48	1.15	-0.3	A-
		White	Hispanic	8	4.86	0.61	0.92	0.2	A+
		Male	Female	8	65.53	8.19	1.11	-0.2	A-
B	97	White	Black	8	85.53	10.69	1.56	-1	B-
		White	Hispanic	8	73.79	9.22	1.86	-1.5	B-
		Male	Female	8	27.44	3.43	1.26	-0.6	A-
B	98	White	Black	8	172.34	21.54	1.82	-1.4	B-
		White	Hispanic	8	153.37	19.17	2.24	-1.9	C-
		Male	Female	8	14.37	1.8	1	0	A+
B	99	White	Black	8	49.8	6.22	1.43	-0.8	A-
		White	Hispanic	8	37.73	4.72	1.87	-1.5	B-
		Male	Female	8	21.05	2.63	0.9	0.2	A+
B	100	White	Black	8	7.01	0.88	1.02	0	A-
		White	Hispanic	8	9	1.13	0.99	0	A+
		Male	Female	8	18.97	2.37	0.91	0.2	A+
B	101	White	Black	8	7.85	0.98	1.05	-0.1	A-
		White	Hispanic	8	11.45	1.43	1.12	-0.3	A-
		Male	Female	8	48.39	6.05	1.14	-0.3	A-
B	102	White	Black	8	32.28	4.03	1.3	-0.6	A-
		White	Hispanic	8	7.17	0.9	1.1	-0.2	A-
		Male	Female	8	33.02	4.13	1.22	-0.5	A-
B	103	White	Black	8	39.46	4.93	0.83	0.4	A+
		White	Hispanic	8	23.75	2.97	0.76	0.6	A+
		Male	Female	8	11	1.38	0.92	0.2	A+
B	104	White	Black	8	24.56	3.07	0.83	0.4	A+
		White	Hispanic	8	14.65	1.83	0.78	0.6	A+
		Male	Female	8	15.47	1.93	0.96	0.1	A+
B	105	White	Black	8	10.42	1.3	0.91	0.2	A+
		White	Hispanic	8	9.77	1.22	0.85	0.4	A+
		Male	Female	8	160.89	20.11	1.46	-0.9	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	106	White	Black	8	17.53	2.19	1.13	-0.3	A-
		White	Hispanic	8	23.63	2.95	1.24	-0.5	A-
		Male	Female	8	31.94	3.99	1.07	-0.2	A-
B	107	White	Black	8	16.91	2.11	0.91	0.2	A+
		White	Hispanic	8	14.64	1.83	0.79	0.6	A+
		Male	Female	8	91.2	11.4	0.82	0.5	A+
B	108	White	Black	8	20.44	2.56	0.82	0.5	A+
		White	Hispanic	8	11.38	1.42	1.02	0	A-
		Male	Female	8	27.16	3.39	0.87	0.3	A+
B	109	White	Black	8	8.17	1.02	0.93	0.2	A+
		White	Hispanic	8	5.89	0.74	0.96	0.1	A+
		Male	Female	8	23.53	2.94	0.9	0.2	A+
C	84	White	Black	8	8.54	1.07	0.87	0.3	A+
		White	Hispanic	8	2.49	0.31	1.02	0	A-
		Male	Female	8	22.48	2.81	0.87	0.3	A+
C	85	White	Black	8	16.66	2.08	1.2	-0.4	A-
		White	Hispanic	8	8.94	1.12	1.15	-0.3	A-
		Male	Female	8	266.22	33.28	1.52	-1	A-
C	86	White	Black	8	63.62	7.95	1.36	-0.7	A-
		White	Hispanic	8	39.41	4.93	1.51	-1	A-
		Male	Female	8	268.34	33.54	1.53	-1	B-
C	87	White	Black	8	7.82	0.98	1.08	-0.2	A-
		White	Hispanic	8	15.02	1.88	1.31	-0.6	A-
		Male	Female	8	8.96	1.12	0.99	0	A+
C	88	White	Black	8	45.5	5.69	1.29	-0.6	A-
		White	Hispanic	8	25.93	3.24	1.26	-0.5	A-
		Male	Female	8	124.45	15.56	1.35	-0.7	A-
C	89	White	Black	8	35.63	4.45	1.33	-0.7	A-
		White	Hispanic	8	7.99	1	1.14	-0.3	A-
		Male	Female	8	179.29	22.41	1.53	-1	B-
C	90	White	Black	8	37.35	4.67	0.8	0.5	A+
		White	Hispanic	8	10.15	1.27	0.78	0.6	A+
		Male	Female	8	30.48	3.81	1	0	A
C	91	White	Black	8	18.46	2.31	0.83	0.4	A+
		White	Hispanic	8	20.45	2.56	0.71	0.8	A+
		Male	Female	8	24.35	3.04	0.9	0.2	A+
C	92	White	Black	8	25.6	3.2	0.9	0.2	A+
		White	Hispanic	8	14.6	1.82	1	0	A
		Male	Female	8	23.38	2.92	0.94	0.1	A+
C	93	White	Black	8	14.84	1.85	1.1	-0.2	A-
		White	Hispanic	8	16.31	2.04	1.34	-0.7	A-
		Male	Female	8	56.16	7.02	1.15	-0.3	A-
C	94	White	Black	8	36.54	4.57	1.34	-0.7	A-
		White	Hispanic	8	18.46	2.31	1.41	-0.8	A-
		Male	Female	8	22.79	2.85	1.1	-0.2	A-
C	95	White	Black	8	85.51	10.69	1.66	-1.2	B-
		White	Hispanic	8	35.77	4.47	1.81	-1.4	B-
		Male	Female	8	18.11	2.26	1.17	-0.4	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	96	White	Black	8	29.8	3.72	0.87	0.3	A+
		White	Hispanic	8	20.11	2.51	0.65	1	A+
		Male	Female	8	17.32	2.17	0.95	0.1	A+
C	97	White	Black	8	34.21	4.28	1.36	-0.7	A-
		White	Hispanic	8	12.32	1.54	1.26	-0.5	A-
		Male	Female	8	15.08	1.88	0.9	0.3	A+
C	98	White	Black	8	12.22	1.53	1.11	-0.2	A-
		White	Hispanic	8	24.44	3.06	1.42	-0.8	A-
		Male	Female	8	16.54	2.07	1	0	A-
C	99	White	Black	8	20.59	2.57	0.85	0.4	A+
		White	Hispanic	8	3.15	0.39	0.94	0.1	A+
		Male	Female	8	33.5	4.19	1.14	-0.3	A-
C	100	White	Black	8	10.76	1.34	0.96	0.1	A+
		White	Hispanic	8	10.66	1.33	0.93	0.2	A+
		Male	Female	8	25.17	3.15	0.89	0.3	A+
C	101	White	Black	8	50.32	6.29	0.73	0.7	A+
		White	Hispanic	8	31.37	3.92	0.63	1.1	B+
		Male	Female	8	30.22	3.78	0.89	0.3	A+
C	102	White	Black	8	3.39	0.42	0.94	0.1	A+
		White	Hispanic	8	12.21	1.53	0.94	0.1	A+
		Male	Female	8	21.75	2.72	0.98	0	A+
C	103	White	Black	8	7.26	0.91	0.96	0.1	A+
		White	Hispanic	8	16.39	2.05	1.21	-0.4	A-
		Male	Female	8	60.18	7.52	0.75	0.7	A+
C	104	White	Black	8	11.21	1.4	1.05	-0.1	A-
		White	Hispanic	8	19.6	2.45	1.05	-0.1	A-
		Male	Female	8	73.1	9.14	0.69	0.9	A+
C	105	White	Black	8	15.78	1.97	1.22	-0.5	A-
		White	Hispanic	8	27.7	3.46	1.29	-0.6	A-
		Male	Female	8	62.28	7.78	0.76	0.6	A+
C	106	White	Black	8	10.6	1.32	0.96	0.1	A+
		White	Hispanic	8	10.68	1.33	1.33	-0.7	A-
		Male	Female	8	33.09	4.14	0.94	0.1	A+
C	107	White	Black	8	44.89	5.61	0.68	0.9	A+
		White	Hispanic	8	3.97	0.5	1.03	-0.1	A-
		Male	Female	8	218.22	27.28	1.68	-1.2	B-
C	108	White	Black	8	9.35	1.17	1.14	-0.3	A-
		White	Hispanic	8	18.41	2.3	1.38	-0.8	A-
		Male	Female	8	46.38	5.8	0.87	0.3	A+
C	109	White	Black	8	11.17	1.4	1.11	-0.2	A-
		White	Hispanic	8	7.88	0.99	0.85	0.4	A+
		Male	Female	8	15.66	1.96	1.01	0	A-
D	84	White	Black	8	8.96	1.12	1.07	-0.2	A-
		White	Hispanic	8	44.21	5.53	1.41	-0.8	A-
		Male	Female	8	24.19	3.02	0.84	0.4	A+
D	85	White	Black	8	25.2	3.15	1.19	-0.4	A-
		White	Hispanic	8	10.45	1.31	0.9	0.2	A+
		Male	Female	8	23.41	2.93	1.1	-0.2	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	86	White	Black	8	6.85	0.86	1.02	0	A-
		White	Hispanic	8	10.67	1.33	1	0	A
		Male	Female	8	5.99	0.75	1.03	-0.1	A-
D	87	White	Black	8	51.81	6.48	1.37	-0.7	A-
		White	Hispanic	8	9.15	1.14	1.21	-0.5	A-
		Male	Female	8	59.47	7.43	0.85	0.4	A+
D	88	White	Black	8	3.71	0.46	1.04	-0.1	A-
		White	Hispanic	8	8.28	1.04	0.81	0.5	A+
		Male	Female	8	21.91	2.74	1.12	-0.3	A-
D	89	White	Black	8	14.97	1.87	1.12	-0.3	A-
		White	Hispanic	8	7.86	0.98	1.12	-0.3	A-
		Male	Female	8	58.11	7.26	1.14	-0.3	A-
D	90	White	Black	8	117.62	14.7	1.75	-1.3	B-
		White	Hispanic	8	16.58	2.07	1.32	-0.7	A-
		Male	Female	8	23.83	2.98	1.05	-0.1	A-
D	91	White	Black	8	59.83	7.48	1.4	-0.8	A-
		White	Hispanic	8	10.12	1.27	1.31	-0.6	A-
		Male	Female	8	41.85	5.23	1.11	-0.2	A-
D	92	White	Black	8	22.5	2.81	0.93	0.2	A+
		White	Hispanic	8	18.19	2.27	0.76	0.6	A+
		Male	Female	8	18.45	2.31	1.07	-0.2	A-
D	93	White	Black	8	24.29	3.04	0.84	0.4	A+
		White	Hispanic	8	16.4	2.05	0.83	0.4	A+
		Male	Female	8	30.95	3.87	0.9	0.3	A+
D	94	White	Black	8	75.13	9.39	1.53	-1	B-
		White	Hispanic	8	38.36	4.8	1.51	-1	A-
		Male	Female	8	29.75	3.72	0.9	0.2	A+
D	95	White	Black	8	15.85	1.98	1.2	-0.4	A-
		White	Hispanic	8	5.96	0.74	0.92	0.2	A+
		Male	Female	8	17.76	2.22	1.11	-0.2	A-
D	96	White	Black	8	24.86	3.11	0.81	0.5	A+
		White	Hispanic	8	14.15	1.77	0.94	0.1	A+
		Male	Female	8	31.35	3.92	1.13	-0.3	A-
D	97	White	Black	8	18.59	2.32	1.25	-0.5	A-
		White	Hispanic	8	8.77	1.1	1.15	-0.3	A-
		Male	Female	8	37.55	4.69	0.79	0.6	A+
D	98	White	Black	8	8.78	1.1	1.12	-0.3	A-
		White	Hispanic	8	40.9	5.11	1.66	-1.2	B-
		Male	Female	8	19.81	2.48	0.93	0.2	A+
D	99	White	Black	8	4.09	0.51	0.92	0.2	A+
		White	Hispanic	8	7.9	0.99	0.88	0.3	A+
		Male	Female	8	41.02	5.13	1.17	-0.4	A-
D	100	White	Black	8	10.49	1.31	0.98	0	A+
		White	Hispanic	8	11.95	1.49	1.19	-0.4	A-
		Male	Female	8	36.45	4.56	0.87	0.3	A+
D	101	White	Black	8	28.54	3.57	0.78	0.6	A+
		White	Hispanic	8	15.08	1.88	0.75	0.7	A+
		Male	Female	8	21.43	2.68	0.96	0.1	A+

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	102	White	Black	8	6.86	0.86	1.03	-0.1	A-
		White	Hispanic	8	8.98	1.12	1.12	-0.3	A-
		Male	Female	8	13.95	1.74	0.95	0.1	A+
D	103	White	Black	8	10.22	1.28	0.93	0.2	A+
		White	Hispanic	8	3.92	0.49	1.03	-0.1	A-
		Male	Female	8	22.9	2.86	0.91	0.2	A+
D	104	White	Black	8	10.86	1.36	0.95	0.1	A+
		White	Hispanic	8	20.12	2.51	0.76	0.6	A+
		Male	Female	8	127.55	15.94	0.61	1.2	B+
D	105	White	Black	8	29.4	3.68	1.27	-0.6	A-
		White	Hispanic	8	16.67	2.08	1.42	-0.8	A-
		Male	Female	8	36.32	4.54	0.8	0.5	A+
D	106	White	Black	8	6.8	0.85	1	0	A
		White	Hispanic	8	22.03	2.75	1.32	-0.7	A-
		Male	Female	8	48.29	6.04	0.79	0.6	A+
D	107	White	Black	8	24.38	3.05	0.76	0.7	A+
		White	Hispanic	8	7.84	0.98	0.84	0.4	A+
		Male	Female	8	229.63	28.7	1.57	-1.1	B-
D	108	White	Black	8	29.73	3.72	1.2	-0.4	A-
		White	Hispanic	8	40.8	5.1	1.47	-0.9	A-
		Male	Female	8	21.39	2.67	0.88	0.3	A+
D	109	White	Black	8	32.46	4.06	1.25	-0.5	A-
		White	Hispanic	8	4.61	0.58	1.01	0	A-
		Male	Female	8	17.2	2.15	0.99	0	A+
E	84	White	Black	8	13.33	1.67	1.03	-0.1	A-
		White	Hispanic	8	37.87	4.73	1.33	-0.7	A-
		Male	Female	8	34.22	4.28	1.14	-0.3	A-
E	85	White	Black	8	74.38	9.3	1.57	-1.1	B-
		White	Hispanic	8	41.39	5.17	1.42	-0.8	A-
		Male	Female	8	66.22	8.28	1.11	-0.3	A-
E	86	White	Black	8	35.15	4.39	0.81	0.5	A+
		White	Hispanic	8	11.54	1.44	0.83	0.4	A+
		Male	Female	8	44.92	5.61	0.79	0.6	A+
E	87	White	Black	8	6.47	0.81	1.04	-0.1	A-
		White	Hispanic	8	1.31	0.16	0.98	0	A+
		Male	Female	8	18.51	2.31	1	0	A+
E	88	White	Black	8	7.88	0.98	0.89	0.3	A+
		White	Hispanic	8	3.03	0.38	0.91	0.2	A+
		Male	Female	8	34.03	4.25	0.83	0.4	A+
E	89	White	Black	8	39.61	4.95	0.8	0.5	A+
		White	Hispanic	8	13.5	1.69	0.77	0.6	A+
		Male	Female	8	44.19	5.52	0.85	0.4	A+
E	90	White	Black	8	10.38	1.3	1.16	-0.4	A-
		White	Hispanic	8	18.15	2.27	1.32	-0.6	A-
		Male	Female	8	31.37	3.92	1.14	-0.3	A-
E	91	White	Black	8	45.13	5.64	0.78	0.6	A+
		White	Hispanic	8	14.71	1.84	0.81	0.5	A+
		Male	Female	8	24.2	3.03	0.96	0.1	A+

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	92	White	Black	8	17.89	2.24	0.88	0.3	A+
		White	Hispanic	8	7.91	0.99	0.92	0.2	A+
		Male	Female	8	91.98	11.5	0.75	0.7	A+
E	93	White	Black	8	24.29	3.04	1.17	-0.4	A-
		White	Hispanic	8	17.61	2.2	1.25	-0.5	A-
		Male	Female	8	206.92	25.87	1.46	-0.9	A-
E	94	White	Black	8	28	3.5	1.2	-0.4	A-
		White	Hispanic	8	7.6	0.95	1.07	-0.2	A-
		Male	Female	8	117.86	14.73	0.76	0.7	A+
E	95	White	Black	8	10.66	1.33	1.02	0	A-
		White	Hispanic	8	7.52	0.94	0.8	0.5	A+
		Male	Female	8	17.66	2.21	1.05	-0.1	A-
E	96	White	Black	8	28.26	3.53	1.25	-0.5	A-
		White	Hispanic	8	16.92	2.12	1.12	-0.3	A-
		Male	Female	8	14.85	1.86	0.94	0.1	A+
E	97	White	Black	8	24.3	3.04	0.93	0.2	A+
		White	Hispanic	8	16.44	2.06	0.84	0.4	A+
		Male	Female	8	51	6.38	1.19	-0.4	A-
E	98	White	Black	8	6.87	0.86	1.12	-0.3	A-
		White	Hispanic	8	25.18	3.15	1.51	-1	A-
		Male	Female	8	57.57	7.2	1.32	-0.6	A-
E	99	White	Black	8	64.28	8.03	1.23	-0.5	A-
		White	Hispanic	8	18.19	2.27	1.08	-0.2	A-
		Male	Female	8	85.62	10.7	1.27	-0.6	A-
E	100	White	Black	8	28.81	3.6	1.21	-0.4	A-
		White	Hispanic	8	28.22	3.53	1.39	-0.8	A-
		Male	Female	8	89.55	11.19	1.3	-0.6	A-
E	101	White	Black	8	92.87	11.61	1.6	-1.1	B-
		White	Hispanic	8	15.7	1.96	1.41	-0.8	A-
		Male	Female	8	95	11.87	1.35	-0.7	A-
E	102	White	Black	8	21.84	2.73	0.95	0.1	A+
		White	Hispanic	8	7.07	0.88	0.86	0.4	A+
		Male	Female	8	44.84	5.61	0.94	0.1	A+
E	103	White	Black	8	5.6	0.7	0.95	0.1	A+
		White	Hispanic	8	5.09	0.64	1.1	-0.2	A-
		Male	Female	8	32.96	4.12	0.98	0	A+
E	104	White	Black	8	19.27	2.41	1.21	-0.5	A-
		White	Hispanic	8	33.36	4.17	1.56	-1	B-
		Male	Female	8	227.1	28.39	1.31	-0.6	A-
E	105	White	Black	8	33.01	4.13	0.8	0.5	A+
		White	Hispanic	8	10.06	1.26	0.84	0.4	A+
		Male	Female	8	26.37	3.3	0.91	0.2	A+
E	106	White	Black	8	11.96	1.5	1	0	A
		White	Hispanic	8	23.21	2.9	1.28	-0.6	A-
		Male	Female	8	14.75	1.84	1.09	-0.2	A-
E	107	White	Black	8	14.18	1.77	0.92	0.2	A+
		White	Hispanic	8	2.21	0.28	1.04	-0.1	A-
		Male	Female	8	9.95	1.24	1.01	0	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	108	White	Black	8	17.71	2.21	1.02	0	A-
		White	Hispanic	8	4.27	0.53	1.06	-0.1	A-
		Male	Female	8	8.3	1.04	0.98	0	A+
E	109	White	Black	8	16.43	2.05	1.22	-0.5	A-
		White	Hispanic	8	11.49	1.44	1.04	-0.1	A-
		Male	Female	8	61.52	7.69	1.22	-0.5	A-
F	84	White	Black	8	69.26	8.66	1.58	-1.1	B-
		White	Hispanic	8	46.7	5.84	1.79	-1.4	B-
		Male	Female	8	76.69	9.59	1.32	-0.7	A-
F	85	White	Black	8	142.07	17.76	1.8	-1.4	B-
		White	Hispanic	8	164.25	20.53	2.37	-2	C-
		Male	Female	8	17.82	2.23	1	0	A-
F	86	White	Black	8	6.15	0.77	1.14	-0.3	A-
		White	Hispanic	8	14.57	1.82	1.4	-0.8	A-
		Male	Female	8	14.29	1.79	1.08	-0.2	A-
F	87	White	Black	8	9.44	1.18	1.05	-0.1	A-
		White	Hispanic	8	6.67	0.83	1.05	-0.1	A-
		Male	Female	8	18.74	2.34	0.93	0.2	A+
F	88	White	Black	8	3.85	0.48	0.97	0.1	A+
		White	Hispanic	8	36.74	4.59	1.35	-0.7	A-
		Male	Female	8	26.52	3.32	1.17	-0.4	A-
F	89	White	Black	8	10.52	1.31	1.13	-0.3	A-
		White	Hispanic	8	8.71	1.09	1.27	-0.6	A-
		Male	Female	8	25.79	3.22	0.94	0.1	A+
F	90	White	Black	8	16.91	2.11	0.91	0.2	A+
		White	Hispanic	8	7.31	0.91	0.91	0.2	A+
		Male	Female	8	19.63	2.45	1.02	0	A-
F	91	White	Black	8	33.26	4.16	0.8	0.5	A+
		White	Hispanic	8	17.46	2.18	0.75	0.7	A+
		Male	Female	8	56.47	7.06	0.86	0.4	A+
F	92	White	Black	8	22.93	2.87	0.79	0.6	A+
		White	Hispanic	8	23.26	2.91	0.65	1	B+
		Male	Female	8	78.9	9.86	1.14	-0.3	A-
F	93	White	Black	8	15.03	1.88	1.06	-0.1	A-
		White	Hispanic	8	28.08	3.51	1.51	-1	A-
		Male	Female	8	57.7	7.21	1.18	-0.4	A-
F	94	White	Black	8	14.36	1.8	0.96	0.1	A+
		White	Hispanic	8	6.52	0.82	0.94	0.2	A+
		Male	Female	8	104.04	13.01	0.77	0.6	A+
F	95	White	Black	8	16.01	2	0.94	0.2	A+
		White	Hispanic	8	13.23	1.65	0.79	0.5	A+
		Male	Female	8	37.09	4.64	0.93	0.2	A+
F	96	White	Black	8	22.91	2.86	0.83	0.4	A+
		White	Hispanic	8	1.44	0.18	0.99	0	A+
		Male	Female	8	27.03	3.38	0.88	0.3	A+
F	97	White	Black	8	678.38	84.8	2.93	-2.5	C-
		White	Hispanic	8	289.7	36.21	3.33	-2.8	C-
		Male	Female	8	59.18	7.4	1.33	-0.7	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	98	White	Black	8	8.3	1.04	1.04	-0.1	A-
		White	Hispanic	8	12.66	1.58	1.33	-0.7	A-
		Male	Female	8	54.66	6.83	1.19	-0.4	A-
F	99	White	Black	8	2.95	0.37	1.07	-0.2	A-
		White	Hispanic	8	11.62	1.45	1.17	-0.4	A-
		Male	Female	8	15.24	1.9	1.01	0	A-
F	100	White	Black	8	3.43	0.43	0.94	0.1	A+
		White	Hispanic	8	13.05	1.63	0.83	0.4	A+
		Male	Female	8	17.53	2.19	1.07	-0.2	A-
F	101	White	Black	8	48.74	6.09	1.32	-0.7	A-
		White	Hispanic	8	14.85	1.86	1.3	-0.6	A-
		Male	Female	8	164.14	20.52	1.45	-0.9	A-
F	102	White	Black	8	44.88	5.61	1.26	-0.5	A-
		White	Hispanic	8	8.3	1.04	1.06	-0.1	A-
		Male	Female	8	12.34	1.54	0.94	0.1	A+
F	103	White	Black	8	33.71	4.21	0.85	0.4	A+
		White	Hispanic	8	10.99	1.37	1.11	-0.2	A-
		Male	Female	8	27.74	3.47	1.09	-0.2	A-
F	104	White	Black	8	11.24	1.4	1.13	-0.3	A-
		White	Hispanic	8	11.4	1.43	0.92	0.2	A+
		Male	Female	8	112.21	14.03	1.25	-0.5	A-
F	105	White	Black	8	16.04	2.01	0.9	0.3	A+
		White	Hispanic	8	5.14	0.64	0.92	0.2	A+
		Male	Female	8	11.01	1.38	1.05	-0.1	A-
F	106	White	Black	8	69.74	8.72	0.72	0.8	A+
		White	Hispanic	8	19.87	2.48	0.78	0.6	A+
		Male	Female	8	48.86	6.11	1.12	-0.3	A-
F	107	White	Black	8	4.99	0.62	0.98	0.1	A+
		White	Hispanic	8	6.6	0.82	0.98	0	A+
		Male	Female	8	32.03	4	0.89	0.3	A+
F	108	White	Black	8	6.42	0.8	0.97	0.1	A+
		White	Hispanic	8	6.65	0.83	1.01	0	A-
		Male	Female	8	29.6	3.7	1.12	-0.3	A-
F	109	White	Black	8	11.76	1.47	1.08	-0.2	A-
		White	Hispanic	8	10.81	1.35	1.08	-0.2	A-
		Male	Female	8	98.22	12.28	1.27	-0.6	A-
G	84	White	Black	8	67.31	8.41	1.52	-1	A-
		White	Hispanic	8	12.9	1.61	1.31	-0.6	A-
		Male	Female	8	42.78	5.35	1.13	-0.3	A-
G	85	White	Black	8	50.92	6.36	1.4	-0.8	A-
		White	Hispanic	8	14.53	1.82	1.36	-0.7	A-
		Male	Female	8	159.11	19.89	1.45	-0.9	A-
G	86	White	Black	8	10.34	1.29	1	0	A
		White	Hispanic	8	10.35	1.29	1.12	-0.3	A-
		Male	Female	8	63.33	7.92	1.01	0	A-
G	87	White	Black	8	33.49	4.19	1.28	-0.6	A-
		White	Hispanic	8	19.05	2.38	1.42	-0.8	A-
		Male	Female	8	31.5	3.94	1.11	-0.3	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	88	White	Black	8	6.29	0.79	1.03	-0.1	A-
		White	Hispanic	8	7.08	0.88	0.9	0.2	A+
		Male	Female	8	72.83	9.1	0.84	0.4	A+
G	89	White	Black	8	11.83	1.48	1.04	-0.1	A-
		White	Hispanic	8	8.37	1.05	1.08	-0.2	A-
		Male	Female	8	99.96	12.5	0.73	0.7	A+
G	90	White	Black	8	22.72	2.84	1.1	-0.2	A-
		White	Hispanic	8	8.26	1.03	1.16	-0.4	A-
		Male	Female	8	77.19	9.65	1.29	-0.6	A-
G	91	White	Black	8	42.82	5.35	1.4	-0.8	A-
		White	Hispanic	8	16.13	2.02	1.21	-0.4	A-
		Male	Female	8	62.9	7.86	1.22	-0.5	A-
G	92	White	Black	8	20.37	2.55	0.87	0.3	A+
		White	Hispanic	8	9.01	1.13	0.91	0.2	A+
		Male	Female	8	13.59	1.7	1.01	0	A-
G	93	White	Black	8	18.69	2.34	0.93	0.2	A+
		White	Hispanic	8	13.81	1.73	1.08	-0.2	A-
		Male	Female	8	8.74	1.09	0.98	0.1	A+
G	94	White	Black	8	53.38	6.67	1.39	-0.8	A-
		White	Hispanic	8	15.54	1.94	1.32	-0.6	A-
		Male	Female	8	49.89	6.24	1.21	-0.5	A-
G	95	White	Black	8	36.51	4.56	0.87	0.3	A+
		White	Hispanic	8	13.58	1.7	0.78	0.6	A+
		Male	Female	8	24.81	3.1	0.94	0.1	A+
G	96	White	Black	8	14.65	1.83	0.96	0.1	A+
		White	Hispanic	8	16.13	2.02	1.05	-0.1	A-
		Male	Female	8	56.49	7.06	0.81	0.5	A+
G	97	White	Black	8	3.96	0.5	0.92	0.2	A+
		White	Hispanic	8	3.65	0.46	1.03	-0.1	A-
		Male	Female	8	44.1	5.51	0.9	0.3	A+
G	98	White	Black	8	14.89	1.86	0.99	0	A+
		White	Hispanic	8	9.12	1.14	0.95	0.1	A+
		Male	Female	8	248.02	31	1.51	-1	A-
G	99	White	Black	8	34.16	4.27	1.25	-0.5	A-
		White	Hispanic	8	13.52	1.69	1.21	-0.5	A-
		Male	Female	8	277.92	34.74	1.57	-1.1	B-
G	100	White	Black	8	4.32	0.54	0.99	0	A+
		White	Hispanic	8	11.67	1.46	1.21	-0.5	A-
		Male	Female	8	11.6	1.45	0.86	0.4	A+
G	101	White	Black	8	53.12	6.64	1.37	-0.7	A-
		White	Hispanic	8	8.42	1.05	1.16	-0.4	A-
		Male	Female	8	83.49	10.44	1.17	-0.4	A-
G	102	White	Black	8	37.67	4.71	1.33	-0.7	A-
		White	Hispanic	8	31.11	3.89	1.51	-1	A-
		Male	Female	8	176.32	22.04	1.42	-0.8	A-
G	103	White	Black	8	18.68	2.34	0.93	0.2	A+
		White	Hispanic	8	6.81	0.85	0.96	0.1	A+
		Male	Female	8	20.71	2.59	1.01	0	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	104	White	Black	8	31	3.87	0.77	0.6	A+
		White	Hispanic	8	24.41	3.05	0.75	0.7	A+
		Male	Female	8	14.27	1.78	0.94	0.2	A+
G	105	White	Black	8	4.7	0.59	0.96	0.1	A+
		White	Hispanic	8	10.38	1.3	0.92	0.2	A+
		Male	Female	8	34.44	4.31	0.85	0.4	A+
G	106	White	Black	8	23.38	2.92	1.2	-0.4	A-
		White	Hispanic	8	35.85	4.48	1.76	-1.3	B-
		Male	Female	8	110.13	13.77	1.2	-0.4	A-
G	107	White	Black	8	41.16	5.15	1.28	-0.6	A-
		White	Hispanic	8	31.26	3.91	1.3	-0.6	A-
		Male	Female	8	30.68	3.83	1.1	-0.2	A-
G	108	White	Black	8	76	9.5	1.61	-1.1	B-
		White	Hispanic	8	34.09	4.26	1.61	-1.1	B-
		Male	Female	8	7.93	0.99	0.97	0.1	A+
G	109	White	Black	8	2.86	0.36	1	0	A
		White	Hispanic	8	8.88	1.11	0.84	0.4	A+
		Male	Female	8	37.94	4.74	0.85	0.4	A+
H	84	White	Black	8	18.64	2.33	0.87	0.3	A+
		White	Hispanic	8	15.97	2	0.82	0.5	A+
		Male	Female	8	23.47	2.93	1.07	-0.2	A-
H	85	White	Black	8	31.77	3.97	1.25	-0.5	A-
		White	Hispanic	8	19.86	2.48	1.36	-0.7	A-
		Male	Female	8	50.61	6.33	1.18	-0.4	A-
H	86	White	Black	8	83.41	10.43	1.6	-1.1	B-
		White	Hispanic	8	13.94	1.74	1.28	-0.6	A-
		Male	Female	8	320.17	40.02	1.78	-1.4	B-
H	87	White	Black	8	9.69	1.21	0.93	0.2	A+
		White	Hispanic	8	12.47	1.56	0.98	0.1	A+
		Male	Female	8	9.87	1.23	0.97	0.1	A+
H	88	White	Black	8	124.17	15.52	1.67	-1.2	B-
		White	Hispanic	8	29.69	3.71	1.55	-1	B-
		Male	Female	8	804.09	100.51	2.36	-2	C-
H	89	White	Black	8	19.7	2.46	1.09	-0.2	A-
		White	Hispanic	8	5.99	0.75	1.19	-0.4	A-
		Male	Female	8	5.03	0.63	1.01	0	A-
H	90	White	Black	8	49.85	6.23	1.46	-0.9	A-
		White	Hispanic	8	39.87	4.98	1.83	-1.4	B-
		Male	Female	8	119.55	14.94	1.43	-0.8	A-
H	91	White	Black	8	21.28	2.66	0.97	0.1	A+
		White	Hispanic	8	4.8	0.6	1.04	-0.1	A-
		Male	Female	8	50.2	6.27	1.09	-0.2	A-
H	92	White	Black	8	255.08	31.88	2.18	-1.8	C-
		White	Hispanic	8	93.98	11.75	2.28	-1.9	C-
		Male	Female	8	248.15	31.02	1.69	-1.2	B-
H	93	White	Black	8	9.96	1.25	1.03	-0.1	A-
		White	Hispanic	8	7.23	0.9	0.97	0.1	A+
		Male	Female	8	90.97	11.37	1.27	-0.6	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	94	White	Black	8	5.47	0.68	1	0	A-
		White	Hispanic	8	8.15	1.02	1.1	-0.2	A-
		Male	Female	8	53.89	6.74	1.23	-0.5	A-
H	95	White	Black	8	13.07	1.63	1.04	-0.1	A-
		White	Hispanic	8	8.28	1.04	0.91	0.2	A+
		Male	Female	8	33.91	4.24	0.92	0.2	A+
H	96	White	Black	8	10.36	1.3	0.94	0.1	A+
		White	Hispanic	8	15.99	2	1.14	-0.3	A-
		Male	Female	8	47.89	5.99	0.82	0.5	A+
H	97	White	Black	8	15.44	1.93	0.95	0.1	A+
		White	Hispanic	8	15.63	1.95	1.44	-0.9	A-
		Male	Female	8	71.42	8.93	0.86	0.3	A+
H	98	White	Black	8	7.85	0.98	1.09	-0.2	A-
		White	Hispanic	8	5.95	0.74	1.14	-0.3	A-
		Male	Female	8	21.31	2.66	0.94	0.1	A+
H	99	White	Black	8	8.16	1.02	1.01	0	A-
		White	Hispanic	8	12.49	1.56	1.26	-0.5	A-
		Male	Female	8	52.01	6.5	1.04	-0.1	A-
H	100	White	Black	8	55.82	6.98	1.33	-0.7	A-
		White	Hispanic	8	25.36	3.17	1.37	-0.7	A-
		Male	Female	8	40.48	5.06	0.83	0.4	A+
H	101	White	Black	8	14.03	1.75	0.85	0.4	A+
		White	Hispanic	8	11.84	1.48	0.94	0.2	A+
		Male	Female	8	38.87	4.86	0.95	0.1	A+
H	102	White	Black	8	12.54	1.57	1.08	-0.2	A-
		White	Hispanic	8	13.75	1.72	1.28	-0.6	A-
		Male	Female	8	16.7	2.09	1.04	-0.1	A-
H	103	White	Black	8	60.85	7.61	1.52	-1	A-
		White	Hispanic	8	35	4.37	1.75	-1.3	B-
		Male	Female	8	42.87	5.36	0.92	0.2	A+
H	104	White	Black	8	21.28	2.66	1.16	-0.3	A-
		White	Hispanic	8	20.54	2.57	1.43	-0.8	A-
		Male	Female	8	38.15	4.77	1.21	-0.4	A-
H	105	White	Black	8	17.35	2.17	0.89	0.3	A+
		White	Hispanic	8	5.58	0.7	0.89	0.3	A+
		Male	Female	8	28.5	3.56	0.98	0	A+
H	106	White	Black	8	10.06	1.26	1.03	-0.1	A-
		White	Hispanic	8	13.49	1.69	0.88	0.3	A+
		Male	Female	8	33.57	4.2	0.9	0.2	A+
H	107	White	Black	8	40.03	5	1.32	-0.7	A-
		White	Hispanic	8	16.08	2.01	1.27	-0.6	A-
		Male	Female	8	51.45	6.43	0.82	0.5	A+
H	108	White	Black	8	22.65	2.83	1.22	-0.5	A-
		White	Hispanic	8	11.48	1.44	0.88	0.3	A+
		Male	Female	8	15.08	1.89	1.03	-0.1	A-
H	109	White	Black	8	21.11	2.64	0.86	0.4	A+
		White	Hispanic	8	7.55	0.94	0.99	0	A+
		Male	Female	8	54.16	6.77	1.16	-0.4	A-

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	84	White	Black	8	39.55	4.94	0.88	0.3	A+
		White	Hispanic	8	17.58	2.2	0.86	0.3	A+
		Male	Female	8	39.03	4.88	1.03	-0.1	A-
I	85	White	Black	8	10.71	1.34	1.07	-0.2	A-
		White	Hispanic	8	33.96	4.25	1.35	-0.7	A-
		Male	Female	8	82.1	10.26	1.22	-0.5	A-
I	86	White	Black	8	47.74	5.97	1.34	-0.7	A-
		White	Hispanic	8	20.41	2.55	1.23	-0.5	A-
		Male	Female	8	90.86	11.36	1.28	-0.6	A-
I	87	White	Black	8	17.97	2.25	1.07	-0.2	A-
		White	Hispanic	8	12.15	1.52	1.29	-0.6	A-
		Male	Female	8	52.09	6.51	1.28	-0.6	A-
I	88	White	Black	8	91.45	11.43	1.57	-1.1	B-
		White	Hispanic	8	22.34	2.79	1.34	-0.7	A-
		Male	Female	8	185.27	23.16	1.55	-1	B-
I	89	White	Black	8	30.79	3.85	1.06	-0.1	A-
		White	Hispanic	8	10.08	1.26	0.86	0.4	A+
		Male	Female	8	17.37	2.17	1	0	A
I	90	White	Black	8	7.99	1	1.07	-0.2	A-
		White	Hispanic	8	16.38	2.05	1.08	-0.2	A-
		Male	Female	8	12.19	1.52	1	0	A
I	91	White	Black	8	14.26	1.78	1.18	-0.4	A-
		White	Hispanic	8	13.43	1.68	1.36	-0.7	A-
		Male	Female	8	47.9	5.99	1.18	-0.4	A-
I	92	White	Black	8	17.29	2.16	0.83	0.4	A+
		White	Hispanic	8	6.8	0.85	0.92	0.2	A+
		Male	Female	8	17.32	2.16	0.9	0.2	A+
I	93	White	Black	8	21.42	2.68	0.95	0.1	A+
		White	Hispanic	8	33.1	4.14	1.43	-0.8	A-
		Male	Female	8	39.68	4.96	1.14	-0.3	A-
I	94	White	Black	8	20.73	2.59	1.05	-0.1	A-
		White	Hispanic	8	12.69	1.59	0.85	0.4	A+
		Male	Female	8	18.35	2.29	0.95	0.1	A+
I	95	White	Black	8	8.86	1.11	1.1	-0.2	A-
		White	Hispanic	8	10.75	1.34	1.01	0	A-
		Male	Female	8	16.95	2.12	1.07	-0.2	A-
I	96	White	Black	8	41.55	5.19	1.29	-0.6	A-
		White	Hispanic	8	4.52	0.57	1.09	-0.2	A-
		Male	Female	8	37.38	4.67	1.2	-0.4	A-
I	97	White	Black	8	10.44	1.31	1.11	-0.2	A-
		White	Hispanic	8	10.15	1.27	0.96	0.1	A+
		Male	Female	8	40.31	5.04	0.79	0.6	A+
I	98	White	Black	8	11.61	1.45	1.15	-0.3	A-
		White	Hispanic	8	24.63	3.08	1.43	-0.8	A-
		Male	Female	8	16.88	2.11	0.89	0.3	A+
I	99	White	Black	8	3.57	0.45	0.96	0.1	A+
		White	Hispanic	8	9.89	1.24	1.06	-0.1	A-
		Male	Female	8	32.55	4.07	1.19	-0.4	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	100	White	Black	8	17.62	2.2	1.04	-0.1	A-
		White	Hispanic	8	8.16	1.02	1.08	-0.2	A-
		Male	Female	8	20.34	2.54	0.92	0.2	A+
I	101	White	Black	8	39.85	4.98	0.76	0.6	A+
		White	Hispanic	8	11.14	1.39	0.85	0.4	A+
		Male	Female	8	35.67	4.46	0.94	0.2	A+
I	102	White	Black	8	23.3	2.91	0.89	0.3	A+
		White	Hispanic	8	10.9	1.36	0.74	0.7	A+
		Male	Female	8	43.41	5.43	0.94	0.1	A+
I	103	White	Black	8	8.44	1.06	0.9	0.3	A+
		White	Hispanic	8	4.22	0.53	1.11	-0.2	A-
		Male	Female	8	41.28	5.16	0.82	0.5	A+
I	104	White	Black	8	5.8	0.73	1.05	-0.1	A-
		White	Hispanic	8	32.84	4.1	0.86	0.3	A+
		Male	Female	8	87.64	10.95	0.64	1	B+
I	105	White	Black	8	20.28	2.54	1.2	-0.4	A-
		White	Hispanic	8	24.69	3.09	1.41	-0.8	A-
		Male	Female	8	42.12	5.27	0.82	0.5	A+
I	106	White	Black	8	8.02	1	1.1	-0.2	A-
		White	Hispanic	8	13.97	1.75	1.17	-0.4	A-
		Male	Female	8	12.96	1.62	0.87	0.3	A+
I	107	White	Black	8	26.69	3.34	0.73	0.7	A+
		White	Hispanic	8	7.62	0.95	0.94	0.2	A+
		Male	Female	8	212.73	26.59	1.7	-1.2	B-
I	108	White	Black	8	20.94	2.62	1.17	-0.4	A-
		White	Hispanic	8	23.27	2.91	1.37	-0.7	A-
		Male	Female	8	53.32	6.66	0.85	0.4	A+
I	109	White	Black	8	18.79	2.35	1.21	-0.5	A-
		White	Hispanic	8	15.79	1.97	1.12	-0.3	A-
		Male	Female	8	20.31	2.54	0.93	0.2	A+
J	84	White	Black	8	892.68	111.59	3.89	-3.2	C-
		White	Hispanic	8	211.02	26.38	3.34	-2.8	C-
		Male	Female	8	120.24	15.03	1.59	-1.1	B-
J	85	White	Black	8	16.3	2.04	1.04	-0.1	A-
		White	Hispanic	8	10.93	1.37	1.26	-0.5	A-
		Male	Female	8	101.8	12.72	1.27	-0.6	A-
J	86	White	Black	8	10.8	1.35	1.1	-0.2	A-
		White	Hispanic	8	5.93	0.74	1.16	-0.3	A-
		Male	Female	8	13.86	1.73	0.97	0.1	A+
J	87	White	Black	8	29.67	3.71	0.77	0.6	A+
		White	Hispanic	8	18.06	2.26	0.75	0.7	A+
		Male	Female	8	34.89	4.36	0.97	0.1	A+
J	88	White	Black	8	66.16	8.27	1.46	-0.9	A-
		White	Hispanic	8	24.02	3	1.57	-1.1	B-
		Male	Female	8	134.82	16.85	1.48	-0.9	A-
J	89	White	Black	8	27.11	3.39	1.27	-0.6	A-
		White	Hispanic	8	16.24	2.03	1.37	-0.7	A-
		Male	Female	8	59.07	7.38	1.17	-0.4	A-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	90	White	Black	8	14.99	1.87	0.88	0.3	A+
		White	Hispanic	8	9.04	1.13	0.96	0.1	A+
		Male	Female	8	31.84	3.98	1.14	-0.3	A-
J	91	White	Black	8	17.33	2.17	0.9	0.2	A+
		White	Hispanic	8	21.16	2.65	0.83	0.4	A+
		Male	Female	8	45.86	5.73	1.08	-0.2	A-
J	92	White	Black	8	7.75	0.97	0.94	0.1	A+
		White	Hispanic	8	8.81	1.1	1.03	-0.1	A-
		Male	Female	8	25.45	3.18	1.09	-0.2	A-
J	93	White	Black	8	35.32	4.41	0.84	0.4	A+
		White	Hispanic	8	16.64	2.08	0.92	0.2	A+
		Male	Female	8	57.64	7.21	1.18	-0.4	A-
J	94	White	Black	8	10.52	1.31	0.92	0.2	A+
		White	Hispanic	8	13.55	1.69	0.87	0.3	A+
		Male	Female	8	30.32	3.79	0.9	0.2	A+
J	95	White	Black	8	9.9	1.24	1.02	0	A-
		White	Hispanic	8	2.17	0.27	0.99	0	A+
		Male	Female	8	31.27	3.91	1.11	-0.2	A-
J	96	White	Black	8	8.04	1	1.03	-0.1	A-
		White	Hispanic	8	18.34	2.29	1.23	-0.5	A-
		Male	Female	8	67.43	8.43	1.21	-0.4	A-
J	97	White	Black	8	20.89	2.61	1.2	-0.4	A-
		White	Hispanic	8	10.39	1.3	1.25	-0.5	A-
		Male	Female	8	19.07	2.38	0.85	0.4	A+
J	98	White	Black	8	28.29	3.54	1.31	-0.6	A-
		White	Hispanic	8	24.27	3.03	1.36	-0.7	A-
		Male	Female	8	19.42	2.43	0.97	0.1	A+
J	99	White	Black	8	28.79	3.6	1	0	A
		White	Hispanic	8	11.95	1.49	0.91	0.2	A+
		Male	Female	8	62.71	7.84	1.18	-0.4	A-
J	100	White	Black	8	5.87	0.73	0.96	0.1	A+
		White	Hispanic	8	15.33	1.92	1.17	-0.4	A-
		Male	Female	8	20.67	2.58	0.85	0.4	A+
J	101	White	Black	8	26.97	3.37	0.78	0.6	A+
		White	Hispanic	8	15.54	1.94	0.77	0.6	A+
		Male	Female	8	21.71	2.71	0.95	0.1	A+
J	102	White	Black	8	12.43	1.55	0.85	0.4	A+
		White	Hispanic	8	5.32	0.67	0.96	0.1	A+
		Male	Female	8	20.82	2.6	0.92	0.2	A+
J	103	White	Black	8	19.27	2.41	0.84	0.4	A+
		White	Hispanic	8	8.32	1.04	0.93	0.2	A+
		Male	Female	8	40.21	5.03	0.78	0.6	A+
J	104	White	Black	8	26.2	3.28	0.88	0.3	A+
		White	Hispanic	8	12.72	1.59	0.81	0.5	A+
		Male	Female	8	110.21	13.78	0.61	1.1	B+
J	105	White	Black	8	42.24	5.28	1.27	-0.6	A-
		White	Hispanic	8	8.06	1.01	1.24	-0.5	A-
		Male	Female	8	75.41	9.43	0.75	0.7	A+

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	106	White	Black	8	7.53	0.94	0.96	0.1	A+
		White	Hispanic	8	47.8	5.98	0.83	0.4	A+
		Male	Female	8	41.68	5.21	0.73	0.7	A+
J	107	White	Black	8	30.71	3.84	0.72	0.8	A+
		White	Hispanic	8	14.31	1.79	1.09	-0.2	A-
		Male	Female	8	187.37	23.42	1.56	-1	B-
J	108	White	Black	8	21.22	2.65	1.24	-0.5	A-
		White	Hispanic	8	21.59	2.7	1.19	-0.4	A-
		Male	Female	8	38.59	4.82	0.85	0.4	A+
J	109	White	Black	8	18.93	2.37	1.2	-0.4	A-
		White	Hispanic	8	6.38	0.8	1.23	-0.5	A-
		Male	Female	8	9.28	1.16	0.97	0.1	A+
K	84	White	Black	8	13.71	1.71	1.05	-0.1	A-
		White	Hispanic	8	9.41	1.18	1.24	-0.5	A-
		Male	Female	8	13.56	1.7	0.98	0	A+
K	85	White	Black	8	10.69	1.34	1.07	-0.1	A-
		White	Hispanic	8	35.94	4.49	1.3	-0.6	A-
		Male	Female	8	16.05	2.01	0.99	0	A+
K	86	White	Black	8	5.66	0.71	0.97	0.1	A+
		White	Hispanic	8	7.29	0.91	0.96	0.1	A+
		Male	Female	8	42.38	5.3	1.18	-0.4	A-
K	87	White	Black	8	9.76	1.22	0.9	0.3	A+
		White	Hispanic	8	6.46	0.81	1.04	-0.1	A-
		Male	Female	8	41.26	5.16	0.83	0.4	A+
K	88	White	Black	8	19.77	2.47	0.83	0.4	A+
		White	Hispanic	8	9.91	1.24	0.82	0.5	A+
		Male	Female	8	17.73	2.22	0.97	0.1	A+
K	89	White	Black	8	14.4	1.8	0.87	0.3	A+
		White	Hispanic	8	24.61	3.08	0.8	0.5	A+
		Male	Female	8	21.32	2.66	0.89	0.3	A+
K	90	White	Black	8	10.12	1.27	0.88	0.3	A+
		White	Hispanic	8	18.12	2.26	0.89	0.3	A+
		Male	Female	8	22.09	2.76	0.86	0.3	A+
K	91	White	Black	8	12.49	1.56	0.88	0.3	A+
		White	Hispanic	8	6.87	0.86	0.84	0.4	A+
		Male	Female	8	65.64	8.21	0.69	0.9	A+
K	92	White	Black	8	21.09	2.64	1.09	-0.2	A-
		White	Hispanic	8	21.36	2.67	1.29	-0.6	A-
		Male	Female	8	26	3.25	0.88	0.3	A+
K	93	White	Black	8	3.45	0.43	0.96	0.1	A+
		White	Hispanic	8	12.77	1.6	1.37	-0.7	A-
		Male	Female	8	30.4	3.8	1.01	0	A-
K	94	White	Black	8	44.18	5.52	0.69	0.9	A+
		White	Hispanic	8	6.37	0.8	0.91	0.2	A+
		Male	Female	8	241.26	30.16	1.67	-1.2	B-
K	95	White	Black	8	26.12	3.27	1.16	-0.4	A-
		White	Hispanic	8	16.6	2.07	1.31	-0.6	A-
		Male	Female	8	36.25	4.53	0.82	0.5	A+

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	96	White	Black	8	30.44	3.81	1.2	-0.4	A-
		White	Hispanic	8	8.17	1.02	0.87	0.3	A+
		Male	Female	8	42.59	5.32	1.07	-0.2	A-
K	97	White	Black	8	48.4	6.05	1.42	-0.8	A-
		White	Hispanic	8	7.26	0.91	1.1	-0.2	A-
		Male	Female	8	14.45	1.81	1.07	-0.1	A-
K	98	White	Black	8	56.6	7.07	1.41	-0.8	A-
		White	Hispanic	8	21.08	2.63	1.28	-0.6	A-
		Male	Female	8	106.91	13.36	1.3	-0.6	A-
K	99	White	Black	8	8.77	1.1	1	0	A-
		White	Hispanic	8	21.51	2.69	1.43	-0.8	A-
		Male	Female	8	14.62	1.83	1.14	-0.3	A-
K	100	White	Black	8	34.3	4.29	1.34	-0.7	A-
		White	Hispanic	8	19.86	2.48	1.4	-0.8	A-
		Male	Female	8	19.16	2.39	1.08	-0.2	A-
K	101	White	Black	8	27.72	3.46	1.02	0	A-
		White	Hispanic	8	11.06	1.38	1.07	-0.2	A-
		Male	Female	8	11.97	1.5	0.91	0.2	A+
K	102	White	Black	8	16.02	2	1.16	-0.3	A-
		White	Hispanic	8	11.12	1.39	1.09	-0.2	A-
		Male	Female	8	90.56	11.32	0.75	0.7	A+
K	103	White	Black	8	23.61	2.95	1.17	-0.4	A-
		White	Hispanic	8	21.39	2.67	1.39	-0.8	A-
		Male	Female	8	93.62	11.7	1.3	-0.6	A-
K	104	White	Black	8	61.89	7.74	1.49	-0.9	A-
		White	Hispanic	8	22.62	2.83	1.38	-0.8	A-
		Male	Female	8	98.75	12.34	1.43	-0.8	A-
K	105	White	Black	8	27.98	3.5	0.83	0.4	A+
		White	Hispanic	8	12.8	1.6	0.83	0.4	A+
		Male	Female	8	7.81	0.98	0.95	0.1	A+
K	106	White	Black	8	5.56	0.7	0.96	0.1	A+
		White	Hispanic	8	8.16	1.02	0.89	0.3	A+
		Male	Female	8	7.27	0.91	0.95	0.1	A+
K	107	White	Black	8	31.08	3.89	1.3	-0.6	A-
		White	Hispanic	8	22.8	2.85	1.22	-0.5	A-
		Male	Female	8	94.3	11.79	1.31	-0.6	A-
K	108	White	Black	8	22.65	2.83	0.85	0.4	A+
		White	Hispanic	8	19.37	2.42	0.7	0.9	A+
		Male	Female	8	52.1	6.51	0.88	0.3	A+
K	109	White	Black	8	25.04	3.13	0.91	0.2	A+
		White	Hispanic	8	10	1.25	0.99	0	A+
		Male	Female	8	45.19	5.65	0.82	0.5	A+
L	84	White	Black	8	15.51	1.94	0.96	0.1	A+
		White	Hispanic	8	7.79	0.97	1.2	-0.4	A-
		Male	Female	8	30.52	3.81	0.9	0.3	A+
L	85	White	Black	8	7.92	0.99	0.95	0.1	A+
		White	Hispanic	8	21.15	2.64	1.28	-0.6	A-
		Male	Female	8	36.4	4.55	0.84	0.4	A+

Appendix R(a): Grade Five Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
L	86	White	Black	8	12.68	1.58	1.14	-0.3	A-
		White	Hispanic	8	26.38	3.3	0.78	0.6	A+
		Male	Female	8	36.2	4.53	1.2	-0.4	A-
L	87	White	Black	8	10.85	1.36	0.94	0.1	A+
		White	Hispanic	8	25.76	3.22	0.88	0.3	A+
		Male	Female	8	46.55	5.82	0.83	0.4	A+
L	88	White	Black	8	45.34	5.67	0.73	0.7	A+
		White	Hispanic	8	10.9	1.36	0.76	0.6	A+
		Male	Female	8	15.88	1.98	0.95	0.1	A+
L	89	White	Black	8	22.03	2.75	0.82	0.5	A+
		White	Hispanic	8	3.66	0.46	0.99	0	A+
		Male	Female	8	5.49	0.69	0.94	0.2	A+
L	90	White	Black	8	10.33	1.29	0.89	0.3	A+
		White	Hispanic	8	11.9	1.49	1.33	-0.7	A-
		Male	Female	8	62.34	7.79	0.83	0.4	A+
L	91	White	Black	8	13.49	1.69	0.86	0.3	A+
		White	Hispanic	8	4.8	0.6	0.8	0.5	A+
		Male	Female	8	90.95	11.37	0.63	1.1	B+
L	92	White	Black	8	24.95	3.12	1.25	-0.5	A-
		White	Hispanic	8	17.56	2.2	1.33	-0.7	A-
		Male	Female	8	36.46	4.56	0.82	0.5	A+
L	93	White	Black	8	11	1.37	0.82	0.5	A+
		White	Hispanic	8	15.82	1.98	1.2	-0.4	A-
		Male	Female	8	32.63	4.08	0.92	0.2	A+
L	94	White	Black	8	41.33	5.17	0.69	0.9	A+
		White	Hispanic	8	19.69	2.46	0.64	1	B+
		Male	Female	8	261.01	32.63	1.8	-1.4	B-
L	95	White	Black	8	14.04	1.76	1.12	-0.3	A-
		White	Hispanic	8	12.93	1.62	1.15	-0.3	A-
		Male	Female	8	47.11	5.89	0.8	0.5	A+
L	96	White	Black	8	10.03	1.25	1.09	-0.2	A-
		White	Hispanic	8	21.19	2.65	1.25	-0.5	A-
		Male	Female	8	23.41	2.93	1.05	-0.1	A-
L	97	White	Black	8	25.04	3.13	1.29	-0.6	A-
		White	Hispanic	8	4.24	0.53	1.18	-0.4	A-
		Male	Female	8	53.17	6.65	1.06	-0.1	A-
L	98	White	Black	8	10.65	1.33	1.14	-0.3	A-
		White	Hispanic	8	5.2	0.65	1.12	-0.3	A-
		Male	Female	8	38.42	4.8	1.2	-0.4	A-
L	99	White	Black	8	62.33	7.79	1.52	-1	A-
		White	Hispanic	8	16.3	2.04	1.23	-0.5	A-
		Male	Female	8	129.35	16.17	1.6	-1.1	B-
L	100	White	Black	8	13.23	1.65	1.1	-0.2	A-
		White	Hispanic	8	7.58	0.95	1.04	-0.1	A-
		Male	Female	8	21.54	2.69	1.02	0	A-
L	101	White	Black	8	107.93	13.49	1.7	-1.2	B-
		White	Hispanic	8	23.77	2.97	1.51	-1	A-
		Male	Female	8	350.14	43.77	1.79	-1.4	B-

**Appendix R(a): Grade Five Reading
Between Group DIF Analysis -- Multiple Choice Items**

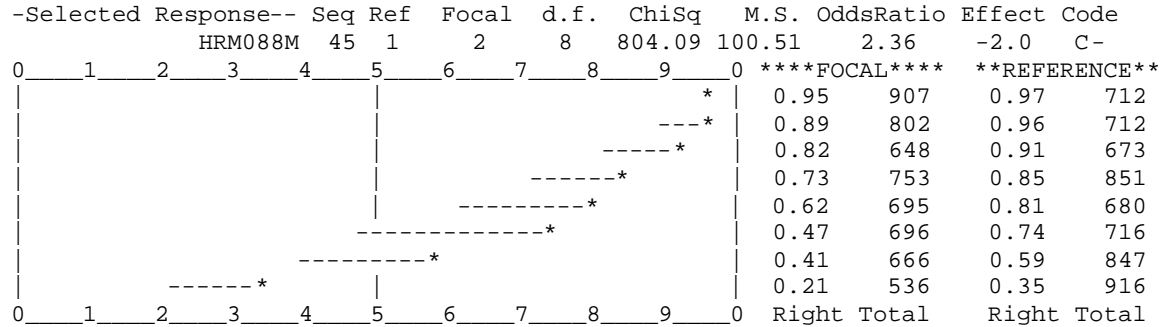
Grade Five Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	DF	Chi	Mean	Odds	Effect	Code
					Squared	Square	Ratio		
L	102	White	Black	8	21.58	2.7	1.22	-0.5	A-
		White	Hispanic	8	15.65	1.96	1.35	-0.7	A-
		Male	Female	8	30.47	3.81	0.87	0.3	A+
L	103	White	Black	8	61.07	7.63	1.47	-0.9	A-
		White	Hispanic	8	21.14	2.64	1.41	-0.8	A-
		Male	Female	8	65.06	8.13	1.26	-0.6	A-
L	104	White	Black	8	12.68	1.59	1.02	0	A-
		White	Hispanic	8	6.74	0.84	0.86	0.4	A+
		Male	Female	8	79.49	9.94	0.94	0.1	A+
L	105	White	Black	8	183.14	22.89	2.02	-1.7	C-
		White	Hispanic	8	91.43	11.43	2.24	-1.9	C-
		Male	Female	8	85.28	10.66	1.37	-0.7	A-
L	106	White	Black	8	13.27	1.66	1	0	A
		White	Hispanic	8	13.41	1.68	1.14	-0.3	A-
		Male	Female	8	50.78	6.35	1.21	-0.4	A-
L	107	White	Black	8	7.06	0.88	0.95	0.1	A+
		White	Hispanic	8	33.01	4.13	0.9	0.2	A+
		Male	Female	8	16.7	2.09	1.03	-0.1	A-
L	108	White	Black	8	7.02	0.88	0.95	0.1	A+
		White	Hispanic	8	8.16	1.02	0.8	0.5	A+
		Male	Female	8	23.93	2.99	0.92	0.2	A+
L	109	White	Black	8	10.12	1.27	1.14	-0.3	A-
		White	Hispanic	8	6.98	0.87	0.9	0.2	A+
		Male	Female	8	33.53	4.19	0.85	0.4	A+

Appendix R(a): Grade Five Reading

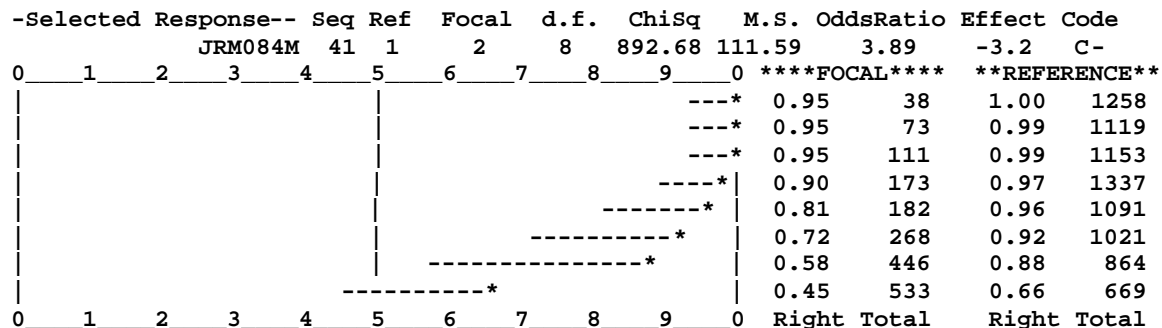
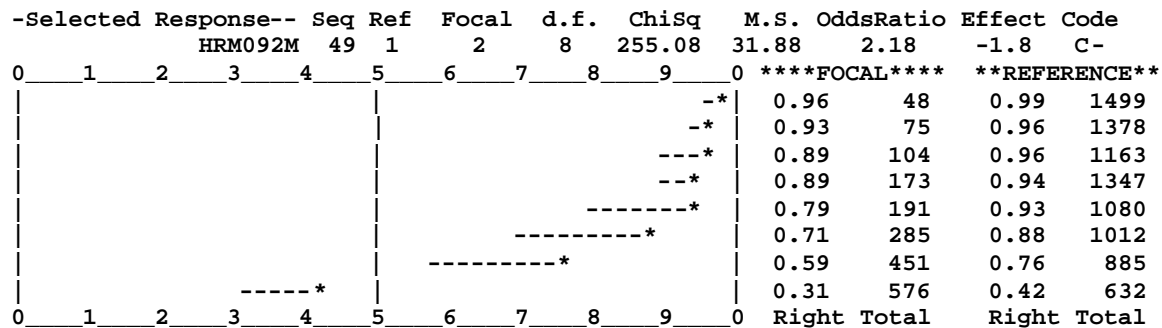
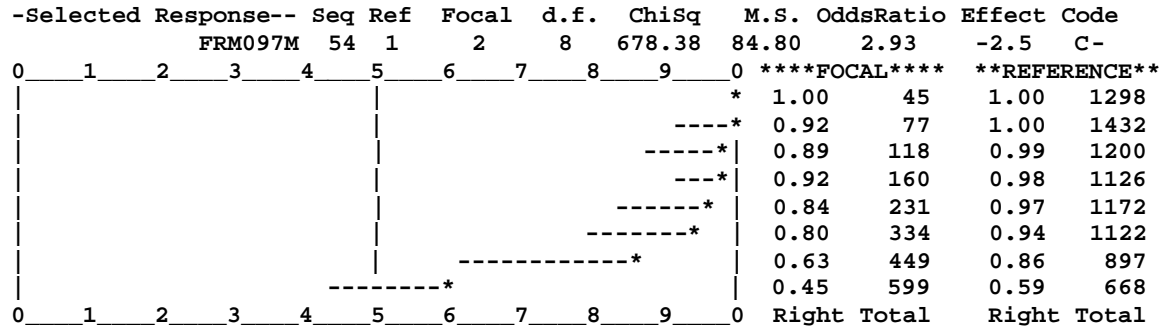
Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Reference Group = White, Focal Group = African American



Appendix R(a): Grade Five Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code			
LRM105M		62	1	2	8	183.14	22.89	2.02	-1.7	C-			
0	1	2	3	4	5	6	7	8	9	0			
****FOCAL**** **REFERENCE**													
									*	0.97	32	0.98	1331
									*	0.95	85	0.97	1178
									*	0.96	114	0.96	1203
									---	0.89	145	0.94	1067
									----	0.78	186	0.91	1242
									-----	0.76	316	0.89	1018
									-----	0.58	418	0.74	761
									-----	0.26	569	0.36	606
0	1	2	3	4	5	6	7	8	9	0			
Right Total Right Total													

Reference Group = White, Focal Group = Hispanic

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code			
BRM098M		55	1	3	8	153.37	19.17	2.24	-1.9	C-			
0	1	2	3	4	5	6	7	8	9	0			
****FOCAL**** **REFERENCE**													
									-----	0.85	13	0.99	1264
									---	0.91	32	0.95	1448
									---	0.74	38	0.90	1283
									-----	0.56	50	0.86	1116
									-----	0.44	80	0.73	1049
									-----	0.40	87	0.64	1094
									-----	0.24	157	0.45	959
									*	0.27	224	0.27	746
0	1	2	3	4	5	6	7	8	9	0			
Right Total Right Total													

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code			
FRM085M		42	1	3	8	164.25	20.53	2.37	-2.0	C-			
0	1	2	3	4	5	6	7	8	9	0			
****FOCAL**** **REFERENCE**													
									-----	0.88	17	0.99	1298
									-----	0.79	34	0.97	1432
									-----	0.78	37	0.92	1200
									-----	0.58	36	0.84	1126
									-----	0.51	67	0.78	1172
									-----	0.40	112	0.65	1122
									-----	0.30	118	0.49	897
									---	0.25	207	0.31	668
0	1	2	3	4	5	6	7	8	9	0			
Right Total Right Total													

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code			
FRM097M		54	1	3	8	289.70	36.21	3.33	-2.8	C-			
0	1	2	3	4	5	6	7	8	9	0			
****FOCAL**** **REFERENCE**													
									*	1.00	17	1.00	1298
									*	0.97	34	1.00	1432
									*	0.97	37	0.99	1200
									---	0.92	36	0.98	1126
									-----	0.73	67	0.97	1172
									-----	0.75	112	0.94	1122
									-----	0.62	118	0.86	897
									-----	0.40	207	0.59	668
0	1	2	3	4	5	6	7	8	9	0			
Right Total Right Total													

Appendix R(a): Grade Five Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code		
										HRM092M	49	1	3	8	93.98	11.75	2.28	-1.9	C-	
										****FOCAL****		**REFERENCE**								
0	1	2	3	4	5	6	7	8	9											
															0.94	16	0.99	1499		
															0.97	30	0.96	1378		
															0.96	27	0.96	1163		
															0.86	59	0.94	1347		
															0.78	55	0.93	1080		
															0.72	86	0.88	1012		
															0.54	137	0.76	885		
															0.30	199	0.42	632		
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total						

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code		
										JRM084M	41	1	3	8	211.02	26.38	3.34	-2.8	C-	
										****FOCAL****		**REFERENCE**								
0	1	2	3	4	5	6	7	8	9											
															0.94	16	1.00	1258		
															0.94	31	0.99	1119		
															0.97	35	0.99	1153		
															0.91	56	0.97	1337		
															0.91	64	0.96	1091		
															0.76	80	0.92	1021		
															0.63	120	0.88	864		
															0.41	191	0.66	669		
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total						

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code		
										LRM105M	62	1	3	8	91.43	11.43	2.24	-1.9	C-	
										****FOCAL****		**REFERENCE**								
0	1	2	3	4	5	6	7	8	9											
															0.97	32	0.98	1331		
															0.88	34	0.97	1178		
															0.94	35	0.96	1203		
															0.72	39	0.94	1067		
															0.87	78	0.91	1242		
															0.76	91	0.89	1018		
															0.58	123	0.74	761		
															0.24	184	0.36	606		
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total						

Appendix R(b): Grade Five Reading
Between Group DIF Analysis -- Constructed Response Items

Grade Five Reading -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	110	White	Black	8	4	-0.089	0.018	-5	BB-
		White	Hispanic	8	4	-0.042	0.028	-1.5	AA-
		Male	Female	8	4	0.116	0.012	9.8	CC+
B	110	White	Black	8	4	-0.014	0.017	-0.8	AA-
		White	Hispanic	8	4	-0.002	0.027	-0.1	AA-
		Male	Female	8	4	0.144	0.012	12.3	CC+
C	110	White	Black	8	4	-0.019	0.017	-1.1	AA-
		White	Hispanic	8	4	0.052	0.028	1.9	AA+
		Male	Female	8	4	0.150	0.011	13.2	CC+
D	110	White	Black	8	4	-0.011	0.018	-0.6	AA-
		White	Hispanic	8	4	-0.027	0.027	-1	AA-
		Male	Female	8	4	0.133	0.012	11.4	CC+
E	110	White	Black	8	4	-0.025	0.018	-1.4	AA-
		White	Hispanic	8	4	0.008	0.029	0.3	AA+
		Male	Female	8	4	0.058	0.013	4.5	BB+
F	110	White	Black	8	4	-0.034	0.018	-1.9	AA-
		White	Hispanic	8	4	-0.032	0.027	-1.2	AA-
		Male	Female	8	4	0.122	0.012	10	CC+
G	110	White	Black	8	4	-0.059	0.018	-3.2	BB-
		White	Hispanic	8	4	-0.001	0.028	0	AA-
		Male	Female	8	4	0.172	0.012	14.6	CC+
H	110	White	Black	8	4	-0.027	0.018	-1.5	AA-
		White	Hispanic	8	4	-0.055	0.028	-2	AA-
		Male	Female	8	4	0.164	0.012	13.9	CC+
I	110	White	Black	8	4	0.016	0.018	0.9	AA+
		White	Hispanic	8	4	-0.019	0.028	-0.7	AA-
		Male	Female	8	4	0.138	0.012	11.8	CC+
J	110	White	Black	8	4	0.015	0.018	0.8	AA+
		White	Hispanic	8	4	-0.016	0.028	-0.6	AA-
		Male	Female	8	4	0.161	0.012	13.6	CC+
K	110	White	Black	8	4	-0.102	0.020	-5.1	CC-
		White	Hispanic	8	4	-0.115	0.031	-3.7	BB-
		Male	Female	8	4	0.055	0.014	3.9	BB+
L	110	White	Black	8	4	-0.001	0.019	-0.1	AA-
		White	Hispanic	8	4	0.017	0.028	0.6	AA+
		Male	Female	8	4	0.100	0.013	8	CC+

Appendix R(b): Grade Five Reading

Between Group DIF Analysis – Constructed Response Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
ARM110P	81	1	2	8	4	0.116	0.012	9.8	C+
0	1	2	3	4	****FOCAL****		**REFERENCE**		
						2.71	910	2.57	686
						2.42	789	2.29	750
						2.36	682	2.16	635
						2.21	710	2.09	795
						2.09	669	2.02	792
						1.93	676	1.86	741
						1.76	648	1.62	845
						1.17	573	1.16	882
0	1	2	3	4	Right Total	Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
BRM110P	81	1	2	8	4	0.144	0.012	12.3	C+
0	1	2	3	4	****FOCAL****		**REFERENCE**		
						2.81	772	2.64	599
						2.47	807	2.33	798
						2.32	730	2.14	738
						2.23	681	2.05	677
						2.11	695	1.99	707
						1.99	724	1.84	824
						1.77	709	1.66	918
						1.29	615	1.21	929
0	1	2	3	4	Right Total	Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
CRM110P	81	1	2	8	4	0.150	0.011	13.2	C+
0	1	2	3	4	****FOCAL****		**REFERENCE**		
						2.79	848	2.62	641
						2.54	714	2.42	647
						2.39	702	2.21	677
						2.28	823	2.16	818
						2.15	817	1.97	832
						1.98	746	1.88	788
						1.78	662	1.63	810
						1.30	610	1.10	877
0	1	2	3	4	Right Total	Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
DRM110P	81	1	2	8	4	0.133	0.012	11.4	C+
0	1	2	3	4	****FOCAL****		**REFERENCE**		
						2.80	928	2.65	644
						2.52	841	2.35	808
						2.36	735	2.21	663
						2.23	756	2.12	857
						2.10	666	2.00	704
						2.00	710	1.88	776
						1.79	639	1.64	800
						1.19	608	1.09	888
0	1	2	3	4	Right Total	Right Total		Right Total	

Appendix R(b): Grade Five Reading Between Group DIF Analysis – Constructed Response Items

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
FRM110P	81	1	2	8	4	0.122	0.012	10.0	C+	
0	1	2	3	4	****FOCAL**** **REFERENCE**					
							2.29	798	2.20	620
							2.04	820	1.89	767
							1.92	726	1.73	667
							1.78	686	1.68	674
							1.68	735	1.54	779
							1.50	749	1.41	858
							1.38	730	1.26	771
							1.03	603	0.95	898
0	1	2	3	4	Right Total Right Total					

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
GRM110P	81	1	2	8	4	0.172	0.012	14.6	C+	
0	1	2	3	4	****FOCAL**** **REFERENCE**					
							2.78	756	2.56	617
							2.53	797	2.33	730
							2.38	792	2.22	789
							2.28	758	2.11	747
							2.19	795	2.00	766
							2.02	623	1.89	737
							1.89	686	1.75	757
							1.30	564	1.18	875
0	1	2	3	4	Right Total Right Total					

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
HRM110P	81	1	2	8	4	0.164	0.012	13.9	C+	
0	1	2	3	4	****FOCAL**** **REFERENCE**					
							2.81	907	2.61	712
							2.48	802	2.27	712
							2.34	648	2.16	673
							2.22	753	2.06	851
							2.10	695	1.94	680
							1.97	696	1.85	716
							1.80	665	1.73	847
							1.39	530	1.19	904
0	1	2	3	4	Right Total Right Total					

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
IRM110P	81	1	2	8	4	0.138	0.012	11.8	C+	
0	1	2	3	4	****FOCAL**** **REFERENCE**					
							2.80	841	2.66	677
							2.44	651	2.38	608
							2.41	652	2.27	694
							2.26	665	2.14	682
							2.17	764	2.01	814
							2.00	714	1.84	795
							1.79	647	1.61	745
							1.24	569	1.11	858
0	1	2	3	4	Right Total Right Total					

Appendix R(b): Grade Five Reading Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	JRM110P	81	1	2	8	4	0.161	0.012	13.6	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.83	742	2.66 628
								2.57	665	2.42 592
								2.39	685	2.21 652
								2.28	787	2.14 822
								2.17	692	2.03 684
								2.04	625	1.82 782
								1.79	665	1.63 807
								1.24	578	1.10 839
0	1	2	3	4	Right Total Right Total					

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	LRM110P	81	1	2	8	4	0.100	0.013	8.0	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.35	803	2.25 650
								2.05	677	1.94 657
								1.93	678	1.82 712
								1.82	622	1.70 651
								1.69	748	1.62 800
								1.55	700	1.46 755
								1.39	600	1.28 737
								1.06	522	0.96 850
0	1	2	3	4	Right Total Right Total					

Reference Group = White, Focal Group = African American

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	KRM110P	81	1	2	8	4	-0.102	0.020	-5.1	C-
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								1.91	33	2.35 1238
								1.86	81	1.97 1367
								1.69	104	1.81 1220
								1.57	136	1.61 1072
								1.49	189	1.52 1074
								1.32	295	1.37 1014
								1.13	436	1.20 874
								0.72	528	0.88 667
0	1	2	3	4	Right Total Right Total					

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	63	White	Black	8	10.74	1.34	1.15	-0.3	A-
		White	Hispanic	8	20.74	2.59	1.37	-0.7	A-
		Male	Female	8	14.42	1.8	1.03	-0.1	A-
A	64	White	Black	8	17.16	2.15	1.11	-0.2	A-
		White	Hispanic	8	11.04	1.38	1.18	-0.4	A-
		Male	Female	8	64.77	8.1	1.12	-0.3	A-
A	65	White	Black	8	11.59	1.45	0.97	0.1	A+
		White	Hispanic	8	41.76	5.22	1.67	-1.2	B-
		Male	Female	8	75.27	9.41	0.93	0.2	A+
A	66	White	Black	8	11.7	1.46	1.08	-0.2	A-
		White	Hispanic	8	8.62	1.08	1.1	-0.2	A-
		Male	Female	8	41.37	5.17	0.81	0.5	A+
A	67	White	Black	8	21.69	2.71	1.16	-0.4	A-
		White	Hispanic	8	4.72	0.59	0.98	0.1	A+
		Male	Female	8	40.74	5.09	0.91	0.2	A+
A	68	White	Black	8	74.82	9.35	1.48	-0.9	A-
		White	Hispanic	8	12.06	1.51	1.19	-0.4	A-
		Male	Female	8	73.35	9.17	1.22	-0.5	A-
A	69	White	Black	8	29.16	3.65	1.3	-0.6	A-
		White	Hispanic	8	8.57	1.07	1.17	-0.4	A-
		Male	Female	8	54.18	6.77	0.76	0.6	A+
A	70	White	Black	8	24.55	3.07	1.22	-0.5	A-
		White	Hispanic	8	9.03	1.13	1.14	-0.3	A-
		Male	Female	8	97.86	12.23	1.29	-0.6	A-
A	71	White	Black	8	17.98	2.25	0.9	0.3	A+
		White	Hispanic	8	5.34	0.67	0.89	0.3	A+
		Male	Female	8	28.41	3.55	1.14	-0.3	A-
A	72	White	Black	8	91.98	11.5	1.58	-1.1	B-
		White	Hispanic	8	5.49	0.69	1.2	-0.4	A-
		Male	Female	8	30.28	3.79	1.16	-0.4	A-
A	73	White	Black	8	35.71	4.46	1.13	-0.3	A-
		White	Hispanic	8	32.06	4.01	1.12	-0.3	A-
		Male	Female	8	65.69	8.21	0.81	0.5	A+
A	74	White	Black	8	17.23	2.15	0.94	0.1	A+
		White	Hispanic	8	3.4	0.42	1.08	-0.2	A-
		Male	Female	8	41.65	5.21	0.9	0.3	A+
A	75	White	Black	8	40.15	5.02	0.97	0.1	A+
		White	Hispanic	8	5.39	0.67	0.84	0.4	A+
		Male	Female	8	28.84	3.61	0.9	0.3	A+
A	76	White	Black	8	23.82	2.98	1.22	-0.5	A-
		White	Hispanic	8	24.08	3.01	1.27	-0.6	A-
		Male	Female	8	20.21	2.53	0.95	0.1	A+
A	77	White	Black	8	39.77	4.97	0.75	0.7	A+
		White	Hispanic	8	13.22	1.65	0.82	0.5	A+
		Male	Female	8	22.47	2.81	0.96	0.1	A+
B	63	White	Black	8	17.77	2.22	1.15	-0.3	A-
		White	Hispanic	8	8.03	1	1.14	-0.3	A-
		Male	Female	8	21.7	2.71	1.06	-0.1	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	64	White	Black	8	146.77	18.35	1.83	-1.4	B-
		White	Hispanic	8	13.59	1.7	1.4	-0.8	A-
		Male	Female	8	31.17	3.9	0.82	0.5	A+
B	65	White	Black	8	49.66	6.21	1.39	-0.8	A-
		White	Hispanic	8	25.15	3.14	1.4	-0.8	A-
		Male	Female	8	35.3	4.41	1.12	-0.3	A-
B	66	White	Black	8	20.11	2.51	1.15	-0.3	A-
		White	Hispanic	8	11.54	1.44	0.88	0.3	A+
		Male	Female	8	27.44	3.43	0.99	0	A+
B	67	White	Black	8	7.98	1	1.08	-0.2	A-
		White	Hispanic	8	6.48	0.81	1.15	-0.3	A-
		Male	Female	8	8.8	1.1	1.03	-0.1	A-
B	68	White	Black	8	14.42	1.8	1.14	-0.3	A-
		White	Hispanic	8	14.05	1.76	1.15	-0.3	A-
		Male	Female	8	275.8	34.48	1.54	-1	B-
B	69	White	Black	8	13.65	1.71	0.94	0.1	A+
		White	Hispanic	8	2.44	0.3	0.91	0.2	A+
		Male	Female	8	10.81	1.35	0.96	0.1	A+
B	70	White	Black	8	24.04	3	1.12	-0.3	A-
		White	Hispanic	8	20.01	2.5	0.85	0.4	A+
		Male	Female	8	97.98	12.25	0.78	0.6	A+
B	71	White	Black	8	26.38	3.3	1.24	-0.5	A-
		White	Hispanic	8	17.28	2.16	1.15	-0.3	A-
		Male	Female	8	27.82	3.48	0.99	0	A+
B	72	White	Black	8	37.65	4.71	1.27	-0.6	A-
		White	Hispanic	8	15.51	1.94	1.28	-0.6	A-
		Male	Female	8	54.43	6.8	1.03	-0.1	A-
B	73	White	Black	8	15.49	1.94	1.1	-0.2	A-
		White	Hispanic	8	9.23	1.15	0.96	0.1	A+
		Male	Female	8	13.23	1.65	1.05	-0.1	A-
B	74	White	Black	8	47.36	5.92	0.76	0.7	A+
		White	Hispanic	8	22.8	2.85	0.68	0.9	A+
		Male	Female	8	34.25	4.28	0.98	0	A+
B	75	White	Black	8	10.75	1.34	1.13	-0.3	A-
		White	Hispanic	8	4.46	0.56	0.87	0.3	A+
		Male	Female	8	71.61	8.95	1.25	-0.5	A-
B	76	White	Black	8	5	0.63	1	0	A+
		White	Hispanic	8	7.68	0.96	0.99	0	A+
		Male	Female	8	29.86	3.73	0.89	0.3	A+
B	77	White	Black	8	6.88	0.86	1	0	A+
		White	Hispanic	8	12.01	1.5	1.22	-0.5	A-
		Male	Female	8	33.87	4.23	1.14	-0.3	A-
C	63	White	Black	8	16.83	2.1	1.13	-0.3	A-
		White	Hispanic	8	13.52	1.69	1.25	-0.5	A-
		Male	Female	8	26.93	3.37	0.92	0.2	A+
C	64	White	Black	8	59.54	7.44	1.36	-0.7	A-
		White	Hispanic	8	22.07	2.76	1.45	-0.9	A-
		Male	Female	8	79.71	9.96	1.22	-0.5	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	65	White	Black	8	31.87	3.98	1.26	-0.5	A-
		White	Hispanic	8	14.03	1.75	1.25	-0.5	A-
		Male	Female	8	310.24	38.78	1.7	-1.3	B-
C	66	White	Black	8	16.9	2.11	1.14	-0.3	A-
		White	Hispanic	8	3.93	0.49	1.04	-0.1	A-
		Male	Female	8	38.23	4.78	1.1	-0.2	A-
C	67	White	Black	8	13.91	1.74	1.15	-0.3	A-
		White	Hispanic	8	4.76	0.59	1.06	-0.1	A-
		Male	Female	8	63.73	7.97	0.82	0.5	A+
C	68	White	Black	8	32.2	4.03	0.75	0.7	A+
		White	Hispanic	8	11.48	1.44	0.84	0.4	A+
		Male	Female	8	70.71	8.84	0.82	0.5	A+
C	69	White	Black	8	11.83	1.48	1.06	-0.1	A-
		White	Hispanic	8	8.37	1.05	1.17	-0.4	A-
		Male	Female	8	108.56	13.57	1.32	-0.7	A-
C	70	White	Black	8	6.88	0.86	1.05	-0.1	A-
		White	Hispanic	8	13.85	1.73	0.89	0.3	A+
		Male	Female	8	78.76	9.84	0.8	0.5	A+
C	71	White	Black	8	19.2	2.4	0.8	0.5	A+
		White	Hispanic	8	17.33	2.17	0.77	0.6	A+
		Male	Female	8	31.44	3.93	0.87	0.3	A+
C	72	White	Black	8	13.21	1.65	1.08	-0.2	A-
		White	Hispanic	8	3.3	0.41	1.03	-0.1	A-
		Male	Female	8	65.4	8.17	1.2	-0.4	A-
C	73	White	Black	8	29.18	3.65	1.19	-0.4	A-
		White	Hispanic	8	49.44	6.18	1.05	-0.1	A-
		Male	Female	8	58.1	7.26	0.83	0.4	A+
C	74	White	Black	8	9.3	1.16	0.9	0.3	A+
		White	Hispanic	8	16.05	2.01	1.06	-0.1	A-
		Male	Female	8	17.66	2.21	0.98	0	A+
C	75	White	Black	8	22.77	2.85	1.25	-0.5	A-
		White	Hispanic	8	4.65	0.58	1.17	-0.4	A-
		Male	Female	8	19.53	2.44	1.05	-0.1	A-
C	76	White	Black	8	42.86	5.36	1.35	-0.7	A-
		White	Hispanic	8	6.47	0.81	1.16	-0.3	A-
		Male	Female	8	43.98	5.5	0.8	0.5	A+
C	77	White	Black	8	11.69	1.46	0.87	0.3	A+
		White	Hispanic	8	18.09	2.26	0.74	0.7	A+
		Male	Female	8	21.14	2.64	0.96	0.1	A+
D	63	White	Black	8	19.83	2.48	1.28	-0.6	A-
		White	Hispanic	8	4.5	0.56	1.11	-0.2	A-
		Male	Female	8	19.31	2.41	0.91	0.2	A+
D	64	White	Black	8	43.58	5.45	1.38	-0.8	A-
		White	Hispanic	8	5.86	0.73	1.14	-0.3	A-
		Male	Female	8	312.94	39.12	1.75	-1.3	B-
D	65	White	Black	8	15.98	2	1.15	-0.3	A-
		White	Hispanic	8	7.53	0.94	1.22	-0.5	A-
		Male	Female	8	14.17	1.77	1.01	0	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	66	White	Black	8	12.66	1.58	1.09	-0.2	A-
		White	Hispanic	8	12.29	1.54	0.97	0.1	A+
		Male	Female	8	93.53	11.69	0.74	0.7	A+
D	67	White	Black	8	9.28	1.16	0.91	0.2	A+
		White	Hispanic	8	5.23	0.65	0.89	0.3	A+
		Male	Female	8	35.61	4.45	0.87	0.3	A+
D	68	White	Black	8	23.87	2.98	0.85	0.4	A+
		White	Hispanic	8	5.38	0.67	1.05	-0.1	A-
		Male	Female	8	52.57	6.57	0.82	0.5	A+
D	69	White	Black	8	19.06	2.38	0.9	0.3	A+
		White	Hispanic	8	17.19	2.15	1.2	-0.4	A-
		Male	Female	8	126.6	15.83	1.39	-0.8	A-
D	70	White	Black	8	31.25	3.91	1.17	-0.4	A-
		White	Hispanic	8	6.15	0.77	0.96	0.1	A+
		Male	Female	8	41.39	5.17	0.86	0.4	A+
D	71	White	Black	8	12.63	1.58	1.16	-0.3	A-
		White	Hispanic	8	16.74	2.09	1.28	-0.6	A-
		Male	Female	8	64.2	8.03	0.8	0.5	A+
D	72	White	Black	8	48.13	6.02	1.31	-0.6	A-
		White	Hispanic	8	14.35	1.79	1.35	-0.7	A-
		Male	Female	8	37.81	4.73	1.22	-0.5	A-
D	73	White	Black	8	9.44	1.18	0.95	0.1	A+
		White	Hispanic	8	4.2	0.53	0.95	0.1	A+
		Male	Female	8	20.05	2.51	1.1	-0.2	A-
D	74	White	Black	8	24.07	3.01	1.1	-0.2	A-
		White	Hispanic	8	7.59	0.95	1.08	-0.2	A-
		Male	Female	8	21.22	2.65	0.98	0	A+
D	75	White	Black	8	13.99	1.75	0.99	0	A+
		White	Hispanic	8	16.86	2.11	0.98	0.1	A+
		Male	Female	8	70.47	8.81	1.23	-0.5	A-
D	76	White	Black	8	89.43	11.18	1.71	-1.3	B-
		White	Hispanic	8	33.98	4.25	1.69	-1.2	B-
		Male	Female	8	55.35	6.92	1.21	-0.5	A-
D	77	White	Black	8	5.64	0.71	1.02	-0.1	A-
		White	Hispanic	8	3.61	0.45	1.07	-0.2	A-
		Male	Female	8	179.96	22.5	1.33	-0.7	A-
E	63	White	Black	8	72.3	9.04	1.5	-1	A-
		White	Hispanic	8	34.29	4.29	1.7	-1.3	B-
		Male	Female	8	1695.35	211.92	3.15	-2.7	C-
E	64	White	Black	8	9.03	1.13	1.07	-0.2	A-
		White	Hispanic	8	18.56	2.32	0.85	0.4	A+
		Male	Female	8	25.94	3.24	1.08	-0.2	A-
E	65	White	Black	8	48.2	6.03	1.45	-0.9	A-
		White	Hispanic	8	39.88	4.99	1.69	-1.2	B-
		Male	Female	8	78.18	9.77	1.33	-0.7	A-
E	66	White	Black	8	6.33	0.79	0.97	0.1	A+
		White	Hispanic	8	8.6	1.07	0.78	0.6	A+
		Male	Female	8	45.74	5.72	0.83	0.4	A+

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	67	White	Black	8	36.13	4.52	1.38	-0.8	A-
		White	Hispanic	8	12.65	1.58	1.24	-0.5	A-
		Male	Female	8	56.66	7.08	1.21	-0.4	A-
E	68	White	Black	8	7.04	0.88	0.97	0.1	A+
		White	Hispanic	8	10.25	1.28	1.04	-0.1	A-
		Male	Female	8	24.52	3.06	0.98	0.1	A+
E	69	White	Black	8	13.41	1.68	0.84	0.4	A+
		White	Hispanic	8	11.42	1.43	0.8	0.5	A+
		Male	Female	8	51.87	6.48	0.87	0.3	A+
E	70	White	Black	8	17.51	2.19	0.94	0.2	A+
		White	Hispanic	8	13.05	1.63	1.03	-0.1	A-
		Male	Female	8	100.38	12.55	1.15	-0.3	A-
E	71	White	Black	8	13.89	1.74	0.87	0.3	A+
		White	Hispanic	8	20.25	2.53	0.74	0.7	A+
		Male	Female	8	18.06	2.26	0.92	0.2	A+
E	72	White	Black	8	12.24	1.53	1.13	-0.3	A-
		White	Hispanic	8	5.64	0.7	1.14	-0.3	A-
		Male	Female	8	27.21	3.4	0.93	0.2	A+
E	73	White	Black	8	11.3	1.41	0.89	0.3	A+
		White	Hispanic	8	5.83	0.73	1	0	A
		Male	Female	8	14.08	1.76	0.99	0	A+
E	74	White	Black	8	49.75	6.22	0.9	0.2	A+
		White	Hispanic	8	5.62	0.7	0.85	0.4	A+
		Male	Female	8	59.46	7.43	0.81	0.5	A+
E	75	White	Black	8	64.76	8.09	1.47	-0.9	A-
		White	Hispanic	8	8.06	1.01	1.16	-0.4	A-
		Male	Female	8	103.66	12.96	1.34	-0.7	A-
E	76	White	Black	8	32.33	4.04	1.26	-0.6	A-
		White	Hispanic	8	14.39	1.8	1.33	-0.7	A-
		Male	Female	8	33.34	4.17	1.15	-0.3	A-
E	77	White	Black	8	32.82	4.1	0.76	0.6	A+
		White	Hispanic	8	8.63	1.08	0.94	0.2	A+
		Male	Female	8	14.79	1.85	0.92	0.2	A+
F	63	White	Black	8	23.65	2.96	1.09	-0.2	A-
		White	Hispanic	8	19.89	2.49	1.04	-0.1	A-
		Male	Female	8	77.07	9.63	0.76	0.6	A+
F	64	White	Black	8	34.24	4.28	1.34	-0.7	A-
		White	Hispanic	8	12.43	1.55	1.25	-0.5	A-
		Male	Female	8	76.56	9.57	0.76	0.6	A+
F	65	White	Black	8	35.04	4.38	1.32	-0.7	A-
		White	Hispanic	8	7.44	0.93	1.06	-0.1	A-
		Male	Female	8	6.74	0.84	0.99	0	A+
F	66	White	Black	8	31.4	3.93	0.79	0.5	A+
		White	Hispanic	8	13.77	1.72	0.75	0.7	A+
		Male	Female	8	105.05	13.13	1.37	-0.7	A-
F	67	White	Black	8	7.47	0.93	1.04	-0.1	A-
		White	Hispanic	8	6.33	0.79	1.09	-0.2	A-
		Male	Female	8	34.39	4.3	1.13	-0.3	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	68	White	Black	8	14.35	1.79	1.19	-0.4	A-
		White	Hispanic	8	16.62	2.08	1.21	-0.4	A-
		Male	Female	8	27.3	3.41	1.02	0	A-
F	69	White	Black	8	9.33	1.17	1.15	-0.3	A-
		White	Hispanic	8	42.1	5.26	1.67	-1.2	B-
		Male	Female	8	64.03	8	0.77	0.6	A+
F	70	White	Black	8	82.76	10.34	1.73	-1.3	B-
		White	Hispanic	8	20.92	2.61	1.38	-0.8	A-
		Male	Female	8	12.29	1.54	0.96	0.1	A+
F	71	White	Black	8	28	3.5	1.28	-0.6	A-
		White	Hispanic	8	10.23	1.28	1.26	-0.5	A-
		Male	Female	8	82.74	10.34	1.26	-0.5	A-
F	72	White	Black	8	8.23	1.03	0.92	0.2	A+
		White	Hispanic	8	20.56	2.57	1	0	A
		Male	Female	8	51.12	6.39	0.87	0.3	A+
F	73	White	Black	8	21.92	2.74	0.84	0.4	A+
		White	Hispanic	8	13.63	1.7	0.89	0.3	A+
		Male	Female	8	83.72	10.46	0.84	0.4	A+
F	74	White	Black	8	18.6	2.32	1.2	-0.4	A-
		White	Hispanic	8	13.8	1.73	1.15	-0.3	A-
		Male	Female	8	28.27	3.53	0.91	0.2	A+
F	75	White	Black	8	71.83	8.98	1.48	-0.9	A-
		White	Hispanic	8	31.08	3.88	1.5	-1	A-
		Male	Female	8	49.9	6.24	1.17	-0.4	A-
F	76	White	Black	8	47.09	5.89	0.79	0.5	A+
		White	Hispanic	8	25.86	3.23	0.85	0.4	A+
		Male	Female	8	34.51	4.31	0.96	0.1	A+
F	77	White	Black	8	87.2	10.9	1.56	-1	B-
		White	Hispanic	8	45.34	5.67	1.73	-1.3	B-
		Male	Female	8	39.11	4.89	1.14	-0.3	A-
G	63	White	Black	8	22.28	2.78	1.07	-0.2	A-
		White	Hispanic	8	11.96	1.49	1.18	-0.4	A-
		Male	Female	8	44.5	5.56	1.03	-0.1	A-
G	64	White	Black	8	8.32	1.04	0.96	0.1	A+
		White	Hispanic	8	8.28	1.03	0.79	0.6	A+
		Male	Female	8	33.52	4.19	0.88	0.3	A+
G	65	White	Black	8	72.96	9.12	1.63	-1.1	B-
		White	Hispanic	8	15.03	1.88	1.41	-0.8	A-
		Male	Female	8	23.48	2.93	1.11	-0.2	A-
G	66	White	Black	8	11.5	1.44	0.89	0.3	A+
		White	Hispanic	8	16.73	2.09	0.95	0.1	A+
		Male	Female	8	50.82	6.35	1.06	-0.1	A-
G	67	White	Black	8	22.35	2.79	1.22	-0.5	A-
		White	Hispanic	8	16.38	2.05	1.14	-0.3	A-
		Male	Female	8	11.55	1.44	0.94	0.1	A+
G	68	White	Black	8	42.45	5.31	1.33	-0.7	A-
		White	Hispanic	8	32.96	4.12	1.42	-0.8	A-
		Male	Female	8	31.55	3.94	1.11	-0.3	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	69	White	Black	8	40.35	5.04	1.32	-0.7	A-
		White	Hispanic	8	11.24	1.41	1.25	-0.5	A-
		Male	Female	8	207.72	25.97	1.39	-0.8	A-
G	70	White	Black	8	26.69	3.34	0.76	0.6	A+
		White	Hispanic	8	8.32	1.04	0.87	0.3	A+
		Male	Female	8	32.44	4.06	0.91	0.2	A+
G	71	White	Black	8	7.99	1	0.98	0.1	A+
		White	Hispanic	8	2.65	0.33	1.03	-0.1	A-
		Male	Female	8	101.03	12.63	0.75	0.7	A+
G	72	White	Black	8	7.22	0.9	0.95	0.1	A+
		White	Hispanic	8	6.58	0.82	1	0	A
		Male	Female	8	165.04	20.63	1.52	-1	A-
G	73	White	Black	8	104.66	13.08	1.69	-1.2	B-
		White	Hispanic	8	32.6	4.07	1.6	-1.1	B-
		Male	Female	8	119.33	14.92	1.48	-0.9	A-
G	74	White	Black	8	76.98	9.62	1.44	-0.9	A-
		White	Hispanic	8	17.21	2.15	1.32	-0.7	A-
		Male	Female	8	58.89	7.36	0.84	0.4	A+
G	75	White	Black	8	5.55	0.69	1.07	-0.2	A-
		White	Hispanic	8	6.36	0.79	1.07	-0.2	A-
		Male	Female	8	41.58	5.2	0.83	0.4	A+
G	76	White	Black	8	22.57	2.82	1.28	-0.6	A-
		White	Hispanic	8	12.8	1.6	1.28	-0.6	A-
		Male	Female	8	25.64	3.2	1.1	-0.2	A-
G	77	White	Black	8	13.48	1.69	1.1	-0.2	A-
		White	Hispanic	8	8.42	1.05	0.91	0.2	A+
		Male	Female	8	41.47	5.18	1.04	-0.1	A-
H	63	White	Black	8	19.1	2.39	1.21	-0.4	A-
		White	Hispanic	8	9.34	1.17	1.11	-0.2	A-
		Male	Female	8	92.8	11.6	1.32	-0.6	A-
H	64	White	Black	8	33.68	4.21	1.3	-0.6	A-
		White	Hispanic	8	20.88	2.61	1.36	-0.7	A-
		Male	Female	8	307.94	38.49	1.58	-1.1	B-
H	65	White	Black	8	13.91	1.74	0.94	0.2	A+
		White	Hispanic	8	10.41	1.3	0.82	0.5	A+
		Male	Female	8	89.76	11.22	0.77	0.6	A+
H	66	White	Black	8	11.92	1.49	1.19	-0.4	A-
		White	Hispanic	8	13.04	1.63	1.54	-1	B-
		Male	Female	8	92.89	11.61	1.31	-0.6	A-
H	67	White	Black	8	10.53	1.32	1.14	-0.3	A-
		White	Hispanic	8	7.84	0.98	0.86	0.4	A+
		Male	Female	8	43.03	5.38	1.21	-0.4	A-
H	68	White	Black	8	53.91	6.74	1.44	-0.9	A-
		White	Hispanic	8	13.45	1.68	1.21	-0.5	A-
		Male	Female	8	33.89	4.24	0.9	0.2	A+
H	69	White	Black	8	22.4	2.8	0.82	0.5	A+
		White	Hispanic	8	30.98	3.87	0.69	0.9	A+
		Male	Female	8	84.13	10.52	0.74	0.7	A+

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	70	White	Black	8	76.27	9.53	1.91	-1.5	C-
		White	Hispanic	8	17.44	2.18	1.45	-0.9	A-
		Male	Female	8	504.29	63.04	2.03	-1.7	C-
H	71	White	Black	8	10.42	1.3	1.1	-0.2	A-
		White	Hispanic	8	9.14	1.14	1.15	-0.3	A-
		Male	Female	8	66.54	8.32	1.26	-0.5	A-
H	72	White	Black	8	13.4	1.68	1.13	-0.3	A-
		White	Hispanic	8	10.89	1.36	1.21	-0.4	A-
		Male	Female	8	172.68	21.59	1.43	-0.8	A-
H	73	White	Black	8	5.62	0.7	1	0	A-
		White	Hispanic	8	23.11	2.89	1.18	-0.4	A-
		Male	Female	8	30.05	3.76	1.14	-0.3	A-
H	74	White	Black	8	18.86	2.36	1.18	-0.4	A-
		White	Hispanic	8	10.28	1.28	1.14	-0.3	A-
		Male	Female	8	10.01	1.25	0.94	0.1	A+
H	75	White	Black	8	9.87	1.23	1.08	-0.2	A-
		White	Hispanic	8	3.96	0.5	0.96	0.1	A+
		Male	Female	8	85.41	10.68	0.77	0.6	A+
H	76	White	Black	8	14.26	1.78	1.18	-0.4	A-
		White	Hispanic	8	21.24	2.65	1.18	-0.4	A-
		Male	Female	8	4.66	0.58	0.95	0.1	A+
H	77	White	Black	8	17.03	2.13	0.94	0.2	A+
		White	Hispanic	8	6.37	0.8	1.07	-0.2	A-
		Male	Female	8	52.37	6.55	0.87	0.3	A+
I	63	White	Black	8	9.14	1.14	1.05	-0.1	A-
		White	Hispanic	8	14.95	1.87	0.91	0.2	A+
		Male	Female	8	221.75	27.72	1.43	-0.8	A-
I	64	White	Black	8	16.64	2.08	0.94	0.1	A+
		White	Hispanic	8	11.42	1.43	0.94	0.1	A+
		Male	Female	8	60.27	7.53	0.84	0.4	A+
I	65	White	Black	8	20.71	2.59	1.19	-0.4	A-
		White	Hispanic	8	8.11	1.01	0.93	0.2	A+
		Male	Female	8	9.22	1.15	1.04	-0.1	A-
I	66	White	Black	8	29.53	3.69	0.97	0.1	A+
		White	Hispanic	8	17.38	2.17	1.07	-0.2	A-
		Male	Female	8	67.6	8.45	1.06	-0.1	A-
I	67	White	Black	8	6.25	0.78	0.95	0.1	A+
		White	Hispanic	8	10.56	1.32	0.8	0.5	A+
		Male	Female	8	48.33	6.04	1.21	-0.4	A-
I	68	White	Black	8	14.82	1.85	1.11	-0.2	A-
		White	Hispanic	8	23.92	2.99	1.22	-0.5	A-
		Male	Female	8	146.69	18.34	1.46	-0.9	A-
I	69	White	Black	8	48.47	6.06	1.45	-0.9	A-
		White	Hispanic	8	5.9	0.74	1.09	-0.2	A-
		Male	Female	8	64.72	8.09	1.24	-0.5	A-
I	70	White	Black	8	10.82	1.35	1.06	-0.1	A-
		White	Hispanic	8	8.64	1.08	1.09	-0.2	A-
		Male	Female	8	56.59	7.07	1.22	-0.5	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	71	White	Black	8	23.6	2.95	0.9	0.3	A+
		White	Hispanic	8	5.2	0.65	0.9	0.3	A+
		Male	Female	8	25.29	3.16	0.93	0.2	A+
I	72	White	Black	8	33.34	4.17	1.33	-0.7	A-
		White	Hispanic	8	13.55	1.69	1.32	-0.6	A-
		Male	Female	8	111.52	13.94	1.42	-0.8	A-
I	73	White	Black	8	23.16	2.9	0.98	0	A+
		White	Hispanic	8	17.44	2.18	0.75	0.7	A+
		Male	Female	8	75.53	9.44	0.83	0.5	A+
I	74	White	Black	8	146.37	18.3	1.84	-1.4	B-
		White	Hispanic	8	58.8	7.35	1.98	-1.6	C-
		Male	Female	8	56.11	7.01	0.75	0.7	A+
I	75	White	Black	8	23.06	2.88	1.23	-0.5	A-
		White	Hispanic	8	11.84	1.48	1.12	-0.3	A-
		Male	Female	8	22.73	2.84	1.06	-0.1	A-
I	76	White	Black	8	46.06	5.76	1.4	-0.8	A-
		White	Hispanic	8	3.58	0.45	0.99	0	A+
		Male	Female	8	177.18	22.15	1.48	-0.9	A-
I	77	White	Black	8	12.28	1.54	0.89	0.3	A+
		White	Hispanic	8	3.52	0.44	0.98	0.1	A+
		Male	Female	8	50.99	6.37	0.87	0.3	A+
J	63	White	Black	8	27.89	3.49	1.27	-0.6	A-
		White	Hispanic	8	33.19	4.15	1.54	-1	B-
		Male	Female	8	165.69	20.71	1.46	-0.9	A-
J	64	White	Black	8	9.67	1.21	1.09	-0.2	A-
		White	Hispanic	8	7.7	0.96	0.98	0.1	A+
		Male	Female	8	57.66	7.21	1.07	-0.2	A-
J	65	White	Black	8	13.29	1.66	1.14	-0.3	A-
		White	Hispanic	8	2.13	0.27	1.02	-0.1	A-
		Male	Female	8	27.18	3.4	1.04	-0.1	A-
J	66	White	Black	8	18.34	2.29	0.93	0.2	A+
		White	Hispanic	8	5.75	0.72	0.95	0.1	A+
		Male	Female	8	34.47	4.31	0.92	0.2	A+
J	67	White	Black	8	11.83	1.48	1.08	-0.2	A-
		White	Hispanic	8	11.29	1.41	0.79	0.6	A+
		Male	Female	8	111.52	13.94	0.74	0.7	A+
J	68	White	Black	8	13.72	1.72	0.86	0.4	A+
		White	Hispanic	8	20.75	2.59	1.26	-0.5	A-
		Male	Female	8	50.08	6.26	0.81	0.5	A+
J	69	White	Black	8	35.95	4.49	1.26	-0.5	A-
		White	Hispanic	8	5.02	0.63	1	0	A
		Male	Female	8	38.07	4.76	0.87	0.3	A+
J	70	White	Black	8	11.17	1.4	0.91	0.2	A+
		White	Hispanic	8	8.04	1	1.09	-0.2	A-
		Male	Female	8	26.94	3.37	1.03	-0.1	A-
J	71	White	Black	8	79.56	9.95	1.5	-1	A-
		White	Hispanic	8	39.53	4.94	1.59	-1.1	B-
		Male	Female	8	14.81	1.85	0.97	0.1	A+

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	72	White	Black	8	12.88	1.61	0.91	0.2	A+
		White	Hispanic	8	9.67	1.21	1	0	A
		Male	Female	8	55.32	6.91	0.81	0.5	A+
J	73	White	Black	8	26.77	3.35	1.34	-0.7	A-
		White	Hispanic	8	10.44	1.31	1	0	A
		Male	Female	8	124.17	15.52	1.18	-0.4	A-
J	74	White	Black	8	19.23	2.4	1.17	-0.4	A-
		White	Hispanic	8	13.24	1.66	1.3	-0.6	A-
		Male	Female	8	330.68	41.33	1.54	-1	B-
J	75	White	Black	8	25.33	3.17	1.27	-0.6	A-
		White	Hispanic	8	15.89	1.99	1.15	-0.3	A-
		Male	Female	8	80.62	10.08	0.75	0.7	A+
J	76	White	Black	8	1.59	0.2	1.01	0	A-
		White	Hispanic	8	5.51	0.69	0.84	0.4	A+
		Male	Female	8	59.2	7.4	0.79	0.5	A+
J	77	White	Black	8	32.01	4	1.2	-0.4	A-
		White	Hispanic	8	21.75	2.72	1.35	-0.7	A-
		Male	Female	8	14.22	1.78	0.9	0.2	A+
K	63	White	Black	8	51.8	6.48	1.39	-0.8	A-
		White	Hispanic	8	14.53	1.82	1.28	-0.6	A-
		Male	Female	8	131	16.38	1.34	-0.7	A-
K	64	White	Black	8	19.3	2.41	0.9	0.2	A+
		White	Hispanic	8	10.55	1.32	0.76	0.6	A+
		Male	Female	8	88.66	11.08	0.74	0.7	A+
K	65	White	Black	8	16.23	2.03	0.99	0	A+
		White	Hispanic	8	5.45	0.68	1.06	-0.1	A-
		Male	Female	8	608.32	76.04	1.92	-1.5	C-
K	66	White	Black	8	33.13	4.14	1.36	-0.7	A-
		White	Hispanic	8	37.97	4.75	1.7	-1.2	B-
		Male	Female	8	32.95	4.12	0.88	0.3	A+
K	67	White	Black	8	17.52	2.19	0.94	0.1	A+
		White	Hispanic	8	19.01	2.38	1.21	-0.5	A-
		Male	Female	8	68.45	8.56	0.79	0.6	A+
K	68	White	Black	8	22.08	2.76	1.26	-0.5	A-
		White	Hispanic	8	10.73	1.34	1.08	-0.2	A-
		Male	Female	8	3.33	0.42	1.01	0	A-
K	69	White	Black	8	21.42	2.68	1.26	-0.5	A-
		White	Hispanic	8	22.16	2.77	1.31	-0.6	A-
		Male	Female	8	27.96	3.49	1.14	-0.3	A-
K	70	White	Black	8	25.61	3.2	1.22	-0.5	A-
		White	Hispanic	8	10.68	1.34	1.17	-0.4	A-
		Male	Female	8	327.34	40.92	1.55	-1	B-
K	71	White	Black	8	19.38	2.42	0.82	0.5	A+
		White	Hispanic	8	26.7	3.34	0.66	1	A+
		Male	Female	8	92.25	11.53	0.77	0.6	A+
K	72	White	Black	8	17.55	2.19	1.18	-0.4	A-
		White	Hispanic	8	3.79	0.47	1.1	-0.2	A-
		Male	Female	8	159.88	19.98	1.44	-0.9	A-

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	73	White	Black	8	7.49	0.94	1.06	-0.1	A-
		White	Hispanic	8	21.43	2.68	1.19	-0.4	A-
		Male	Female	8	52.34	6.54	1.18	-0.4	A-
K	74	White	Black	8	16.75	2.09	0.88	0.3	A+
		White	Hispanic	8	5.45	0.68	1.16	-0.3	A-
		Male	Female	8	18.59	2.32	0.9	0.2	A+
K	75	White	Black	8	8.91	1.11	0.97	0.1	A+
		White	Hispanic	8	7.56	0.95	1.12	-0.3	A-
		Male	Female	8	28.9	3.61	0.92	0.2	A+
K	76	White	Black	8	36.58	4.57	0.87	0.3	A+
		White	Hispanic	8	11.53	1.44	0.83	0.4	A+
		Male	Female	8	18.78	2.35	0.98	0	A+
K	77	White	Black	8	6.57	0.82	1.01	0	A-
		White	Hispanic	8	4.33	0.54	0.93	0.2	A+
		Male	Female	8	7.45	0.93	1.01	0	A-
L	63	White	Black	8	23.22	2.9	0.8	0.5	A+
		White	Hispanic	8	8.25	1.03	0.82	0.5	A+
		Male	Female	8	35.69	4.46	0.84	0.4	A+
L	64	White	Black	8	30.64	3.83	1.18	-0.4	A-
		White	Hispanic	8	9.89	1.24	1.15	-0.3	A-
		Male	Female	8	166.78	20.85	1.48	-0.9	A-
L	65	White	Black	8	18.21	2.28	0.82	0.5	A+
		White	Hispanic	8	14.18	1.77	1.13	-0.3	A-
		Male	Female	8	6.31	0.79	1.02	0	A-
L	66	White	Black	8	16.39	2.05	0.86	0.3	A+
		White	Hispanic	8	9.64	1.21	1.1	-0.2	A-
		Male	Female	8	19.22	2.4	1.02	-0.1	A-
L	67	White	Black	8	51.06	6.38	1.47	-0.9	A-
		White	Hispanic	8	12.6	1.57	1.2	-0.4	A-
		Male	Female	8	25.13	3.14	0.95	0.1	A+
L	68	White	Black	8	47.89	5.99	1.43	-0.8	A-
		White	Hispanic	8	11.75	1.47	1.27	-0.6	A-
		Male	Female	8	14.74	1.84	1.03	-0.1	A-
L	69	White	Black	8	66.69	8.34	1.5	-1	A-
		White	Hispanic	8	10.72	1.34	1.28	-0.6	A-
		Male	Female	8	119.25	14.91	1.29	-0.6	A-
L	70	White	Black	8	12.94	1.62	1.16	-0.3	A-
		White	Hispanic	8	5.88	0.73	1.02	0	A-
		Male	Female	8	17.22	2.15	1.11	-0.3	A-
L	71	White	Black	8	11.9	1.49	0.85	0.4	A+
		White	Hispanic	8	13.58	1.7	0.96	0.1	A+
		Male	Female	8	21.62	2.7	0.92	0.2	A+
L	72	White	Black	8	6.96	0.87	1.03	-0.1	A-
		White	Hispanic	8	6.88	0.86	0.99	0	A+
		Male	Female	8	16.66	2.08	1.01	0	A-
L	73	White	Black	8	4.92	0.61	1.03	-0.1	A-
		White	Hispanic	8	6.78	0.85	1.03	-0.1	A-
		Male	Female	8	83.16	10.39	0.78	0.6	A+

Appendix S(a): Grade Eight Mathematics Between Group DIF Analysis -- Multiple Choice Items

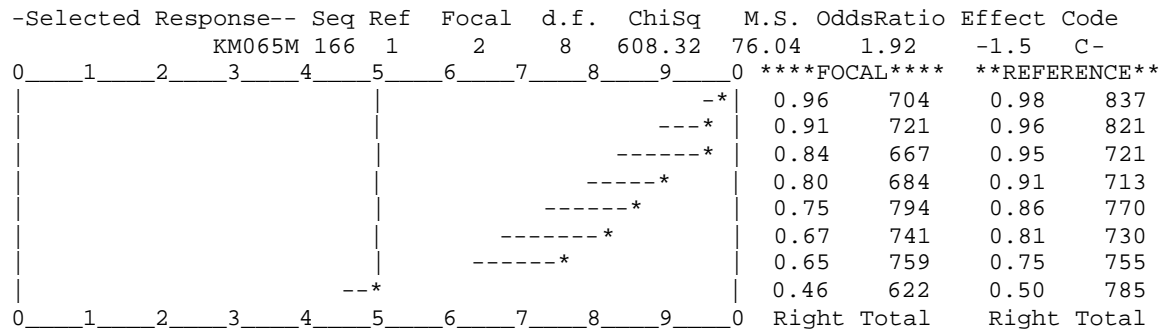
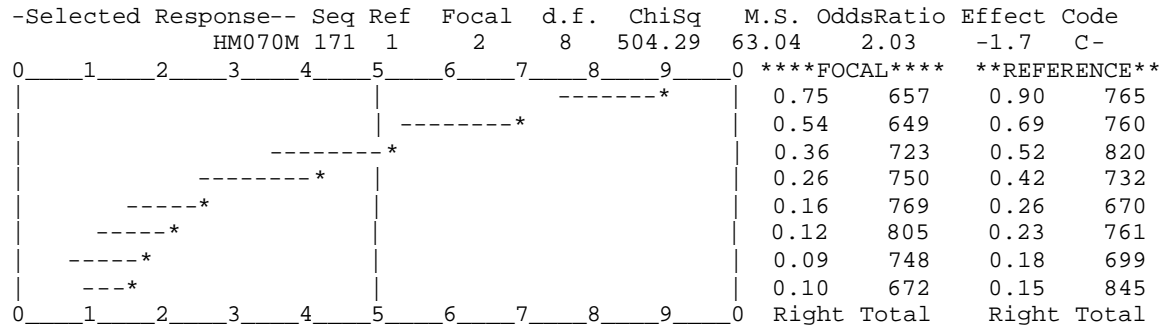
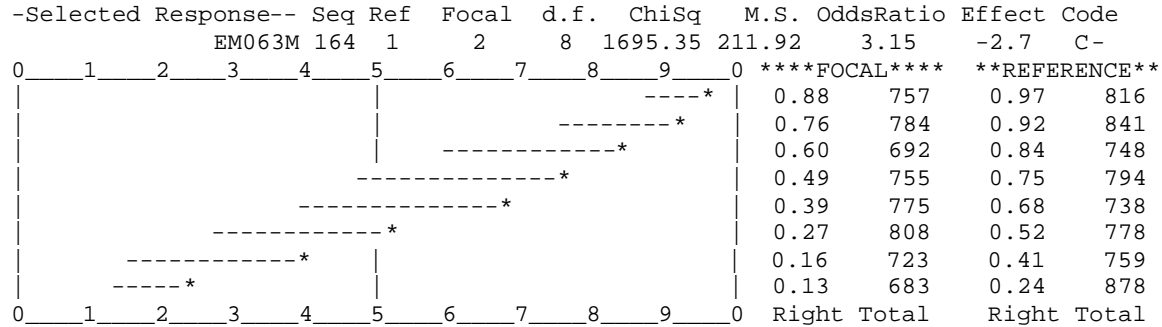
Grade Eight Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	DF	Chi Squared	Mean Square	Odds Ratio	Effect	Code
L	74	White	Black	8	6.35	0.79	0.97	0.1	A+
		White	Hispanic	8	6.59	0.82	1.11	-0.3	A-
		Male	Female	8	34.65	4.33	1.07	-0.2	A-
L	75	White	Black	8	6.93	0.87	0.9	0.2	A+
		White	Hispanic	8	3.78	0.47	1.02	-0.1	A-
		Male	Female	8	22.66	2.83	0.97	0.1	A+
L	76	White	Black	8	10.1	1.26	1.14	-0.3	A-
		White	Hispanic	8	8.49	1.06	1.03	-0.1	A-
		Male	Female	8	25.35	3.17	0.91	0.2	A+
L	77	White	Black	8	6.3	0.79	1	0	A+
		White	Hispanic	8	7.61	0.95	0.92	0.2	A+
		Male	Female	8	58.85	7.36	1.14	-0.3	A-

Appendix S(a): Grade Eight Mathematics

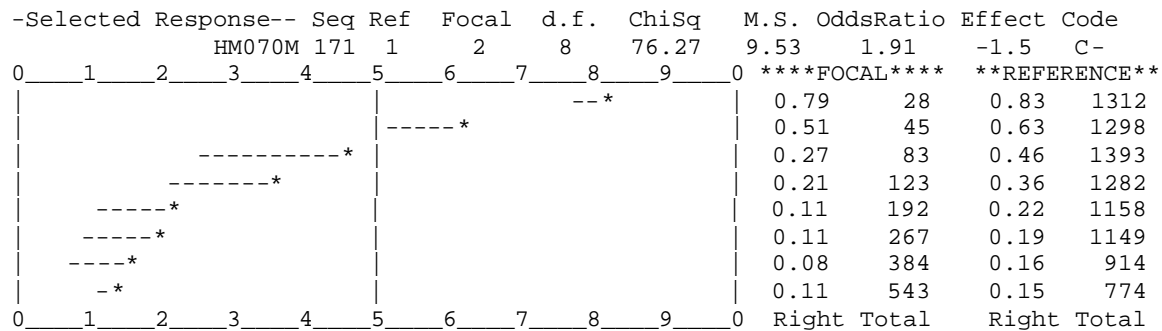
Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Reference Group = White, Focal Group = African American



**Appendix S(b): Grade Eight Mathematics
Between Group DIF Analysis -- Constructed Response Items**

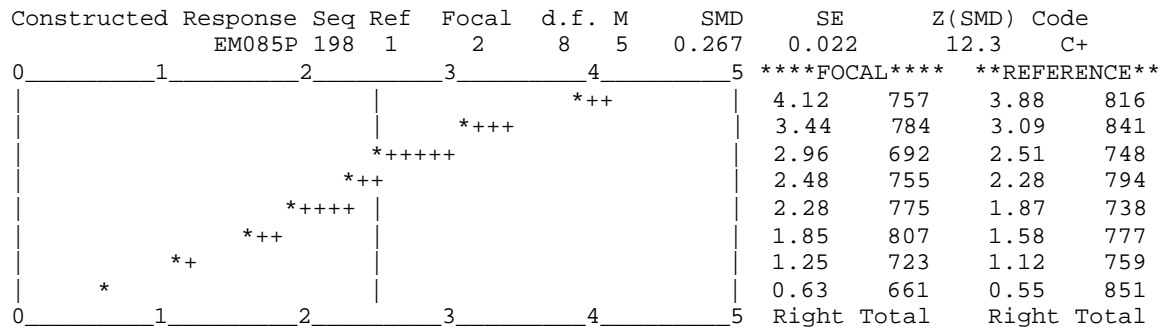
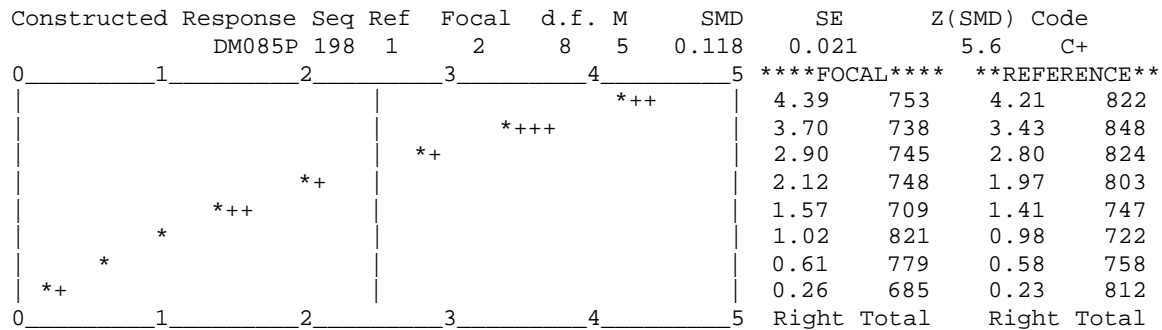
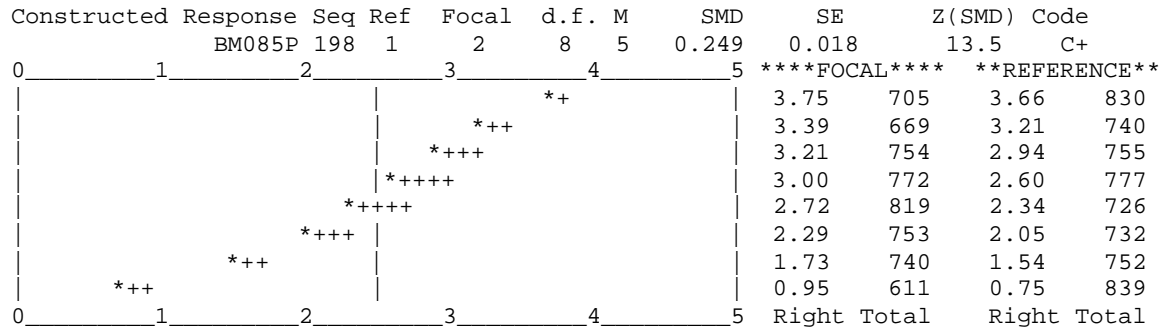
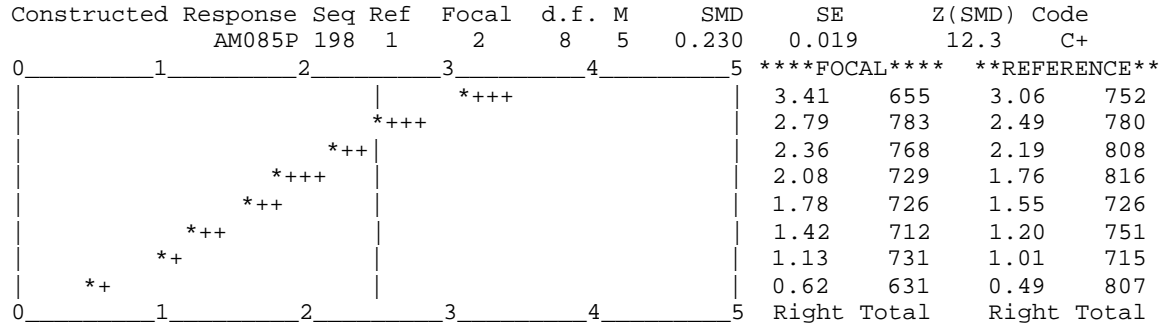
Grade Eight Mathematics -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	85	White	Black	8	5	-0.089	0.024	-3.7	BB-
		White	Hispanic	8	5	-0.095	0.040	-2.4	BB-
		Male	Female	8	5	0.230	0.019	12.3	CC+
B	85	White	Black	8	5	-0.119	0.028	-4.2	BB-
		White	Hispanic	8	5	-0.108	0.044	-2.4	BB-
		Male	Female	8	5	0.249	0.018	13.5	CC+
C	85	White	Black	8	5	0.051	0.027	1.9	AA+
		White	Hispanic	8	5	0.083	0.043	1.9	AA+
		Male	Female	8	5	-0.047	0.020	-2.3	BB-
D	85	White	Black	8	5	-0.015	0.028	-0.5	AA-
		White	Hispanic	8	5	-0.042	0.046	-0.9	AA-
		Male	Female	8	5	0.118	0.021	5.6	CC+
E	85	White	Black	8	5	0.036	0.029	1.2	AA+
		White	Hispanic	8	5	0.064	0.046	1.4	AA+
		Male	Female	8	5	0.267	0.022	12.3	CC+
F	85	White	Black	8	5	-0.115	0.024	-4.8	BB-
		White	Hispanic	8	5	-0.062	0.040	-1.5	AA-
		Male	Female	8	5	-0.051	0.020	-2.5	BB-
G	85	White	Black	8	5	0.019	0.028	0.7	AA+
		White	Hispanic	8	5	-0.041	0.042	-1	AA-
		Male	Female	8	5	0.201	0.019	10.7	CC+
H	85	White	Black	8	5	-0.124	0.023	-5.5	CC-
		White	Hispanic	8	5	-0.005	0.036	-0.1	AA-
		Male	Female	8	5	-0.139	0.019	-7.3	CC-
I	85	White	Black	8	5	-0.097	0.025	-3.8	BB-
		White	Hispanic	8	5	-0.067	0.044	-1.5	AA-
		Male	Female	8	5	-0.164	0.022	-7.4	CC-
J	85	White	Black	8	5	0.021	0.026	0.8	AA+
		White	Hispanic	8	5	0.090	0.043	2.1	BB+
		Male	Female	8	5	0.047	0.022	2.1	BB+
K	85	White	Black	8	5	-0.094	0.025	-3.7	BB-
		White	Hispanic	8	5	-0.037	0.043	-0.9	AA-
		Male	Female	8	5	-0.048	0.021	-2.3	BB-
L	85	White	Black	8	5	0.098	0.031	3.1	BB+
		White	Hispanic	8	5	-0.034	0.050	-0.7	AA-
		Male	Female	8	5	0.041	0.023	1.8	AA+

Appendix S(b): Grade Eight Mathematics

Between Group DIF Analysis – Constructed Response Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Appendix S(b): Grade Eight Mathematics Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
GM085P	198	1	2	8	5	0.201	0.019	10.7	C+	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5					
							4.41	780	4.17	807
							3.73	688	3.49	768
							3.19	715	2.95	789
							2.75	785	2.46	815
							2.27	753	2.15	743
							1.90	806	1.77	729
							1.57	815	1.39	789
							0.90	643	0.73	874
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	Right Total

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
HM085P	198	1	2	8	5	-0.139	0.019	-7.3	C-	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5					
							3.34	657	3.46	765
							1.99	649	2.13	760
							1.53	723	1.67	819
							1.15	750	1.32	732
							0.93	769	1.14	670
							0.76	805	0.89	761
							0.56	748	0.71	698
							0.29	651	0.34	817
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	Right Total

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
IM085P	198	1	2	8	5	-0.164	0.022	-7.4	C-	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5					
							4.17	650	4.14	849
							2.80	734	3.13	752
							1.94	697	2.29	744
							1.41	726	1.65	729
							0.98	696	1.22	705
							0.70	760	0.80	764
							0.44	685	0.52	685
							0.14	634	0.12	781
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	Right Total

Reference Group = White, Focal Group = African American

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
HM085P	198	1	2	8	5	-0.124	0.023	-5.5	C-	
****FOCAL**** **REFERENCE**										
0	1	2	3	4	5					
							2.86	28	3.39	1312
							1.38	45	2.09	1298
							1.51	83	1.61	1392
							1.21	123	1.25	1282
							0.99	192	1.03	1158
							0.77	267	0.83	1149
							0.55	384	0.66	913
							0.24	525	0.38	751
0	1	2	3	4	5	Right Total	Right Total	Right Total	Right Total	Right Total

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	94	White	Black	8	17.06	2.13	1.1	-0.2	A-
		White	Hispanic	8	3.98	0.5	0.99	0	A+
		Male	Female	8	21.02	2.63	1.04	-0.1	A-
A	95	White	Black	8	1.62	0.2	0.99	0	A+
		White	Hispanic	8	6.9	0.86	1.09	-0.2	A-
		Male	Female	8	21.2	2.65	0.86	0.3	A+
A	96	White	Black	8	17.01	2.13	0.89	0.3	A+
		White	Hispanic	8	11.88	1.48	1.05	-0.1	A-
		Male	Female	8	77.26	9.66	1.24	-0.5	A-
A	97	White	Black	8	13.85	1.73	0.95	0.1	A+
		White	Hispanic	8	11.6	1.45	0.93	0.2	A+
		Male	Female	8	96.35	12.04	1.28	-0.6	A-
A	98	White	Black	8	14.88	1.86	1.15	-0.3	A-
		White	Hispanic	8	7.53	0.94	1.13	-0.3	A-
		Male	Female	8	112.11	14.01	1.31	-0.6	A-
A	99	White	Black	8	56.72	7.09	0.74	0.7	A+
		White	Hispanic	8	9.86	1.23	0.79	0.5	A+
		Male	Female	8	40.87	5.11	0.85	0.4	A+
A	100	White	Black	8	52.76	6.6	0.69	0.9	A+
		White	Hispanic	8	11.29	1.41	0.78	0.6	A+
		Male	Female	8	113.03	14.13	1.25	-0.5	A-
A	101	White	Black	8	23.37	2.92	0.98	0	A+
		White	Hispanic	8	10.37	1.3	1.21	-0.4	A-
		Male	Female	8	28.46	3.56	0.91	0.2	A+
A	102	White	Black	8	23.01	2.88	1.14	-0.3	A-
		White	Hispanic	8	10.45	1.31	1.34	-0.7	A-
		Male	Female	8	15.79	1.97	1.09	-0.2	A-
A	103	White	Black	8	20.01	2.5	1.11	-0.3	A-
		White	Hispanic	8	57.66	7.21	1.88	-1.5	B-
		Male	Female	8	72.41	9.05	0.84	0.4	A+
A	104	White	Black	8	41.22	5.15	1.37	-0.7	A-
		White	Hispanic	8	46.57	5.82	1.7	-1.2	B-
		Male	Female	8	179.03	22.38	1.51	-1	A-
A	105	White	Black	8	6.33	0.79	0.9	0.3	A+
		White	Hispanic	8	7.79	0.97	0.85	0.4	A+
		Male	Female	8	16.18	2.02	1	0	A-
A	106	White	Black	8	14.85	1.86	0.88	0.3	A+
		White	Hispanic	8	7.74	0.97	1.05	-0.1	A-
		Male	Female	8	21.69	2.71	0.89	0.3	A+
A	107	White	Black	8	13.32	1.67	0.88	0.3	A+
		White	Hispanic	8	5.37	0.67	0.91	0.2	A+
		Male	Female	8	43.87	5.48	0.84	0.4	A+
A	108	White	Black	8	27.87	3.48	1.09	-0.2	A-
		White	Hispanic	8	7.11	0.89	1.31	-0.6	A-
		Male	Female	8	49.85	6.23	1.1	-0.2	A-
A	109	White	Black	8	9.93	1.24	1.01	0	A-
		White	Hispanic	8	6.67	0.83	0.97	0.1	A+
		Male	Female	8	21.37	2.67	1.06	-0.1	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
A	110	White	Black	8	102.34	12.79	1.57	-1.1	B-
		White	Hispanic	8	31.65	3.96	1.65	-1.2	B-
		Male	Female	8	10.56	1.32	1.07	-0.2	A-
A	111	White	Black	8	28.76	3.6	0.72	0.8	A+
		White	Hispanic	8	11.61	1.45	0.95	0.1	A+
		Male	Female	8	106.69	13.34	0.61	1.2	B+
A	112	White	Black	8	7.08	0.89	0.91	0.2	A+
		White	Hispanic	8	5.95	0.74	0.79	0.6	A+
		Male	Female	8	63.51	7.94	0.6	1.2	B+
A	113	White	Black	8	15.87	1.98	0.85	0.4	A+
		White	Hispanic	8	4.9	0.61	1.05	-0.1	A-
		Male	Female	8	18.47	2.31	0.97	0.1	A+
A	114	White	Black	8	8.21	1.03	1	0	A+
		White	Hispanic	8	8.88	1.11	0.77	0.6	A+
		Male	Female	8	1304.64	163.08	2.94	-2.5	C-
A	115	White	Black	8	3.22	0.4	0.91	0.2	A+
		White	Hispanic	8	3.35	0.42	1.05	-0.1	A-
		Male	Female	8	63.98	8	0.54	1.5	B+
A	116	White	Black	8	4.13	0.52	0.93	0.2	A+
		White	Hispanic	8	2.7	0.34	0.91	0.2	A+
		Male	Female	8	88.89	11.11	0.65	1	B+
A	117	White	Black	8	34.3	4.29	1.18	-0.4	A-
		White	Hispanic	8	7.42	0.93	1.03	-0.1	A-
		Male	Female	8	93.31	11.66	1.06	-0.1	A-
A	118	White	Black	8	6.91	0.86	1.03	-0.1	A-
		White	Hispanic	8	11.97	1.5	0.93	0.2	A+
		Male	Female	8	30.67	3.83	1.11	-0.2	A-
A	119	White	Black	8	4.4	0.55	0.95	0.1	A+
		White	Hispanic	8	5.21	0.65	0.96	0.1	A+
		Male	Female	8	57.4	7.18	1.12	-0.3	A-
A	120	White	Black	8	8.23	1.03	1.12	-0.3	A-
		White	Hispanic	8	7.46	0.93	0.89	0.3	A+
		Male	Female	8	34.45	4.31	0.77	0.6	A+
A	121	White	Black	8	71.8	8.98	0.6	1.2	B+
		White	Hispanic	8	23.57	2.95	0.6	1.2	B+
		Male	Female	8	51.36	6.42	0.79	0.6	A+
A	122	White	Black	8	39.6	4.95	0.89	0.3	A+
		White	Hispanic	8	8.37	1.05	0.93	0.2	A+
		Male	Female	8	35.75	4.47	1.06	-0.1	A-
A	123	White	Black	8	32.44	4.06	0.77	0.6	A+
		White	Hispanic	8	9.23	1.15	0.85	0.4	A+
		Male	Female	8	14.15	1.77	1.02	0	A-
A	124	White	Black	8	19.96	2.49	1.24	-0.5	A-
		White	Hispanic	8	13.31	1.66	1.59	-1.1	B-
		Male	Female	8	25.13	3.14	0.9	0.2	A+
A	125	White	Black	8	9.9	1.24	0.99	0	A+
		White	Hispanic	8	10.5	1.31	0.99	0	A+
		Male	Female	8	1466.51	183.31	3.07	-2.6	C-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	126	White	Black	8	8.18	1.02	0.91	0.2	A+
		White	Hispanic	8	4.14	0.52	0.96	0.1	A+
		Male	Female	8	22.76	2.85	1.11	-0.3	A-
A	127	White	Black	8	16.79	2.1	1.05	-0.1	A-
		White	Hispanic	8	4.13	0.52	1.01	0	A-
		Male	Female	8	12.68	1.58	1.03	-0.1	A-
A	128	White	Black	8	25.28	3.16	1.12	-0.3	A-
		White	Hispanic	8	19.06	2.38	1.12	-0.3	A-
		Male	Female	8	25.71	3.21	0.87	0.3	A+
A	129	White	Black	8	34.2	4.27	1.17	-0.4	A-
		White	Hispanic	8	7.43	0.93	1.14	-0.3	A-
		Male	Female	8	14.23	1.78	0.87	0.3	A+
B	94	White	Black	8	7.13	0.89	1.15	-0.3	A-
		White	Hispanic	8	23.84	2.98	1.24	-0.5	A-
		Male	Female	8	29.63	3.7	1.13	-0.3	A-
B	95	White	Black	8	12.46	1.56	1.13	-0.3	A-
		White	Hispanic	8	1.61	0.2	1.05	-0.1	A-
		Male	Female	8	15.38	1.92	0.84	0.4	A+
B	96	White	Black	8	7.24	0.91	0.88	0.3	A+
		White	Hispanic	8	13.06	1.63	1.14	-0.3	A-
		Male	Female	8	129.13	16.14	1.36	-0.7	A-
B	97	White	Black	8	26.21	3.28	0.87	0.3	A+
		White	Hispanic	8	18.96	2.37	0.84	0.4	A+
		Male	Female	8	114.98	14.37	1.31	-0.6	A-
B	98	White	Black	8	12.7	1.59	1.08	-0.2	A-
		White	Hispanic	8	15.21	1.9	1.23	-0.5	A-
		Male	Female	8	98.34	12.29	1.24	-0.5	A-
B	99	White	Black	8	63.09	7.89	0.67	0.9	A+
		White	Hispanic	8	45.82	5.73	0.61	1.1	B+
		Male	Female	8	51.23	6.4	0.84	0.4	A+
B	100	White	Black	8	70.02	8.75	0.66	1	A+
		White	Hispanic	8	10.68	1.34	0.79	0.5	A+
		Male	Female	8	118.18	14.77	1.25	-0.5	A-
B	101	White	Black	8	17.45	2.18	1	0	A
		White	Hispanic	8	22.9	2.86	1.26	-0.5	A-
		Male	Female	8	23.22	2.9	0.88	0.3	A+
B	102	White	Black	8	24.61	3.08	1.23	-0.5	A-
		White	Hispanic	8	49.22	6.15	1.72	-1.3	B-
		Male	Female	8	78.61	9.83	1.18	-0.4	A-
B	103	White	Black	8	4.48	0.56	1.09	-0.2	A-
		White	Hispanic	8	56.61	7.08	1.84	-1.4	B-
		Male	Female	8	45.94	5.74	0.91	0.2	A+
B	104	White	Black	8	26.77	3.35	1.25	-0.5	A-
		White	Hispanic	8	37.02	4.63	1.69	-1.2	B-
		Male	Female	8	175.12	21.89	1.46	-0.9	A-
B	105	White	Black	8	7.48	0.93	1.01	0	A-
		White	Hispanic	8	10.03	1.25	0.97	0.1	A+
		Male	Female	8	12.49	1.56	0.96	0.1	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	106	White	Black	8	23.75	2.97	1.08	-0.2	A-
		White	Hispanic	8	5.68	0.71	1.12	-0.3	A-
		Male	Female	8	12.62	1.58	1	0	A
B	107	White	Black	8	15.64	1.95	1	0	A
		White	Hispanic	8	9.58	1.2	0.88	0.3	A+
		Male	Female	8	37.51	4.69	0.87	0.3	A+
B	108	White	Black	8	9.14	1.14	1.16	-0.4	A-
		White	Hispanic	8	4.11	0.51	1.03	-0.1	A-
		Male	Female	8	119.92	14.99	1.3	-0.6	A-
B	109	White	Black	8	6.56	0.82	1	0	A+
		White	Hispanic	8	10.94	1.37	1.21	-0.4	A-
		Male	Female	8	40.49	5.06	1.17	-0.4	A-
B	110	White	Black	8	78.32	9.79	1.47	-0.9	A-
		White	Hispanic	8	61.67	7.71	1.79	-1.4	B-
		Male	Female	8	20.32	2.54	1.04	-0.1	A-
B	111	White	Black	8	12.34	1.54	0.89	0.3	A+
		White	Hispanic	8	10.91	1.36	1.21	-0.5	A-
		Male	Female	8	40.91	5.11	0.75	0.7	A+
B	112	White	Black	8	4.46	0.56	0.96	0.1	A+
		White	Hispanic	8	7.7	0.96	0.81	0.5	A+
		Male	Female	8	558.71	69.84	2.04	-1.7	C-
B	113	White	Black	8	13.43	1.68	0.88	0.3	A+
		White	Hispanic	8	8.25	1.03	1.01	0	A-
		Male	Female	8	36.43	4.55	0.78	0.6	A+
B	114	White	Black	8	9.18	1.15	1.07	-0.2	A-
		White	Hispanic	8	10.62	1.33	1.03	-0.1	A-
		Male	Female	8	1415.84	176.98	2.76	-2.4	C-
B	115	White	Black	8	6.25	0.78	1.03	-0.1	A-
		White	Hispanic	8	14.99	1.87	0.88	0.3	A+
		Male	Female	8	192.15	24.02	1.54	-1	B-
B	116	White	Black	8	18.13	2.27	1.18	-0.4	A-
		White	Hispanic	8	14.67	1.83	1.31	-0.6	A-
		Male	Female	8	27.51	3.44	0.89	0.3	A+
B	117	White	Black	8	34.19	4.27	1.06	-0.1	A-
		White	Hispanic	8	19.34	2.42	1.32	-0.7	A-
		Male	Female	8	17.05	2.13	0.83	0.4	A+
B	118	White	Black	8	11.84	1.48	1	0	A
		White	Hispanic	8	7.62	0.95	1.05	-0.1	A-
		Male	Female	8	27.93	3.49	0.89	0.3	A+
B	119	White	Black	8	58.15	7.27	1.48	-0.9	A-
		White	Hispanic	8	17.63	2.2	1.07	-0.1	A-
		Male	Female	8	59.82	7.48	0.87	0.3	A+
B	120	White	Black	8	21.45	2.68	0.99	0	A+
		White	Hispanic	8	11.03	1.38	1.03	-0.1	A-
		Male	Female	8	96.94	12.12	1.22	-0.5	A-
B	121	White	Black	8	11.17	1.4	0.96	0.1	A+
		White	Hispanic	8	6.02	0.75	0.89	0.3	A+
		Male	Female	8	17.51	2.19	0.91	0.2	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi DF	Squared	Mean Square	Odds Ratio	Effect	Code
B	122	White	Black	8	13.54	1.69	1.05	-0.1	A-
		White	Hispanic	8	11.5	1.44	0.98	0	A+
		Male	Female	8	87.53	10.94	0.78	0.6	A+
B	123	White	Black	8	46.33	5.79	0.71	0.8	A+
		White	Hispanic	8	11.13	1.39	0.76	0.7	A+
		Male	Female	8	6.44	0.8	0.98	0.1	A+
B	124	White	Black	8	12.97	1.62	0.92	0.2	A+
		White	Hispanic	8	13.21	1.65	0.8	0.5	A+
		Male	Female	8	44.02	5.5	0.88	0.3	A+
B	125	White	Black	8	36.02	4.5	0.79	0.6	A+
		White	Hispanic	8	6.55	0.82	0.95	0.1	A+
		Male	Female	8	25.67	3.21	1.09	-0.2	A-
B	126	White	Black	8	9.33	1.17	0.94	0.1	A+
		White	Hispanic	8	5.23	0.65	1.05	-0.1	A-
		Male	Female	8	59.69	7.46	0.68	0.9	A+
B	127	White	Black	8	44.16	5.52	0.76	0.6	A+
		White	Hispanic	8	15.31	1.91	0.82	0.5	A+
		Male	Female	8	77.92	9.74	0.87	0.3	A+
B	128	White	Black	8	19.52	2.44	1.16	-0.4	A-
		White	Hispanic	8	12.43	1.55	1.06	-0.1	A-
		Male	Female	8	15.46	1.93	1.04	-0.1	A-
B	129	White	Black	8	5.71	0.71	1.08	-0.2	A-
		White	Hispanic	8	16.55	2.07	1.35	-0.7	A-
		Male	Female	8	32.63	4.08	1.05	-0.1	A-
C	94	White	Black	8	23.61	2.95	1.16	-0.3	A-
		White	Hispanic	8	15.36	1.92	1.27	-0.6	A-
		Male	Female	8	161.03	20.13	1.34	-0.7	A-
C	95	White	Black	8	8.21	1.03	1.04	-0.1	A-
		White	Hispanic	8	11.37	1.42	1.31	-0.6	A-
		Male	Female	8	384.46	48.06	1.91	-1.5	C-
C	96	White	Black	8	7.13	0.89	1.02	-0.1	A-
		White	Hispanic	8	14.88	1.86	1.3	-0.6	A-
		Male	Female	8	186.19	23.27	1.58	-1.1	B-
C	97	White	Black	8	9.9	1.24	0.95	0.1	A+
		White	Hispanic	8	5.1	0.64	0.91	0.2	A+
		Male	Female	8	33.36	4.17	0.86	0.3	A+
C	98	White	Black	8	16.56	2.07	1.15	-0.3	A-
		White	Hispanic	8	11.6	1.45	1.18	-0.4	A-
		Male	Female	8	128.71	16.09	1.24	-0.5	A-
C	99	White	Black	8	16.6	2.07	0.83	0.5	A+
		White	Hispanic	8	8.75	1.09	0.77	0.6	A+
		Male	Female	8	29.1	3.64	1.1	-0.2	A-
C	100	White	Black	8	98.09	12.26	1.61	-1.1	B-
		White	Hispanic	8	54.46	6.81	2.02	-1.7	C-
		Male	Female	8	43.39	5.42	1.19	-0.4	A-
C	101	White	Black	8	16.14	2.02	1.09	-0.2	A-
		White	Hispanic	8	8.09	1.01	1.03	-0.1	A-
		Male	Female	8	43.73	5.47	1.06	-0.1	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	102	White	Black	8	17.11	2.14	0.8	0.5	A+
		White	Hispanic	8	11.81	1.48	0.83	0.4	A+
		Male	Female	8	5.55	0.69	1.07	-0.2	A-
C	103	White	Black	8	46.07	5.76	0.63	1.1	B+
		White	Hispanic	8	13.01	1.63	0.77	0.6	A+
		Male	Female	8	143.46	17.93	0.57	1.3	B+
C	104	White	Black	8	18.68	2.33	0.95	0.1	A+
		White	Hispanic	8	10.72	1.34	1.13	-0.3	A-
		Male	Female	8	25.95	3.24	0.91	0.2	A+
C	105	White	Black	8	8.03	1	0.91	0.2	A+
		White	Hispanic	8	10.7	1.34	1.27	-0.6	A-
		Male	Female	8	9.49	1.19	1.02	-0.1	A-
C	106	White	Black	8	18.65	2.33	0.84	0.4	A+
		White	Hispanic	8	18.76	2.35	0.95	0.1	A+
		Male	Female	8	446.8	55.85	1.85	-1.5	B-
C	107	White	Black	8	34.29	4.29	0.76	0.7	A+
		White	Hispanic	8	4.14	0.52	0.8	0.5	A+
		Male	Female	8	442.55	55.32	1.65	-1.2	B-
C	108	White	Black	8	9.25	1.16	1.07	-0.2	A-
		White	Hispanic	8	20.38	2.55	1.1	-0.2	A-
		Male	Female	8	30.63	3.83	0.88	0.3	A+
C	109	White	Black	8	17.37	2.17	1.18	-0.4	A-
		White	Hispanic	8	23.43	2.93	1.51	-1	A-
		Male	Female	8	8.25	1.03	0.96	0.1	A+
C	110	White	Black	8	66.44	8.3	1.55	-1	B-
		White	Hispanic	8	15.65	1.96	1.43	-0.8	A-
		Male	Female	8	29.3	3.66	1.04	-0.1	A-
C	111	White	Black	8	18.07	2.26	1.1	-0.2	A-
		White	Hispanic	8	4.15	0.52	0.97	0.1	A+
		Male	Female	8	18.11	2.26	0.91	0.2	A+
C	112	White	Black	8	19.37	2.42	1.19	-0.4	A-
		White	Hispanic	8	4.54	0.57	1.08	-0.2	A-
		Male	Female	8	24.5	3.06	0.95	0.1	A+
C	113	White	Black	8	5.31	0.66	1.03	-0.1	A-
		White	Hispanic	8	15.69	1.96	0.87	0.3	A+
		Male	Female	8	55.86	6.98	0.78	0.6	A+
C	114	White	Black	8	14.03	1.75	0.95	0.1	A+
		White	Hispanic	8	4.03	0.5	1.06	-0.1	A-
		Male	Female	8	40.31	5.04	1.08	-0.2	A-
C	115	White	Black	8	17.85	2.23	0.87	0.3	A+
		White	Hispanic	8	4.2	0.52	1	0	A
		Male	Female	8	110.9	13.86	1.31	-0.6	A-
C	116	White	Black	8	20.26	2.53	1.08	-0.2	A-
		White	Hispanic	8	19.2	2.4	1.23	-0.5	A-
		Male	Female	8	81.33	10.17	1.26	-0.5	A-
C	117	White	Black	8	21.39	2.67	0.83	0.4	A+
		White	Hispanic	8	9.19	1.15	0.8	0.5	A+
		Male	Female	8	52.7	6.59	0.88	0.3	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
C	118	White	Black	8	35.05	4.38	0.8	0.5	A+
		White	Hispanic	8	11.85	1.48	0.81	0.5	A+
		Male	Female	8	102.18	12.77	1.13	-0.3	A-
C	119	White	Black	8	12.57	1.57	0.85	0.4	A+
		White	Hispanic	8	6.76	0.84	0.89	0.3	A+
		Male	Female	8	79.9	9.99	0.71	0.8	A+
C	120	White	Black	8	25.69	3.21	1.2	-0.4	A-
		White	Hispanic	8	30.23	3.78	1.45	-0.9	A-
		Male	Female	8	30.26	3.78	1.02	0	A-
C	121	White	Black	8	21.33	2.67	1.15	-0.3	A-
		White	Hispanic	8	60.28	7.54	1.85	-1.4	B-
		Male	Female	8	90.68	11.34	0.8	0.5	A+
C	122	White	Black	8	20.37	2.55	1.22	-0.5	A-
		White	Hispanic	8	20.64	2.58	1.39	-0.8	A-
		Male	Female	8	212.76	26.59	1.52	-1	A-
C	123	White	Black	8	6.01	0.75	1.08	-0.2	A-
		White	Hispanic	8	11.03	1.38	0.96	0.1	A+
		Male	Female	8	14.35	1.79	1.07	-0.1	A-
C	124	White	Black	8	6.43	0.8	0.95	0.1	A+
		White	Hispanic	8	9.47	1.18	0.91	0.2	A+
		Male	Female	8	8.41	1.05	0.96	0.1	A+
C	125	White	Black	8	6.51	0.81	1.02	-0.1	A-
		White	Hispanic	8	6.02	0.75	0.99	0	A+
		Male	Female	8	29.78	3.72	0.88	0.3	A+
C	126	White	Black	8	15.2	1.9	1.09	-0.2	A-
		White	Hispanic	8	9.25	1.16	1.11	-0.2	A-
		Male	Female	8	95.88	11.99	1.19	-0.4	A-
C	127	White	Black	8	13.23	1.65	0.98	0	A+
		White	Hispanic	8	4.92	0.61	1.05	-0.1	A-
		Male	Female	8	22.48	2.81	1	0	A+
C	128	White	Black	8	65.28	8.16	1.43	-0.8	A-
		White	Hispanic	8	22.21	2.78	1.36	-0.7	A-
		Male	Female	8	23.71	2.96	1.02	0	A-
C	129	White	Black	8	10.4	1.3	0.89	0.3	A+
		White	Hispanic	8	8.1	1.01	0.87	0.3	A+
		Male	Female	8	80.27	10.03	0.68	0.9	A+
D	94	White	Black	8	7.81	0.98	0.94	0.1	A+
		White	Hispanic	8	5.47	0.68	0.93	0.2	A+
		Male	Female	8	94.18	11.77	1.29	-0.6	A-
D	95	White	Black	8	12.97	1.62	0.89	0.3	A+
		White	Hispanic	8	9.58	1.2	0.78	0.6	A+
		Male	Female	8	15.98	2	1.08	-0.2	A-
D	96	White	Black	8	39.39	4.92	0.75	0.7	A+
		White	Hispanic	8	14.24	1.78	0.78	0.6	A+
		Male	Female	8	44.13	5.52	1.17	-0.4	A-
D	97	White	Black	8	4.28	0.53	0.99	0	A+
		White	Hispanic	8	3.69	0.46	1.03	-0.1	A-
		Male	Female	8	25.88	3.23	0.85	0.4	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
D	98	White	Black	8	33.3	4.16	1.31	-0.6	A-
		White	Hispanic	8	4.79	0.6	1.15	-0.3	A-
		Male	Female	8	31.7	3.96	0.85	0.4	A+
D	99	White	Black	8	24.37	3.05	1.23	-0.5	A-
		White	Hispanic	8	27.43	3.43	1.44	-0.9	A-
		Male	Female	8	30.24	3.78	1.06	-0.1	A-
D	100	White	Black	8	18.98	2.37	0.98	0	A+
		White	Hispanic	8	12.99	1.62	1.01	0	A-
		Male	Female	8	41.39	5.17	1.08	-0.2	A-
D	101	White	Black	8	30.41	3.8	1.32	-0.7	A-
		White	Hispanic	8	91.31	11.41	2.17	-1.8	C-
		Male	Female	8	44.63	5.58	1.27	-0.6	A-
D	102	White	Black	8	35.71	4.46	1.18	-0.4	A-
		White	Hispanic	8	5.57	0.7	1.05	-0.1	A-
		Male	Female	8	72.63	9.08	0.74	0.7	A+
D	103	White	Black	8	5.93	0.74	1.01	0	A-
		White	Hispanic	8	8.5	1.06	1.03	-0.1	A-
		Male	Female	8	27.17	3.4	0.9	0.3	A+
D	104	White	Black	8	19.02	2.38	0.99	0	A+
		White	Hispanic	8	5.56	0.7	1	0	A
		Male	Female	8	27.43	3.43	1.07	-0.2	A-
D	105	White	Black	8	8.25	1.03	1.03	-0.1	A-
		White	Hispanic	8	16.2	2.02	0.93	0.2	A+
		Male	Female	8	40.33	5.04	0.94	0.1	A+
D	106	White	Black	8	3.71	0.46	1.07	-0.2	A-
		White	Hispanic	8	4.83	0.6	1.01	0	A-
		Male	Female	8	63.38	7.92	1.25	-0.5	A-
D	107	White	Black	8	96.21	12.03	1.51	-1	A-
		White	Hispanic	8	50.62	6.33	1.71	-1.3	B-
		Male	Female	8	373.5	46.69	1.68	-1.2	B-
D	108	White	Black	8	16.65	2.08	1.15	-0.3	A-
		White	Hispanic	8	7.13	0.89	1.15	-0.3	A-
		Male	Female	8	139.12	17.39	0.75	0.7	A+
D	109	White	Black	8	4.03	0.5	1.04	-0.1	A-
		White	Hispanic	8	6.39	0.8	0.99	0	A+
		Male	Female	8	24.82	3.1	0.86	0.4	A+
D	110	White	Black	8	18.11	2.26	1.02	-0.1	A-
		White	Hispanic	8	19.01	2.38	0.95	0.1	A+
		Male	Female	8	36.34	4.54	0.83	0.4	A+
D	111	White	Black	8	21.14	2.64	1.15	-0.3	A-
		White	Hispanic	8	13.91	1.74	1.18	-0.4	A-
		Male	Female	8	24.33	3.04	0.96	0.1	A+
D	112	White	Black	8	31.51	3.94	1.22	-0.5	A-
		White	Hispanic	8	14.5	1.81	1.36	-0.7	A-
		Male	Female	8	10.91	1.36	1.08	-0.2	A-
D	113	White	Black	8	21.31	2.66	0.89	0.3	A+
		White	Hispanic	8	31.59	3.95	0.94	0.1	A+
		Male	Female	8	36.77	4.6	0.78	0.6	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	114	White	Black	8	15.81	1.98	0.87	0.3	A+
		White	Hispanic	8	11.83	1.48	1.1	-0.2	A-
		Male	Female	8	110.92	13.86	1.1	-0.2	A-
D	115	White	Black	8	10.61	1.33	0.87	0.3	A+
		White	Hispanic	8	10.28	1.28	1.07	-0.2	A-
		Male	Female	8	74.08	9.26	1.27	-0.6	A-
D	116	White	Black	8	7.87	0.98	1.04	-0.1	A-
		White	Hispanic	8	9.27	1.16	1.23	-0.5	A-
		Male	Female	8	120.66	15.08	1.34	-0.7	A-
D	117	White	Black	8	40.63	5.08	0.73	0.7	A+
		White	Hispanic	8	9.43	1.18	0.83	0.5	A+
		Male	Female	8	100.88	12.61	0.84	0.4	A+
D	118	White	Black	8	46.9	5.86	0.73	0.7	A+
		White	Hispanic	8	9.95	1.24	0.8	0.5	A+
		Male	Female	8	114.21	14.28	1.16	-0.4	A-
D	119	White	Black	8	22	2.75	0.85	0.4	A+
		White	Hispanic	8	8.52	1.07	1.17	-0.4	A-
		Male	Female	8	56.49	7.06	0.73	0.7	A+
D	120	White	Black	8	39.57	4.95	1.29	-0.6	A-
		White	Hispanic	8	32.6	4.07	1.37	-0.7	A-
		Male	Female	8	51.83	6.48	1.03	-0.1	A-
D	121	White	Black	8	18.3	2.29	1.11	-0.2	A-
		White	Hispanic	8	45.24	5.65	1.48	-0.9	A-
		Male	Female	8	74.25	9.28	0.83	0.4	A+
D	122	White	Black	8	44.95	5.62	1.27	-0.6	A-
		White	Hispanic	8	32.79	4.1	1.59	-1.1	B-
		Male	Female	8	295.18	36.9	1.6	-1.1	B-
D	123	White	Black	8	27.81	3.48	1.12	-0.3	A-
		White	Hispanic	8	9.31	1.16	0.92	0.2	A+
		Male	Female	8	38.46	4.81	1.06	-0.1	A-
D	124	White	Black	8	11.06	1.38	1.01	0	A-
		White	Hispanic	8	6.21	0.78	1.1	-0.2	A-
		Male	Female	8	15.69	1.96	0.97	0.1	A+
D	125	White	Black	8	10.42	1.3	0.87	0.3	A+
		White	Hispanic	8	9.5	1.19	0.84	0.4	A+
		Male	Female	8	49.44	6.18	0.85	0.4	A+
D	126	White	Black	8	16.62	2.08	1	0	A
		White	Hispanic	8	1.11	0.14	0.99	0	A+
		Male	Female	8	78.35	9.79	1.11	-0.2	A-
D	127	White	Black	8	7.18	0.9	1.02	0	A-
		White	Hispanic	8	3.26	0.41	0.96	0.1	A+
		Male	Female	8	13.49	1.69	1.05	-0.1	A-
D	128	White	Black	8	48.47	6.06	1.34	-0.7	A-
		White	Hispanic	8	46.11	5.76	1.71	-1.3	B-
		Male	Female	8	11.91	1.49	0.98	0.1	A+
D	129	White	Black	8	16	2	0.8	0.5	A+
		White	Hispanic	8	5.63	0.7	0.89	0.3	A+
		Male	Female	8	83.97	10.5	0.69	0.9	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	94	White	Black	8	9.49	1.19	0.74	0.7	A+
		White	Hispanic	8	6.41	0.8	0.68	0.9	A+
		Male	Female	8	42.13	5.27	0.61	1.2	B+
E	95	White	Black	8	14.22	1.78	0.87	0.3	A+
		White	Hispanic	8	2.79	0.35	0.98	0	A+
		Male	Female	8	25.86	3.23	0.98	0	A+
E	96	White	Black	8	11.6	1.45	1.04	-0.1	A-
		White	Hispanic	8	11.01	1.38	0.9	0.3	A+
		Male	Female	8	862.63	107.83	2.61	-2.3	C-
E	97	White	Black	8	6.84	0.86	0.94	0.2	A+
		White	Hispanic	8	12.94	1.62	0.71	0.8	A+
		Male	Female	8	51.25	6.41	0.54	1.5	B+
E	98	White	Black	8	3.89	0.49	0.95	0.1	A+
		White	Hispanic	8	2.36	0.3	1.04	-0.1	A-
		Male	Female	8	49.81	6.23	0.72	0.8	A+
E	99	White	Black	8	52.31	6.54	1.33	-0.7	A-
		White	Hispanic	8	14.79	1.85	0.94	0.1	A+
		Male	Female	8	23.06	2.88	1.06	-0.1	A-
E	100	White	Black	8	23.72	2.97	0.81	0.5	A+
		White	Hispanic	8	25.78	3.22	0.91	0.2	A+
		Male	Female	8	16.77	2.1	1.06	-0.1	A-
E	101	White	Black	8	13.86	1.73	0.96	0.1	A+
		White	Hispanic	8	14.89	1.86	1.33	-0.7	A-
		Male	Female	8	16.42	2.05	1.05	-0.1	A-
E	102	White	Black	8	16.65	2.08	1.13	-0.3	A-
		White	Hispanic	8	6.81	0.85	0.85	0.4	A+
		Male	Female	8	85.9	10.74	0.67	1	A+
E	103	White	Black	8	60.78	7.6	0.62	1.1	B+
		White	Hispanic	8	35.46	4.43	0.6	1.2	B+
		Male	Female	8	52.86	6.61	0.76	0.7	A+
E	104	White	Black	8	15.1	1.89	0.91	0.2	A+
		White	Hispanic	8	10.38	1.3	1.04	-0.1	A-
		Male	Female	8	28.06	3.51	1.03	-0.1	A-
E	105	White	Black	8	24.77	3.1	0.81	0.5	A+
		White	Hispanic	8	8.62	1.08	0.81	0.5	A+
		Male	Female	8	2.37	0.3	0.99	0	A+
E	106	White	Black	8	25.03	3.13	1.32	-0.6	A-
		White	Hispanic	8	10.43	1.3	1.28	-0.6	A-
		Male	Female	8	56.95	7.12	0.84	0.4	A+
E	107	White	Black	8	17.91	2.24	0.94	0.2	A+
		White	Hispanic	8	8.71	1.09	1.25	-0.5	A-
		Male	Female	8	1702.66	212.83	3.48	-2.9	C-
E	108	White	Black	8	19.33	2.42	0.86	0.4	A+
		White	Hispanic	8	6.05	0.76	1.21	-0.4	A-
		Male	Female	8	22.39	2.8	1.12	-0.3	A-
E	109	White	Black	8	23.57	2.95	0.87	0.3	A+
		White	Hispanic	8	10.47	1.31	0.81	0.5	A+
		Male	Female	8	7.6	0.95	0.96	0.1	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
E	110	White	Black	8	19.16	2.39	1.21	-0.4	A-
		White	Hispanic	8	4.72	0.59	0.98	0.1	A+
		Male	Female	8	11.66	1.46	0.96	0.1	A+
E	111	White	Black	8	30.76	3.84	1.39	-0.8	A-
		White	Hispanic	8	10.69	1.34	1.37	-0.7	A-
		Male	Female	8	28.42	3.55	0.82	0.5	A+
E	112	White	Black	8	34.37	4.3	1.39	-0.8	A-
		White	Hispanic	8	8.19	1.02	1.28	-0.6	A-
		Male	Female	8	27.75	3.47	1.22	-0.5	A-
E	113	White	Black	8	65.25	8.16	1.62	-1.1	B-
		White	Hispanic	8	70.7	8.84	2.26	-1.9	C-
		Male	Female	8	256.43	32.05	1.7	-1.2	B-
E	114	White	Black	8	8.89	1.11	0.95	0.1	A+
		White	Hispanic	8	8.92	1.12	1.12	-0.3	A-
		Male	Female	8	24.99	3.12	1.01	0	A-
E	115	White	Black	8	9.13	1.14	0.93	0.2	A+
		White	Hispanic	8	15.95	1.99	1.11	-0.3	A-
		Male	Female	8	10.27	1.28	0.93	0.2	A+
E	116	White	Black	8	28.98	3.62	1.35	-0.7	A-
		White	Hispanic	8	17.64	2.21	1.3	-0.6	A-
		Male	Female	8	24.83	3.1	1.03	-0.1	A-
E	117	White	Black	8	83.99	10.5	1.14	-0.3	A-
		White	Hispanic	8	11.07	1.38	1.01	0	A-
		Male	Female	8	245.11	30.64	1.44	-0.9	A-
E	118	White	Black	8	107.57	13.45	1.79	-1.4	B-
		White	Hispanic	8	45.93	5.74	1.89	-1.5	C-
		Male	Female	8	348.17	43.52	1.54	-1	B-
E	119	White	Black	8	26.19	3.27	0.85	0.4	A+
		White	Hispanic	8	6.75	0.84	1.04	-0.1	A-
		Male	Female	8	190.29	23.79	1.4	-0.8	A-
E	120	White	Black	8	7.6	0.95	1.04	-0.1	A-
		White	Hispanic	8	18.22	2.28	1.31	-0.6	A-
		Male	Female	8	8.29	1.04	0.99	0	A+
E	121	White	Black	8	11.94	1.49	0.94	0.1	A+
		White	Hispanic	8	10	1.25	0.91	0.2	A+
		Male	Female	8	63.83	7.98	1.28	-0.6	A-
E	122	White	Black	8	11.89	1.49	0.96	0.1	A+
		White	Hispanic	8	7.67	0.96	0.94	0.1	A+
		Male	Female	8	46.33	5.79	1.18	-0.4	A-
E	123	White	Black	8	12.44	1.55	0.95	0.1	A+
		White	Hispanic	8	9.15	1.14	1.04	-0.1	A-
		Male	Female	8	18.62	2.33	0.93	0.2	A+
E	124	White	Black	8	16.64	2.08	0.87	0.3	A+
		White	Hispanic	8	15.38	1.92	1.01	0	A-
		Male	Female	8	4.56	0.57	1.02	0	A-
E	125	White	Black	8	5.64	0.7	1.05	-0.1	A-
		White	Hispanic	8	12.94	1.62	1.14	-0.3	A-
		Male	Female	8	12.3	1.54	0.95	0.1	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
E	126	White	Black	8	18.67	2.33	0.89	0.3	A+
		White	Hispanic	8	8.28	1.03	1.09	-0.2	A-
		Male	Female	8	41.35	5.17	1.12	-0.3	A-
E	127	White	Black	8	6.38	0.8	0.94	0.1	A+
		White	Hispanic	8	10.16	1.27	0.76	0.6	A+
		Male	Female	8	16.48	2.06	0.93	0.2	A+
E	128	White	Black	8	7.37	0.92	0.97	0.1	A+
		White	Hispanic	8	3.49	0.44	0.89	0.3	A+
		Male	Female	8	61.62	7.7	0.83	0.4	A+
E	129	White	Black	8	62.21	7.78	0.7	0.8	A+
		White	Hispanic	8	18.32	2.29	0.71	0.8	A+
		Male	Female	8	92.19	11.52	1.23	-0.5	A-
F	94	White	Black	8	16.35	2.04	0.83	0.4	A+
		White	Hispanic	8	8.93	1.12	0.84	0.4	A+
		Male	Female	8	566.64	70.83	1.97	-1.6	C-
F	95	White	Black	8	15.33	1.92	0.86	0.3	A+
		White	Hispanic	8	11.15	1.39	1.06	-0.1	A-
		Male	Female	8	21.58	2.7	0.81	0.5	A+
F	96	White	Black	8	13.2	1.65	0.98	0	A+
		White	Hispanic	8	17.92	2.24	1.03	-0.1	A-
		Male	Female	8	1734.11	216.76	3.31	-2.8	C-
F	97	White	Black	8	6.83	0.85	1.04	-0.1	A-
		White	Hispanic	8	14.1	1.76	0.81	0.5	A+
		Male	Female	8	180.4	22.55	1.52	-1	A-
F	98	White	Black	8	4.63	0.58	1.04	-0.1	A-
		White	Hispanic	8	11.99	1.5	1.2	-0.4	A-
		Male	Female	8	14.84	1.86	0.9	0.2	A+
F	99	White	Black	8	24.66	3.08	1.06	-0.1	A-
		White	Hispanic	8	18.13	2.27	1.5	-1	A-
		Male	Female	8	19.96	2.5	0.84	0.4	A+
F	100	White	Black	8	22.39	2.8	1.17	-0.4	A-
		White	Hispanic	8	6.11	0.76	1.04	-0.1	A-
		Male	Female	8	43.66	5.46	0.88	0.3	A+
F	101	White	Black	8	35.66	4.46	1.28	-0.6	A-
		White	Hispanic	8	8.32	1.04	1.19	-0.4	A-
		Male	Female	8	132.93	16.62	0.75	0.7	A+
F	102	White	Black	8	3.98	0.5	1.02	0	A-
		White	Hispanic	8	13.45	1.68	1.26	-0.6	A-
		Male	Female	8	52.19	6.52	1.18	-0.4	A-
F	103	White	Black	8	3.25	0.41	0.99	0	A+
		White	Hispanic	8	7.9	0.99	0.85	0.4	A+
		Male	Female	8	63.25	7.91	0.8	0.5	A+
F	104	White	Black	8	30.57	3.82	1.13	-0.3	A-
		White	Hispanic	8	3.89	0.49	1.03	-0.1	A-
		Male	Female	8	137.01	17.13	0.72	0.8	A+
F	105	White	Black	8	35.6	4.45	0.73	0.7	A+
		White	Hispanic	8	20.65	2.58	0.7	0.8	A+
		Male	Female	8	7.48	0.94	0.99	0	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
F	106	White	Black	8	31.58	3.95	0.85	0.4	A+
		White	Hispanic	8	19.1	2.39	0.82	0.5	A+
		Male	Female	8	36.3	4.54	0.87	0.3	A+
F	107	White	Black	8	48.64	6.08	0.72	0.8	A+
		White	Hispanic	8	7.92	0.99	1	0	A
		Male	Female	8	24.23	3.03	1.02	0	A-
F	108	White	Black	8	9.98	1.25	0.99	0	A+
		White	Hispanic	8	6.51	0.81	0.93	0.2	A+
		Male	Female	8	53.38	6.67	0.7	0.8	A+
F	109	White	Black	8	38.87	4.86	0.74	0.7	A+
		White	Hispanic	8	39.49	4.94	0.6	1.2	B+
		Male	Female	8	36.69	4.59	0.86	0.3	A+
F	110	White	Black	8	36.9	4.61	1.34	-0.7	A-
		White	Hispanic	8	12.63	1.58	1.24	-0.5	A-
		Male	Female	8	32.52	4.06	1.04	-0.1	A-
F	111	White	Black	8	27.64	3.46	0.93	0.2	A+
		White	Hispanic	8	21.21	2.65	1.4	-0.8	A-
		Male	Female	8	21.79	2.72	0.99	0	A+
F	112	White	Black	8	61.41	7.68	1.46	-0.9	A-
		White	Hispanic	8	11.02	1.38	1.18	-0.4	A-
		Male	Female	8	252.28	31.54	1.69	-1.2	B-
F	113	White	Black	8	112.52	14.07	1.74	-1.3	B-
		White	Hispanic	8	21.14	2.64	1.39	-0.8	A-
		Male	Female	8	233.12	29.14	1.65	-1.2	B-
F	114	White	Black	8	22.9	2.86	0.92	0.2	A+
		White	Hispanic	8	7.65	0.96	0.81	0.5	A+
		Male	Female	8	94.23	11.78	1.16	-0.4	A-
F	115	White	Black	8	8.02	1	1.12	-0.3	A-
		White	Hispanic	8	5.15	0.64	1.12	-0.3	A-
		Male	Female	8	268.56	33.57	1.56	-1	B-
F	116	White	Black	8	22.82	2.85	0.8	0.5	A+
		White	Hispanic	8	6.11	0.76	0.92	0.2	A+
		Male	Female	8	48.69	6.09	0.83	0.4	A+
F	117	White	Black	8	26.39	3.3	1.11	-0.2	A-
		White	Hispanic	8	3.41	0.43	1.01	0	A-
		Male	Female	8	41.68	5.21	1.09	-0.2	A-
F	118	White	Black	8	6.42	0.8	1.04	-0.1	A-
		White	Hispanic	8	12.8	1.6	1.31	-0.6	A-
		Male	Female	8	696.87	87.11	2.17	-1.8	C-
F	119	White	Black	8	9.48	1.19	0.99	0	A+
		White	Hispanic	8	9.02	1.13	1.14	-0.3	A-
		Male	Female	8	76.04	9.51	1.04	-0.1	A-
F	120	White	Black	8	22.39	2.8	1.25	-0.5	A-
		White	Hispanic	8	5.2	0.65	1.1	-0.2	A-
		Male	Female	8	39.5	4.94	1.05	-0.1	A-
F	121	White	Black	8	8.78	1.1	1.15	-0.3	A-
		White	Hispanic	8	2.44	0.31	0.97	0.1	A+
		Male	Female	8	158.47	19.81	1.33	-0.7	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi DF	Squared	Mean Square	Odds Ratio	Effect	Code
F	122	White	Black	8	12.64	1.58	0.98	0.1	A+
		White	Hispanic	8	13.44	1.68	0.8	0.5	A+
		Male	Female	8	19.16	2.39	0.93	0.2	A+
F	123	White	Black	8	18.81	2.35	0.83	0.4	A+
		White	Hispanic	8	9.45	1.18	0.87	0.3	A+
		Male	Female	8	53.44	6.68	0.85	0.4	A+
F	124	White	Black	8	11.9	1.49	0.93	0.2	A+
		White	Hispanic	8	6.17	0.77	1.15	-0.3	A-
		Male	Female	8	44.67	5.58	0.86	0.4	A+
F	125	White	Black	8	13.61	1.7	1.12	-0.3	A-
		White	Hispanic	8	3.22	0.4	1.06	-0.1	A-
		Male	Female	8	5.84	0.73	1.04	-0.1	A-
F	126	White	Black	8	14.65	1.83	1.02	0	A-
		White	Hispanic	8	9.5	1.19	1.1	-0.2	A-
		Male	Female	8	282.31	35.29	1.58	-1.1	B-
F	127	White	Black	8	15.91	1.99	1.31	-0.6	A-
		White	Hispanic	8	8.09	1.01	1.09	-0.2	A-
		Male	Female	8	41.16	5.15	1.15	-0.3	A-
F	128	White	Black	8	7.58	0.95	0.97	0.1	A+
		White	Hispanic	8	4.19	0.52	1.02	-0.1	A-
		Male	Female	8	28.09	3.51	0.85	0.4	A+
F	129	White	Black	8	104.18	13.02	1.6	-1.1	B-
		White	Hispanic	8	11.99	1.5	1.22	-0.5	A-
		Male	Female	8	82.54	10.32	1.32	-0.7	A-
G	94	White	Black	8	46.26	5.78	1.41	-0.8	A-
		White	Hispanic	8	27.52	3.44	1.57	-1.1	B-
		Male	Female	8	89.34	11.17	1.39	-0.8	A-
G	95	White	Black	8	35.52	4.44	1.22	-0.5	A-
		White	Hispanic	8	8.67	1.08	1.19	-0.4	A-
		Male	Female	8	213.47	26.68	1.33	-0.7	A-
G	96	White	Black	8	2.58	0.32	0.91	0.2	A+
		White	Hispanic	8	28.45	3.56	1.79	-1.4	B-
		Male	Female	8	92.98	11.62	0.72	0.8	A+
G	97	White	Black	8	16.95	2.12	1.2	-0.4	A-
		White	Hispanic	8	14.54	1.82	1.2	-0.4	A-
		Male	Female	8	62.98	7.87	0.82	0.5	A+
G	98	White	Black	8	13.74	1.72	1.01	0	A-
		White	Hispanic	8	7.81	0.98	1.1	-0.2	A-
		Male	Female	8	16.48	2.06	1	0	A+
G	99	White	Black	8	14.25	1.78	1.09	-0.2	A-
		White	Hispanic	8	7.67	0.96	0.95	0.1	A+
		Male	Female	8	44.7	5.59	1.16	-0.3	A-
G	100	White	Black	8	17.81	2.23	0.89	0.3	A+
		White	Hispanic	8	14.24	1.78	1.15	-0.3	A-
		Male	Female	8	364.73	45.59	1.61	-1.1	B-
G	101	White	Black	8	13.53	1.69	1.22	-0.5	A-
		White	Hispanic	8	12.69	1.59	1.29	-0.6	A-
		Male	Female	8	26.33	3.29	1.05	-0.1	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	102	White	Black	8	53.14	6.64	0.76	0.6	A+
		White	Hispanic	8	13.32	1.67	0.76	0.7	A+
		Male	Female	8	19.8	2.48	0.95	0.1	A+
G	103	White	Black	8	20.24	2.53	1.01	0	A-
		White	Hispanic	8	5.11	0.64	1	0	A
		Male	Female	8	11.02	1.38	1	0	A-
G	104	White	Black	8	38.31	4.79	1.13	-0.3	A-
		White	Hispanic	8	7.28	0.91	0.9	0.3	A+
		Male	Female	8	24.02	3	0.92	0.2	A+
G	105	White	Black	8	11.55	1.44	1.06	-0.1	A-
		White	Hispanic	8	10.77	1.35	1.01	0	A-
		Male	Female	8	46.75	5.84	0.87	0.3	A+
G	106	White	Black	8	122.18	15.27	1.79	-1.4	B-
		White	Hispanic	8	55.53	6.94	2.04	-1.7	C-
		Male	Female	8	555.25	69.41	2.28	-1.9	C-
G	107	White	Black	8	10.5	1.31	1.02	0	A-
		White	Hispanic	8	23.34	2.92	0.84	0.4	A+
		Male	Female	8	66.89	8.36	1.3	-0.6	A-
G	108	White	Black	8	16.81	2.1	1.06	-0.1	A-
		White	Hispanic	8	6.85	0.86	1.04	-0.1	A-
		Male	Female	8	13	1.62	0.95	0.1	A+
G	109	White	Black	8	7.98	1	1.03	-0.1	A-
		White	Hispanic	8	5.66	0.71	1.13	-0.3	A-
		Male	Female	8	106.71	13.34	1.26	-0.6	A-
G	110	White	Black	8	50.06	6.26	1.47	-0.9	A-
		White	Hispanic	8	19.91	2.49	1.5	-1	A-
		Male	Female	8	43.97	5.5	1.18	-0.4	A-
G	111	White	Black	8	6.71	0.84	1.09	-0.2	A-
		White	Hispanic	8	15.11	1.89	1.3	-0.6	A-
		Male	Female	8	30.41	3.8	1.11	-0.2	A-
G	112	White	Black	8	4.78	0.6	1.07	-0.1	A-
		White	Hispanic	8	12.94	1.62	1.2	-0.4	A-
		Male	Female	8	113.13	14.14	1.28	-0.6	A-
G	113	White	Black	8	10.07	1.26	1.07	-0.2	A-
		White	Hispanic	8	5.11	0.64	1.15	-0.3	A-
		Male	Female	8	758.38	94.8	2.03	-1.7	C-
G	114	White	Black	8	15.02	1.88	0.92	0.2	A+
		White	Hispanic	8	14.35	1.79	1.31	-0.6	A-
		Male	Female	8	271.68	33.96	1.64	-1.2	B-
G	115	White	Black	8	37.89	4.74	1.21	-0.5	A-
		White	Hispanic	8	6.27	0.78	1.05	-0.1	A-
		Male	Female	8	8.87	1.11	0.96	0.1	A+
G	116	White	Black	8	36.86	4.61	1.11	-0.2	A-
		White	Hispanic	8	24.23	3.03	1.09	-0.2	A-
		Male	Female	8	121.81	15.23	1.22	-0.5	A-
G	117	White	Black	8	39.13	4.89	0.77	0.6	A+
		White	Hispanic	8	27.57	3.45	0.83	0.4	A+
		Male	Female	8	18.1	2.26	1.03	-0.1	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	118	White	Black	8	26.12	3.27	1.31	-0.6	A-
		White	Hispanic	8	24.71	3.09	1.53	-1	B-
		Male	Female	8	46.24	5.78	1.2	-0.4	A-
G	119	White	Black	8	15.78	1.97	0.93	0.2	A+
		White	Hispanic	8	9.22	1.15	0.94	0.1	A+
		Male	Female	8	32.97	4.12	0.89	0.3	A+
G	120	White	Black	8	20.34	2.54	0.86	0.4	A+
		White	Hispanic	8	2.82	0.35	0.92	0.2	A+
		Male	Female	8	9.91	1.24	0.94	0.1	A+
G	121	White	Black	8	62.72	7.84	0.61	1.2	B+
		White	Hispanic	8	30.07	3.76	0.59	1.2	B+
		Male	Female	8	197.07	24.63	0.54	1.5	B+
G	122	White	Black	8	10.85	1.36	0.96	0.1	A+
		White	Hispanic	8	4.89	0.61	1	0	A
		Male	Female	8	55.21	6.9	0.83	0.4	A+
G	123	White	Black	8	26.32	3.29	0.78	0.6	A+
		White	Hispanic	8	4.34	0.54	0.99	0	A+
		Male	Female	8	8.93	1.12	1.05	-0.1	A-
G	124	White	Black	8	18.77	2.35	0.88	0.3	A+
		White	Hispanic	8	14	1.75	1.14	-0.3	A-
		Male	Female	8	428.02	53.5	1.79	-1.4	B-
G	125	White	Black	8	13.74	1.72	0.84	0.4	A+
		White	Hispanic	8	15.85	1.98	0.73	0.7	A+
		Male	Female	8	372.36	46.55	1.49	-0.9	A-
G	126	White	Black	8	20.92	2.61	1.11	-0.3	A-
		White	Hispanic	8	24.53	3.07	0.81	0.5	A+
		Male	Female	8	53.13	6.64	0.86	0.3	A+
G	127	White	Black	8	23.29	2.91	1.23	-0.5	A-
		White	Hispanic	8	12.98	1.62	1.18	-0.4	A-
		Male	Female	8	14.42	1.8	0.96	0.1	A+
G	128	White	Black	8	45.43	5.68	1.44	-0.9	A-
		White	Hispanic	8	9.3	1.16	1.22	-0.5	A-
		Male	Female	8	20.75	2.59	1.03	-0.1	A-
G	129	White	Black	8	9.42	1.18	0.97	0.1	A+
		White	Hispanic	8	10.45	1.31	0.86	0.4	A+
		Male	Female	8	75.59	9.45	0.76	0.6	A+
H	94	White	Black	8	15.17	1.9	1.17	-0.4	A-
		White	Hispanic	8	5.91	0.74	1.16	-0.3	A-
		Male	Female	8	86.18	10.77	1.47	-0.9	A-
H	95	White	Black	8	16.56	2.07	0.8	0.5	A+
		White	Hispanic	8	3.22	0.4	1.13	-0.3	A-
		Male	Female	8	28.03	3.5	1.03	-0.1	A-
H	96	White	Black	8	34.47	4.31	0.79	0.6	A+
		White	Hispanic	8	9.78	1.22	1.1	-0.2	A-
		Male	Female	8	163.3	20.41	1.37	-0.7	A-
H	97	White	Black	8	12.71	1.59	1.13	-0.3	A-
		White	Hispanic	8	9.53	1.19	0.93	0.2	A+
		Male	Female	8	114.52	14.32	1.35	-0.7	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi	Mean	Odds			
				DF	Squared	Square	Ratio	Effect	Code
H	98	White	Black	8	16.04	2.01	1.03	-0.1	A-
		White	Hispanic	8	5.58	0.7	1.17	-0.4	A-
		Male	Female	8	66.31	8.29	1.21	-0.5	A-
H	99	White	Black	8	31.87	3.98	1.33	-0.7	A-
		White	Hispanic	8	10.33	1.29	1.25	-0.5	A-
		Male	Female	8	250.74	31.34	1.51	-1	A-
H	100	White	Black	8	75.5	9.44	1.46	-0.9	A-
		White	Hispanic	8	20.59	2.57	1.19	-0.4	A-
		Male	Female	8	92.96	11.62	1.46	-0.9	A-
H	101	White	Black	8	40.11	5.01	0.72	0.8	A+
		White	Hispanic	8	6.92	0.87	0.97	0.1	A+
		Male	Female	8	29.51	3.69	1.06	-0.1	A-
H	102	White	Black	8	17.46	2.18	0.91	0.2	A+
		White	Hispanic	8	6.21	0.78	0.97	0.1	A+
		Male	Female	8	336.94	42.12	1.64	-1.2	B-
H	103	White	Black	8	59.8	7.47	1.44	-0.9	A-
		White	Hispanic	8	19.84	2.48	1.36	-0.7	A-
		Male	Female	8	901.46	112.68	2.19	-1.8	C-
H	104	White	Black	8	23.73	2.97	0.82	0.5	A+
		White	Hispanic	8	10.15	1.27	0.86	0.4	A+
		Male	Female	8	120.6	15.08	0.76	0.7	A+
H	105	White	Black	8	32.33	4.04	1.37	-0.7	A-
		White	Hispanic	8	12.86	1.61	1.35	-0.7	A-
		Male	Female	8	48.73	6.09	1.06	-0.1	A-
H	106	White	Black	8	18.66	2.33	1.07	-0.2	A-
		White	Hispanic	8	4.46	0.56	1.04	-0.1	A-
		Male	Female	8	137.5	17.19	1.4	-0.8	A-
H	107	White	Black	8	14.63	1.83	1	0	A
		White	Hispanic	8	4.25	0.53	1.01	0	A-
		Male	Female	8	126.29	15.79	1.3	-0.6	A-
H	108	White	Black	8	11.39	1.42	0.89	0.3	A+
		White	Hispanic	8	10.95	1.37	0.96	0.1	A+
		Male	Female	8	85.26	10.66	1.29	-0.6	A-
H	109	White	Black	8	12.24	1.53	1.1	-0.2	A-
		White	Hispanic	8	15.81	1.98	1.32	-0.7	A-
		Male	Female	8	24	3	0.9	0.3	A+
H	110	White	Black	8	5.98	0.75	1.05	-0.1	A-
		White	Hispanic	8	5.27	0.66	1.15	-0.3	A-
		Male	Female	8	27.03	3.38	1.02	-0.1	A-
H	111	White	Black	8	6.46	0.81	0.94	0.2	A+
		White	Hispanic	8	9.18	1.15	1.1	-0.2	A-
		Male	Female	8	13.91	1.74	0.91	0.2	A+
H	112	White	Black	8	6.56	0.82	0.97	0.1	A+
		White	Hispanic	8	9.33	1.17	0.93	0.2	A+
		Male	Female	8	72.48	9.06	1.27	-0.6	A-
H	113	White	Black	8	7.23	0.9	0.98	0.1	A+
		White	Hispanic	8	1.02	0.13	1.08	-0.2	A-
		Male	Female	8	43.17	5.4	1.07	-0.2	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	114	White	Black	8	24.17	3.02	0.78	0.6	A+
		White	Hispanic	8	10.85	1.36	0.89	0.3	A+
		Male	Female	8	11.49	1.44	1.08	-0.2	A-
H	115	White	Black	8	4.45	0.56	0.93	0.2	A+
		White	Hispanic	8	5.12	0.64	1.05	-0.1	A-
		Male	Female	8	18.66	2.33	0.92	0.2	A+
H	116	White	Black	8	41.83	5.23	1.28	-0.6	A-
		White	Hispanic	8	8.89	1.11	1.09	-0.2	A-
		Male	Female	8	30.33	3.79	0.86	0.4	A+
H	117	White	Black	8	8.19	1.02	1.13	-0.3	A-
		White	Hispanic	8	6.52	0.81	1.05	-0.1	A-
		Male	Female	8	24.14	3.02	0.86	0.4	A+
H	118	White	Black	8	27.34	3.42	0.85	0.4	A+
		White	Hispanic	8	28.21	3.53	1.01	0	A-
		Male	Female	8	65.71	8.21	1.09	-0.2	A-
H	119	White	Black	8	38.49	4.81	1.37	-0.7	A-
		White	Hispanic	8	47.26	5.91	1.88	-1.5	B-
		Male	Female	8	21.92	2.74	1.07	-0.2	A-
H	120	White	Black	8	11.41	1.43	0.97	0.1	A+
		White	Hispanic	8	16.28	2.03	1.26	-0.5	A-
		Male	Female	8	71.74	8.97	0.79	0.6	A+
H	121	White	Black	8	21.21	2.65	0.88	0.3	A+
		White	Hispanic	8	23.24	2.9	0.77	0.6	A+
		Male	Female	8	29.08	3.63	0.93	0.2	A+
H	122	White	Black	8	21.92	2.74	0.91	0.2	A+
		White	Hispanic	8	7.47	0.93	0.86	0.3	A+
		Male	Female	8	44.96	5.62	1.19	-0.4	A-
H	123	White	Black	8	8.82	1.1	0.95	0.1	A+
		White	Hispanic	8	3.45	0.43	1.01	0	A-
		Male	Female	8	108.7	13.59	0.81	0.5	A+
H	124	White	Black	8	26.71	3.34	0.9	0.3	A+
		White	Hispanic	8	4.07	0.51	1.04	-0.1	A-
		Male	Female	8	44.78	5.6	1.01	0	A-
H	125	White	Black	8	57.15	7.14	1.41	-0.8	A-
		White	Hispanic	8	34.35	4.29	1.52	-1	A-
		Male	Female	8	313.51	39.19	1.54	-1	B-
H	126	White	Black	8	24.22	3.03	0.84	0.4	A+
		White	Hispanic	8	32.16	4.02	0.83	0.4	A+
		Male	Female	8	109.76	13.72	0.78	0.6	A+
H	127	White	Black	8	11.87	1.48	0.95	0.1	A+
		White	Hispanic	8	8.06	1.01	0.9	0.2	A+
		Male	Female	8	101.2	12.65	0.67	0.9	A+
H	128	White	Black	8	7.25	0.91	0.93	0.2	A+
		White	Hispanic	8	11.31	1.41	0.81	0.5	A+
		Male	Female	8	51.39	6.42	0.76	0.6	A+
H	129	White	Black	8	16.9	2.11	1.23	-0.5	A-
		White	Hispanic	8	18.52	2.31	1.35	-0.7	A-
		Male	Female	8	23.99	3	0.89	0.3	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds	Effect	Code
				DF	Squared	Square	Ratio		
I	94	White	Black	8	40.32	5.04	1.38	-0.8	A-
		White	Hispanic	8	4.41	0.55	1.04	-0.1	A-
		Male	Female	8	49.92	6.24	1.28	-0.6	A-
I	95	White	Black	8	45.97	5.75	1.48	-0.9	A-
		White	Hispanic	8	36.88	4.61	1.89	-1.5	B-
		Male	Female	8	192.48	24.06	1.71	-1.3	B-
I	96	White	Black	8	17.55	2.19	1.08	-0.2	A-
		White	Hispanic	8	13.56	1.7	1.25	-0.5	A-
		Male	Female	8	23.11	2.89	1.14	-0.3	A-
I	97	White	Black	8	6.59	0.82	0.89	0.3	A+
		White	Hispanic	8	10.32	1.29	0.65	1	B+
		Male	Female	8	34.73	4.34	0.75	0.7	A+
I	98	White	Black	8	14.12	1.77	1.18	-0.4	A-
		White	Hispanic	8	22.54	2.82	1.3	-0.6	A-
		Male	Female	8	14.94	1.87	1	0	A
I	99	White	Black	8	27.52	3.44	1.09	-0.2	A-
		White	Hispanic	8	14.13	1.77	1	0	A
		Male	Female	8	229.32	28.67	1.46	-0.9	A-
I	100	White	Black	8	143.32	17.91	2.19	-1.8	C-
		White	Hispanic	8	28.77	3.6	1.88	-1.5	B-
		Male	Female	8	466.7	58.34	1.8	-1.4	B-
I	101	White	Black	8	19.76	2.47	0.99	0	A+
		White	Hispanic	8	3.18	0.4	1.08	-0.2	A-
		Male	Female	8	154.4	19.3	1.39	-0.8	A-
I	102	White	Black	8	7.91	0.99	1.04	-0.1	A-
		White	Hispanic	8	14.89	1.86	1.37	-0.7	A-
		Male	Female	8	27.97	3.5	1.18	-0.4	A-
I	103	White	Black	8	5.45	0.68	1.09	-0.2	A-
		White	Hispanic	8	10.87	1.36	0.9	0.3	A+
		Male	Female	8	78.32	9.79	1.32	-0.7	A-
I	104	White	Black	8	25.41	3.18	0.86	0.4	A+
		White	Hispanic	8	12.18	1.52	1.12	-0.3	A-
		Male	Female	8	40.47	5.06	1.15	-0.3	A-
I	105	White	Black	8	15.75	1.97	0.95	0.1	A+
		White	Hispanic	8	10.1	1.26	0.84	0.4	A+
		Male	Female	8	39.59	4.95	0.85	0.4	A+
I	106	White	Black	8	10.98	1.37	0.99	0	A+
		White	Hispanic	8	9.49	1.19	0.84	0.4	A+
		Male	Female	8	14.75	1.84	1.05	-0.1	A-
I	107	White	Black	8	16.28	2.04	1.1	-0.2	A-
		White	Hispanic	8	7.98	1	0.81	0.5	A+
		Male	Female	8	26.04	3.26	0.9	0.3	A+
I	108	White	Black	8	14.95	1.87	0.9	0.2	A+
		White	Hispanic	8	14.34	1.79	1.19	-0.4	A-
		Male	Female	8	22.79	2.85	1.14	-0.3	A-
I	109	White	Black	8	10.41	1.3	0.98	0.1	A+
		White	Hispanic	8	7.48	0.94	0.98	0	A+
		Male	Female	8	44.8	5.6	0.85	0.4	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	110	White	Black	8	13.82	1.73	0.86	0.4	A+
		White	Hispanic	8	37.34	4.67	0.67	0.9	A+
		Male	Female	8	30.86	3.86	0.92	0.2	A+
I	111	White	Black	8	18.27	2.28	0.84	0.4	A+
		White	Hispanic	8	15.11	1.89	0.72	0.8	A+
		Male	Female	8	92.61	11.58	1.2	-0.4	A-
I	112	White	Black	8	32.48	4.06	1.25	-0.5	A-
		White	Hispanic	8	9.44	1.18	1.19	-0.4	A-
		Male	Female	8	10.65	1.33	1.01	0	A-
I	113	White	Black	8	6.17	0.77	1.06	-0.1	A-
		White	Hispanic	8	5.75	0.72	1.11	-0.2	A-
		Male	Female	8	67.37	8.42	0.75	0.7	A+
I	114	White	Black	8	17.33	2.17	0.81	0.5	A+
		White	Hispanic	8	4.8	0.6	0.91	0.2	A+
		Male	Female	8	29.04	3.63	1.06	-0.1	A-
I	115	White	Black	8	9.49	1.19	0.91	0.2	A+
		White	Hispanic	8	3.88	0.48	1.05	-0.1	A-
		Male	Female	8	171.88	21.48	1.42	-0.8	A-
I	116	White	Black	8	5.95	0.74	1.06	-0.1	A-
		White	Hispanic	8	6.31	0.79	1.13	-0.3	A-
		Male	Female	8	36.73	4.59	1.19	-0.4	A-
I	117	White	Black	8	31.85	3.98	0.84	0.4	A+
		White	Hispanic	8	27.41	3.43	0.75	0.7	A+
		Male	Female	8	46.83	5.85	0.89	0.3	A+
I	118	White	Black	8	60.63	7.58	0.67	0.9	A+
		White	Hispanic	8	10.64	1.33	0.75	0.7	A+
		Male	Female	8	122.3	15.29	1.17	-0.4	A-
I	119	White	Black	8	15.91	1.99	0.85	0.4	A+
		White	Hispanic	8	2.53	0.32	1.01	0	A-
		Male	Female	8	71.99	9	0.77	0.6	A+
I	120	White	Black	8	60.93	7.62	1.39	-0.8	A-
		White	Hispanic	8	5.26	0.66	1.11	-0.2	A-
		Male	Female	8	22.72	2.84	1.07	-0.2	A-
I	121	White	Black	8	14.97	1.87	1.12	-0.3	A-
		White	Hispanic	8	42.04	5.25	1.76	-1.3	B-
		Male	Female	8	122.43	15.3	0.79	0.5	A+
I	122	White	Black	8	17.86	2.23	1.19	-0.4	A-
		White	Hispanic	8	31.59	3.95	1.47	-0.9	A-
		Male	Female	8	196.89	24.61	1.5	-0.9	A-
I	123	White	Black	8	5.57	0.7	1.03	-0.1	A-
		White	Hispanic	8	5.57	0.7	0.95	0.1	A+
		Male	Female	8	16.62	2.08	1	0	A+
I	124	White	Black	8	24.94	3.12	1.17	-0.4	A-
		White	Hispanic	8	11.54	1.44	1.01	0	A-
		Male	Female	8	13.95	1.74	0.96	0.1	A+
I	125	White	Black	8	12.19	1.52	0.86	0.4	A+
		White	Hispanic	8	3.47	0.43	0.89	0.3	A+
		Male	Female	8	49.79	6.22	0.82	0.5	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	126	White	Black	8	4.15	0.52	0.92	0.2	A+
		White	Hispanic	8	7.96	1	0.98	0	A+
		Male	Female	8	57.36	7.17	1.02	0	A-
I	127	White	Black	8	12.75	1.59	1.11	-0.2	A-
		White	Hispanic	8	2.18	0.27	1	0	A
		Male	Female	8	14.26	1.78	1.01	0	A-
I	128	White	Black	8	63.22	7.9	1.42	-0.8	A-
		White	Hispanic	8	26.44	3.3	1.38	-0.8	A-
		Male	Female	8	31.38	3.92	1.02	0	A-
I	129	White	Black	8	25.89	3.24	0.79	0.6	A+
		White	Hispanic	8	6.77	0.85	0.94	0.1	A+
		Male	Female	8	61.46	7.68	0.75	0.7	A+
J	94	White	Black	8	54.74	6.84	1.24	-0.5	A-
		White	Hispanic	8	16.72	2.09	1.13	-0.3	A-
		Male	Female	8	304.6	38.07	1.88	-1.5	B-
J	95	White	Black	8	137.01	17.13	1.84	-1.4	B-
		White	Hispanic	8	26.77	3.35	1.45	-0.9	A-
		Male	Female	8	319.77	39.97	1.86	-1.5	B-
J	96	White	Black	8	11.34	1.42	0.9	0.3	A+
		White	Hispanic	8	13.77	1.72	0.89	0.3	A+
		Male	Female	8	50.3	6.29	1.2	-0.4	A-
J	97	White	Black	8	14.24	1.78	1.12	-0.3	A-
		White	Hispanic	8	9.86	1.23	1.02	-0.1	A-
		Male	Female	8	225.59	28.2	1.54	-1	B-
J	98	White	Black	8	31.73	3.97	0.77	0.6	A+
		White	Hispanic	8	22.46	2.81	0.8	0.5	A+
		Male	Female	8	88.19	11.02	0.72	0.8	A+
J	99	White	Black	8	40.99	5.12	1.01	0	A-
		White	Hispanic	8	5.43	0.68	1.06	-0.1	A-
		Male	Female	8	51.48	6.43	1.13	-0.3	A-
J	100	White	Black	8	10.3	1.29	1.08	-0.2	A-
		White	Hispanic	8	12.92	1.61	1.39	-0.8	A-
		Male	Female	8	721.24	90.15	2.36	-2	C-
J	101	White	Black	8	8.26	1.03	0.88	0.3	A+
		White	Hispanic	8	17.24	2.15	1.06	-0.1	A-
		Male	Female	8	57.75	7.22	1.08	-0.2	A-
J	102	White	Black	8	16.65	2.08	1.23	-0.5	A-
		White	Hispanic	8	14.37	1.8	1.34	-0.7	A-
		Male	Female	8	33.72	4.22	1.2	-0.4	A-
J	103	White	Black	8	2.74	0.34	1.01	0	A-
		White	Hispanic	8	2.8	0.35	0.93	0.2	A+
		Male	Female	8	110.96	13.87	1.36	-0.7	A-
J	104	White	Black	8	11.37	1.42	1.09	-0.2	A-
		White	Hispanic	8	14.6	1.82	1.2	-0.4	A-
		Male	Female	8	8.36	1.05	1.01	0	A-
J	105	White	Black	8	28.8	3.6	0.86	0.4	A+
		White	Hispanic	8	3.88	0.49	0.87	0.3	A+
		Male	Female	8	48.62	6.08	0.83	0.4	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	106	White	Black	8	7.84	0.98	0.87	0.3	A+
		White	Hispanic	8	15.51	1.94	0.99	0	A+
		Male	Female	8	31.16	3.89	0.89	0.3	A+
J	107	White	Black	8	12.39	1.55	0.88	0.3	A+
		White	Hispanic	8	6.7	0.84	0.95	0.1	A+
		Male	Female	8	4.7	0.59	0.99	0	A+
J	108	White	Black	8	18.19	2.27	1.12	-0.3	A-
		White	Hispanic	8	10.6	1.33	1.05	-0.1	A-
		Male	Female	8	365.64	45.7	1.79	-1.4	B-
J	109	White	Black	8	11.15	1.39	1.24	-0.5	A-
		White	Hispanic	8	6.75	0.84	1.07	-0.2	A-
		Male	Female	8	17.15	2.14	1.02	0	A-
J	110	White	Black	8	18.35	2.29	1.06	-0.1	A-
		White	Hispanic	8	22.35	2.79	0.79	0.6	A+
		Male	Female	8	30.13	3.77	0.86	0.4	A+
J	111	White	Black	8	42.76	5.34	1.44	-0.9	A-
		White	Hispanic	8	19.39	2.42	1.5	-1	A-
		Male	Female	8	75.04	9.38	1.34	-0.7	A-
J	112	White	Black	8	10.13	1.27	1.17	-0.4	A-
		White	Hispanic	8	3.61	0.45	0.97	0.1	A+
		Male	Female	8	32.16	4.02	0.92	0.2	A+
J	113	White	Black	8	18.25	2.28	1.06	-0.1	A-
		White	Hispanic	8	5.56	0.69	0.83	0.5	A+
		Male	Female	8	76.75	9.59	0.71	0.8	A+
J	114	White	Black	8	20.35	2.54	0.88	0.3	A+
		White	Hispanic	8	9.95	1.24	0.86	0.4	A+
		Male	Female	8	30.99	3.87	1.06	-0.1	A-
J	115	White	Black	8	15.94	1.99	0.87	0.3	A+
		White	Hispanic	8	7.85	0.98	0.85	0.4	A+
		Male	Female	8	94.73	11.84	1.32	-0.6	A-
J	116	White	Black	8	11.54	1.44	1.09	-0.2	A-
		White	Hispanic	8	7.23	0.9	1.25	-0.5	A-
		Male	Female	8	75.25	9.41	1.25	-0.5	A-
J	117	White	Black	8	30.57	3.82	0.77	0.6	A+
		White	Hispanic	8	3.65	0.46	0.92	0.2	A+
		Male	Female	8	41.02	5.13	0.88	0.3	A+
J	118	White	Black	8	31.82	3.98	0.77	0.6	A+
		White	Hispanic	8	8.73	1.09	0.83	0.4	A+
		Male	Female	8	58.21	7.28	1.17	-0.4	A-
J	119	White	Black	8	9.61	1.2	0.89	0.3	A+
		White	Hispanic	8	5.12	0.64	0.87	0.3	A+
		Male	Female	8	46.03	5.75	0.75	0.7	A+
J	120	White	Black	8	38.88	4.86	1.23	-0.5	A-
		White	Hispanic	8	33.63	4.2	1.29	-0.6	A-
		Male	Female	8	34.68	4.34	1.02	0	A-
J	121	White	Black	8	9.2	1.15	1.11	-0.2	A-
		White	Hispanic	8	49.71	6.21	1.91	-1.5	C-
		Male	Female	8	79.56	9.94	0.79	0.6	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	122	White	Black	8	32.85	4.11	1.22	-0.5	A-
		White	Hispanic	8	24.63	3.08	1.51	-1	A-
		Male	Female	8	241.71	30.21	1.59	-1.1	B-
J	123	White	Black	8	8.88	1.11	0.94	0.1	A+
		White	Hispanic	8	3.68	0.46	0.85	0.4	A+
		Male	Female	8	25.67	3.21	0.98	0	A+
J	124	White	Black	8	12.77	1.6	1.02	0	A-
		White	Hispanic	8	8.03	1	0.9	0.2	A+
		Male	Female	8	28.63	3.58	0.86	0.3	A+
J	125	White	Black	8	13.99	1.75	0.85	0.4	A+
		White	Hispanic	8	19.65	2.46	0.75	0.7	A+
		Male	Female	8	68.13	8.52	0.81	0.5	A+
J	126	White	Black	8	10.38	1.3	1.04	-0.1	A-
		White	Hispanic	8	5.82	0.73	1.01	0	A-
		Male	Female	8	58.01	7.25	1.03	-0.1	A-
J	127	White	Black	8	11.18	1.4	1.1	-0.2	A-
		White	Hispanic	8	5.12	0.64	1.08	-0.2	A-
		Male	Female	8	46.8	5.85	1.02	0	A-
J	128	White	Black	8	46.35	5.79	1.29	-0.6	A-
		White	Hispanic	8	44.99	5.62	1.7	-1.3	B-
		Male	Female	8	18.5	2.31	1.02	0	A-
J	129	White	Black	8	50.69	6.34	0.66	1	A+
		White	Hispanic	8	10.16	1.27	0.89	0.3	A+
		Male	Female	8	89.43	11.18	0.65	1	B+
K	94	White	Black	8	12.56	1.57	1.14	-0.3	A-
		White	Hispanic	8	6.77	0.85	1.04	-0.1	A-
		Male	Female	8	28.78	3.6	1.09	-0.2	A-
K	95	White	Black	8	12.73	1.59	1.14	-0.3	A-
		White	Hispanic	8	5.84	0.73	1.08	-0.2	A-
		Male	Female	8	21.52	2.69	0.85	0.4	A+
K	96	White	Black	8	27.48	3.43	0.84	0.4	A+
		White	Hispanic	8	19.97	2.5	0.86	0.4	A+
		Male	Female	8	135.34	16.92	1.41	-0.8	A-
K	97	White	Black	8	22.19	2.77	0.87	0.3	A+
		White	Hispanic	8	29.29	3.66	0.79	0.6	A+
		Male	Female	8	172.03	21.5	1.47	-0.9	A-
K	98	White	Black	8	4.07	0.51	1.02	0	A-
		White	Hispanic	8	13.46	1.68	1.09	-0.2	A-
		Male	Female	8	113.78	14.22	1.34	-0.7	A-
K	99	White	Black	8	53.28	6.66	0.72	0.8	A+
		White	Hispanic	8	14.17	1.77	0.79	0.5	A+
		Male	Female	8	59.6	7.45	0.87	0.3	A+
K	100	White	Black	8	45.8	5.73	0.71	0.8	A+
		White	Hispanic	8	4.43	0.55	0.96	0.1	A+
		Male	Female	8	108.06	13.51	1.25	-0.5	A-
K	101	White	Black	8	22.1	2.76	0.8	0.5	A+
		White	Hispanic	8	7	0.87	1.03	-0.1	A-
		Male	Female	8	19.92	2.49	0.85	0.4	A+

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	102	White	Black	8	38.42	4.8	1.23	-0.5	A-
		White	Hispanic	8	19.52	2.44	1.33	-0.7	A-
		Male	Female	8	64.37	8.05	1.25	-0.5	A-
K	103	White	Black	8	14.76	1.85	1.18	-0.4	A-
		White	Hispanic	8	50.32	6.29	1.84	-1.4	B-
		Male	Female	8	65.26	8.16	0.87	0.3	A+
K	104	White	Black	8	36.07	4.51	1.29	-0.6	A-
		White	Hispanic	8	59.81	7.48	2.12	-1.8	C-
		Male	Female	8	245.47	30.68	1.54	-1	B-
K	105	White	Black	8	2.96	0.37	1.01	0	A-
		White	Hispanic	8	8.16	1.02	0.95	0.1	A+
		Male	Female	8	23.27	2.91	1	0	A+
K	106	White	Black	8	4.16	0.52	1	0	A
		White	Hispanic	8	6.99	0.87	1.19	-0.4	A-
		Male	Female	8	19.19	2.4	0.97	0.1	A+
K	107	White	Black	8	17.51	2.19	0.86	0.4	A+
		White	Hispanic	8	8.12	1.01	0.88	0.3	A+
		Male	Female	8	36.58	4.57	0.87	0.3	A+
K	108	White	Black	8	26.38	3.3	1.1	-0.2	A-
		White	Hispanic	8	10.37	1.3	1.2	-0.4	A-
		Male	Female	8	121.77	15.22	1.25	-0.5	A-
K	109	White	Black	8	14.85	1.86	1.04	-0.1	A-
		White	Hispanic	8	9.67	1.21	1.14	-0.3	A-
		Male	Female	8	32.54	4.07	1.11	-0.3	A-
K	110	White	Black	8	62.93	7.87	1.43	-0.8	A-
		White	Hispanic	8	24.37	3.05	1.43	-0.8	A-
		Male	Female	8	13.3	1.66	0.99	0	A+
K	111	White	Black	8	11.9	1.49	0.96	0.1	A+
		White	Hispanic	8	6.71	0.84	0.98	0	A+
		Male	Female	8	34.8	4.35	0.8	0.5	A+
K	112	White	Black	8	64.64	8.08	1.58	-1.1	B-
		White	Hispanic	8	7.15	0.89	1.19	-0.4	A-
		Male	Female	8	113.6	14.2	1.44	-0.9	A-
K	113	White	Black	8	20.84	2.61	1.12	-0.3	A-
		White	Hispanic	8	5.87	0.73	1.05	-0.1	A-
		Male	Female	8	307.65	38.46	1.44	-0.9	A-
K	114	White	Black	8	9.29	1.16	1.08	-0.2	A-
		White	Hispanic	8	18.43	2.3	1.64	-1.2	B-
		Male	Female	8	96.36	12.05	0.91	0.2	A+
K	115	White	Black	8	9.25	1.16	1.06	-0.1	A-
		White	Hispanic	8	13.84	1.73	1.22	-0.5	A-
		Male	Female	8	83.05	10.38	0.79	0.5	A+
K	116	White	Black	8	3.37	0.42	0.98	0	A+
		White	Hispanic	8	2.12	0.27	0.95	0.1	A+
		Male	Female	8	23.03	2.88	0.98	0	A+
K	117	White	Black	8	9.95	1.24	1.12	-0.3	A-
		White	Hispanic	8	4.34	0.54	1.07	-0.2	A-
		Male	Female	8	28.02	3.5	1.13	-0.3	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	118	White	Black	8	4.45	0.56	0.98	0	A+
		White	Hispanic	8	8.59	1.07	1.01	0	A-
		Male	Female	8	293.1	36.64	1.71	-1.3	B-
K	119	White	Black	8	15	1.88	1.02	-0.1	A-
		White	Hispanic	8	4.56	0.57	1.24	-0.5	A-
		Male	Female	8	29.06	3.63	0.92	0.2	A+
K	120	White	Black	8	21.4	2.67	0.98	0.1	A+
		White	Hispanic	8	12.74	1.59	0.84	0.4	A+
		Male	Female	8	16.83	2.1	0.96	0.1	A+
K	121	White	Black	8	5.84	0.73	1.05	-0.1	A-
		White	Hispanic	8	11.14	1.39	1.03	-0.1	A-
		Male	Female	8	12.2	1.53	0.87	0.3	A+
K	122	White	Black	8	13.27	1.66	0.9	0.2	A+
		White	Hispanic	8	2.75	0.34	0.98	0	A+
		Male	Female	8	40.09	5.01	0.88	0.3	A+
K	123	White	Black	8	16.01	2	1.13	-0.3	A-
		White	Hispanic	8	7.53	0.94	0.99	0	A+
		Male	Female	8	118.55	14.82	0.76	0.6	A+
K	124	White	Black	8	75.3	9.41	1.63	-1.1	B-
		White	Hispanic	8	34.56	4.32	1.78	-1.4	B-
		Male	Female	8	408.3	51.04	1.8	-1.4	B-
K	125	White	Black	8	19.53	2.44	0.92	0.2	A+
		White	Hispanic	8	16.69	2.09	1.07	-0.2	A-
		Male	Female	8	83.61	10.45	1.33	-0.7	A-
K	126	White	Black	8	7.14	0.89	0.99	0	A+
		White	Hispanic	8	18.78	2.35	1.32	-0.7	A-
		Male	Female	8	16.31	2.04	0.97	0.1	A+
K	127	White	Black	8	7.24	0.91	1.13	-0.3	A-
		White	Hispanic	8	4.15	0.52	1.08	-0.2	A-
		Male	Female	8	134.87	16.86	1.3	-0.6	A-
K	128	White	Black	8	61.02	7.63	1.43	-0.8	A-
		White	Hispanic	8	12.92	1.61	1.04	-0.1	A-
		Male	Female	8	38.43	4.8	1.16	-0.3	A-
K	129	White	Black	8	7.79	0.97	1.08	-0.2	A-
		White	Hispanic	8	10.68	1.33	1.33	-0.7	A-
		Male	Female	8	10.45	1.31	1.04	-0.1	A-
L	94	White	Black	8	8	1	1.11	-0.2	A-
		White	Hispanic	8	5.72	0.71	1.09	-0.2	A-
		Male	Female	8	32.85	4.11	1.17	-0.4	A-
L	95	White	Black	8	7.56	0.95	0.97	0.1	A+
		White	Hispanic	8	17.52	2.19	0.95	0.1	A+
		Male	Female	8	28.26	3.53	0.85	0.4	A+
L	96	White	Black	8	12.77	1.6	0.9	0.3	A+
		White	Hispanic	8	12.93	1.62	0.87	0.3	A+
		Male	Female	8	41.41	5.18	1.23	-0.5	A-
L	97	White	Black	8	27.55	3.44	0.83	0.4	A+
		White	Hispanic	8	17.63	2.2	0.9	0.3	A+
		Male	Female	8	82.94	10.37	1.27	-0.6	A-

**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
L	98	White	Black	8	10.7	1.34	1.06	-0.1	A-
		White	Hispanic	8	12.49	1.56	1.01	0	A-
		Male	Female	8	48.88	6.11	1.19	-0.4	A-
L	99	White	Black	8	46.32	5.79	0.75	0.7	A+
		White	Hispanic	8	31.61	3.95	0.83	0.4	A+
		Male	Female	8	56.05	7.01	0.9	0.2	A+
L	100	White	Black	8	30.89	3.86	0.8	0.5	A+
		White	Hispanic	8	14.32	1.79	0.77	0.6	A+
		Male	Female	8	142.36	17.8	1.28	-0.6	A-
L	101	White	Black	8	5.55	0.69	0.9	0.3	A+
		White	Hispanic	8	6.36	0.8	0.84	0.4	A+
		Male	Female	8	33.62	4.2	0.93	0.2	A+
L	102	White	Black	8	57.79	7.22	1.39	-0.8	A-
		White	Hispanic	8	41.19	5.15	1.09	-0.2	A-
		Male	Female	8	52.15	6.52	1.15	-0.3	A-
L	103	White	Black	8	12.98	1.62	1.07	-0.2	A-
		White	Hispanic	8	40.13	5.02	1.61	-1.1	B-
		Male	Female	8	59.17	7.4	0.87	0.3	A+
L	104	White	Black	8	15.12	1.89	1.21	-0.4	A-
		White	Hispanic	8	16.12	2.02	1.37	-0.7	A-
		Male	Female	8	234.35	29.29	1.51	-1	A-
L	105	White	Black	8	13.65	1.71	0.96	0.1	A+
		White	Hispanic	8	5.1	0.64	1.04	-0.1	A-
		Male	Female	8	30.4	3.8	1.08	-0.2	A-
L	106	White	Black	8	14.07	1.76	1.04	-0.1	A-
		White	Hispanic	8	14.57	1.82	0.97	0.1	A+
		Male	Female	8	26.67	3.33	0.87	0.3	A+
L	107	White	Black	8	4.21	0.53	0.9	0.2	A+
		White	Hispanic	8	9.06	1.13	0.86	0.3	A+
		Male	Female	8	24.22	3.03	0.88	0.3	A+
L	108	White	Black	8	44.59	5.57	1.14	-0.3	A-
		White	Hispanic	8	13.68	1.71	1.06	-0.1	A-
		Male	Female	8	92.61	11.58	1.3	-0.6	A-
L	109	White	Black	8	8.55	1.07	0.97	0.1	A+
		White	Hispanic	8	3.89	0.49	0.95	0.1	A+
		Male	Female	8	33.15	4.14	1.12	-0.3	A-
L	110	White	Black	8	105.01	13.13	1.6	-1.1	B-
		White	Hispanic	8	32.94	4.12	1.53	-1	A-
		Male	Female	8	26.9	3.36	1.01	0	A-
L	111	White	Black	8	11.49	1.44	0.81	0.5	A+
		White	Hispanic	8	17.69	2.21	0.92	0.2	A+
		Male	Female	8	51.28	6.41	0.74	0.7	A+
L	112	White	Black	8	12.53	1.57	1.25	-0.5	A-
		White	Hispanic	8	9.59	1.2	1.29	-0.6	A-
		Male	Female	8	90.96	11.37	1.42	-0.8	A-
L	113	White	Black	8	9.9	1.24	0.91	0.2	A+
		White	Hispanic	8	8.9	1.11	1.08	-0.2	A-
		Male	Female	8	2.11	0.26	0.98	0.1	A+

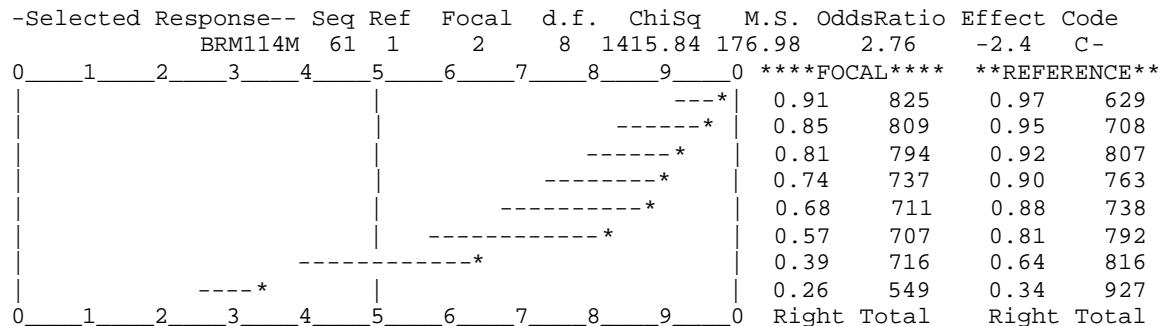
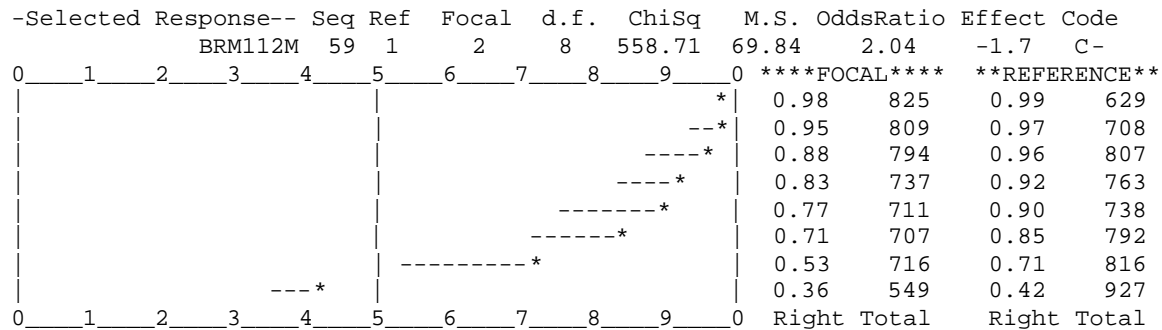
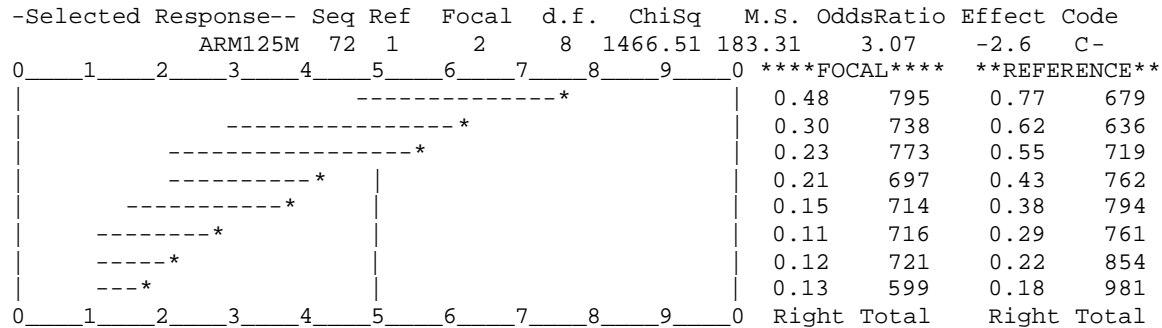
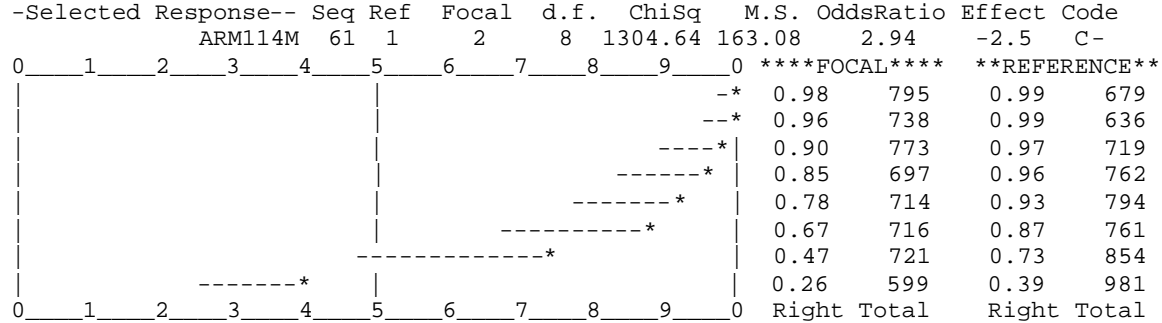
**Appendix T(a): Grade Eight Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eight Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
L	114	White	Black	8	15.54	1.94	1	0	A
		White	Hispanic	8	6.44	0.81	1.13	-0.3	A-
		Male	Female	8	38.91	4.86	1.16	-0.3	A-
L	115	White	Black	8	11.9	1.49	1.2	-0.4	A-
		White	Hispanic	8	13.92	1.74	1.11	-0.2	A-
		Male	Female	8	55.41	6.93	1.23	-0.5	A-
L	116	White	Black	8	4.24	0.53	0.95	0.1	A+
		White	Hispanic	8	13.95	1.74	0.99	0	A+
		Male	Female	8	15.06	1.88	0.94	0.1	A+
L	117	White	Black	8	23.44	2.93	1.06	-0.1	A-
		White	Hispanic	8	18.89	2.36	1.17	-0.4	A-
		Male	Female	8	156.79	19.6	1.31	-0.6	A-
L	118	White	Black	8	51.93	6.49	1.42	-0.8	A-
		White	Hispanic	8	17.52	2.19	0.96	0.1	A+
		Male	Female	8	68.99	8.62	1.38	-0.8	A-
L	119	White	Black	8	14.46	1.81	0.87	0.3	A+
		White	Hispanic	8	26.96	3.37	1.03	-0.1	A-
		Male	Female	8	9.9	1.24	1.01	0	A-
L	120	White	Black	8	5.66	0.71	0.98	0	A+
		White	Hispanic	8	4.08	0.51	0.93	0.2	A+
		Male	Female	8	340.22	42.53	1.62	-1.1	B-
L	121	White	Black	8	83.22	10.4	1.55	-1	B-
		White	Hispanic	8	18.13	2.27	1.4	-0.8	A-
		Male	Female	8	546.27	68.28	1.86	-1.5	B-
L	122	White	Black	8	28.38	3.55	0.79	0.5	A+
		White	Hispanic	8	11.02	1.38	0.86	0.3	A+
		Male	Female	8	50.97	6.37	0.84	0.4	A+
L	123	White	Black	8	19.13	2.39	1.24	-0.5	A-
		White	Hispanic	8	8.21	1.03	1.3	-0.6	A-
		Male	Female	8	46.47	5.81	0.98	0	A+
L	124	White	Black	8	5.42	0.68	1.07	-0.2	A-
		White	Hispanic	8	14.87	1.86	0.9	0.2	A+
		Male	Female	8	87.89	10.99	1.37	-0.7	A-
L	125	White	Black	8	13.5	1.69	1	0	A-
		White	Hispanic	8	2.44	0.31	1.04	-0.1	A-
		Male	Female	8	141.68	17.71	1.35	-0.7	A-
L	126	White	Black	8	5.34	0.67	1.04	-0.1	A-
		White	Hispanic	8	11.5	1.44	0.86	0.4	A+
		Male	Female	8	77.2	9.65	1.23	-0.5	A-
L	127	White	Black	8	12.66	1.58	0.98	0	A+
		White	Hispanic	8	9.3	1.16	0.99	0	A+
		Male	Female	8	30.38	3.8	0.88	0.3	A+
L	128	White	Black	8	8.96	1.12	1.1	-0.2	A-
		White	Hispanic	8	10.17	1.27	1.02	-0.1	A-
		Male	Female	8	32.78	4.1	0.92	0.2	A+
L	129	White	Black	8	5.08	0.63	0.94	0.1	A+
		White	Hispanic	8	10.54	1.32	1.21	-0.4	A-
		Male	Female	8	33.61	4.2	0.84	0.4	A+

Appendix T(a): Grade Eight Reading Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Appendix T(a): Grade Eight Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										CRM095M	42	1	2	8	384.46	48.06	1.91	-1.5	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
															0.99	899	1.00	677	
															0.98	776	0.99	701	
															0.97	744	0.99	730	
															0.95	695	0.99	761	
															0.90	724	0.96	739	
															0.84	761	0.94	831	
															0.70	699	0.83	846	
															0.45	603	0.51	1008	
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										ERM096M	43	1	2	8	862.63	107.83	2.61	-2.3	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
															0.98	828	0.99	662	
															0.96	866	0.98	798	
															0.91	772	0.96	758	
															0.86	723	0.93	715	
															0.80	725	0.91	782	
															0.66	793	0.87	799	
															0.51	727	0.75	853	
															0.29	543	0.45	985	
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										ERM107M	54	1	2	8	1702.66	212.83	3.48	-2.9	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
															0.46	828	0.73	662	
															0.25	866	0.61	798	
															0.19	772	0.53	758	
															0.17	723	0.45	715	
															0.14	725	0.37	782	
															0.12	793	0.27	799	
															0.09	727	0.20	853	
															0.12	543	0.20	985	
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										FRM094M	41	1	2	8	566.64	70.83	1.97	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
															0.98	820	1.00	635	
															0.94	748	0.98	682	
															0.92	833	0.95	803	
															0.86	736	0.94	740	
															0.80	763	0.90	832	
															0.71	779	0.85	807	
															0.60	762	0.76	883	
															0.44	612	0.49	976	
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

Appendix T(a): Grade Eight Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code		
FRM096M										43	1	2	8	1734.11	216.76	3.31	-2.8	C-	
0 1 2 3 4 5 6 7 8 9 0										****FOCAL**** **REFERENCE**									
										--* 0.92 820 0.97 635									
										---* 0.88 748 0.94 682									
										-----* 0.80 833 0.94 803									
										-----* 0.77 736 0.92 740									
										-----* 0.69 763 0.90 832									
										-----* 0.60 779 0.84 807									
										-----* 0.42 762 0.72 883									
										-----* 0.21 612 0.41 976									
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code		
FRM118M										65	1	2	8	696.87	87.11	2.17	-1.8	C-	
0 1 2 3 4 5 6 7 8 9 0										****FOCAL**** **REFERENCE**									
										* 0.98 820 0.99 635									
										--* 0.94 748 0.98 682									
										---* 0.90 833 0.96 803									
										-----* 0.76 736 0.92 740									
										-----* 0.71 763 0.82 832									
										-----* 0.48 779 0.68 807									
										-----* 0.31 762 0.46 883									
										-----* 0.17 612 0.25 976									
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code		
GRM106M										53	1	2	8	555.25	69.41	2.28	-1.9	C-	
0 1 2 3 4 5 6 7 8 9 0										****FOCAL**** **REFERENCE**									
										* 1.00 940 1.00 707									
										-* 0.98 750 1.00 704									
										-* 0.97 801 0.99 749									
										--* 0.95 784 0.98 853									
										---* 0.91 700 0.98 760									
										-----* 0.83 761 0.94 812									
										-----* 0.67 728 0.81 788									
										-----* 0.35 547 0.49 972									
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code		
GRM113M										60	1	2	8	758.38	94.80	2.03	-1.7	C-	
0 1 2 3 4 5 6 7 8 9 0										****FOCAL**** **REFERENCE**									
										-* 0.99 940 0.99 707									
										-* 0.97 750 1.00 704									
										-* 0.96 801 0.98 749									
										--* 0.91 784 0.97 853									
										-----* 0.86 700 0.94 760									
										-----* 0.77 761 0.87 812									
										-----* 0.61 728 0.79 788									
										-----* 0.39 547 0.45 972									
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

Appendix T(a): Grade Eight Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
0 1 2 3 4 5 6 7 8 9 0										48	1	3	8	91.31	11.41	2.17	-1.8	C-
										DRM101M								
										****FOCAL****		**REFERENCE**						
										*					1.00	10	0.99	1380
										*					1.00	23	0.99	1280
										--*					0.94	36	0.98	1433
										-*					0.94	47	0.96	1351
															0.78	55	0.91	1238
															0.54	92	0.83	1232
															0.49	134	0.66	974
															0.26	210	0.36	811
0 1 2 3 4 5 6 7 8 9 0															Right Total		Right Total	

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
0 1 2 3 4 5 6 7 8 9 0										60	1	3	8	70.70	8.84	2.26	-1.9	C-
										ERM113M								
										****FOCAL****		**REFERENCE**						
										*					1.00	15	1.00	1389
										--*					0.97	32	0.99	1512
										*					0.97	34	0.98	1347
										-*					0.95	44	0.98	1233
										-*					0.93	58	0.97	1211
															0.89	97	0.95	1187
															0.67	129	0.86	976
															0.39	199	0.55	810
0 1 2 3 4 5 6 7 8 9 0															Right Total		Right Total	

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
0 1 2 3 4 5 6 7 8 9 0										65	1	3	8	45.93	5.74	1.89	-1.5	C-
										ERM118M								
										****FOCAL****		**REFERENCE**						
															0.80	15	0.86	1389
															0.63	32	0.66	1512
															0.41	34	0.50	1347
															0.18	44	0.41	1233
															0.24	58	0.32	1211
															0.14	97	0.28	1187
															0.07	129	0.25	976
															0.23	199	0.27	810
0 1 2 3 4 5 6 7 8 9 0															Right Total		Right Total	

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
0 1 2 3 4 5 6 7 8 9 0										53	1	3	8	55.53	6.94	2.04	-1.7	C-
										GRM106M								
										****FOCAL****		**REFERENCE**						
										*					1.00	19	1.00	1525
										*+					1.00	23	0.99	1333
										*					0.97	34	0.99	1383
										-*					0.94	54	0.97	1406
										*					0.94	68	0.95	1132
															0.82	85	0.91	1151
															0.61	137	0.80	910
															0.35	195	0.49	787
0 1 2 3 4 5 6 7 8 9 0															Right Total		Right Total	

**Appendix T(b): Grade Eight Reading
Between Group DIF Analysis -- Constructed Response Items**

Grade Eight Reading -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	130	White	Black	8	4	0.003	0.018	0.2	AA+
		White	Hispanic	8	4	-0.057	0.029	-2	AA-
		Male	Female	8	4	0.201	0.011	17.6	CC+
B	130	White	Black	8	4	-0.008	0.019	-0.4	AA-
		White	Hispanic	8	4	-0.010	0.029	-0.3	AA-
		Male	Female	8	4	0.199	0.012	16.8	CC+
C	130	White	Black	8	4	-0.091	0.019	-4.8	BB-
		White	Hispanic	8	4	-0.080	0.030	-2.7	BB-
		Male	Female	8	4	0.153	0.011	13.9	CC+
D	130	White	Black	8	4	-0.089	0.019	-4.8	BB-
		White	Hispanic	8	4	-0.075	0.029	-2.6	BB-
		Male	Female	8	4	0.142	0.011	13.1	CC+
E	130	White	Black	8	4	-0.027	0.018	-1.5	AA-
		White	Hispanic	8	4	-0.009	0.027	-0.3	AA-
		Male	Female	8	4	0.121	0.011	10.5	CC+
F	130	White	Black	8	4	-0.082	0.018	-4.5	BB-
		White	Hispanic	8	4	-0.057	0.028	-2	AA-
		Male	Female	8	4	0.123	0.011	11.3	CC+
G	130	White	Black	8	4	-0.017	0.018	-0.9	AA-
		White	Hispanic	8	4	0.014	0.028	0.5	AA+
		Male	Female	8	4	0.162	0.011	14.5	CC+
H	130	White	Black	8	4	-0.008	0.019	-0.4	AA-
		White	Hispanic	8	4	-0.009	0.029	-0.3	AA-
		Male	Female	8	4	0.213	0.012	17.5	CC+
I	130	White	Black	8	4	-0.055	0.019	-3	BB-
		White	Hispanic	8	4	-0.048	0.030	-1.6	AA-
		Male	Female	8	4	0.157	0.011	13.9	CC+
J	130	White	Black	8	4	-0.081	0.019	-4.4	BB-
		White	Hispanic	8	4	-0.047	0.031	-1.5	AA-
		Male	Female	8	4	0.157	0.011	14	CC+
K	130	White	Black	8	4	-0.063	0.019	-3.4	BB-
		White	Hispanic	8	4	-0.072	0.029	-2.5	BB-
		Male	Female	8	4	0.109	0.012	9.5	CC+
L	130	White	Black	8	4	-0.072	0.019	-3.7	BB-
		White	Hispanic	8	4	-0.047	0.030	-1.6	AA-
		Male	Female	8	4	0.128	0.011	11.2	CC+

Appendix T(b): Grade Eight Reading Between Group DIF Analysis – Constructed Response Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
ARM130P	81	1	2	8	4	0.201	0.011	17.6	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**				
						2.66	795	2.49	679
						2.39	738	2.20	636
						2.25	773	2.02	719
						2.16	697	1.94	762
						2.00	714	1.82	794
						1.91	716	1.70	761
						1.71	720	1.55	852
						1.26	589	1.00	961
0	1	2	3	4	Right Total Right Total				

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
BRM130P	81	1	2	8	4	0.199	0.012	16.8	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**				
						2.87	825	2.69	629
						2.59	809	2.39	708
						2.42	794	2.23	807
						2.35	737	2.12	763
						2.22	711	2.00	738
						2.04	707	1.85	792
						1.89	715	1.66	816
						1.21	535	1.09	909
0	1	2	3	4	Right Total Right Total				

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
CRM130P	81	1	2	8	4	0.153	0.011	13.9	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**				
						2.71	899	2.60	677
						2.50	776	2.31	701
						2.40	744	2.20	730
						2.26	695	2.10	761
						2.14	724	2.05	739
						2.06	761	1.92	831
						1.90	699	1.75	845
						1.25	591	1.05	995
0	1	2	3	4	Right Total Right Total				

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
DRM130P	81	1	2	8	4	0.142	0.011	13.1	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**				
						2.76	810	2.58	673
						2.46	741	2.30	660
						2.37	787	2.26	802
						2.26	770	2.15	795
						2.16	716	2.05	792
						2.08	795	1.93	859
						1.86	770	1.70	784
						1.21	601	1.03	985
0	1	2	3	4	Right Total Right Total				

Appendix T(b): Grade Eight Reading Between Group DIF Analysis – Constructed Response Items

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
ERM130P	81	1	2	8	4	0.121	0.011	10.5	C+	
0	1	2	3	4						
							****FOCAL****	****REFERENCE**		
			+++				2.82	828	2.66	662
			+++				2.48	866	2.35	798
			+++				2.33	772	2.14	758
			++				2.09	723	1.98	715
			++				1.96	725	1.86	782
			++				1.76	793	1.64	799
			++				1.51	726	1.45	853
			++				1.03	530	0.96	978
0	1	2	3	4			Right Total	Right Total		

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
FRM130P	81	1	2	8	4	0.123	0.011	11.3	C+	
0	1	2	3	4						
							****FOCAL****	****REFERENCE**		
			+++				2.71	820	2.57	635
			+++				2.50	748	2.32	682
			++				2.33	833	2.21	803
			+++				2.26	736	2.11	740
			++				2.10	763	2.01	832
			+++				1.97	779	1.88	807
			++				1.75	761	1.71	883
			+++				1.21	599	1.06	960
0	1	2	3	4			Right Total	Right Total		

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
GRM130P	81	1	2	8	4	0.162	0.011	14.5	C+	
0	1	2	3	4						
							****FOCAL****	****REFERENCE**		
			+++				2.67	940	2.48	707
			+++				2.40	750	2.27	704
			+++				2.26	801	2.12	749
			+++				2.14	784	1.98	853
			+++				2.00	700	1.85	760
			++++				1.90	761	1.71	811
			++++				1.72	728	1.52	788
			++				1.13	532	1.00	954
0	1	2	3	4			Right Total	Right Total		

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
HRM130P	81	1	2	8	4	0.213	0.012	17.5	C+	
0	1	2	3	4						
							****FOCAL****	****REFERENCE**		
			+++				2.91	899	2.72	644
			++++				2.64	749	2.40	787
			++++				2.42	695	2.18	678
			++++				2.34	713	2.08	683
			+++				2.18	748	1.98	755
			++++				2.07	712	1.85	812
			+++				1.83	714	1.64	784
			++				1.24	530	1.10	887
0	1	2	3	4			Right Total	Right Total		

Appendix T(b): Grade Eight Reading Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	IR130P	81	1	2	8	4	0.157	0.011	13.9	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.68	808	2.49 674
								2.49	699	2.30 660
								2.37	766	2.20 778
								2.26	731	2.13 716
								2.12	678	2.05 757
								2.08	727	1.91 791
								1.83	667	1.70 784
								1.23	517	1.03 860
0	1	2	3	4	Right Total Right Total					

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	JRM130P	81	1	2	8	4	0.157	0.011	14.0	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.76	761	2.62 567
								2.49	697	2.35 698
								2.37	736	2.18 749
								2.26	716	2.12 765
								2.16	658	2.05 761
								2.09	668	1.92 724
								1.90	689	1.72 795
								1.23	561	1.03 907
0	1	2	3	4	Right Total Right Total					

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	KRM130P	81	1	2	8	4	0.109	0.012	9.5	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.82	830	2.66 683
								2.47	715	2.36 665
								2.30	786	2.20 737
								2.17	716	2.06 729
								2.04	666	1.92 748
								1.80	720	1.73 828
								1.56	684	1.50 830
								1.11	558	0.96 897
0	1	2	3	4	Right Total Right Total					

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	LRM130P	81	1	2	8	4	0.128	0.011	11.2	C+
0	1	2	3	4	****FOCAL**** **REFERENCE**					
								2.72	798	2.53 595
								2.43	852	2.28 763
								2.29	763	2.18 745
								2.18	684	2.07 724
								2.08	706	1.98 741
								2.00	739	1.85 783
								1.75	696	1.64 819
								1.10	524	1.03 892
0	1	2	3	4	Right Total Right Total					

Appendix U(a): Grade Eleven Mathematics

Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	67	White	Black	8	18.64	2.33	1	0	A
		White	Hispanic	8	8.34	1.04	1.24	-0.5	A-
		Male	Female	8	77.59	9.7	1.31	-0.6	A-
A	68	White	Black	8	19.89	2.49	0.85	0.4	A+
		White	Hispanic	8	9.69	1.21	0.8	0.5	A+
		Male	Female	8	61.23	7.65	1.1	-0.2	A-
A	69	White	Black	8	28.84	3.61	0.79	0.6	A+
		White	Hispanic	8	31.8	3.98	0.57	1.3	B+
		Male	Female	8	85.73	10.72	0.75	0.7	A+
A	70	White	Black	8	18.29	2.29	1.17	-0.4	A-
		White	Hispanic	8	7.67	0.96	1.07	-0.2	A-
		Male	Female	8	142.16	17.77	1.42	-0.8	A-
A	71	White	Black	8	13.79	1.72	1.04	-0.1	A-
		White	Hispanic	8	11.09	1.39	0.85	0.4	A+
		Male	Female	8	120.51	15.06	1.21	-0.5	A-
A	72	White	Black	8	15.3	1.91	1.24	-0.5	A-
		White	Hispanic	8	5.66	0.71	1.23	-0.5	A-
		Male	Female	8	114.4	14.3	0.72	0.8	A+
A	73	White	Black	8	8.26	1.03	0.93	0.2	A+
		White	Hispanic	8	2.99	0.37	1.13	-0.3	A-
		Male	Female	8	23.41	2.93	1.03	-0.1	A-
A	74	White	Black	8	16.69	2.09	0.74	0.7	A+
		White	Hispanic	8	11.23	1.4	0.98	0.1	A+
		Male	Female	8	19.75	2.47	1.08	-0.2	A-
A	75	White	Black	8	25.55	3.19	1.17	-0.4	A-
		White	Hispanic	8	11.95	1.49	1.14	-0.3	A-
		Male	Female	8	377.83	47.23	1.6	-1.1	B-
A	76	White	Black	8	31.01	3.88	0.78	0.6	A+
		White	Hispanic	8	10.9	1.36	0.86	0.3	A+
		Male	Female	8	44.12	5.52	1.03	-0.1	A-
A	77	White	Black	8	48.14	6.02	0.69	0.9	A+
		White	Hispanic	8	13.9	1.74	0.7	0.8	A+
		Male	Female	8	210.75	26.34	0.66	1	A+
A	78	White	Black	8	13.47	1.68	1.17	-0.4	A-
		White	Hispanic	8	3.52	0.44	1.1	-0.2	A-
		Male	Female	8	21.16	2.65	1.11	-0.3	A-
A	79	White	Black	8	6.05	0.76	1.04	-0.1	A-
		White	Hispanic	8	8.85	1.11	1	0	A
		Male	Female	8	55.26	6.91	0.84	0.4	A+
A	80	White	Black	8	5.42	0.68	0.98	0	A+
		White	Hispanic	8	7.45	0.93	0.86	0.4	A+
		Male	Female	8	129.57	16.2	1.26	-0.5	A-
A	81	White	Black	8	13.4	1.68	0.91	0.2	A+
		White	Hispanic	8	5.82	0.73	0.9	0.2	A+
		Male	Female	8	120.03	15	1.41	-0.8	A-
B	67	White	Black	8	17.95	2.24	1.27	-0.6	A-
		White	Hispanic	8	6.69	0.84	1.34	-0.7	A-
		Male	Female	8	18.96	2.37	0.97	0.1	A+

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	68	White	Black	8	1.4	0.18	0.99	0	A+
		White	Hispanic	8	6.75	0.84	0.93	0.2	A+
		Male	Female	8	6.58	0.82	0.97	0.1	A+
B	69	White	Black	8	9.69	1.21	0.87	0.3	A+
		White	Hispanic	8	9	1.13	1.01	0	A-
		Male	Female	8	27.33	3.42	1.07	-0.2	A-
B	70	White	Black	8	9.57	1.2	1.1	-0.2	A-
		White	Hispanic	8	9.16	1.15	1.24	-0.5	A-
		Male	Female	8	91.62	11.45	0.74	0.7	A+
B	71	White	Black	8	5.02	0.63	1.04	-0.1	A-
		White	Hispanic	8	11	1.37	1.13	-0.3	A-
		Male	Female	8	36.89	4.61	0.9	0.2	A+
B	72	White	Black	8	9.94	1.24	1.08	-0.2	A-
		White	Hispanic	8	3.98	0.5	1.04	-0.1	A-
		Male	Female	8	112.05	14.01	1.4	-0.8	A-
B	73	White	Black	8	5.98	0.75	1.1	-0.2	A-
		White	Hispanic	8	13.41	1.68	1.25	-0.5	A-
		Male	Female	8	18.57	2.32	0.92	0.2	A+
B	74	White	Black	8	28.1	3.51	0.91	0.2	A+
		White	Hispanic	8	8.02	1	0.91	0.2	A+
		Male	Female	8	24.02	3	1.09	-0.2	A-
B	75	White	Black	8	5.9	0.74	1.04	-0.1	A-
		White	Hispanic	8	3.62	0.45	0.99	0	A+
		Male	Female	8	13.02	1.63	0.99	0	A+
B	76	White	Black	8	8.63	1.08	0.85	0.4	A+
		White	Hispanic	8	3.79	0.47	0.97	0.1	A+
		Male	Female	8	5.06	0.63	1.01	0	A-
B	77	White	Black	8	4.04	0.5	1.01	0	A-
		White	Hispanic	8	11.08	1.38	0.98	0	A+
		Male	Female	8	34.3	4.29	1.06	-0.1	A-
B	78	White	Black	8	23.55	2.94	1.19	-0.4	A-
		White	Hispanic	8	4.11	0.51	1.21	-0.4	A-
		Male	Female	8	228.29	28.54	1.58	-1.1	B-
B	79	White	Black	8	14.36	1.79	0.89	0.3	A+
		White	Hispanic	8	15.88	1.99	0.88	0.3	A+
		Male	Female	8	49.91	6.24	1.09	-0.2	A-
B	80	White	Black	8	13.83	1.73	0.92	0.2	A+
		White	Hispanic	8	14.59	1.82	1.25	-0.5	A-
		Male	Female	8	29.5	3.69	1.07	-0.2	A-
B	81	White	Black	8	12.6	1.58	1.08	-0.2	A-
		White	Hispanic	8	1.98	0.25	1.12	-0.3	A-
		Male	Female	8	230.07	28.76	1.59	-1.1	B-
C	67	White	Black	8	5.96	0.74	0.86	0.3	A+
		White	Hispanic	8	7.37	0.92	0.64	1.1	B+
		Male	Female	8	26.27	3.28	0.78	0.6	A+
C	68	White	Black	8	90.79	11.35	1.84	-1.4	B-
		White	Hispanic	8	55.15	6.89	2.39	-2.1	C-
		Male	Female	8	136.26	17.03	1.48	-0.9	A-

Appendix U(a): Grade Eleven Mathematics

Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	69	White	Black	8	13.95	1.74	1.02	0	A-
		White	Hispanic	8	6.5	0.81	1.23	-0.5	A-
		Male	Female	8	9.97	1.25	0.93	0.2	A+
C	70	White	Black	8	8.15	1.02	0.93	0.2	A+
		White	Hispanic	8	13.72	1.72	1.21	-0.5	A-
		Male	Female	8	38.74	4.84	1.09	-0.2	A-
C	71	White	Black	8	18.29	2.29	0.83	0.4	A+
		White	Hispanic	8	17.05	2.13	0.76	0.7	A+
		Male	Female	8	151.71	18.96	0.73	0.7	A+
C	72	White	Black	8	4.3	0.54	1.06	-0.1	A-
		White	Hispanic	8	3.66	0.46	1	0	A
		Male	Female	8	15.17	1.9	0.88	0.3	A+
C	73	White	Black	8	62.39	7.8	1.58	-1.1	B-
		White	Hispanic	8	13.62	1.7	1.57	-1.1	B-
		Male	Female	8	9.22	1.15	1.03	-0.1	A-
C	74	White	Black	8	10.21	1.28	1.03	-0.1	A-
		White	Hispanic	8	21.36	2.67	1	0	A
		Male	Female	8	60.53	7.57	0.82	0.5	A+
C	75	White	Black	8	10.27	1.28	0.92	0.2	A+
		White	Hispanic	8	14.75	1.84	1.21	-0.4	A-
		Male	Female	8	31.49	3.94	1.07	-0.1	A-
C	76	White	Black	8	25.35	3.17	0.91	0.2	A+
		White	Hispanic	8	11.49	1.44	0.86	0.4	A+
		Male	Female	8	16.7	2.09	0.93	0.2	A+
C	77	White	Black	8	30.71	3.84	0.72	0.8	A+
		White	Hispanic	8	3.35	0.42	1.03	-0.1	A-
		Male	Female	8	80.98	10.12	0.83	0.4	A+
C	78	White	Black	8	7.68	0.96	1.01	0	A-
		White	Hispanic	8	8.95	1.12	0.88	0.3	A+
		Male	Female	8	23.94	2.99	0.98	0	A+
C	79	White	Black	8	7.27	0.91	0.93	0.2	A+
		White	Hispanic	8	3.36	0.42	0.97	0.1	A+
		Male	Female	8	101.64	12.7	0.76	0.6	A+
C	80	White	Black	8	6.78	0.85	0.99	0	A+
		White	Hispanic	8	11.21	1.4	1.3	-0.6	A-
		Male	Female	8	29.52	3.69	1.1	-0.2	A-
C	81	White	Black	8	2.54	0.32	1.03	-0.1	A-
		White	Hispanic	8	6.88	0.86	1.07	-0.2	A-
		Male	Female	8	5.66	0.71	0.97	0.1	A+
D	67	White	Black	8	5.71	0.71	0.96	0.1	A+
		White	Hispanic	8	50.38	6.3	0.77	0.6	A+
		Male	Female	8	30.2	3.77	0.86	0.4	A+
D	68	White	Black	8	57.73	7.22	0.66	1	A+
		White	Hispanic	8	8.87	1.11	0.78	0.6	A+
		Male	Female	8	120.52	15.07	1.3	-0.6	A-
D	69	White	Black	8	37.15	4.64	1.43	-0.8	A-
		White	Hispanic	8	8.92	1.12	1.25	-0.5	A-
		Male	Female	8	33.51	4.19	1.15	-0.3	A-

Appendix U(a): Grade Eleven Mathematics

Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	70	White	Black	8	6.88	0.86	1.01	0	A-
		White	Hispanic	8	4.96	0.62	1.14	-0.3	A-
		Male	Female	8	52.43	6.55	1.14	-0.3	A-
D	71	White	Black	8	49.91	6.24	1.44	-0.9	A-
		White	Hispanic	8	5.38	0.67	1.17	-0.4	A-
		Male	Female	8	94	11.75	1.4	-0.8	A-
D	72	White	Black	8	26.18	3.27	0.7	0.8	A+
		White	Hispanic	8	8.76	1.1	1	0	A
		Male	Female	8	62.36	7.79	0.75	0.7	A+
D	73	White	Black	8	5.96	0.75	0.92	0.2	A+
		White	Hispanic	8	8	1	1.02	0	A-
		Male	Female	8	108.78	13.6	0.74	0.7	A+
D	74	White	Black	8	10.67	1.33	0.81	0.5	A+
		White	Hispanic	8	15	1.87	0.84	0.4	A+
		Male	Female	8	153.28	19.16	0.68	0.9	A+
D	75	White	Black	8	5.47	0.68	0.98	0	A+
		White	Hispanic	8	4.13	0.52	1.18	-0.4	A-
		Male	Female	8	20.6	2.58	1.07	-0.2	A-
D	76	White	Black	8	10	1.25	1.13	-0.3	A-
		White	Hispanic	8	5.81	0.73	0.97	0.1	A+
		Male	Female	8	12.34	1.54	1.09	-0.2	A-
D	77	White	Black	8	38.24	4.78	1.21	-0.5	A-
		White	Hispanic	8	9.77	1.22	0.81	0.5	A+
		Male	Female	8	23.22	2.9	1	0	A+
D	78	White	Black	8	16.14	2.02	0.78	0.6	A+
		White	Hispanic	8	13.15	1.64	0.79	0.5	A+
		Male	Female	8	99.58	12.45	0.78	0.6	A+
D	79	White	Black	8	11.83	1.48	1	0	A
		White	Hispanic	8	7.36	0.92	1.08	-0.2	A-
		Male	Female	8	61.37	7.67	1.24	-0.5	A-
D	80	White	Black	8	7.16	0.89	1.05	-0.1	A-
		White	Hispanic	8	11.99	1.5	0.93	0.2	A+
		Male	Female	8	37.87	4.73	1.16	-0.4	A-
D	81	White	Black	8	37.03	4.63	0.68	0.9	A+
		White	Hispanic	8	6.42	0.8	0.89	0.3	A+
		Male	Female	8	50.98	6.37	0.91	0.2	A+
E	67	White	Black	8	6.74	0.84	1.04	-0.1	A-
		White	Hispanic	8	11.54	1.44	1.17	-0.4	A-
		Male	Female	8	17.94	2.24	0.97	0.1	A+
E	68	White	Black	8	7.49	0.94	1.17	-0.4	A-
		White	Hispanic	8	8.77	1.1	1.35	-0.7	A-
		Male	Female	8	30.78	3.85	0.73	0.7	A+
E	69	White	Black	8	10.38	1.3	1.09	-0.2	A-
		White	Hispanic	8	5.74	0.72	1.11	-0.2	A-
		Male	Female	8	48.8	6.1	0.84	0.4	A+
E	70	White	Black	8	9.97	1.25	1.11	-0.2	A-
		White	Hispanic	8	9.18	1.15	0.97	0.1	A+
		Male	Female	8	39	4.87	1.11	-0.2	A-

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	71	White	Black	8	15.72	1.96	1.07	-0.1	A-
		White	Hispanic	8	12.11	1.51	1.04	-0.1	A-
		Male	Female	8	72.38	9.05	0.82	0.5	A+
E	72	White	Black	8	3.95	0.49	1.09	-0.2	A-
		White	Hispanic	8	6.2	0.77	0.8	0.5	A+
		Male	Female	8	36.22	4.53	0.95	0.1	A+
E	73	White	Black	8	21.9	2.74	1.3	-0.6	A-
		White	Hispanic	8	9.82	1.23	1.07	-0.2	A-
		Male	Female	8	81.59	10.2	1.23	-0.5	A-
E	74	White	Black	8	4.88	0.61	0.97	0.1	A+
		White	Hispanic	8	11.79	1.47	0.76	0.7	A+
		Male	Female	8	43.83	5.48	0.88	0.3	A+
E	75	White	Black	8	10.54	1.32	0.93	0.2	A+
		White	Hispanic	8	4.84	0.61	1	0	A
		Male	Female	8	57.27	7.16	0.81	0.5	A+
E	76	White	Black	8	9.24	1.15	1.1	-0.2	A-
		White	Hispanic	8	9.58	1.2	0.93	0.2	A+
		Male	Female	8	19.72	2.47	0.92	0.2	A+
E	77	White	Black	8	36.78	4.6	0.74	0.7	A+
		White	Hispanic	8	14.54	1.82	0.79	0.6	A+
		Male	Female	8	87.91	10.99	0.79	0.6	A+
E	78	White	Black	8	3.46	0.43	1.02	0	A-
		White	Hispanic	8	13.04	1.63	1.05	-0.1	A-
		Male	Female	8	3.37	0.42	0.98	0	A+
E	79	White	Black	8	13.83	1.73	1.21	-0.4	A-
		White	Hispanic	8	7.8	0.98	0.95	0.1	A+
		Male	Female	8	34.58	4.32	0.97	0.1	A+
E	80	White	Black	8	9.44	1.18	0.9	0.3	A+
		White	Hispanic	8	7.84	0.98	0.87	0.3	A+
		Male	Female	8	60.46	7.56	0.84	0.4	A+
E	81	White	Black	8	5.71	0.71	0.93	0.2	A+
		White	Hispanic	8	6.84	0.85	1.02	0	A-
		Male	Female	8	61.24	7.66	0.94	0.2	A+
F	67	White	Black	8	32.34	4.04	1.34	-0.7	A-
		White	Hispanic	8	4.75	0.59	1.25	-0.5	A-
		Male	Female	8	28.97	3.62	0.85	0.4	A+
F	68	White	Black	8	32.96	4.12	1.34	-0.7	A-
		White	Hispanic	8	5.44	0.68	0.91	0.2	A+
		Male	Female	8	7.02	0.88	0.99	0	A+
F	69	White	Black	8	18.99	2.37	0.84	0.4	A+
		White	Hispanic	8	13.19	1.65	1.1	-0.2	A-
		Male	Female	8	88.71	11.09	0.76	0.6	A+
F	70	White	Black	8	14.84	1.85	0.92	0.2	A+
		White	Hispanic	8	6.08	0.76	1.17	-0.4	A-
		Male	Female	8	30.55	3.82	1.1	-0.2	A-
F	71	White	Black	8	13.53	1.69	1.22	-0.5	A-
		White	Hispanic	8	6.79	0.85	1.04	-0.1	A-
		Male	Female	8	89.19	11.15	0.84	0.4	A+

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	72	White	Black	8	21.45	2.68	1.19	-0.4	A-
		White	Hispanic	8	6.52	0.81	1	0	A
		Male	Female	8	64.53	8.07	0.84	0.4	A+
F	73	White	Black	8	32.16	4.02	0.89	0.3	A+
		White	Hispanic	8	5.81	0.73	0.79	0.5	A+
		Male	Female	8	31.6	3.95	1.12	-0.3	A-
F	74	White	Black	8	9.12	1.14	0.9	0.2	A+
		White	Hispanic	8	8.1	1.01	1.07	-0.2	A-
		Male	Female	8	44.07	5.51	1.17	-0.4	A-
F	75	White	Black	8	11.52	1.44	0.93	0.2	A+
		White	Hispanic	8	15.99	2	0.82	0.5	A+
		Male	Female	8	15.66	1.96	1.08	-0.2	A-
F	76	White	Black	8	7.38	0.92	0.92	0.2	A+
		White	Hispanic	8	10.09	1.26	1	0	A
		Male	Female	8	32.01	4	1.06	-0.1	A-
F	77	White	Black	8	18.84	2.35	1.05	-0.1	A-
		White	Hispanic	8	13.3	1.66	1.04	-0.1	A-
		Male	Female	8	15.26	1.91	1.01	0	A-
F	78	White	Black	8	5.92	0.74	0.88	0.3	A+
		White	Hispanic	8	7.08	0.88	1.04	-0.1	A-
		Male	Female	8	30.03	3.75	0.97	0.1	A+
F	79	White	Black	8	13.84	1.73	1.22	-0.5	A-
		White	Hispanic	8	6.21	0.78	1.23	-0.5	A-
		Male	Female	8	26.03	3.25	1.08	-0.2	A-
F	80	White	Black	8	3.5	0.44	1	0	A
		White	Hispanic	8	8.59	1.07	0.87	0.3	A+
		Male	Female	8	42.29	5.29	0.99	0	A+
F	81	White	Black	8	9.77	1.22	0.96	0.1	A+
		White	Hispanic	8	12	1.5	0.8	0.5	A+
		Male	Female	8	45.53	5.69	1.09	-0.2	A-
G	67	White	Black	8	133.37	16.67	2.01	-1.6	C-
		White	Hispanic	8	9.35	1.17	1.33	-0.7	A-
		Male	Female	8	689.48	86.18	2.2	-1.9	C-
G	68	White	Black	8	15.85	1.98	1.2	-0.4	A-
		White	Hispanic	8	11.36	1.42	1.15	-0.3	A-
		Male	Female	8	133.01	16.63	1.31	-0.6	A-
G	69	White	Black	8	5.49	0.69	0.99	0	A+
		White	Hispanic	8	8.37	1.05	0.8	0.5	A+
		Male	Female	8	71.4	8.92	0.84	0.4	A+
G	70	White	Black	8	13.73	1.72	0.86	0.4	A+
		White	Hispanic	8	3.2	0.4	1.04	-0.1	A-
		Male	Female	8	25.59	3.2	0.94	0.1	A+
G	71	White	Black	8	18.96	2.37	0.86	0.3	A+
		White	Hispanic	8	3.84	0.48	1.1	-0.2	A-
		Male	Female	8	66.86	8.36	0.8	0.5	A+
G	72	White	Black	8	19.55	2.44	1.04	-0.1	A-
		White	Hispanic	8	1.75	0.22	0.94	0.1	A+
		Male	Female	8	42.25	5.28	0.77	0.6	A+

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	73	White	Black	8	9.13	1.14	0.92	0.2	A+
		White	Hispanic	8	11.1	1.39	1.2	-0.4	A-
		Male	Female	8	74.01	9.25	0.9	0.3	A+
G	74	White	Black	8	12.41	1.55	1.01	0	A-
		White	Hispanic	8	6.4	0.8	0.8	0.5	A+
		Male	Female	8	87.12	10.89	0.76	0.6	A+
G	75	White	Black	8	36.39	4.55	0.9	0.3	A+
		White	Hispanic	8	12.52	1.57	0.74	0.7	A+
		Male	Female	8	40.78	5.1	0.88	0.3	A+
G	76	White	Black	8	11.04	1.38	1.2	-0.4	A-
		White	Hispanic	8	18.26	2.28	1.32	-0.7	A-
		Male	Female	8	17.01	2.13	1.06	-0.1	A-
G	77	White	Black	8	20.28	2.53	1.16	-0.3	A-
		White	Hispanic	8	11.7	1.46	1.09	-0.2	A-
		Male	Female	8	20.87	2.61	1.09	-0.2	A-
G	78	White	Black	8	12.88	1.61	0.82	0.5	A+
		White	Hispanic	8	5.51	0.69	0.91	0.2	A+
		Male	Female	8	8.52	1.07	1.01	0	A-
G	79	White	Black	8	10.21	1.28	1.05	-0.1	A-
		White	Hispanic	8	3.07	0.38	0.97	0.1	A+
		Male	Female	8	19.27	2.41	1	0	A+
G	80	White	Black	8	12.82	1.6	1.12	-0.3	A-
		White	Hispanic	8	2.7	0.34	0.87	0.3	A+
		Male	Female	8	14.72	1.84	1.07	-0.2	A-
G	81	White	Black	8	4.78	0.6	0.9	0.3	A+
		White	Hispanic	8	14.27	1.78	0.86	0.4	A+
		Male	Female	8	63.46	7.93	0.87	0.3	A+
H	67	White	Black	8	11.6	1.45	0.97	0.1	A+
		White	Hispanic	8	10.34	1.29	1.18	-0.4	A-
		Male	Female	8	24.27	3.03	0.93	0.2	A+
H	68	White	Black	8	23.27	2.91	1.27	-0.6	A-
		White	Hispanic	8	8.06	1.01	1.03	-0.1	A-
		Male	Female	8	92.59	11.57	0.78	0.6	A+
H	69	White	Black	8	5.05	0.63	1.11	-0.2	A-
		White	Hispanic	8	6.23	0.78	0.95	0.1	A+
		Male	Female	8	16.5	2.06	1	0	A+
H	70	White	Black	8	9.16	1.15	0.85	0.4	A+
		White	Hispanic	8	2.81	0.35	0.87	0.3	A+
		Male	Female	8	216.11	27.01	0.65	1	B+
H	71	White	Black	8	10.78	1.35	1.04	-0.1	A-
		White	Hispanic	8	10.95	1.37	1.22	-0.5	A-
		Male	Female	8	29.82	3.73	1	0	A
H	72	White	Black	8	4.44	0.56	1.06	-0.1	A-
		White	Hispanic	8	7.67	0.96	1.04	-0.1	A-
		Male	Female	8	34.52	4.31	0.88	0.3	A+
H	73	White	Black	8	11.19	1.4	1.11	-0.3	A-
		White	Hispanic	8	16.93	2.12	0.97	0.1	A+
		Male	Female	8	68.76	8.6	1.2	-0.4	A-

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	74	White	Black	8	10.28	1.29	0.97	0.1	A+
		White	Hispanic	8	12.33	1.54	1.3	-0.6	A-
		Male	Female	8	18.89	2.36	0.95	0.1	A+
H	75	White	Black	8	10.52	1.31	1.01	0	A-
		White	Hispanic	8	7.24	0.91	0.88	0.3	A+
		Male	Female	8	103.09	12.89	0.72	0.8	A+
H	76	White	Black	8	29.52	3.69	1.33	-0.7	A-
		White	Hispanic	8	9.43	1.18	0.92	0.2	A+
		Male	Female	8	52.82	6.6	1.08	-0.2	A-
H	77	White	Black	8	7.09	0.89	1.07	-0.2	A-
		White	Hispanic	8	6.48	0.81	0.91	0.2	A+
		Male	Female	8	77.92	9.74	1.3	-0.6	A-
H	78	White	Black	8	37.92	4.74	1.33	-0.7	A-
		White	Hispanic	8	14.91	1.86	1.32	-0.6	A-
		Male	Female	8	30.28	3.78	0.91	0.2	A+
H	79	White	Black	NS		NS			
H	80	White	Black	8	5.69	0.71	1.03	-0.1	A-
		White	Hispanic	8	9.79	1.22	1.16	-0.4	A-
		Male	Female	8	55.51	6.94	1.05	-0.1	A-
H	81	White	Black	8	25.36	3.17	0.83	0.5	A+
		White	Hispanic	8	8.87	1.11	0.87	0.3	A+
		Male	Female	8	99.01	12.38	0.73	0.7	A+
I	67	White	Black	8	5.43	0.68	0.91	0.2	A+
		White	Hispanic	8	5.43	0.68	0.83	0.4	A+
		Male	Female	8	18.28	2.29	0.94	0.1	A+
I	68	White	Black	8	25.58	3.2	1.16	-0.4	A-
		White	Hispanic	8	9.51	1.19	1.23	-0.5	A-
		Male	Female	8	209.66	26.21	1.46	-0.9	A-
I	69	White	Black	8	11.27	1.41	0.91	0.2	A+
		White	Hispanic	8	8.61	1.08	1.21	-0.4	A-
		Male	Female	8	25.65	3.21	0.98	0	A+
I	70	White	Black	8	54.61	6.83	1.42	-0.8	A-
		White	Hispanic	8	10.95	1.37	1.18	-0.4	A-
		Male	Female	8	17.95	2.24	1.01	0	A-
I	71	White	Black	8	52.01	6.5	1.42	-0.8	A-
		White	Hispanic	8	3.32	0.42	1.11	-0.2	A-
		Male	Female	8	73.98	9.25	1.29	-0.6	A-
I	72	White	Black	8	16.73	2.09	0.93	0.2	A+
		White	Hispanic	8	3.5	0.44	0.9	0.2	A+
		Male	Female	8	15.65	1.96	1.01	0	A-
I	73	White	Black	8	12.33	1.54	0.99	0	A+
		White	Hispanic	8	9	1.13	0.88	0.3	A+
		Male	Female	8	17.48	2.19	0.97	0.1	A+
I	74	White	Black	8	8.9	1.11	1.05	-0.1	A-
		White	Hispanic	8	10.99	1.37	0.98	0	A+
		Male	Female	8	84.11	10.51	0.77	0.6	A+

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	75	White	Black	8	17.74	2.22	0.83	0.4	A+
		White	Hispanic	8	4.91	0.61	1.24	-0.5	A-
		Male	Female	8	14.81	1.85	1	0	A-
I	76	White	Black	8	14.07	1.76	0.82	0.5	A+
		White	Hispanic	8	8.07	1.01	1.05	-0.1	A-
		Male	Female	8	92.16	11.52	1.17	-0.4	A-
I	77	White	Black	8	10.58	1.32	1.11	-0.3	A-
		White	Hispanic	8	13.07	1.63	0.87	0.3	A+
		Male	Female	8	51.12	6.39	0.89	0.3	A+
I	78	White	Black	8	17.21	2.15	0.9	0.2	A+
		White	Hispanic	8	8.52	1.06	0.83	0.4	A+
		Male	Female	8	58.44	7.31	0.79	0.6	A+
I	79	White	Black	8	13.05	1.63	1.18	-0.4	A-
		White	Hispanic	8	13.43	1.68	0.97	0.1	A+
		Male	Female	8	28.71	3.59	0.95	0.1	A+
I	80	White	Black	8	13.51	1.69	1.09	-0.2	A-
		White	Hispanic	8	3.59	0.45	1.22	-0.5	A-
		Male	Female	8	63.58	7.95	0.84	0.4	A+
I	81	White	Black	8	4.45	0.56	1.02	0	A-
		White	Hispanic	8	8.65	1.08	1	0	A
		Male	Female	8	38.69	4.84	0.86	0.4	A+
J	67	White	Black	8	7.26	0.91	1.04	-0.1	A-
		White	Hispanic	8	9.22	1.15	1.01	0	A-
		Male	Female	8	264.74	33.09	0.59	1.2	B+
J	68	White	Black	8	3.58	0.45	1.02	-0.1	A-
		White	Hispanic	8	16.07	2.01	0.83	0.4	A+
		Male	Female	8	17.21	2.15	0.91	0.2	A+
J	69	White	Black	8	7.92	0.99	0.9	0.2	A+
		White	Hispanic	8	8.54	1.07	1.09	-0.2	A-
		Male	Female	8	38.28	4.78	0.84	0.4	A+
J	70	White	Black	8	6.65	0.83	1.03	-0.1	A-
		White	Hispanic	8	3.55	0.44	1.16	-0.3	A-
		Male	Female	8	71.76	8.97	0.8	0.5	A+
J	71	White	Black	8	24.95	3.12	1.35	-0.7	A-
		White	Hispanic	8	12.16	1.52	0.96	0.1	A+
		Male	Female	8	44.25	5.53	1.07	-0.2	A-
J	72	White	Black	8	16.79	2.1	1.31	-0.6	A-
		White	Hispanic	8	11.61	1.45	1.28	-0.6	A-
		Male	Female	8	30.59	3.82	1.03	-0.1	A-
J	73	White	Black	8	9.54	1.19	0.88	0.3	A+
		White	Hispanic	8	4.67	0.58	0.86	0.4	A+
		Male	Female	8	40.89	5.11	0.93	0.2	A+
J	74	White	Black	8	14.96	1.87	1.25	-0.5	A-
		White	Hispanic	8	8.06	1.01	1.08	-0.2	A-
		Male	Female	8	48.2	6.02	0.86	0.4	A+
J	75	White	Black	8	14.18	1.77	0.85	0.4	A+
		White	Hispanic	8	4.16	0.52	0.81	0.5	A+
		Male	Female	8	207.57	25.95	1.67	-1.2	B-

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	76	White	Black	8	34.97	4.37	1.37	-0.7	A-
		White	Hispanic	8	10.98	1.37	1.15	-0.3	A-
		Male	Female	8	72.94	9.12	0.76	0.7	A+
J	77	White	Black	8	8.64	1.08	0.87	0.3	A+
		White	Hispanic	8	9.22	1.15	1.18	-0.4	A-
		Male	Female	8	34.01	4.25	0.93	0.2	A+
J	78	White	Black	8	4.83	0.6	1	0	A
		White	Hispanic	8	6.62	0.83	0.91	0.2	A+
		Male	Female	8	27.66	3.46	0.95	0.1	A+
J	79	White	Black	8	20.7	2.59	0.8	0.5	A+
		White	Hispanic	8	4.46	0.56	0.99	0	A+
		Male	Female	8	185.25	23.16	0.67	1	A+
J	80	White	Black	8	7.86	0.98	1.22	-0.5	A-
		White	Hispanic	8	11.99	1.5	0.98	0	A+
		Male	Female	8	17.69	2.21	0.96	0.1	A+
J	81	White	Black	8	14.1	1.76	1.02	0	A-
		White	Hispanic	8	10.06	1.26	1.2	-0.4	A-
		Male	Female	8	71.66	8.96	1.28	-0.6	A-
K	67	White	Black	8	33.34	4.17	1.43	-0.8	A-
		White	Hispanic	8	8.43	1.05	1.3	-0.6	A-
		Male	Female	8	158.26	19.78	1.52	-1	A-
K	68	White	Black	8	21.59	2.7	1.26	-0.5	A-
		White	Hispanic	8	6.62	0.83	1.18	-0.4	A-
		Male	Female	8	104.32	13.04	1.46	-0.9	A-
K	69	White	Black	8	72.87	9.11	1.64	-1.2	B-
		White	Hispanic	8	8.72	1.09	1.27	-0.6	A-
		Male	Female	8	528.93	66.12	2.11	-1.8	C-
K	70	White	Black	8	6	0.75	0.91	0.2	A+
		White	Hispanic	8	6.16	0.77	1.11	-0.3	A-
		Male	Female	8	57.45	7.18	0.89	0.3	A+
K	71	White	Black	8	8.8	1.1	1.07	-0.2	A-
		White	Hispanic	8	5.94	0.74	1.27	-0.6	A-
		Male	Female	8	36.32	4.54	0.98	0	A+
K	72	White	Black	8	21.45	2.68	0.95	0.1	A+
		White	Hispanic	8	9	1.13	0.95	0.1	A+
		Male	Female	8	21.34	2.67	0.99	0	A+
K	73	White	Black	8	10.27	1.28	0.9	0.2	A+
		White	Hispanic	8	8.9	1.11	0.92	0.2	A+
		Male	Female	8	19.04	2.38	0.93	0.2	A+
K	74	White	Black	8	21.79	2.72	1.02	0	A-
		White	Hispanic	8	2.6	0.32	0.94	0.1	A+
		Male	Female	8	46.12	5.76	0.83	0.4	A+
K	75	White	Black	8	9.77	1.22	0.85	0.4	A+
		White	Hispanic	8	8.32	1.04	0.73	0.7	A+
		Male	Female	8	20.01	2.5	0.92	0.2	A+
K	76	White	Black	8	16.49	2.06	0.92	0.2	A+
		White	Hispanic	8	4.88	0.61	1.19	-0.4	A-
		Male	Female	8	53.68	6.71	1.06	-0.1	A-

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	77	White	Black	8	7.39	0.92	1	0	A
		White	Hispanic	8	10.26	1.28	0.88	0.3	A+
		Male	Female	8	284.27	35.53	1.57	-1.1	B-
K	78	White	Black	8	11.91	1.49	0.99	0	A+
		White	Hispanic	8	4.6	0.58	1.06	-0.1	A-
		Male	Female	8	46.49	5.81	0.91	0.2	A+
K	79	White	Black	8	8.76	1.09	0.88	0.3	A+
		White	Hispanic	8	7.73	0.97	1.32	-0.7	A-
		Male	Female	8	390.62	48.83	0.55	1.4	B+
K	80	White	Black	8	5.71	0.71	0.96	0.1	A+
		White	Hispanic	8	4.46	0.56	0.92	0.2	A+
		Male	Female	8	33.77	4.22	0.97	0.1	A+
K	81	White	Black	8	12.98	1.62	0.86	0.4	A+
		White	Hispanic	8	10.27	1.28	0.89	0.3	A+
		Male	Female	8	35.78	4.47	0.97	0.1	A+
L	67	White	Black	8	3.44	0.43	0.98	0	A+
		White	Hispanic	8	4.37	0.55	1.08	-0.2	A-
		Male	Female	8	30.21	3.78	0.86	0.4	A+
L	68	White	Black	8	8.13	1.02	1.13	-0.3	A-
		White	Hispanic	8	5.59	0.7	1.06	-0.1	A-
		Male	Female	8	16.73	2.09	0.93	0.2	A+
L	69	White	Black	8	19.3	2.41	0.84	0.4	A+
		White	Hispanic	8	7.34	0.92	0.81	0.5	A+
		Male	Female	8	54.22	6.78	0.96	0.1	A+
L	70	White	Black	8	30.89	3.86	1.1	-0.2	A-
		White	Hispanic	8	8.75	1.09	1.32	-0.6	A-
		Male	Female	8	160.21	20.03	1.44	-0.9	A-
L	71	White	Black	8	9.62	1.2	1.17	-0.4	A-
		White	Hispanic	8	6.09	0.76	1.08	-0.2	A-
		Male	Female	8	54.55	6.82	1.17	-0.4	A-
L	72	White	Black	8	4.67	0.58	1.02	0	A-
		White	Hispanic	8	11.94	1.49	0.83	0.4	A+
		Male	Female	8	74.91	9.36	1.31	-0.6	A-
L	73	White	Black	8	5.58	0.7	0.93	0.2	A+
		White	Hispanic	8	5.35	0.67	0.92	0.2	A+
		Male	Female	8	15.77	1.97	0.93	0.2	A+
L	74	White	Black	8	7.53	0.94	1.21	-0.5	A-
		White	Hispanic	8	11.05	1.38	1	0	A
		Male	Female	8	7.49	0.94	1.03	-0.1	A-
L	75	White	Black	8	13.66	1.71	1	0	A
		White	Hispanic	8	11.84	1.48	0.74	0.7	A+
		Male	Female	8	162.1	20.26	0.73	0.7	A+
L	76	White	Black	8	19.35	2.42	0.79	0.6	A+
		White	Hispanic	8	5.64	0.7	0.82	0.5	A+
		Male	Female	8	41.83	5.23	1.18	-0.4	A-
L	77	White	Black	8	37.52	4.69	0.82	0.5	A+
		White	Hispanic	8	10.11	1.26	0.93	0.2	A+
		Male	Female	8	46.88	5.86	1.14	-0.3	A-

Appendix U(a): Grade Eleven Mathematics Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Mathematics -- Multiple Choice Items									
Form	Sequence	Reference	Focal	DF	Chi Squared	Mean Square	Odds Ratio	Effect	Code
L	78	White	Black	8	14.96	1.87	1.18	-0.4	A-
		White	Hispanic	8	10.93	1.37	1.09	-0.2	A-
		Male	Female	8	146.99	18.37	1.4	-0.8	A-
L	79	White	Black	8	18.79	2.35	0.85	0.4	A+
		White	Hispanic	8	7.81	0.98	1.11	-0.2	A-
		Male	Female	8	62.59	7.82	0.97	0.1	A+
L	80	White	Black	8	9.63	1.2	0.96	0.1	A+
		White	Hispanic	8	7.75	0.97	1.21	-0.5	A-
		Male	Female	8	46.37	5.8	0.82	0.5	A+
L	81	White	Black	8	34.74	4.34	0.67	0.9	A+
		White	Hispanic	8	6.71	0.84	0.79	0.5	A+
		Male	Female	8	11.08	1.38	0.99	0	A+

Appendix U(a): Grade Eleven Mathematics

Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
GM067M		164	1	2	8	689.48	86.18	2.20	-1.9	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									**REFERENCE**
							0.92	577	0.97	773	
							0.86	671	0.93	707	
							0.80	651	0.90	742	
							0.73	691	0.86	662	
							0.66	754	0.83	653	
							0.55	663	0.76	616	
							0.49	724	0.65	704	
							0.33	631	0.49	680	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
KM069M		166	1	2	8	528.93	66.12	2.11	-1.8	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									**REFERENCE**
							0.92	534	0.96	749	
							0.88	598	0.93	637	
							0.85	646	0.92	625	
							0.78	582	0.90	654	
							0.74	701	0.85	638	
							0.60	605	0.79	603	
							0.51	671	0.69	681	
							0.36	610	0.49	674	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

Reference Group = White, Focal Group = African American

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
GM067M		164	1	2	8	133.37	16.67	2.01	-1.6	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									**REFERENCE**
							1.00	22	0.95	1226	
							0.76	29	0.90	1284	
							0.78	55	0.86	1285	
							0.67	87	0.81	1217	
							0.66	136	0.75	1199	
							0.52	162	0.68	1018	
							0.41	286	0.61	1027	
							0.31	383	0.47	782	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

Reference Group = White, Focal Group = Hispanic

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
CM068M		165	1	3	8	55.15	6.89	2.39	-2.1	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									**REFERENCE**
							1.00	6	0.98	1222	
							0.95	22	0.97	1249	
							1.00	9	0.96	1198	
							0.89	35	0.94	1192	
							0.72	39	0.92	1137	
							0.88	64	0.89	1023	
							0.70	76	0.84	936	
							0.41	103	0.62	684	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

**Appendix U(b): Grade Eleven Mathematics
Between Group DIF Analysis -- Constructed Response Items**

Grade Eleven Mathematics -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	91	White	Black	8	5	0.130	0.037	3.5	BB+
		White	Hispanic	8	5	0.058	0.064	0.9	AA+
		Male	Female	8	5	0.316	0.025	12.8	CC+
B	91	White	Black	8	5	-0.111	0.028	-3.9	BB-
		White	Hispanic	8	5	-0.075	0.052	-1.4	AA-
		Male	Female	8	5	0.007	0.021	0.3	AA+
C	91	White	Black	8	5	-0.050	0.026	-1.9	AA-
		White	Hispanic	8	5	-0.114	0.046	-2.5	BB-
		Male	Female	8	5	0.100	0.021	4.8	BB+
D	91	White	Black	8	5	0.116	0.021	5.6	CC+
		White	Hispanic	8	5	0.030	0.038	0.8	AA+
		Male	Female	8	5	0.250	0.020	12.8	CC+
E	91	White	Black	8	5	-0.040	0.019	-2.1	BB-
		White	Hispanic	8	5	0.003	0.035	0.1	AA+
		Male	Female	8	5	0.072	0.016	4.4	BB+
F	91	White	Black	8	5	0.014	0.025	0.5	AA+
		White	Hispanic	8	5	-0.046	0.046	-1	AA-
		Male	Female	8	5	0.139	0.021	6.7	CC+
G	91	White	Black	8	5	0.062	0.019	3.2	BB+
		White	Hispanic	8	5	-0.005	0.034	-0.1	AA-
		Male	Female	8	5	0.092	0.017	5.3	CC+
H	91	White	Black	8	5	-0.014	0.019	-0.7	AA-
		White	Hispanic	8	5	-0.002	0.036	-0.1	AA-
		Male	Female	8	5	0.001	0.014	0.1	AA+
I	91	White	Black	8	5	-0.048	0.028	-1.7	AA-
		White	Hispanic	8	5	-0.032	0.046	-0.7	AA-
		Male	Female	8	5	0.080	0.022	3.6	BB+
J	91	White	Black	8	5	0.025	0.015	1.7	AA+
		White	Hispanic	8	5	-0.008	0.026	-0.3	AA-
		Male	Female	8	5	0.014	0.015	0.9	AA+
K	91	White	Black	8	5	-0.044	0.022	-2	AA-
		White	Hispanic	8	5	-0.097	0.041	-2.3	BB-
		Male	Female	8	5	0.110	0.019	5.9	CC+
L	91	White	Black	8	5	-0.091	0.033	-2.7	BB-
		White	Hispanic	8	5	-0.110	0.059	-1.9	AA-
		Male	Female	8	5	0.257	0.024	10.8	CC+

Appendix U(b): Grade Eleven Mathematics

Between Group DIF Analysis – Constructed Response Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
AM091P 198 1	2	8	5	0.316	0.025	12.8	C+
****FOCAL**** **REFERENCE**							
0	1	2	3	4	5	3.81	556 3.52 729
						3.35	573 2.99 632
						3.06	593 2.70 612
						2.77	660 2.26 630
						2.22	701 1.90 604
						1.64	715 1.41 580
						1.08	612 0.73 603
						0.36	585 0.26 666
0	1	2	3	4	5	Right Total	Right Total

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
DM091P 198 1	2	8	5	0.250	0.020	12.8	C+
****FOCAL**** **REFERENCE**							
0	1	2	3	4	5	3.74	600 3.36 697
						2.18	629 1.84 723
						1.37	666 0.95 636
						0.89	674 0.50 602
						0.51	660 0.33 636
						0.38	741 0.23 699
						0.25	696 0.15 645
						0.09	592 0.04 640
0	1	2	3	4	5	Right Total	Right Total

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
FM091P 198 1	2	8	5	0.139	0.021	6.7	C+
****FOCAL**** **REFERENCE**							
0	1	2	3	4	5	4.00	566 3.93 784
						3.32	642 3.05 795
						2.51	652 2.26 622
						1.79	701 1.43 718
						0.90	761 0.86 656
						0.43	710 0.34 647
						0.17	615 0.17 614
						0.06	665 0.04 651
0	1	2	3	4	5	Right Total	Right Total

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
GM091P 198 1	2	8	5	0.092	0.017	5.3	C+
****FOCAL**** **REFERENCE**							
0	1	2	3	4	5	3.06	577 2.94 773
						2.15	671 2.05 707
						1.48	651 1.31 742
						1.06	691 0.86 660
						0.56	753 0.48 653
						0.25	661 0.21 614
						0.10	724 0.07 704
						0.01	596 0.02 645
0	1	2	3	4	5	Right Total	Right Total

Appendix U(b): Grade Eleven Mathematics Between Group DIF Analysis – Constructed Response Items

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
KM091P 198 1	2	8	5	0.110	0.019	5.9	C+
				FOCAL		**REFERENCE**	
0	1	2	3	4	5		
						3.54	534
						2.51	598
						1.94	646
						1.55	582
						1.20	701
						0.89	605
						0.56	670
						0.17	574
0	1	2	3	4	5	Right Total	Right Total

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
LM091P 198 1	2	8	5	0.257	0.024	10.8	C+
				FOCAL		**REFERENCE**	
0	1	2	3	4	5		
						4.32	534
						3.90	575
						3.50	595
						2.79	666
						2.06	624
						1.34	660
						0.60	639
						0.25	596
0	1	2	3	4	5	Right Total	Right Total

Reference Group = White, Focal Group = African American

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
DM091P 198 1	2	8	5	0.116	0.021	5.6	C+
				FOCAL		**REFERENCE**	
0	1	2	3	4	5		
						3.32	19
						2.79	42
						2.06	51
						0.88	73
						0.45	121
						0.38	168
						0.23	273
						0.07	375
0	1	2	3	4	5	Right Total	Right Total

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	100	White	Black	8	16.84	2.11	1.25	-0.5	A-
		White	Hispanic	8	1.09	0.14	1.06	-0.1	A-
		Male	Female	8	21.34	2.67	1.08	-0.2	A-
A	101	White	Black	8	47.23	5.9	1.44	-0.9	A-
		White	Hispanic	8	8.89	1.11	1.33	-0.7	A-
		Male	Female	8	45.95	5.74	0.9	0.2	A+
A	102	White	Black	8	25.14	3.14	1.22	-0.5	A-
		White	Hispanic	8	6.69	0.84	0.98	0	A+
		Male	Female	8	21.19	2.65	0.92	0.2	A+
A	103	White	Black	8	27.36	3.42	0.74	0.7	A+
		White	Hispanic	8	7.32	0.91	0.86	0.3	A+
		Male	Female	8	41.5	5.19	1.2	-0.4	A-
A	104	White	Black	8	12.3	1.54	1.09	-0.2	A-
		White	Hispanic	8	5.31	0.66	1.1	-0.2	A-
		Male	Female	8	20.1	2.51	1.12	-0.3	A-
A	105	White	Black	8	9.45	1.18	0.89	0.3	A+
		White	Hispanic	8	8.22	1.03	0.75	0.7	A+
		Male	Female	8	21.02	2.63	0.91	0.2	A+
A	106	White	Black	8	28.6	3.57	1.33	-0.7	A-
		White	Hispanic	8	13.52	1.69	0.98	0.1	A+
		Male	Female	8	26.54	3.32	1.15	-0.3	A-
A	107	White	Black	8	17.94	2.24	1.24	-0.5	A-
		White	Hispanic	8	7.92	0.99	1.11	-0.3	A-
		Male	Female	8	11.54	1.44	0.99	0	A+
A	108	White	Black	8	10.26	1.28	1.1	-0.2	A-
		White	Hispanic	8	10.37	1.3	0.86	0.3	A+
		Male	Female	8	205.2	25.65	1.58	-1.1	B-
A	109	White	Black	8	14.71	1.84	1.18	-0.4	A-
		White	Hispanic	8	28.06	3.51	2.05	-1.7	C-
		Male	Female	8	10.9	1.36	0.99	0	A+
A	110	White	Black	8	10.43	1.3	0.85	0.4	A+
		White	Hispanic	8	7.38	0.92	1.06	-0.1	A-
		Male	Female	8	36.77	4.6	0.87	0.3	A+
A	111	White	Black	8	9.88	1.23	0.91	0.2	A+
		White	Hispanic	8	8.4	1.05	1.1	-0.2	A-
		Male	Female	8	39.91	4.99	0.92	0.2	A+
A	112	White	Black	8	9.68	1.21	0.88	0.3	A+
		White	Hispanic	8	1.52	0.19	0.91	0.2	A+
		Male	Female	8	19.73	2.47	0.83	0.4	A+
A	113	White	Black	8	5.8	0.73	1.02	-0.1	A-
		White	Hispanic	8	7.74	0.97	1.2	-0.4	A-
		Male	Female	8	23.6	2.95	0.89	0.3	A+
A	114	White	Black	8	3.63	0.45	0.93	0.2	A+
		White	Hispanic	8	5.98	0.75	0.97	0.1	A+
		Male	Female	8	58.55	7.32	0.94	0.1	A+
A	115	White	Black	8	64.02	8	1.55	-1	B-
		White	Hispanic	8	6.64	0.83	1.04	-0.1	A-
		Male	Female	8	81.85	10.23	1.29	-0.6	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	116	White	Black	8	17.66	2.21	0.85	0.4	A+
		White	Hispanic	8	12.54	1.57	0.92	0.2	A+
		Male	Female	8	60.27	7.53	0.79	0.6	A+
A	117	White	Black	8	96.2	12.02	1.86	-1.5	B-
		White	Hispanic	8	7.7	0.96	1.07	-0.2	A-
		Male	Female	8	900.6	112.58	2.3	-2	C-
A	118	White	Black	8	97.45	12.18	1.77	-1.3	B-
		White	Hispanic	8	18.97	2.37	1.56	-1	B-
		Male	Female	8	314.01	39.25	1.77	-1.3	B-
A	119	White	Black	8	5.4	0.67	0.99	0	A+
		White	Hispanic	8	4.33	0.54	0.84	0.4	A+
		Male	Female	8	5.9	0.74	0.97	0.1	A+
A	120	White	Black	8	16.15	2.02	0.93	0.2	A+
		White	Hispanic	8	5.72	0.72	1.04	-0.1	A-
		Male	Female	8	39.22	4.9	0.83	0.4	A+
A	121	White	Black	8	21.02	2.63	0.74	0.7	A+
		White	Hispanic	8	16.14	2.02	0.72	0.8	A+
		Male	Female	8	18.02	2.25	0.96	0.1	A+
A	122	White	Black	8	9.05	1.13	1.15	-0.3	A-
		White	Hispanic	8	13.17	1.65	1.16	-0.4	A-
		Male	Female	8	9.27	1.16	0.99	0	A+
A	123	White	Black	8	17.03	2.13	1.21	-0.5	A-
		White	Hispanic	8	7.3	0.91	0.97	0.1	A+
		Male	Female	8	31.1	3.89	0.91	0.2	A+
A	124	White	Black	8	17.77	2.22	0.95	0.1	A+
		White	Hispanic	8	8.61	1.08	1.18	-0.4	A-
		Male	Female	8	9.17	1.15	0.97	0.1	A+
A	125	White	Black	8	21.09	2.64	1.24	-0.5	A-
		White	Hispanic	8	7.36	0.92	1.09	-0.2	A-
		Male	Female	8	86.85	10.86	1.28	-0.6	A-
A	126	White	Black	8	7.43	0.93	1.05	-0.1	A-
		White	Hispanic	8	5.33	0.67	0.85	0.4	A+
		Male	Female	8	36.43	4.55	0.91	0.2	A+
A	127	White	Black	8	25.02	3.13	0.75	0.7	A+
		White	Hispanic	8	16.83	2.1	0.64	1	B+
		Male	Female	8	27.43	3.43	0.92	0.2	A+
A	128	White	Black	8	4.77	0.6	1.02	0	A-
		White	Hispanic	8	18.59	2.32	1.14	-0.3	A-
		Male	Female	8	86.52	10.81	1.22	-0.5	A-
A	129	White	Black	8	4.86	0.61	0.97	0.1	A+
		White	Hispanic	8	5.78	0.72	0.97	0.1	A+
		Male	Female	8	117.1	14.64	0.7	0.8	A+
A	130	White	Black	8	38.48	4.81	0.67	1	A+
		White	Hispanic	8	16.28	2.03	0.76	0.7	A+
		Male	Female	8	53.05	6.63	0.79	0.5	A+
A	131	White	Black	8	5.42	0.68	0.95	0.1	A+
		White	Hispanic	8	20.19	2.52	0.67	1	A+
		Male	Female	8	36.09	4.51	0.87	0.3	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
A	132	White	Black	8	19.22	2.4	0.75	0.7	A+
		White	Hispanic	8	7.79	0.97	0.71	0.8	A+
		Male	Female	8	18.37	2.3	1.07	-0.2	A-
A	133	White	Black	8	29.1	3.64	0.79	0.5	A+
		White	Hispanic	8	12.79	1.6	0.61	1.2	B+
		Male	Female	8	42.32	5.29	0.76	0.6	A+
A	134	White	Black	8	8.86	1.11	0.91	0.2	A+
		White	Hispanic	8	4.27	0.53	0.88	0.3	A+
		Male	Female	8	15	1.88	0.94	0.2	A+
A	135	White	Black	8	21.72	2.71	1.2	-0.4	A-
		White	Hispanic	8	8.1	1.01	1.09	-0.2	A-
		Male	Female	8	74	9.25	1.3	-0.6	A-
A	136	White	Black	8	26.52	3.32	0.77	0.6	A+
		White	Hispanic	8	14.93	1.87	0.78	0.6	A+
		Male	Female	8	40.19	5.02	0.97	0.1	A+
A	137	White	Black	8	22.09	2.76	0.77	0.6	A+
		White	Hispanic	8	18.19	2.27	0.72	0.8	A+
		Male	Female	8	52.29	6.54	0.71	0.8	A+
A	138	White	Black	8	25.78	3.22	0.78	0.6	A+
		White	Hispanic	8	15.39	1.92	0.84	0.4	A+
		Male	Female	8	30.43	3.8	0.89	0.3	A+
A	139	White	Black	8	4.88	0.61	0.96	0.1	A+
		White	Hispanic	8	6.26	0.78	1	0	A
		Male	Female	8	16.6	2.07	1.03	-0.1	A-
B	100	White	Black	8	23.44	2.93	1.3	-0.6	A-
		White	Hispanic	8	6.29	0.79	1.07	-0.2	A-
		Male	Female	8	16.91	2.11	1.06	-0.1	A-
B	101	White	Black	8	67.6	8.45	1.64	-1.2	B-
		White	Hispanic	8	29.54	3.69	1.72	-1.3	B-
		Male	Female	8	25.34	3.17	1.03	-0.1	A-
B	102	White	Black	8	8.41	1.05	1.09	-0.2	A-
		White	Hispanic	8	9.1	1.14	1	0	A
		Male	Female	8	42.05	5.26	1	0	A+
B	103	White	Black	8	23.72	2.97	0.76	0.6	A+
		White	Hispanic	8	7.83	0.98	0.96	0.1	A+
		Male	Female	8	132.89	16.61	1.41	-0.8	A-
B	104	White	Black	8	11.43	1.43	1.01	0	A-
		White	Hispanic	8	8.16	1.02	0.96	0.1	A+
		Male	Female	8	32.34	4.04	1.24	-0.5	A-
B	105	White	Black	8	11.79	1.47	0.88	0.3	A+
		White	Hispanic	8	10.5	1.31	1.11	-0.2	A-
		Male	Female	8	41.39	5.17	0.97	0.1	A+
B	106	White	Black	8	62.95	7.87	1.43	-0.8	A-
		White	Hispanic	8	6.45	0.81	1.27	-0.6	A-
		Male	Female	8	36.04	4.51	1.15	-0.3	A-
B	107	White	Black	8	13.84	1.73	1.27	-0.6	A-
		White	Hispanic	8	13.06	1.63	1.39	-0.8	A-
		Male	Female	8	23.01	2.88	1.02	-0.1	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	108	White	Black	8	7.74	0.97	1.07	-0.2	A-
		White	Hispanic	8	4.04	0.5	0.93	0.2	A+
		Male	Female	8	107.86	13.48	1.36	-0.7	A-
B	109	White	Black	8	16.97	2.12	1.22	-0.5	A-
		White	Hispanic	8	11.54	1.44	1.35	-0.7	A-
		Male	Female	8	17.6	2.2	1.03	-0.1	A-
B	110	White	Black	8	6.47	0.81	0.92	0.2	A+
		White	Hispanic	8	7.23	0.9	1.08	-0.2	A-
		Male	Female	8	114.41	14.3	0.78	0.6	A+
B	111	White	Black	8	7.82	0.98	0.94	0.2	A+
		White	Hispanic	8	10.92	1.36	0.74	0.7	A+
		Male	Female	8	11.91	1.49	0.97	0.1	A+
B	112	White	Black	8	18.78	2.35	0.83	0.4	A+
		White	Hispanic	8	3.17	0.4	0.94	0.1	A+
		Male	Female	8	22.66	2.83	0.94	0.1	A+
B	113	White	Black	8	9.65	1.21	0.86	0.4	A+
		White	Hispanic	8	15.25	1.91	1.27	-0.6	A-
		Male	Female	8	26.62	3.33	0.87	0.3	A+
B	114	White	Black	8	7.62	0.95	0.89	0.3	A+
		White	Hispanic	8	3.98	0.5	0.81	0.5	A+
		Male	Female	8	36.73	4.59	1.06	-0.1	A-
B	115	White	Black	8	30.22	3.78	1.32	-0.7	A-
		White	Hispanic	8	12.74	1.59	1.25	-0.5	A-
		Male	Female	8	48.13	6.02	1.25	-0.5	A-
B	116	White	Black	8	25.49	3.19	0.77	0.6	A+
		White	Hispanic	8	9.06	1.13	0.73	0.7	A+
		Male	Female	8	92.69	11.59	0.74	0.7	A+
B	117	White	Black	8	72.61	9.08	1.69	-1.2	B-
		White	Hispanic	8	12.88	1.61	0.96	0.1	A+
		Male	Female	8	1184.46	148.06	2.5	-2.2	C-
B	118	White	Black	8	80.03	10	1.72	-1.3	B-
		White	Hispanic	8	30.81	3.85	2.03	-1.7	C-
		Male	Female	8	504.61	63.08	2.03	-1.7	C-
B	119	White	Black	8	20.57	2.57	1.01	0	A-
		White	Hispanic	8	30.03	3.75	1	0	A
		Male	Female	8	17.82	2.23	0.99	0	A+
B	120	White	Black	8	9.87	1.23	0.86	0.4	A+
		White	Hispanic	8	11.32	1.41	1.07	-0.1	A-
		Male	Female	8	43.5	5.44	0.86	0.3	A+
B	121	White	Black	8	27.71	3.46	0.75	0.7	A+
		White	Hispanic	8	7.54	0.94	0.81	0.5	A+
		Male	Female	8	75.31	9.41	0.77	0.6	A+
B	122	White	Black	8	18.81	2.35	0.88	0.3	A+
		White	Hispanic	8	11.14	1.39	0.97	0.1	A+
		Male	Female	8	24.46	3.06	1	0	A-
B	123	White	Black	8	6.92	0.86	0.89	0.3	A+
		White	Hispanic	8	6.37	0.8	0.83	0.4	A+
		Male	Female	8	98.71	12.34	1.31	-0.6	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
B	124	White	Black	8	13.04	1.63	1.21	-0.4	A-
		White	Hispanic	8	12.65	1.58	1.35	-0.7	A-
		Male	Female	8	25.11	3.14	0.9	0.2	A+
B	125	White	Black	8	17.78	2.22	0.83	0.4	A+
		White	Hispanic	8	8.31	1.04	0.79	0.5	A+
		Male	Female	8	79.65	9.96	0.74	0.7	A+
B	126	White	Black	8	11.85	1.48	0.83	0.4	A+
		White	Hispanic	8	14.96	1.87	0.91	0.2	A+
		Male	Female	8	61.65	7.71	0.74	0.7	A+
B	127	White	Black	8	23.69	2.96	0.76	0.7	A+
		White	Hispanic	8	7.35	0.92	0.87	0.3	A+
		Male	Female	8	377.25	47.16	1.66	-1.2	B-
B	128	White	Black	8	18.13	2.27	0.9	0.2	A+
		White	Hispanic	8	21.65	2.71	0.73	0.7	A+
		Male	Female	8	71.92	8.99	0.8	0.5	A+
B	129	White	Black	8	44.2	5.52	0.64	1	B+
		White	Hispanic	8	9	1.13	0.71	0.8	A+
		Male	Female	8	16.47	2.06	0.9	0.3	A+
B	130	White	Black						
		White	Hispanic						
		Male	Female						
B	131	White	Black	8	17.02	2.13	0.98	0.1	A+
		White	Hispanic	8	4.07	0.51	0.89	0.3	A+
		Male	Female	8	62.24	7.78	0.88	0.3	A+
B	132	White	Black	8	40.19	5.02	1.55	-1	B-
		White	Hispanic	8	10.84	1.36	1.41	-0.8	A-
		Male	Female	8	46.18	5.77	1.3	-0.6	A-
B	133	White	Black	8	52.29	6.54	1.52	-1	A-
		White	Hispanic	8	9.55	1.19	1.17	-0.4	A-
		Male	Female	8	305.17	38.15	1.65	-1.2	B-
B	134	White	Black	8	8.25	1.03	1.02	0	A-
		White	Hispanic	8	10.61	1.33	0.96	0.1	A+
		Male	Female	8	33.96	4.24	0.95	0.1	A+
B	135	White	Black	8	11.17	1.4	0.84	0.4	A+
		White	Hispanic	8	7.81	0.98	0.81	0.5	A+
		Male	Female	8	70.21	8.78	1.14	-0.3	A-
B	136	White	Black	8	43.83	5.48	0.67	0.9	A+
		White	Hispanic	8	8.19	1.02	0.86	0.4	A+
		Male	Female	8	55.47	6.93	0.82	0.5	A+
B	137	White	Black	8	31.15	3.89	1.2	-0.4	A-
		White	Hispanic	8	2.49	0.31	0.89	0.3	A+
		Male	Female	8	16.4	2.05	1.02	0	A-
B	138	White	Black	8	10.07	1.26	1.08	-0.2	A-
		White	Hispanic	8	10.19	1.27	1	0	A
		Male	Female	8	31.11	3.89	0.96	0.1	A+
B	139	White	Black	8	16.99	2.12	1.1	-0.2	A-
		White	Hispanic	8	10	1.25	1.34	-0.7	A-
		Male	Female	8	30.33	3.79	0.8	0.5	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	100	White	Black	8	10.28	1.28	0.97	0.1	A+
		White	Hispanic	8	9.63	1.2	1.19	-0.4	A-
		Male	Female	8	149.3	18.66	1.43	-0.8	A-
C	101	White	Black	8	7.97	1	0.87	0.3	A+
		White	Hispanic	8	3.89	0.49	1.07	-0.2	A-
		Male	Female	8	22.02	2.75	1.07	-0.2	A-
C	102	White	Black	8	6.3	0.79	0.97	0.1	A+
		White	Hispanic	8	7.34	0.92	1.12	-0.3	A-
		Male	Female	8	11.6	1.45	1.02	0	A-
C	103	White	Black	8	7.92	0.99	1.17	-0.4	A-
		White	Hispanic	8	26.25	3.28	1.42	-0.8	A-
		Male	Female	8	13.64	1.71	0.86	0.4	A+
C	104	White	Black	8	28.75	3.59	1.04	-0.1	A-
		White	Hispanic	8	6.18	0.77	1.25	-0.5	A-
		Male	Female	8	45.87	5.73	1.18	-0.4	A-
C	105	White	Black	8	29.78	3.72	1.09	-0.2	A-
		White	Hispanic	8	6.47	0.81	1.14	-0.3	A-
		Male	Female	8	73.24	9.16	1.23	-0.5	A-
C	106	White	Black	8	13.37	1.67	1.09	-0.2	A-
		White	Hispanic	8	7.25	0.91	0.92	0.2	A+
		Male	Female	8	79.84	9.98	0.77	0.6	A+
C	107	White	Black	8	6.18	0.77	1	0	A
		White	Hispanic	8	12.23	1.53	1.06	-0.1	A-
		Male	Female	8	29.02	3.63	1.08	-0.2	A-
C	108	White	Black	8	17.3	2.16	0.84	0.4	A+
		White	Hispanic	8	19.21	2.4	0.72	0.8	A+
		Male	Female	8	276.85	34.61	0.64	1	B+
C	109	White	Black	8	29.67	3.71	1.23	-0.5	A-
		White	Hispanic	8	16.3	2.04	1.35	-0.7	A-
		Male	Female	8	169.07	21.13	1.47	-0.9	A-
C	110	White	Black	8	13.6	1.7	1.16	-0.4	A-
		White	Hispanic	8	11.14	1.39	1.16	-0.4	A-
		Male	Female	8	40.41	5.05	0.85	0.4	A+
C	111	White	Black	8	15.81	1.98	1.22	-0.5	A-
		White	Hispanic	8	13.49	1.69	1.28	-0.6	A-
		Male	Female	8	36.42	4.55	0.82	0.5	A+
C	112	White	Black	8	25.27	3.16	1.15	-0.3	A-
		White	Hispanic	8	16.12	2.02	1.22	-0.5	A-
		Male	Female	8	185.21	23.15	1.48	-0.9	A-
C	113	White	Black	8	26.05	3.26	1.24	-0.5	A-
		White	Hispanic	8	4.71	0.59	1.11	-0.3	A-
		Male	Female	8	22.86	2.86	0.91	0.2	A+
C	114	White	Black	8	33.98	4.25	1.42	-0.8	A-
		White	Hispanic	8	23.72	2.97	1.68	-1.2	B-
		Male	Female	8	524.32	65.54	1.91	-1.5	C-
C	115	White	Black						
		White	Hispanic						
		Male	Female						

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	116	White	Black	8	8.09	1.01	1.17	-0.4	A-
		White	Hispanic	8	17.41	2.18	0.72	0.8	A+
		Male	Female	8	31.92	3.99	1.14	-0.3	A-
C	117	White	Black	8	6.39	0.8	1.12	-0.3	A-
		White	Hispanic	8	9.16	1.14	1.18	-0.4	A-
		Male	Female	8	56.17	7.02	1.25	-0.5	A-
C	118	White	Black	8	7.85	0.98	1.03	-0.1	A-
		White	Hispanic	8	4.4	0.55	0.97	0.1	A+
		Male	Female	8	32.16	4.02	0.76	0.7	A+
C	119	White	Black	8	7.71	0.96	1.02	0	A-
		White	Hispanic	8	11.44	1.43	1.35	-0.7	A-
		Male	Female	8	139.83	17.48	1.35	-0.7	A-
C	120	White	Black	8	10.45	1.31	1.15	-0.3	A-
		White	Hispanic	8	4.17	0.52	1.13	-0.3	A-
		Male	Female	8	8.21	1.03	1.01	0	A-
C	121	White	Black	8	49.45	6.18	1.53	-1	A-
		White	Hispanic	8	45.1	5.64	1.98	-1.6	C-
		Male	Female	8	22.37	2.8	1	0	A-
C	122	White	Black	8	30.08	3.76	1.34	-0.7	A-
		White	Hispanic	8	11.49	1.44	0.91	0.2	A+
		Male	Female	8	21.03	2.63	0.86	0.3	A+
C	123	White	Black	8	6.45	0.81	0.89	0.3	A+
		White	Hispanic	8	6.73	0.84	1.05	-0.1	A-
		Male	Female	8	21.27	2.66	1.1	-0.2	A-
C	124	White	Black	8	7.59	0.95	0.98	0	A+
		White	Hispanic	8	14.41	1.8	0.96	0.1	A+
		Male	Female	8	20.95	2.62	1.09	-0.2	A-
C	125	White	Black	8	25.99	3.25	0.91	0.2	A+
		White	Hispanic	8	18.67	2.33	0.9	0.2	A+
		Male	Female	8	26.53	3.32	0.98	0	A+
C	126	White	Black	8	35.11	4.39	1.3	-0.6	A-
		White	Hispanic	8	17.71	2.21	1.07	-0.2	A-
		Male	Female	8	21.83	2.73	0.9	0.2	A+
C	127	White	Black	8	13.04	1.63	1.17	-0.4	A-
		White	Hispanic	8	9.02	1.13	1.2	-0.4	A-
		Male	Female	8	11.83	1.48	0.88	0.3	A+
C	128	White	Black	8	8.19	1.02	1.02	-0.1	A-
		White	Hispanic	8	5.67	0.71	1.07	-0.2	A-
		Male	Female	8	140.61	17.58	1.42	-0.8	A-
C	129	White	Black	8	21.53	2.69	1.23	-0.5	A-
		White	Hispanic	8	12.08	1.51	1.46	-0.9	A-
		Male	Female	8	23.58	2.95	0.9	0.2	A+
C	130	White	Black	8	8.79	1.1	0.89	0.3	A+
		White	Hispanic	8	5.26	0.66	1.13	-0.3	A-
		Male	Female	8	77.89	9.74	0.8	0.5	A+
C	131	White	Black	8	13.67	1.71	1.13	-0.3	A-
		White	Hispanic	8	4.03	0.5	0.91	0.2	A+
		Male	Female	8	38.92	4.86	1.04	-0.1	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
C	132	White	Black	8	15.91	1.99	1.27	-0.6	A-
		White	Hispanic	8	11.69	1.46	1.54	-1	B-
		Male	Female	8	31.61	3.95	0.85	0.4	A+
C	133	White	Black	8	6.46	0.81	1.1	-0.2	A-
		White	Hispanic	8	11.39	1.42	1.49	-0.9	A-
		Male	Female	8	25.63	3.2	0.84	0.4	A+
C	134	White	Black	8	11.45	1.43	0.81	0.5	A+
		White	Hispanic	8	14.67	1.83	1.33	-0.7	A-
		Male	Female	8	18.63	2.33	0.84	0.4	A+
C	135	White	Black	8	55.71	6.96	1.53	-1	B-
		White	Hispanic	8	19.09	2.39	1.35	-0.7	A-
		Male	Female	8	54.22	6.78	1.18	-0.4	A-
C	136	White	Black	8	11.5	1.44	0.92	0.2	A+
		White	Hispanic	8	4.39	0.55	0.91	0.2	A+
		Male	Female	8	140.64	17.58	0.69	0.9	A+
C	137	White	Black	8	94.36	11.8	1.82	-1.4	B-
		White	Hispanic	8	19.12	2.39	1.38	-0.7	A-
		Male	Female	8	1027.53	128.44	2.34	-2	C-
C	138	White	Black	8	82.45	10.31	1.77	-1.3	B-
		White	Hispanic	8	39.91	4.99	1.84	-1.4	B-
		Male	Female	8	451.62	56.45	1.9	-1.5	C-
C	139	White	Black	8	6.64	0.83	0.94	0.2	A+
		White	Hispanic	8	5.4	0.67	1.15	-0.3	A-
		Male	Female	8	11.26	1.41	0.94	0.2	A+
D	100	White	Black	8	10.95	1.37	0.96	0.1	A+
		White	Hispanic	8	13.52	1.69	0.64	1	B+
		Male	Female	8	19.66	2.46	0.96	0.1	A+
D	101	White	Black	8	6.68	0.83	1.09	-0.2	A-
		White	Hispanic	8	12.49	1.56	1.16	-0.3	A-
		Male	Female	8	114.54	14.32	1.37	-0.7	A-
D	102	White	Black	8	6.72	0.84	1.02	0	A-
		White	Hispanic	8	10.04	1.25	0.94	0.1	A+
		Male	Female	8	48.73	6.09	1.22	-0.5	A-
D	103	White	Black	8	6.56	0.82	0.87	0.3	A+
		White	Hispanic	8	4.64	0.58	1.02	0	A-
		Male	Female	8	26.18	3.27	0.88	0.3	A+
D	104	White	Black	8	6.73	0.84	1.09	-0.2	A-
		White	Hispanic	8	12.65	1.58	0.98	0.1	A+
		Male	Female	8	106.94	13.37	1.42	-0.8	A-
D	105	White	Black	8	18.2	2.28	1.26	-0.5	A-
		White	Hispanic	8	7.33	0.92	0.91	0.2	A+
		Male	Female	8	135.55	16.94	1.4	-0.8	A-
D	106	White	Black	8	22.87	2.86	1.29	-0.6	A-
		White	Hispanic	8	12.67	1.58	1	0	A
		Male	Female	8	12.27	1.53	1.01	0	A-
D	107	White	Black	8	11.3	1.41	1.05	-0.1	A-
		White	Hispanic	8	15.38	1.92	1.17	-0.4	A-
		Male	Female	8	35.15	4.39	1.06	-0.1	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	108	White	Black	8	51.04	6.38	1.4	-0.8	A-
		White	Hispanic	8	14.08	1.76	1.45	-0.9	A-
		Male	Female	8	525.23	65.65	1.93	-1.5	C-
D	109	White	Black	8	29.98	3.75	1.3	-0.6	A-
		White	Hispanic	8	8.12	1.01	1.3	-0.6	A-
		Male	Female	8	57.38	7.17	1.32	-0.6	A-
D	110	White	Black	8	12.73	1.59	1.26	-0.5	A-
		White	Hispanic	8	8.69	1.09	1.3	-0.6	A-
		Male	Female	8	51.83	6.48	1.3	-0.6	A-
D	111	White	Black	8	5.86	0.73	1.02	0	A-
		White	Hispanic	8	9.29	1.16	0.99	0	A+
		Male	Female	8	52.15	6.52	1.1	-0.2	A-
D	112	White	Black	8	8.35	1.04	0.82	0.5	A+
		White	Hispanic	8	3.04	0.38	0.82	0.5	A+
		Male	Female	8	10.37	1.3	0.97	0.1	A+
D	113	White	Black	8	11.88	1.48	0.88	0.3	A+
		White	Hispanic	8	4.54	0.57	0.97	0.1	A+
		Male	Female	8	37.53	4.69	1.08	-0.2	A-
D	114	White	Black	8	7.32	0.92	1.13	-0.3	A-
		White	Hispanic	8	12.16	1.52	1.23	-0.5	A-
		Male	Female	8	17.23	2.15	1.07	-0.1	A-
D	115	White	Black	8	11.52	1.44	1.06	-0.1	A-
		White	Hispanic	8	17.44	2.18	1.37	-0.7	A-
		Male	Female	8	33.19	4.15	1.03	-0.1	A-
D	116	White	Black	8	11.68	1.46	1.18	-0.4	A-
		White	Hispanic	8	15.96	2	0.88	0.3	A+
		Male	Female	8	35.54	4.44	1.14	-0.3	A-
D	117	White	Black	8	21.67	2.71	1.16	-0.4	A-
		White	Hispanic	8	35.01	4.38	1	0	A
		Male	Female	8	42.57	5.32	0.92	0.2	A+
D	118	White	Black	8	65.34	8.17	1.62	-1.1	B-
		White	Hispanic	8	14.7	1.84	1.19	-0.4	A-
		Male	Female	8	30.39	3.8	1.02	0	A-
D	119	White	Black	8	1.99	0.25	0.93	0.2	A+
		White	Hispanic	8	9.04	1.13	1.03	-0.1	A-
		Male	Female	8	16.38	2.05	0.94	0.2	A+
D	120	White	Black	8	9.13	1.14	1.03	-0.1	A-
		White	Hispanic	8	5.32	0.66	1.09	-0.2	A-
		Male	Female	8	14.32	1.79	1.07	-0.2	A-
D	121	White	Black	8	51.93	6.49	1.47	-0.9	A-
		White	Hispanic	8	38.31	4.79	2.09	-1.7	C-
		Male	Female	8	13.32	1.66	1.02	-0.1	A-
D	122	White	Black	8	40.8	5.1	1.55	-1	B-
		White	Hispanic	8	5.13	0.64	1.06	-0.1	A-
		Male	Female	8	20.14	2.52	0.88	0.3	A+
D	123	White	Black	8	13.49	1.69	0.82	0.5	A+
		White	Hispanic	8	6.83	0.85	1.04	-0.1	A-
		Male	Female	8	53.27	6.66	1.21	-0.5	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
D	124	White	Black	8	11.71	1.46	0.91	0.2	A+
		White	Hispanic	8	9.11	1.14	1.23	-0.5	A-
		Male	Female	8	14.55	1.82	1.14	-0.3	A-
D	125	White	Black	8	12.64	1.58	1.1	-0.2	A-
		White	Hispanic	8	3.82	0.48	0.92	0.2	A+
		Male	Female	8	20.8	2.6	0.93	0.2	A+
D	126	White	Black	8	32.01	4	1.4	-0.8	A-
		White	Hispanic	8	14.67	1.83	1.48	-0.9	A-
		Male	Female	8	32.37	4.05	1.02	0	A-
D	127	White	Black	8	7.36	0.92	1.17	-0.4	A-
		White	Hispanic	8	8.83	1.1	1.29	-0.6	A-
		Male	Female	8	4.92	0.62	1.04	-0.1	A-
D	128	White	Black	8	9.79	1.22	0.94	0.1	A+
		White	Hispanic	8	19.23	2.4	0.71	0.8	A+
		Male	Female	8	112.67	14.08	1.36	-0.7	A-
D	129	White	Black	8	8.75	1.09	1.19	-0.4	A-
		White	Hispanic	8	10.19	1.27	1.3	-0.6	A-
		Male	Female	8	14.75	1.84	1	0	A-
D	130	White	Black	8	6.1	0.76	0.94	0.1	A+
		White	Hispanic	8	6.93	0.87	1.03	-0.1	A-
		Male	Female	8	89.92	11.24	0.75	0.7	A+
D	131	White	Black	8	9.45	1.18	1.06	-0.1	A-
		White	Hispanic	8	7.73	0.97	0.88	0.3	A+
		Male	Female	8	34.49	4.31	0.88	0.3	A+
D	132	White	Black	8	10.72	1.34	0.92	0.2	A+
		White	Hispanic	8	2.94	0.37	1.16	-0.4	A-
		Male	Female	8	27.03	3.38	0.78	0.6	A+
D	133	White	Black	8	15.36	1.92	1.01	0	A-
		White	Hispanic	8	3.4	0.42	0.98	0	A+
		Male	Female	8	30.34	3.79	0.83	0.4	A+
D	134	White	Black	8	41.12	5.14	0.78	0.6	A+
		White	Hispanic	8	3.64	0.46	0.78	0.6	A+
		Male	Female	8	30.39	3.8	0.81	0.5	A+
D	135	White	Black	8	34.5	4.31	1.37	-0.7	A-
		White	Hispanic	8	10.79	1.35	1.29	-0.6	A-
		Male	Female	8	46.57	5.82	1.06	-0.1	A-
D	136	White	Black	8	19.64	2.46	0.87	0.3	A+
		White	Hispanic	8	15.63	1.95	0.71	0.8	A+
		Male	Female	8	57.6	7.2	0.81	0.5	A+
D	137	White	Black	8	36.79	4.6	1.4	-0.8	A-
		White	Hispanic	8	10.77	1.35	1.27	-0.6	A-
		Male	Female	8	871.77	108.97	2.18	-1.8	C-
D	138	White	Black	8	108.59	13.57	1.98	-1.6	C-
		White	Hispanic	8	33.83	4.23	1.74	-1.3	B-
		Male	Female	8	302.59	37.82	1.7	-1.2	B-
D	139	White	Black	8	5.91	0.74	1.04	-0.1	A-
		White	Hispanic	8	3.7	0.46	1.08	-0.2	A-
		Male	Female	8	19.01	2.38	0.94	0.2	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	100	White	Black	8	6.75	0.84	0.89	0.3	A+
		White	Hispanic	8	14.98	1.87	1.29	-0.6	A-
		Male	Female	8	28.99	3.62	0.88	0.3	A+
E	101	White	Black	8	16.74	2.09	0.76	0.6	A+
		White	Hispanic	8	9.92	1.24	0.71	0.8	A+
		Male	Female	8	36.02	4.5	0.98	0.1	A+
E	102	White	Black	8	17.79	2.22	1.28	-0.6	A-
		White	Hispanic	8	6.65	0.83	1.33	-0.7	A-
		Male	Female	8	18.51	2.31	1.08	-0.2	A-
E	103	White	Black	8	4.99	0.62	1.03	-0.1	A-
		White	Hispanic	8	4.91	0.61	1.04	-0.1	A-
		Male	Female	8	32.75	4.09	1.09	-0.2	A-
E	104	White	Black	8	14.11	1.76	0.82	0.5	A+
		White	Hispanic	8	5.29	0.66	1.13	-0.3	A-
		Male	Female	8	11.3	1.41	1	0	A+
E	105	White	Black	8	20.82	2.6	1.27	-0.6	A-
		White	Hispanic	8	1.9	0.24	0.98	0	A+
		Male	Female	8	149.65	18.71	1.36	-0.7	A-
E	106	White	Black	8	11.24	1.4	1.08	-0.2	A-
		White	Hispanic	8	3.42	0.43	0.89	0.3	A+
		Male	Female	8	22.58	2.82	0.97	0.1	A+
E	107	White	Black	8	26.95	3.37	0.76	0.6	A+
		White	Hispanic	8	11.63	1.45	0.79	0.5	A+
		Male	Female	8	27.91	3.49	0.92	0.2	A+
E	108	White	Black	8	15.26	1.91	1.09	-0.2	A-
		White	Hispanic	8	19.95	2.49	1.51	-1	A-
		Male	Female	8	42.84	5.36	1.16	-0.4	A-
E	109	White	Black	8	24.7	3.09	1.07	-0.2	A-
		White	Hispanic	8	4.44	0.56	1.01	0	A-
		Male	Female	8	121.09	15.14	0.74	0.7	A+
E	110	White	Black	8	54.92	6.86	0.59	1.2	B+
		White	Hispanic	8	4.11	0.51	0.82	0.5	A+
		Male	Female	8	95.63	11.95	0.76	0.6	A+
E	111	White	Black	8	12.84	1.61	1.09	-0.2	A-
		White	Hispanic	8	3.59	0.45	0.96	0.1	A+
		Male	Female	8	20.9	2.61	1.05	-0.1	A-
E	112	White	Black	8	8.73	1.09	0.97	0.1	A+
		White	Hispanic	8	10.04	1.26	0.71	0.8	A+
		Male	Female	8	26.63	3.33	1.09	-0.2	A-
E	113	White	Black	8	23.79	2.97	0.71	0.8	A+
		White	Hispanic	8	19.81	2.48	0.67	0.9	A+
		Male	Female	8	35.1	4.39	0.75	0.7	A+
E	114	White	Black	8	21.04	2.63	0.98	0.1	A+
		White	Hispanic	8	11.77	1.47	1.1	-0.2	A-
		Male	Female	8	11.05	1.38	1	0	A
E	115	White	Black	8	20.79	2.6	1.06	-0.1	A-
		White	Hispanic	8	21.53	2.69	1.45	-0.9	A-
		Male	Female	8	63.11	7.89	1.18	-0.4	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	116	White	Black	8	30.4	3.8	0.71	0.8	A+
		White	Hispanic	8	15.17	1.9	0.79	0.6	A+
		Male	Female	8	11.14	1.39	0.96	0.1	A+
E	117	White	Black	8	6.36	0.8	1.05	-0.1	A-
		White	Hispanic	8	17.47	2.18	1.44	-0.9	A-
		Male	Female	8	14.74	1.84	0.92	0.2	A+
E	118	White	Black	8	11.07	1.38	0.89	0.3	A+
		White	Hispanic	8	14.33	1.79	0.95	0.1	A+
		Male	Female	8	41.66	5.21	0.86	0.4	A+
E	119	White	Black	8	12.95	1.62	0.96	0.1	A+
		White	Hispanic	8	11.74	1.47	0.95	0.1	A+
		Male	Female	8	11.97	1.5	1.04	-0.1	A-
E	120	White	Black	8	10.53	1.32	0.82	0.5	A+
		White	Hispanic	8	12.27	1.53	1	0	A
		Male	Female	8	26.19	3.27	0.81	0.5	A+
E	121	White	Black	8	11.56	1.44	0.84	0.4	A+
		White	Hispanic	8	7.6	0.95	1.02	-0.1	A-
		Male	Female	8	34.48	4.31	0.79	0.6	A+
E	122	White	Black	8	27.12	3.39	1.34	-0.7	A-
		White	Hispanic	8	14.21	1.78	1.35	-0.7	A-
		Male	Female	8	29.5	3.69	0.91	0.2	A+
E	123	White	Black	8	9.77	1.22	1.04	-0.1	A-
		White	Hispanic	8	6.83	0.85	1.21	-0.5	A-
		Male	Female	8	73.71	9.21	1.11	-0.2	A-
E	124	White	Black	8	11.38	1.42	1.14	-0.3	A-
		White	Hispanic	8	12.86	1.61	0.9	0.3	A+
		Male	Female	8	72.36	9.05	1.27	-0.6	A-
E	125	White	Black	8	19.09	2.39	1.25	-0.5	A-
		White	Hispanic	8	6.27	0.78	1.11	-0.2	A-
		Male	Female	8	289.52	36.19	1.63	-1.1	B-
E	126	White	Black	8	22.12	2.76	0.79	0.6	A+
		White	Hispanic	8	4.42	0.55	0.95	0.1	A+
		Male	Female	8	29.86	3.73	0.86	0.4	A+
E	127	White	Black	8	16.84	2.1	1.26	-0.5	A-
		White	Hispanic	8	2.73	0.34	0.93	0.2	A+
		Male	Female	8	122.28	15.28	1.39	-0.8	A-
E	128	White	Black	8	17.67	2.21	0.92	0.2	A+
		White	Hispanic	8	3.74	0.47	0.95	0.1	A+
		Male	Female	8	183.18	22.9	0.72	0.8	A+
E	129	White	Black	8	7.36	0.92	1.05	-0.1	A-
		White	Hispanic	8	11.97	1.5	0.88	0.3	A+
		Male	Female	8	27.1	3.39	1.02	-0.1	A-
E	130	White	Black	8	14.05	1.76	0.86	0.4	A+
		White	Hispanic	8	14.69	1.84	0.94	0.2	A+
		Male	Female	8	100.57	12.57	0.75	0.7	A+
E	131	White	Black	8	15.16	1.9	1.26	-0.6	A-
		White	Hispanic	8	6.47	0.81	1.38	-0.8	A-
		Male	Female	8	52.17	6.52	1.21	-0.4	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
E	132	White	Black	8	29.72	3.72	0.74	0.7	A+
		White	Hispanic	8	20.39	2.55	0.62	1.1	B+
		Male	Female	8	152.27	19.03	0.58	1.3	B+
E	133	White	Black	8	4.64	0.58	1.07	-0.2	A-
		White	Hispanic	8	5.68	0.71	1.03	-0.1	A-
		Male	Female	8	25.05	3.13	1.1	-0.2	A-
E	134	White	Black	8	12.2	1.53	1.18	-0.4	A-
		White	Hispanic	8	4.57	0.57	0.98	0	A+
		Male	Female	8	40.32	5.04	1.2	-0.4	A-
E	135	White	Black	8	14.78	1.85	1.19	-0.4	A-
		White	Hispanic	8	23.74	2.97	1.41	-0.8	A-
		Male	Female	8	19.07	2.38	1.03	-0.1	A-
E	136	White	Black	8	9.79	1.22	1.15	-0.3	A-
		White	Hispanic	8	18.21	2.28	0.92	0.2	A+
		Male	Female	8	58.93	7.37	1.3	-0.6	A-
E	137	White	Black	8	10.14	1.27	0.83	0.4	A+
		White	Hispanic	8	1.91	0.24	1.07	-0.2	A-
		Male	Female	8	44.82	5.6	0.99	0	A+
E	138	White	Black	8	71.35	8.92	1.62	-1.1	B-
		White	Hispanic	8	21.23	2.65	1.29	-0.6	A-
		Male	Female	8	19.37	2.42	0.92	0.2	A+
E	139	White	Black	8	36.79	4.6	1.46	-0.9	A-
		White	Hispanic	8	11.23	1.4	1.28	-0.6	A-
		Male	Female	8	181.96	22.74	1.62	-1.1	B-
F	100	White	Black	8	10.93	1.37	0.88	0.3	A+
		White	Hispanic	8	9.35	1.17	0.93	0.2	A+
		Male	Female	8	39.74	4.97	0.93	0.2	A+
F	101	White	Black	8	20.4	2.55	0.78	0.6	A+
		White	Hispanic	8	17.7	2.21	0.73	0.7	A+
		Male	Female	8	88.99	11.12	0.76	0.6	A+
F	102	White	Black	8	5.8	0.73	0.87	0.3	A+
		White	Hispanic	8	11.55	1.44	1.15	-0.3	A-
		Male	Female	8	17.7	2.21	1.04	-0.1	A-
F	103	White	Black	8	13.41	1.68	0.85	0.4	A+
		White	Hispanic	8	9.84	1.23	1	0	A
		Male	Female	8	71.17	8.9	1.23	-0.5	A-
F	104	White	Black	8	13.18	1.65	1.09	-0.2	A-
		White	Hispanic	8	11.56	1.44	1.04	-0.1	A-
		Male	Female	8	13.12	1.64	0.91	0.2	A+
F	105	White	Black	8	14.46	1.81	0.88	0.3	A+
		White	Hispanic	8	8.24	1.03	0.97	0.1	A+
		Male	Female	8	115.17	14.4	0.68	0.9	A+
F	106	White	Black	8	31.1	3.89	0.71	0.8	A+
		White	Hispanic	8	3.62	0.45	0.91	0.2	A+
		Male	Female	8	79.25	9.91	0.66	1	A+
F	107	White	Black	8	15.77	1.97	0.88	0.3	A+
		White	Hispanic	8	35.25	4.41	0.54	1.5	B+
		Male	Female	8	391.67	48.96	1.67	-1.2	B-

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	108	White	Black	8	6.37	0.8	0.92	0.2	A+
		White	Hispanic	8	7.3	0.91	0.94	0.2	A+
		Male	Female	8	6.5	0.81	0.95	0.1	A+
F	109	White	Black	8	22.1	2.76	0.73	0.7	A+
		White	Hispanic	8	10.52	1.31	0.7	0.8	A+
		Male	Female	8	14.67	1.83	0.94	0.2	A+
F	110	White	Black						
		White	Hispanic						
		Male	Female						
F	111	White	Black	8	10.26	1.28	0.9	0.2	A+
		White	Hispanic	8	7.61	0.95	0.93	0.2	A+
		Male	Female	8	17.84	2.23	0.97	0.1	A+
F	112	White	Black	8	46.64	5.83	1.56	-1	B-
		White	Hispanic	8	15.96	2	1.59	-1.1	B-
		Male	Female	8	226.66	28.33	1.42	-0.8	A-
F	113	White	Black	8	34.55	4.32	1.34	-0.7	A-
		White	Hispanic	8	5.49	0.69	1.12	-0.3	A-
		Male	Female	8	457.53	57.19	1.74	-1.3	B-
F	114	White	Black	8	12.89	1.61	1.18	-0.4	A-
		White	Hispanic	8	12.41	1.55	1.57	-1.1	B-
		Male	Female	8	45.72	5.72	0.89	0.3	A+
F	115	White	Black	8	18.05	2.26	0.96	0.1	A+
		White	Hispanic	8	9.32	1.17	1.02	0	A-
		Male	Female	8	62.75	7.84	1.23	-0.5	A-
F	116	White	Black	8	21.25	2.66	0.8	0.5	A+
		White	Hispanic	8	10.82	1.35	1.02	0	A-
		Male	Female	8	21.67	2.71	0.89	0.3	A+
F	117	White	Black	8	39.65	4.96	1.18	-0.4	A-
		White	Hispanic	8	5.74	0.72	1.15	-0.3	A-
		Male	Female	8	21.65	2.71	0.94	0.1	A+
F	118	White	Black	8	5.37	0.67	0.9	0.3	A+
		White	Hispanic	8	12.27	1.53	0.89	0.3	A+
		Male	Female	8	8.68	1.08	1	0	A+
F	119	White	Black	8	33.37	4.17	1.44	-0.9	A-
		White	Hispanic	8	12.53	1.57	1.07	-0.2	A-
		Male	Female	8	35.05	4.38	0.9	0.2	A+
F	120	White	Black	8	7.72	0.97	0.91	0.2	A+
		White	Hispanic	8	2.78	0.35	1.08	-0.2	A-
		Male	Female	8	94.72	11.84	0.79	0.5	A+
F	121	White	Black	8	20.14	2.52	1.24	-0.5	A-
		White	Hispanic	8	7.96	1	1.35	-0.7	A-
		Male	Female	8	26.18	3.27	1.18	-0.4	A-
F	122	White	Black	8	32.1	4.01	1.38	-0.8	A-
		White	Hispanic	8	9.6	1.2	1.17	-0.4	A-
		Male	Female	8	14.91	1.86	0.98	0	A+
F	123	White	Black	8	6.32	0.79	1.12	-0.3	A-
		White	Hispanic	8	17.81	2.23	1.23	-0.5	A-
		Male	Female	8	29.49	3.69	0.86	0.3	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
F	124	White	Black	8	23.35	2.92	1.28	-0.6	A-
		White	Hispanic	8	9.22	1.15	0.74	0.7	A+
		Male	Female	8	16.65	2.08	0.98	0	A+
F	125	White	Black	8	32.79	4.1	1.47	-0.9	A-
		White	Hispanic	8	22.95	2.87	0.88	0.3	A+
		Male	Female	8	24.94	3.12	0.96	0.1	A+
F	126	White	Black	8	9.56	1.19	1.06	-0.1	A-
		White	Hispanic	8	6.12	0.77	1.06	-0.1	A-
		Male	Female	8	73.92	9.24	1.25	-0.5	A-
F	127	White	Black	8	16.97	2.12	1.16	-0.4	A-
		White	Hispanic	8	4.81	0.6	1.02	0	A-
		Male	Female	8	76.77	9.6	1.22	-0.5	A-
F	128	White	Black	8	51.92	6.49	1.47	-0.9	A-
		White	Hispanic	8	6.14	0.77	1.16	-0.4	A-
		Male	Female	8	188.56	23.57	1.52	-1	A-
F	129	White	Black	8	16.57	2.07	1.32	-0.6	A-
		White	Hispanic	8	5.44	0.68	1.09	-0.2	A-
		Male	Female	8	36.19	4.52	1.02	-0.1	A-
F	130	White	Black	8	19.46	2.43	0.9	0.2	A+
		White	Hispanic	8	8.83	1.1	0.95	0.1	A+
		Male	Female	8	117.52	14.69	0.78	0.6	A+
F	131	White	Black	8	7.28	0.91	0.92	0.2	A+
		White	Hispanic	8	24.47	3.06	0.61	1.2	B+
		Male	Female	8	64.97	8.12	0.86	0.3	A+
F	132	White	Black	8	2.89	0.36	0.92	0.2	A+
		White	Hispanic	8	27.09	3.39	1	0	A
		Male	Female	8	88.76	11.1	1.02	0	A-
F	133	White	Black	8	9	1.13	1.01	0	A-
		White	Hispanic	8	7	0.87	1.26	-0.5	A-
		Male	Female	8	27.58	3.45	1.02	0	A-
F	134	White	Black	8	10.46	1.31	0.91	0.2	A+
		White	Hispanic	8	8.56	1.07	0.97	0.1	A+
		Male	Female	8	91.86	11.48	0.78	0.6	A+
F	135	White	Black	8	14.38	1.8	1.02	0	A-
		White	Hispanic	8	5.49	0.69	1	0	A
		Male	Female	8	167.22	20.9	1.29	-0.6	A-
F	136	White	Black	8	5.62	0.7	1.02	0	A-
		White	Hispanic	8	7.23	0.9	1.1	-0.2	A-
		Male	Female	8	14.94	1.87	1	0	A-
F	137	White	Black	8	42.77	5.35	1.45	-0.9	A-
		White	Hispanic	8	15.31	1.91	1.53	-1	A-
		Male	Female	8	16.86	2.11	0.91	0.2	A+
F	138	White	Black	8	29.4	3.68	1.33	-0.7	A-
		White	Hispanic	8	15.48	1.94	1.4	-0.8	A-
		Male	Female	8	162.11	20.26	1.43	-0.8	A-
F	139	White	Black	8	22.77	2.85	1.4	-0.8	A-
		White	Hispanic	8	4.83	0.6	1.26	-0.5	A-
		Male	Female	8	21.35	2.67	0.99	0	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	100	White	Black	8	80.59	10.07	1.69	-1.2	B-
		White	Hispanic	8	14.2	1.77	1.35	-0.7	A-
		Male	Female	8	120.47	15.06	1.4	-0.8	A-
G	101	White	Black	8	13.03	1.63	0.96	0.1	A+
		White	Hispanic	8	14.54	1.82	1.21	-0.5	A-
		Male	Female	8	84.81	10.6	1.11	-0.2	A-
G	102	White	Black	8	16.28	2.04	1.05	-0.1	A-
		White	Hispanic	8	8.94	1.12	0.94	0.1	A+
		Male	Female	8	422.11	52.76	1.71	-1.3	B-
G	103	White	Black	8	9.41	1.18	0.99	0	A+
		White	Hispanic	8	14.63	1.83	0.57	1.3	B+
		Male	Female	8	28.57	3.57	0.82	0.5	A+
G	104	White	Black	8	25.37	3.17	1.33	-0.7	A-
		White	Hispanic	8	2.06	0.26	1.04	-0.1	A-
		Male	Female	8	30.06	3.76	1.13	-0.3	A-
G	105	White	Black	8	14.17	1.77	1.28	-0.6	A-
		White	Hispanic	8	5.63	0.7	1.14	-0.3	A-
		Male	Female	8	125.36	15.67	1.23	-0.5	A-
G	106	White	Black	8	32.75	4.09	1.36	-0.7	A-
		White	Hispanic	8	4.91	0.61	1.12	-0.3	A-
		Male	Female	8	173.17	21.65	1.66	-1.2	B-
G	107	White	Black	8	25.63	3.2	1.13	-0.3	A-
		White	Hispanic	8	7.33	0.92	0.86	0.4	A+
		Male	Female	8	18.72	2.34	0.93	0.2	A+
G	108	White	Black	8	8.63	1.08	1.04	-0.1	A-
		White	Hispanic	8	6.79	0.85	1.03	-0.1	A-
		Male	Female	8	43.07	5.38	1.19	-0.4	A-
G	109	White	Black	8	5.38	0.67	0.91	0.2	A+
		White	Hispanic	8	16.47	2.06	0.96	0.1	A+
		Male	Female	8	24.56	3.07	0.78	0.6	A+
G	110	White	Black	8	6.32	0.79	0.93	0.2	A+
		White	Hispanic	8	7.52	0.94	1.1	-0.2	A-
		Male	Female	8	29.64	3.7	0.89	0.3	A+
G	111	White	Black	8	17.86	2.23	0.77	0.6	A+
		White	Hispanic	8	14.57	1.82	0.74	0.7	A+
		Male	Female	8	49.98	6.25	0.82	0.5	A+
G	112	White	Black	8	7.08	0.89	1.02	0	A-
		White	Hispanic	8	5.84	0.73	0.97	0.1	A+
		Male	Female	8	86.1	10.76	1.22	-0.5	A-
G	113	White	Black	8	12.91	1.61	1.04	-0.1	A-
		White	Hispanic	8	9.61	1.2	0.8	0.5	A+
		Male	Female	8	19.11	2.39	0.91	0.2	A+
G	114	White	Black	8	60.21	7.53	0.61	1.2	B+
		White	Hispanic	8	11.56	1.45	0.7	0.9	A+
		Male	Female	8	130.83	16.35	0.68	0.9	A+
G	115	White	Black	8	27.25	3.41	1	0	A-
		White	Hispanic	8	36.1	4.51	0.95	0.1	A+
		Male	Female	8	151.4	18.92	1.29	-0.6	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	116	White	Black	8	22.75	2.84	1.09	-0.2	A-
		White	Hispanic	8	9.11	1.14	0.7	0.8	A+
		Male	Female	8	20.33	2.54	1.13	-0.3	A-
G	117	White	Black	8	9.28	1.16	0.86	0.4	A+
		White	Hispanic	8	13.5	1.69	0.77	0.6	A+
		Male	Female	8	7.76	0.97	1	0	A+
G	118	White	Black	8	56.03	7	1.4	-0.8	A-
		White	Hispanic	8	7.67	0.96	1.35	-0.7	A-
		Male	Female	8	47.6	5.95	1.18	-0.4	A-
G	119	White	Black	8	96.27	12.03	1.94	-1.6	C-
		White	Hispanic	8	16.77	2.1	1.4	-0.8	A-
		Male	Female	8	377	47.13	1.79	-1.4	B-
G	120	White	Black	8	14.72	1.84	1.05	-0.1	A-
		White	Hispanic	8	3.81	0.48	1.21	-0.5	A-
		Male	Female	8	155.03	19.38	1.43	-0.8	A-
G	121	White	Black	8	26.37	3.3	0.73	0.7	A+
		White	Hispanic	8	7.77	0.97	0.81	0.5	A+
		Male	Female	8	15.9	1.99	0.99	0	A+
G	122	White	Black	8	12.06	1.51	0.96	0.1	A+
		White	Hispanic	8	6.6	0.83	0.97	0.1	A+
		Male	Female	8	55.52	6.94	0.9	0.3	A+
G	123	White	Black	8	37.06	4.63	1.34	-0.7	A-
		White	Hispanic	8	24.19	3.02	1.07	-0.2	A-
		Male	Female	8	15.37	1.92	0.87	0.3	A+
G	124	White	Black	8	4.39	0.55	1.06	-0.1	A-
		White	Hispanic	8	7.13	0.89	1.12	-0.3	A-
		Male	Female	8	18.66	2.33	0.96	0.1	A+
G	125	White	Black	8	11.64	1.45	1.14	-0.3	A-
		White	Hispanic	8	5.48	0.69	0.99	0	A+
		Male	Female	8	27.9	3.49	1.11	-0.2	A-
G	126	White	Black	8	4.45	0.56	0.94	0.1	A+
		White	Hispanic	8	21.11	2.64	0.82	0.5	A+
		Male	Female	8	95.88	11.98	0.74	0.7	A+
G	127	White	Black	8	14.67	1.83	1.06	-0.1	A-
		White	Hispanic	8	10.65	1.33	0.88	0.3	A+
		Male	Female	8	20.28	2.54	0.99	0	A+
G	128	White	Black	8	9.78	1.22	0.9	0.2	A+
		White	Hispanic	8	12.88	1.61	0.75	0.7	A+
		Male	Female	8	232.6	29.07	0.67	0.9	A+
G	129	White	Black	8	9.29	1.16	1.1	-0.2	A-
		White	Hispanic	8	4.64	0.58	1.22	-0.5	A-
		Male	Female	8	52.69	6.59	1.23	-0.5	A-
G	130	White	Black	8	18.81	2.35	0.96	0.1	A+
		White	Hispanic	8	9.23	1.15	1.06	-0.1	A-
		Male	Female	8	109.2	13.65	0.77	0.6	A+
G	131	White	Black	8	12.56	1.57	1.17	-0.4	A-
		White	Hispanic	8	4.23	0.53	1.03	-0.1	A-
		Male	Female	8	67.24	8.41	0.81	0.5	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
G	132	White	Black	8	42.96	5.37	1.41	-0.8	A-
		White	Hispanic	8	17.44	2.18	1.39	-0.8	A-
		Male	Female	8	129.87	16.23	1.36	-0.7	A-
G	133	White	Black	8	6.19	0.77	1.1	-0.2	A-
		White	Hispanic	8	6.76	0.85	1.08	-0.2	A-
		Male	Female	8	40.73	5.09	0.84	0.4	A+
G	134	White	Black	8	23.51	2.94	1.3	-0.6	A-
		White	Hispanic	8	44.14	5.52	1.81	-1.4	B-
		Male	Female	8	433.02	54.13	1.77	-1.3	B-
G	135	White	Black						
		White	Hispanic						
		Male	Female						
G	136	White	Black	8	25.9	3.24	1.01	0	A-
		White	Hispanic	8	15.36	1.92	0.65	1	B+
		Male	Female	8	22.7	2.84	1.16	-0.4	A-
G	137	White	Black	8	6.34	0.79	1.18	-0.4	A-
		White	Hispanic	8	22.59	2.82	1.18	-0.4	A-
		Male	Female	8	73.52	9.19	1.23	-0.5	A-
G	138	White	Black	8	35.63	4.45	1.19	-0.4	A-
		White	Hispanic	8	13.46	1.68	1.05	-0.1	A-
		Male	Female	8	56.07	7.01	0.71	0.8	A+
G	139	White	Black	8	13.49	1.69	0.99	0	A+
		White	Hispanic	8	8.54	1.07	1.1	-0.2	A-
		Male	Female	8	155.5	19.44	1.42	-0.8	A-
H	100	White	Black	8	37.66	4.71	0.59	1.2	B+
		White	Hispanic	8	5.33	0.67	0.85	0.4	A+
		Male	Female	8	92.39	11.55	0.58	1.3	B+
H	101	White	Black	8	9.69	1.21	0.94	0.1	A+
		White	Hispanic	8	17.22	2.15	1.33	-0.7	A-
		Male	Female	8	30.28	3.78	1	0	A-
H	102	White	Black	8	14.31	1.79	1.02	0	A-
		White	Hispanic	8	13.34	1.67	1.4	-0.8	A-
		Male	Female	8	136.07	17.01	1.46	-0.9	A-
H	103	White	Black	8	32.72	4.09	1.32	-0.7	A-
		White	Hispanic	8	7.56	0.95	1.12	-0.3	A-
		Male	Female	8	67.97	8.5	0.91	0.2	A+
H	104	White	Black	8	5.57	0.7	1.05	-0.1	A-
		White	Hispanic	8	18.61	2.33	0.8	0.5	A+
		Male	Female	8	8.67	1.08	0.9	0.2	A+
H	105	White	Black	8	39.13	4.89	0.96	0.1	A+
		White	Hispanic	8	8.7	1.09	1.28	-0.6	A-
		Male	Female	8	15.94	1.99	1.01	0	A-
H	106	White	Black	8	10.83	1.35	0.96	0.1	A+
		White	Hispanic	8	13.51	1.69	0.69	0.9	A+
		Male	Female	8	21.59	2.7	1.06	-0.1	A-
H	107	White	Black	8	17.15	2.14	1.07	-0.2	A-
		White	Hispanic	8	10.94	1.37	0.68	0.9	A+
		Male	Female	8	138.7	17.34	1.35	-0.7	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	108	White	Black	8	16.33	2.04	0.94	0.2	A+
		White	Hispanic	8	7.59	0.95	0.82	0.5	A+
		Male	Female	8	17.32	2.16	1.14	-0.3	A-
H	109	White	Black	8	7.95	0.99	0.92	0.2	A+
		White	Hispanic	8	8.28	1.03	0.88	0.3	A+
		Male	Female	8	51.46	6.43	0.89	0.3	A+
H	110	White	Black	8	11.46	1.43	1.14	-0.3	A-
		White	Hispanic	8	13.73	1.72	1.23	-0.5	A-
		Male	Female	8	19.8	2.48	0.93	0.2	A+
H	111	White	Black	8	8.88	1.11	1.11	-0.2	A-
		White	Hispanic	8	8.96	1.12	0.82	0.5	A+
		Male	Female	8	25.33	3.17	1.06	-0.1	A-
H	112	White	Black	8	24.19	3.02	0.86	0.4	A+
		White	Hispanic	8	9.88	1.24	1	0	A
		Male	Female	8	22.64	2.83	1.13	-0.3	A-
H	113	White	Black	8	8.8	1.1	0.94	0.1	A+
		White	Hispanic	8	5.67	0.71	0.86	0.4	A+
		Male	Female	8	80	10	0.93	0.2	A+
H	114	White	Black	8	14.26	1.78	1.08	-0.2	A-
		White	Hispanic	8	40.61	5.08	1.45	-0.9	A-
		Male	Female	8	18	2.25	1.11	-0.3	A-
H	115	White	Black	8	6.06	0.76	0.92	0.2	A+
		White	Hispanic	8	4.44	0.55	0.96	0.1	A+
		Male	Female	8	84.5	10.56	0.99	0	A+
H	116	White	Black	8	7.29	0.91	0.95	0.1	A+
		White	Hispanic	8	21.74	2.72	1	0	A
		Male	Female	8	24.62	3.08	1.13	-0.3	A-
H	117	White	Black	8	37.32	4.66	1.22	-0.5	A-
		White	Hispanic	8	10.87	1.36	1	0	A
		Male	Female	8	56.59	7.07	1.13	-0.3	A-
H	118	White	Black	8	12.63	1.58	1.05	-0.1	A-
		White	Hispanic	8	26.83	3.35	1.79	-1.4	B-
		Male	Female	8	8.73	1.09	0.95	0.1	A+
H	119	White	Black	8	209.27	26.16	2.45	-2.1	C-
		White	Hispanic	8	41.85	5.23	2.26	-1.9	C-
		Male	Female	8	789.01	98.63	2.69	-2.3	C-
H	120	White	Black	8	15.86	1.98	0.86	0.4	A+
		White	Hispanic	8	10.02	1.25	0.85	0.4	A+
		Male	Female	8	30.06	3.76	1.03	-0.1	A-
H	121	White	Black	8	8.38	1.05	1.12	-0.3	A-
		White	Hispanic	8	4.17	0.52	0.96	0.1	A+
		Male	Female	8	47.89	5.99	1.27	-0.6	A-
H	122	White	Black	8	4.81	0.6	1.07	-0.1	A-
		White	Hispanic	8	6.23	0.78	1.1	-0.2	A-
		Male	Female	8	49.09	6.14	1.21	-0.4	A-
H	123	White	Black	8	14.41	1.8	0.85	0.4	A+
		White	Hispanic	8	8.52	1.06	1.25	-0.5	A-
		Male	Female	8	74.68	9.33	0.91	0.2	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
H	124	White	Black	8	17.64	2.2	1.21	-0.4	A-
		White	Hispanic	8	3.33	0.42	1.1	-0.2	A-
		Male	Female	8	131.93	16.49	1.55	-1	B-
H	125	White	Black	8	19.73	2.47	1.22	-0.5	A-
		White	Hispanic	8	19.66	2.46	1.37	-0.7	A-
		Male	Female	8	158.65	19.83	1.46	-0.9	A-
H	126	White	Black	8	12.68	1.59	1.19	-0.4	A-
		White	Hispanic	8	8.77	1.1	1.05	-0.1	A-
		Male	Female	8	48.77	6.1	0.98	0.1	A+
H	127	White	Black	8	14.12	1.76	1.25	-0.5	A-
		White	Hispanic	8	5.98	0.75	1	0	A
		Male	Female	8	34.4	4.3	1.02	-0.1	A-
H	128	White	Black	8	21.02	2.63	1.3	-0.6	A-
		White	Hispanic	8	13.34	1.67	1.67	-1.2	B-
		Male	Female	8	543.87	67.98	1.83	-1.4	B-
H	129	White	Black	8	19.56	2.44	1.29	-0.6	A-
		White	Hispanic	8	4.49	0.56	1.2	-0.4	A-
		Male	Female	8	60	7.5	1.18	-0.4	A-
H	130	White	Black	8	25.04	3.13	1.33	-0.7	A-
		White	Hispanic	8	2.92	0.37	1.2	-0.4	A-
		Male	Female	8	57.77	7.22	1.2	-0.4	A-
H	131	White	Black	8	4.83	0.6	1.04	-0.1	A-
		White	Hispanic	8	5.58	0.7	1.02	0	A-
		Male	Female	8	28.1	3.51	1.09	-0.2	A-
H	132	White	Black	8	6.47	0.81	0.87	0.3	A+
		White	Hispanic	8	5.59	0.7	0.83	0.4	A+
		Male	Female	8	36.33	4.54	0.73	0.7	A+
H	133	White	Black	8	5.25	0.66	0.97	0.1	A+
		White	Hispanic	8	10.5	1.31	1.23	-0.5	A-
		Male	Female	8	41.58	5.2	1.12	-0.3	A-
H	134	White	Black	8	12.65	1.58	1.02	-0.1	A-
		White	Hispanic	8	7.32	0.91	1.11	-0.2	A-
		Male	Female	8	14.16	1.77	1.05	-0.1	A-
H	135	White	Black	8	18.84	2.35	1.25	-0.5	A-
		White	Hispanic	8	53.63	6.7	1.29	-0.6	A-
		Male	Female	8	11.55	1.44	1	0	A+
H	136	White	Black	8	4.11	0.51	0.98	0	A+
		White	Hispanic	8	11.59	1.45	0.73	0.7	A+
		Male	Female	8	29.22	3.65	1.04	-0.1	A-
H	137	White	Black	8	18.32	2.29	1.15	-0.3	A-
		White	Hispanic	8	70.15	8.77	0.95	0.1	A+
		Male	Female	8	9.23	1.15	0.86	0.4	A+
H	138	White	Black	8	55.7	6.96	1.55	-1	B-
		White	Hispanic	8	16.43	2.05	1.2	-0.4	A-
		Male	Female	8	11.02	1.38	0.97	0.1	A+
H	139	White	Black	8	6.14	0.77	1.03	-0.1	A-
		White	Hispanic	8	6.71	0.84	0.87	0.3	A+
		Male	Female	8	36.57	4.57	0.85	0.4	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	100	White	Black	8	27.11	3.39	0.72	0.8	A+
		White	Hispanic	8	5.01	0.63	0.85	0.4	A+
		Male	Female	8	26.63	3.33	0.72	0.8	A+
I	101	White	Black	8	8.94	1.12	0.9	0.3	A+
		White	Hispanic	8	17.09	2.14	0.88	0.3	A+
		Male	Female	8	26.48	3.31	0.81	0.5	A+
I	102	White	Black	8	24.11	3.01	1.34	-0.7	A-
		White	Hispanic	8	28.15	3.52	1.47	-0.9	A-
		Male	Female	8	15.81	1.98	1.03	-0.1	A-
I	103	White	Black	8	25.48	3.18	0.72	0.8	A+
		White	Hispanic	8	4.8	0.6	0.93	0.2	A+
		Male	Female	8	32.1	4.01	1.11	-0.2	A-
I	104	White	Black	8	2.55	0.32	1.02	0	A-
		White	Hispanic	8	9.08	1.14	0.79	0.6	A+
		Male	Female	8	75.79	9.47	1.25	-0.5	A-
I	105	White	Black	8	20.53	2.57	1.26	-0.6	A-
		White	Hispanic	8	12.28	1.53	1.48	-0.9	A-
		Male	Female	8	483.45	60.43	1.85	-1.4	B-
I	106	White	Black	8	30.79	3.85	0.69	0.9	A+
		White	Hispanic	8	13.96	1.75	0.69	0.9	A+
		Male	Female	8	26.84	3.36	0.86	0.4	A+
I	107	White	Black	8	26.44	3.31	1.34	-0.7	A-
		White	Hispanic	8	17.2	2.15	1.19	-0.4	A-
		Male	Female	8	43.03	5.38	1.26	-0.5	A-
I	108	White	Black	8	24.14	3.02	0.88	0.3	A+
		White	Hispanic	8	1.34	0.17	1.07	-0.2	A-
		Male	Female	8	170.05	21.26	0.72	0.8	A+
I	109	White	Black	8	2.53	0.32	1.01	0	A-
		White	Hispanic	8	9.03	1.13	0.86	0.4	A+
		Male	Female	8	22.55	2.82	0.96	0.1	A+
I	110	White	Black	8	23.28	2.91	0.77	0.6	A+
		White	Hispanic	8	3.92	0.49	0.89	0.3	A+
		Male	Female	8	153.07	19.13	0.7	0.8	A+
I	111	White	Black	8	11.06	1.38	1.18	-0.4	A-
		White	Hispanic	8	10.81	1.35	1.28	-0.6	A-
		Male	Female	8	71.38	8.92	1.23	-0.5	A-
I	112	White	Black	8	64.1	8.01	0.57	1.3	B+
		White	Hispanic	8	31.47	3.93	0.56	1.4	B+
		Male	Female	8	133.57	16.7	0.58	1.3	B+
I	113	White	Black	8	8.16	1.02	1.05	-0.1	A-
		White	Hispanic	8	12.39	1.55	1.01	0	A-
		Male	Female	8	31.31	3.91	1.13	-0.3	A-
I	114	White	Black	8	3.68	0.46	0.98	0.1	A+
		White	Hispanic	8	12.74	1.59	0.8	0.5	A+
		Male	Female	8	12.47	1.56	1.1	-0.2	A-
I	115	White	Black	8	9.52	1.19	1.18	-0.4	A-
		White	Hispanic	8	3.99	0.5	0.82	0.5	A+
		Male	Female	8	11.38	1.42	1.07	-0.2	A-

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	116	White	Black	8	8.9	1.11	1.24	-0.5	A-
		White	Hispanic	8	13.12	1.64	1.11	-0.2	A-
		Male	Female	8	135.6	16.95	1.66	-1.2	B-
I	117	White	Black	8	19.67	2.46	0.84	0.4	A+
		White	Hispanic	8	8.15	1.02	0.82	0.5	A+
		Male	Female	8	40.96	5.12	1.05	-0.1	A-
I	118	White	Black	8	39.24	4.9	1.19	-0.4	A-
		White	Hispanic	8	4.39	0.55	1.07	-0.2	A-
		Male	Female	8	11.64	1.45	0.95	0.1	A+
I	119	White	Black	8	23.87	2.98	1.36	-0.7	A-
		White	Hispanic	8	14.24	1.78	1.49	-0.9	A-
		Male	Female	8	164.32	20.54	1.64	-1.2	B-
I	120	White	Black	8	14.1	1.76	1.03	-0.1	A-
		White	Hispanic	8	4.37	0.55	1.17	-0.4	A-
		Male	Female	8	20.11	2.51	0.99	0	A+
I	121	White	Black	8	41.77	5.22	1.5	-0.9	A-
		White	Hispanic	8	13.16	1.64	1.36	-0.7	A-
		Male	Female	8	30.94	3.87	0.94	0.1	A+
I	122	White	Black	8	13.55	1.69	1.09	-0.2	A-
		White	Hispanic	8	5.85	0.73	0.87	0.3	A+
		Male	Female	8	9.53	1.19	1.03	-0.1	A-
I	123	White	Black	8	24.3	3.04	0.77	0.6	A+
		White	Hispanic	8	6.53	0.82	0.78	0.6	A+
		Male	Female	8	64.47	8.06	1.23	-0.5	A-
I	124	White	Black	8	15.72	1.97	0.9	0.2	A+
		White	Hispanic	8	9.07	1.13	1.02	0	A-
		Male	Female	8	21.01	2.63	1.1	-0.2	A-
I	125	White	Black	8	10.03	1.25	0.91	0.2	A+
		White	Hispanic	8	11.28	1.41	0.74	0.7	A+
		Male	Female	8	62.88	7.86	0.85	0.4	A+
I	126	White	Black	8	13.87	1.73	1.27	-0.6	A-
		White	Hispanic	8	5.24	0.65	1.08	-0.2	A-
		Male	Female	8	32.5	4.06	1.08	-0.2	A-
I	127	White	Black	8	8.41	1.05	1	0	A
		White	Hispanic	8	11.15	1.39	1.45	-0.9	A-
		Male	Female	8	37.66	4.71	0.92	0.2	A+
I	128	White	Black	8	12.41	1.55	1.11	-0.3	A-
		White	Hispanic	8	5.41	0.68	1.09	-0.2	A-
		Male	Female	8	87	10.87	1.29	-0.6	A-
I	129	White	Black	8	14.16	1.77	1.2	-0.4	A-
		White	Hispanic	8	9.53	1.19	1.18	-0.4	A-
		Male	Female	8	33.59	4.2	0.96	0.1	A+
I	130	White	Black	8	12.96	1.62	0.83	0.4	A+
		White	Hispanic	8	10.81	1.35	0.86	0.4	A+
		Male	Female	8	115.86	14.48	0.72	0.8	A+
I	131	White	Black	8	31.87	3.98	0.89	0.3	A+
		White	Hispanic	8	9.15	1.14	0.85	0.4	A+
		Male	Female	8	21.58	2.7	0.95	0.1	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
I	132	White	Black	8	5.93	0.74	0.97	0.1	A+
		White	Hispanic	8	8.55	1.07	0.76	0.6	A+
		Male	Female	8	23.66	2.96	0.82	0.5	A+
I	133	White	Black	8	10.89	1.36	1.01	0	A-
		White	Hispanic	8	8.45	1.06	0.73	0.7	A+
		Male	Female	8	36.6	4.57	0.92	0.2	A+
I	134	White	Black	8	10.27	1.28	0.86	0.4	A+
		White	Hispanic	8	8.54	1.07	0.65	1	B+
		Male	Female	8	16.17	2.02	0.85	0.4	A+
I	135	White	Black	8	44.86	5.61	1.31	-0.6	A-
		White	Hispanic	8	14.03	1.75	1.25	-0.5	A-
		Male	Female	8	21.49	2.69	1.14	-0.3	A-
I	136	White	Black	8	26.88	3.36	0.88	0.3	A+
		White	Hispanic	8	5.55	0.69	0.84	0.4	A+
		Male	Female	8	66.87	8.36	0.8	0.5	A+
I	137	White	Black	8	59.23	7.4	1.66	-1.2	B-
		White	Hispanic	8	14.01	1.75	1.25	-0.5	A-
		Male	Female	8	830.24	103.78	2.26	-1.9	C-
I	138	White	Black	8	77.3	9.66	1.72	-1.3	B-
		White	Hispanic	8	15.36	1.92	1.54	-1	B-
		Male	Female	8	374.63	46.83	1.8	-1.4	B-
I	139	White	Black	8	10.53	1.32	1.22	-0.5	A-
		White	Hispanic	8	6.2	0.77	1.02	0	A-
		Male	Female	8	49.93	6.24	0.98	0.1	A+
J	100	White	Black	8	15.88	1.98	0.89	0.3	A+
		White	Hispanic	8	8.85	1.11	0.97	0.1	A+
		Male	Female	8	55.93	6.99	0.82	0.5	A+
J	101	White	Black	8	3.3	0.41	1.03	-0.1	A-
		White	Hispanic	8	40.86	5.11	1.65	-1.2	B-
		Male	Female	8	68.01	8.5	1.31	-0.6	A-
J	102	White	Black	8	25.99	3.25	1.36	-0.7	A-
		White	Hispanic	8	30.7	3.84	1.27	-0.6	A-
		Male	Female	8	14.23	1.78	0.98	0	A+
J	103	White	Black	8	18.15	2.27	0.94	0.1	A+
		White	Hispanic	8	20.34	2.54	1.24	-0.5	A-
		Male	Female	8	21.7	2.71	0.96	0.1	A+
J	104	White	Black	8	7.57	0.95	1.12	-0.3	A-
		White	Hispanic	8	5.42	0.68	1.14	-0.3	A-
		Male	Female	8	20.95	2.62	1.14	-0.3	A-
J	105	White	Black	8	5.11	0.64	1.09	-0.2	A-
		White	Hispanic	8	18.88	2.36	1.16	-0.4	A-
		Male	Female	8	26.06	3.26	1.11	-0.3	A-
J	106	White	Black	8	3.04	0.38	1.08	-0.2	A-
		White	Hispanic	8	14.49	1.81	1.15	-0.3	A-
		Male	Female	8	131.9	16.49	1.34	-0.7	A-
J	107	White	Black	8	4.32	0.54	1.13	-0.3	A-
		White	Hispanic	8	3.91	0.49	0.86	0.3	A+
		Male	Female	8	56.51	7.06	1.26	-0.6	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	108	White	Black	8	35.2	4.4	1.37	-0.7	A-
		White	Hispanic	8	10.13	1.27	1.25	-0.5	A-
		Male	Female	8	187.16	23.39	1.57	-1.1	B-
J	109	White	Black	8	5.44	0.68	1.06	-0.1	A-
		White	Hispanic	8	5.72	0.72	1.03	-0.1	A-
		Male	Female	8	16.63	2.08	1.11	-0.2	A-
J	110	White	Black	8	12.02	1.5	0.91	0.2	A+
		White	Hispanic	8	5.66	0.71	0.92	0.2	A+
		Male	Female	8	120.65	15.08	0.75	0.7	A+
J	111	White	Black	8	10.27	1.28	0.84	0.4	A+
		White	Hispanic	8	3.58	0.45	0.98	0	A+
		Male	Female	8	8.46	1.06	0.97	0.1	A+
J	112	White	Black	8	5.73	0.72	0.99	0	A+
		White	Hispanic	8	2.66	0.33	1.02	0	A-
		Male	Female	8	56.31	7.04	1.13	-0.3	A-
J	113	White	Black	8	4.33	0.54	0.97	0.1	A+
		White	Hispanic	8	10.25	1.28	1.23	-0.5	A-
		Male	Female	8	26.3	3.29	0.97	0.1	A+
J	114	White	Black	8	7.07	0.88	0.91	0.2	A+
		White	Hispanic	8	17.47	2.18	0.64	1.1	B+
		Male	Female	8	132.62	16.58	0.75	0.7	A+
J	115	White	Black	8	19.88	2.48	0.98	0	A+
		White	Hispanic	8	12.45	1.56	0.82	0.5	A+
		Male	Female	8	168.37	21.05	1.39	-0.8	A-
J	116	White	Black	8	8.55	1.07	0.98	0.1	A+
		White	Hispanic	8	8.22	1.03	1.08	-0.2	A-
		Male	Female	8	14.44	1.81	1.05	-0.1	A-
J	117	White	Black	8	42.63	5.33	1.43	-0.8	A-
		White	Hispanic	8	38.63	4.83	1.92	-1.5	C-
		Male	Female	8	24.78	3.1	1.01	0	A-
J	118	White	Black	8	56.5	7.06	1.64	-1.2	B-
		White	Hispanic	8	17.06	2.13	1.42	-0.8	A-
		Male	Female	8	209.99	26.25	1.49	-0.9	A-
J	119	White	Black	8	53.61	6.7	1.61	-1.1	B-
		White	Hispanic	8	11.37	1.42	1.38	-0.8	A-
		Male	Female	8	21.26	2.66	1.15	-0.3	A-
J	120	White	Black	8	2.05	0.26	1.06	-0.1	A-
		White	Hispanic	8	10.68	1.34	0.87	0.3	A+
		Male	Female	8	14.83	1.85	0.98	0.1	A+
J	121	White	Black	8	37.94	4.74	1.48	-0.9	A-
		White	Hispanic	8	23.54	2.94	1.57	-1.1	B-
		Male	Female	8	39.94	4.99	0.9	0.3	A+
J	122	White	Black	8	30.78	3.85	1.31	-0.6	A-
		White	Hispanic	8	14.19	1.77	0.7	0.8	A+
		Male	Female	8	41.38	5.17	0.84	0.4	A+
J	123	White	Black	8	25.36	3.17	0.78	0.6	A+
		White	Hispanic	8	9.9	1.24	1.3	-0.6	A-
		Male	Female	8	77.82	9.73	1.3	-0.6	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
J	124	White	Black	8	35.24	4.41	0.94	0.2	A+
		White	Hispanic	8	9.14	1.14	0.96	0.1	A+
		Male	Female	8	31.56	3.95	1.15	-0.3	A-
J	125	White	Black	8	14.01	1.75	0.9	0.3	A+
		White	Hispanic	8	6.85	0.86	1.14	-0.3	A-
		Male	Female	8	19.18	2.4	0.95	0.1	A+
J	126	White	Black	8	54.56	6.82	1.51	-1	A-
		White	Hispanic	8	49.37	6.17	1.69	-1.2	B-
		Male	Female	8	20.91	2.61	1.04	-0.1	A-
J	127	White	Black	8	16.69	2.09	1.17	-0.4	A-
		White	Hispanic	8	5.97	0.75	1.16	-0.3	A-
		Male	Female	8	12.79	1.6	0.94	0.1	A+
J	128	White	Black	8	2.59	0.32	1	0	A
		White	Hispanic	8	8.96	1.12	0.89	0.3	A+
		Male	Female	8	111.05	13.88	1.37	-0.7	A-
J	129	White	Black	8	8.68	1.09	1.14	-0.3	A-
		White	Hispanic	8	11.54	1.44	1.03	-0.1	A-
		Male	Female	8	11.82	1.48	1.03	-0.1	A-
J	130	White	Black	8	7.56	0.94	0.95	0.1	A+
		White	Hispanic	8	9.93	1.24	1.06	-0.1	A-
		Male	Female	8	78.07	9.76	0.77	0.6	A+
J	131	White	Black	8	16.47	2.06	1.19	-0.4	A-
		White	Hispanic	8	4.85	0.61	1.08	-0.2	A-
		Male	Female	8	26.81	3.35	0.94	0.1	A+
J	132	White	Black	8	4.29	0.54	0.99	0	A+
		White	Hispanic	8	5.72	0.71	0.89	0.3	A+
		Male	Female	8	36.44	4.55	0.75	0.7	A+
J	133	White	Black	8	12.27	1.53	1.21	-0.4	A-
		White	Hispanic	8	13.53	1.69	1.32	-0.6	A-
		Male	Female	8	34.06	4.26	0.97	0.1	A+
J	134	White	Black	8	11.91	1.49	0.84	0.4	A+
		White	Hispanic	8	11.78	1.47	0.61	1.1	B+
		Male	Female	8	19.47	2.43	0.86	0.4	A+
J	135	White	Black	8	22.85	2.86	1.31	-0.6	A-
		White	Hispanic	8	9.23	1.15	1.08	-0.2	A-
		Male	Female	8	55.77	6.97	1.16	-0.3	A-
J	136	White	Black	8	32.66	4.08	0.8	0.5	A+
		White	Hispanic	8	22.57	2.82	1.13	-0.3	A-
		Male	Female	8	77.74	9.72	0.77	0.6	A+
J	137	White	Black	8	67.23	8.4	1.69	-1.2	B-
		White	Hispanic	8	31.44	3.93	2	-1.6	C-
		Male	Female	8	1070.93	133.87	2.49	-2.1	C-
J	138	White	Black	8	68.18	8.52	1.7	-1.2	B-
		White	Hispanic	8	29.19	3.65	1.67	-1.2	B-
		Male	Female	8	384.14	48.02	1.75	-1.3	B-
J	139	White	Black	8	17.66	2.21	1.21	-0.5	A-
		White	Hispanic	8	10.61	1.33	1	0	A
		Male	Female	8	31.27	3.91	0.82	0.5	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	100	White	Black	8	17.17	2.15	1.25	-0.5	A-
		White	Hispanic	8	7.13	0.89	1.2	-0.4	A-
		Male	Female	8	55.43	6.93	1.08	-0.2	A-
K	101	White	Black	8	77.86	9.73	1.73	-1.3	B-
		White	Hispanic	8	50.05	6.26	2.13	-1.8	C-
		Male	Female	8	20.51	2.56	0.98	0.1	A+
K	102	White	Black	8	17.81	2.23	1.28	-0.6	A-
		White	Hispanic	8	5.42	0.68	1.06	-0.1	A-
		Male	Female	8	17.2	2.15	0.89	0.3	A+
K	103	White	Black	8	18.03	2.25	0.77	0.6	A+
		White	Hispanic	8	8.35	1.04	0.86	0.4	A+
		Male	Female	8	93.96	11.74	1.27	-0.6	A-
K	104	White	Black	8	13.93	1.74	1.05	-0.1	A-
		White	Hispanic	8	4.42	0.55	1.15	-0.3	A-
		Male	Female	8	14.15	1.77	1.15	-0.3	A-
K	105	White	Black	8	8.47	1.06	0.91	0.2	A+
		White	Hispanic	8	5.68	0.71	0.98	0	A+
		Male	Female	8	32.64	4.08	0.97	0.1	A+
K	106	White	Black	8	61.49	7.69	1.4	-0.8	A-
		White	Hispanic	8	13.84	1.73	1.22	-0.5	A-
		Male	Female	8	44.83	5.6	1.22	-0.5	A-
K	107	White	Black	8	18.27	2.28	1.13	-0.3	A-
		White	Hispanic	8	17.36	2.17	1.43	-0.8	A-
		Male	Female	8	7.49	0.94	0.96	0.1	A+
K	108	White	Black	8	12.21	1.53	0.97	0.1	A+
		White	Hispanic	8	6.09	0.76	0.92	0.2	A+
		Male	Female	8	104.59	13.07	1.35	-0.7	A-
K	109	White	Black	8	24.63	3.08	1.3	-0.6	A-
		White	Hispanic	8	20.76	2.6	1.45	-0.9	A-
		Male	Female	8	26.12	3.27	1.03	-0.1	A-
K	110	White	Black	8	16.18	2.02	0.78	0.6	A+
		White	Hispanic	8	1.22	0.15	1.03	-0.1	A-
		Male	Female	8	61.77	7.72	0.8	0.5	A+
K	111	White	Black	8	19.93	2.49	1.13	-0.3	A-
		White	Hispanic	8	13.14	1.64	0.94	0.1	A+
		Male	Female	8	15.24	1.91	1.06	-0.1	A-
K	112	White	Black	8	3.67	0.46	1.12	-0.3	A-
		White	Hispanic	8	5.46	0.68	1.1	-0.2	A-
		Male	Female	8	19.95	2.49	0.78	0.6	A+
K	113	White	Black	8	17.8	2.23	1.22	-0.5	A-
		White	Hispanic	8	10.48	1.31	1.33	-0.7	A-
		Male	Female	8	14.5	1.81	0.99	0	A+
K	114	White	Black	8	4.39	0.55	0.85	0.4	A+
		White	Hispanic	8	7.97	1	0.76	0.6	A+
		Male	Female	8	41.96	5.25	1.08	-0.2	A-
K	115	White	Black	8	43.96	5.49	1.45	-0.9	A-
		White	Hispanic	8	25.1	3.14	1.8	-1.4	B-
		Male	Female	8	23.5	2.94	1.1	-0.2	A-

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	116	White	Black	8	12.3	1.54	0.89	0.3	A+
		White	Hispanic	8	12.83	1.6	0.81	0.5	A+
		Male	Female	8	90.06	11.26	0.74	0.7	A+
K	117	White	Black	8	65.49	8.19	1.64	-1.2	B-
		White	Hispanic	8	8.44	1.06	1.46	-0.9	A-
		Male	Female	8	1211.53	151.44	2.46	-2.1	C-
K	118	White	Black	8	104.85	13.11	1.97	-1.6	C-
		White	Hispanic	8	18.55	2.32	1.69	-1.2	B-
		Male	Female	8	362.67	45.33	1.84	-1.4	B-
K	119	White	Black	8	5.86	0.73	1.03	-0.1	A-
		White	Hispanic	8	7.82	0.98	1	0	A
		Male	Female	8	7.72	0.97	0.98	0.1	A+
K	120	White	Black	8	36.66	4.58	1.23	-0.5	A-
		White	Hispanic	8	6.95	0.87	1.25	-0.5	A-
		Male	Female	8	40.88	5.11	1.22	-0.5	A-
K	121	White	Black	8	6.05	0.76	1.08	-0.2	A-
		White	Hispanic	8	7.75	0.97	1.33	-0.7	A-
		Male	Female	8	64.39	8.05	1.11	-0.2	A-
K	122	White	Black	8	15.31	1.91	1.11	-0.2	A-
		White	Hispanic	8	30.21	3.78	1.07	-0.2	A-
		Male	Female	8	256.04	32	1.66	-1.2	B-
K	123	White	Black	8	7.8	0.97	1.01	0	A-
		White	Hispanic	8	13.94	1.74	0.54	1.5	B+
		Male	Female	8	53.95	6.74	0.71	0.8	A+
K	124	White	Black	8	14.92	1.87	1.1	-0.2	A-
		White	Hispanic	8	16.14	2.02	1.39	-0.8	A-
		Male	Female	8	30.91	3.86	1.11	-0.2	A-
K	125	White	Black	8	15.81	1.98	1.18	-0.4	A-
		White	Hispanic	8	15.71	1.96	1.13	-0.3	A-
		Male	Female	8	9.73	1.22	1.03	-0.1	A-
K	126	White	Black	8	18.43	2.3	1.07	-0.2	A-
		White	Hispanic	8	5.26	0.66	1.22	-0.5	A-
		Male	Female	8	94.01	11.75	1.41	-0.8	A-
K	127	White	Black	8	23.07	2.88	1.08	-0.2	A-
		White	Hispanic	8	5.93	0.74	0.84	0.4	A+
		Male	Female	8	29.36	3.67	1	0	A-
K	128	White	Black	8	14.92	1.86	0.94	0.1	A+
		White	Hispanic	8	13.36	1.67	0.97	0.1	A+
		Male	Female	8	59.57	7.45	1.22	-0.5	A-
K	129	White	Black	8	6.67	0.83	1.03	-0.1	A-
		White	Hispanic	8	3.57	0.45	1.05	-0.1	A-
		Male	Female	8	19.8	2.47	0.82	0.5	A+
K	130	White	Black	8	6.02	0.75	1.03	-0.1	A-
		White	Hispanic	8	3.28	0.41	0.95	0.1	A+
		Male	Female	8	81.01	10.13	0.79	0.5	A+
K	131	White	Black	8	5.49	0.69	0.89	0.3	A+
		White	Hispanic	8	15.37	1.92	0.68	0.9	A+
		Male	Female	8	57.65	7.21	0.81	0.5	A+

**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
K	132	White	Black	8	16.55	2.07	0.86	0.4	A+
		White	Hispanic	8	7.06	0.88	1.13	-0.3	A-
		Male	Female	8	50.67	6.33	1.12	-0.3	A-
K	133	White	Black	8	7.34	0.92	1.1	-0.2	A-
		White	Hispanic	8	6.76	0.85	1.15	-0.3	A-
		Male	Female	8	32.69	4.09	0.88	0.3	A+
K	134	White	Black	8	15.63	1.95	0.88	0.3	A+
		White	Hispanic	8	8.53	1.07	0.76	0.7	A+
		Male	Female	8	194.53	24.32	0.6	1.2	B+
K	135	White	Black	8	25.51	3.19	1.3	-0.6	A-
		White	Hispanic	8	14.59	1.82	0.97	0.1	A+
		Male	Female	8	51.94	6.49	1.19	-0.4	A-
K	136	White	Black	8	13.59	1.7	1.1	-0.2	A-
		White	Hispanic	8	16.75	2.09	0.84	0.4	A+
		Male	Female	8	28.44	3.55	0.97	0.1	A+
K	137	White	Black	8	9.77	1.22	0.89	0.3	A+
		White	Hispanic	8	8.39	1.05	0.87	0.3	A+
		Male	Female	8	26.39	3.3	0.88	0.3	A+
K	138	White	Black	8	21.25	2.66	1.39	-0.8	A-
		White	Hispanic	8	5.9	0.74	0.92	0.2	A+
		Male	Female	8	79.63	9.95	1.03	-0.1	A-
K	139	White	Black	8	71.03	8.88	1.7	-1.2	B-
		White	Hispanic	8	4.45	0.56	1.08	-0.2	A-
		Male	Female	8	186.2	23.28	1.49	-0.9	A-
L	100	White	Black	8	9.98	1.25	1.15	-0.3	A-
		White	Hispanic	8	3.68	0.46	1.12	-0.3	A-
		Male	Female	8	21.64	2.7	1.09	-0.2	A-
L	101	White	Black	8	37.52	4.69	1.38	-0.7	A-
		White	Hispanic	8	13.97	1.75	1.39	-0.8	A-
		Male	Female	8	39.22	4.9	0.89	0.3	A+
L	102	White	Black	8	20.14	2.52	1.28	-0.6	A-
		White	Hispanic	8	8.58	1.07	1	0	A
		Male	Female	8	10.29	1.29	0.97	0.1	A+
L	103	White	Black	8	20.99	2.62	0.77	0.6	A+
		White	Hispanic	8	20.32	2.54	1.13	-0.3	A-
		Male	Female	8	51.21	6.4	1.25	-0.5	A-
L	104	White	Black	8	4.25	0.53	0.99	0	A+
		White	Hispanic	8	9.63	1.2	0.9	0.2	A+
		Male	Female	8	24.46	3.06	1.16	-0.3	A-
L	105	White	Black	8	18.48	2.31	0.87	0.3	A+
		White	Hispanic	8	13.6	1.7	0.71	0.8	A+
		Male	Female	8	30.62	3.83	0.91	0.2	A+
L	106	White	Black	8	19.99	2.5	1.25	-0.5	A-
		White	Hispanic	8	47.03	5.88	1.44	-0.9	A-
		Male	Female	8	22.4	2.8	1.02	0	A-
L	107	White	Black	8	9.81	1.23	1.11	-0.3	A-
		White	Hispanic	8	14.73	1.84	1.2	-0.4	A-
		Male	Female	8	10.58	1.32	0.95	0.1	A+

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis -- Multiple Choice Items

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
L	108	White	Black	8	16.01	2	1.1	-0.2	A-
		White	Hispanic	8	2.19	0.27	1.02	0	A-
		Male	Female	8	143.93	17.99	1.41	-0.8	A-
L	109	White	Black	8	5.97	0.75	1.07	-0.2	A-
		White	Hispanic	8	5.79	0.72	1.3	-0.6	A-
		Male	Female	8	15.36	1.92	1.04	-0.1	A-
L	110	White	Black	8	9.49	1.19	0.86	0.3	A+
		White	Hispanic	8	11.65	1.46	1.13	-0.3	A-
		Male	Female	8	98.28	12.28	0.76	0.7	A+
L	111	White	Black	8	13.54	1.69	1.02	0	A-
		White	Hispanic	8	1.52	0.19	0.95	0.1	A+
		Male	Female	8	21.73	2.72	0.9	0.2	A+
L	112	White	Black	8	38.02	4.75	1.03	-0.1	A-
		White	Hispanic	8	10.18	1.27	1.41	-0.8	A-
		Male	Female	8	41.24	5.15	0.76	0.6	A+
L	113	White	Black	8	9.07	1.13	1.11	-0.2	A-
		White	Hispanic	8	15.24	1.9	1.49	-0.9	A-
		Male	Female	8	9.4	1.18	0.97	0.1	A+
L	114	White	Black	8	3.22	0.4	0.89	0.3	A+
		White	Hispanic	8	3.86	0.48	1.06	-0.1	A-
		Male	Female	8	17.95	2.24	0.94	0.1	A+
L	115	White	Black	8	51.29	6.41	1.39	-0.8	A-
		White	Hispanic	8	13.45	1.68	1.14	-0.3	A-
		Male	Female	8	25.96	3.25	1.15	-0.3	A-
L	116	White	Black	8	15.57	1.95	0.8	0.5	A+
		White	Hispanic	8	3.47	0.43	0.84	0.4	A+
		Male	Female	8	95.84	11.98	0.76	0.6	A+
L	117	White	Black	8	53.19	6.65	1.49	-0.9	A-
		White	Hispanic	8	16.7	2.09	1.47	-0.9	A-
		Male	Female	8	938.66	117.33	2.37	-2	C-
L	118	White	Black	8	82.08	10.26	1.75	-1.3	B-
		White	Hispanic	8	55.46	6.93	1.95	-1.6	C-
		Male	Female	8	304.62	38.08	1.76	-1.3	B-
L	119	White	Black	8	12.52	1.57	1	0	A
		White	Hispanic	8	7.79	0.97	0.88	0.3	A+
		Male	Female	8	17.22	2.15	0.92	0.2	A+
L	120	White	Black	8	57.17	7.15	0.6	1.2	B+
		White	Hispanic	8	10.64	1.33	0.72	0.8	A+
		Male	Female	8	175.05	21.88	0.51	1.6	C+
L	121	White	Black	8	10.2	1.27	0.93	0.2	A+
		White	Hispanic	8	11.98	1.5	1.3	-0.6	A-
		Male	Female	8	47.57	5.95	0.88	0.3	A+
L	122	White	Black	8	31.39	3.92	1.32	-0.6	A-
		White	Hispanic	8	3.27	0.41	1	0	A
		Male	Female	8	102.57	12.82	1.34	-0.7	A-
L	123	White	Black	8	14.43	1.8	1.11	-0.2	A-
		White	Hispanic	8	8.36	1.04	1.24	-0.5	A-
		Male	Female	8	29.87	3.73	0.91	0.2	A+

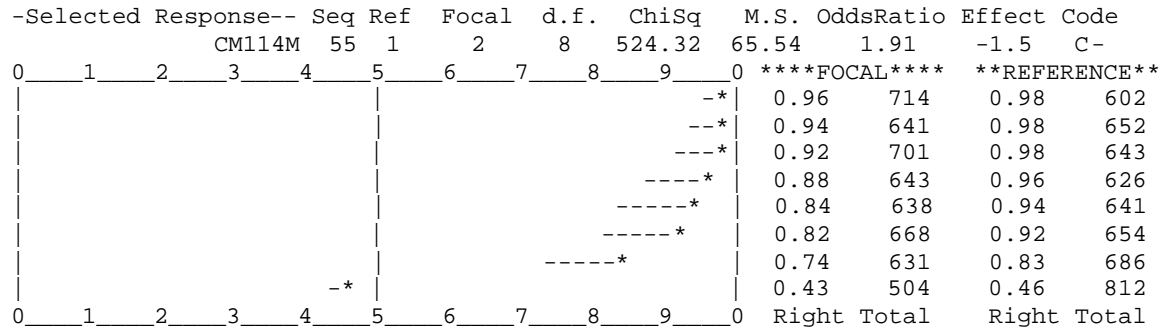
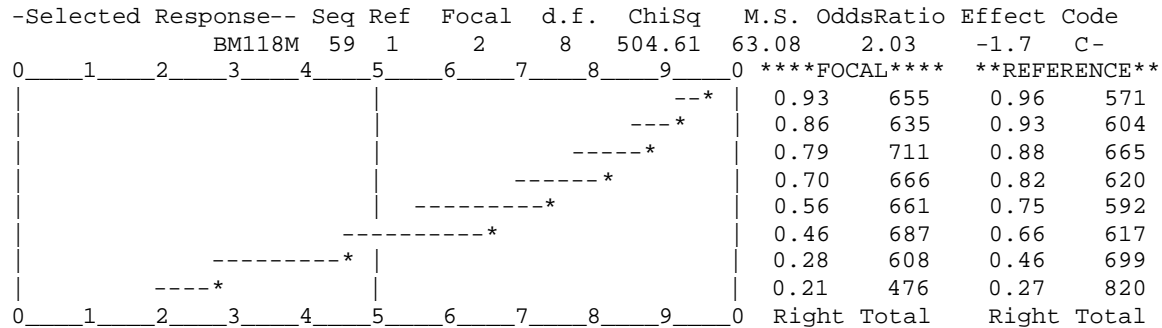
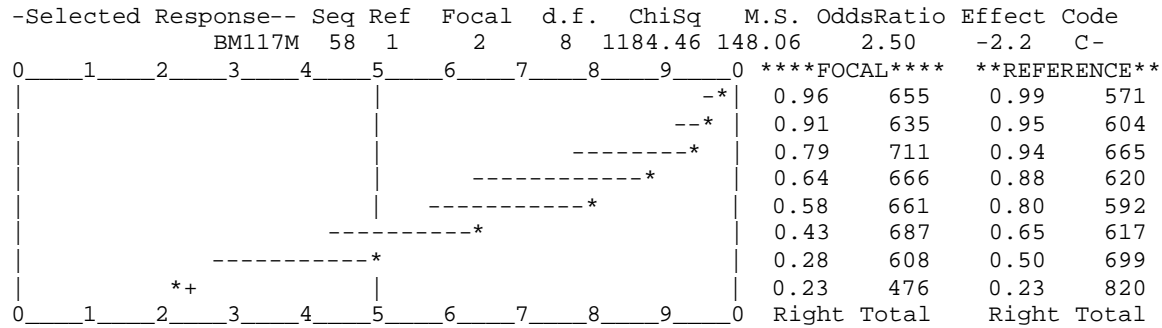
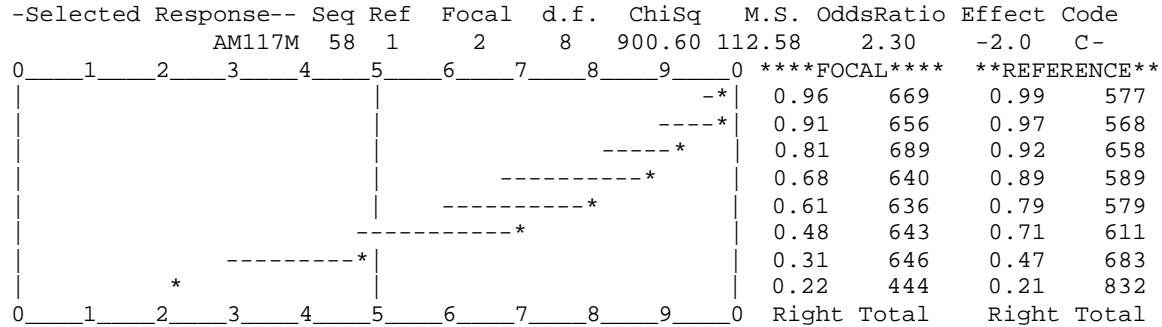
**Appendix V(a): Grade Eleven Reading
Between Group DIF Analysis -- Multiple Choice Items**

Grade Eleven Reading -- Multiple Choice Items									
Form	Sequence	Reference	Focal	Chi		Mean	Odds		Code
				DF	Squared	Square	Ratio	Effect	
L	124	White	Black	8	4.81	0.6	0.91	0.2	A+
		White	Hispanic	8	21.7	2.71	0.74	0.7	A+
		Male	Female	8	19.41	2.43	1	0	A+
L	125	White	Black	8	10.94	1.37	0.93	0.2	A+
		White	Hispanic	8	4.99	0.62	1.21	-0.4	A-
		Male	Female	8	18.44	2.3	0.97	0.1	A+
L	126	White	Black	8	8.04	1	1.05	-0.1	A-
		White	Hispanic	8	5.49	0.69	0.97	0.1	A+
		Male	Female	8	13.33	1.67	0.96	0.1	A+
L	127	White	Black	8	17.13	2.14	1.26	-0.6	A-
		White	Hispanic	8	12.94	1.62	1.31	-0.6	A-
		Male	Female	8	37.73	4.72	1.19	-0.4	A-
L	128	White	Black	8	15.29	1.91	0.88	0.3	A+
		White	Hispanic	8	1.92	0.24	1.04	-0.1	A-
		Male	Female	8	15.97	2	1.02	-0.1	A-
L	129	White	Black	8	16.13	2.02	0.8	0.5	A+
		White	Hispanic	8	5.8	0.73	0.89	0.3	A+
		Male	Female	8	60.03	7.5	0.79	0.5	A+
L	130	White	Black	8	5	0.62	0.97	0.1	A+
		White	Hispanic	8	8.47	1.06	1	0	A
		Male	Female	8	35.03	4.38	0.94	0.1	A+
L	131	White	Black	8	5.99	0.75	0.98	0	A+
		White	Hispanic	8	8.65	1.08	0.89	0.3	A+
		Male	Female	8	30.24	3.78	0.94	0.1	A+
L	132	White	Black	8	13.22	1.65	1.01	0	A-
		White	Hispanic	8	6.11	0.76	0.89	0.3	A+
		Male	Female	8	39.34	4.92	1.16	-0.4	A-
L	133	White	Black	8	34.53	4.32	0.75	0.7	A+
		White	Hispanic	8	10.28	1.28	0.98	0	A+
		Male	Female	8	56.11	7.01	0.91	0.2	A+
L	134	White	Black	8	7.36	0.92	1.11	-0.3	A-
		White	Hispanic	8	4.92	0.61	1.23	-0.5	A-
		Male	Female	8	23.68	2.96	1.17	-0.4	A-
L	135	White	Black	8	7.97	1	0.91	0.2	A+
		White	Hispanic	8	3.28	0.41	0.96	0.1	A+
		Male	Female	8	63.34	7.92	1.04	-0.1	A-
L	136	White	Black	8	7.38	0.92	0.87	0.3	A+
		White	Hispanic	8	4	0.5	0.92	0.2	A+
		Male	Female	8	66.69	8.34	0.97	0.1	A+
L	137	White	Black	8	15.02	1.88	1.03	-0.1	A-
		White	Hispanic	8	5.46	0.68	1	0	A
		Male	Female	8	46.65	5.83	0.99	0	A+
L	138	White	Black	8	7.73	0.97	1.03	-0.1	A-
		White	Hispanic	8	16.22	2.03	1.39	-0.8	A-
		Male	Female	8	20.58	2.57	1.04	-0.1	A-
L	139	White	Black	8	165.89	20.74	2.27	-1.9	C-
		White	Hispanic	8	35.22	4.4	2.06	-1.7	C-
		Male	Female	8	917.5	114.69	2.65	-2.3	C-

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female



Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
HM119M										60	1	2	8	789.01	98.63	2.69	-2.3	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****								
0 1 2 3 4 5 6 7 8 9 0										****REFERENCE**								
0 1 2 3 4 5 6 7 8 9 0										0.98 734 0.98 585								
0 1 2 3 4 5 6 7 8 9 0										* 0.96 662 0.98 614								
0 1 2 3 4 5 6 7 8 9 0										- * 0.93 645 0.97 618								
0 1 2 3 4 5 6 7 8 9 0										- - - - * 0.88 742 0.96 663								
0 1 2 3 4 5 6 7 8 9 0										- - - - - * 0.80 698 0.92 647								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - * 0.73 742 0.89 719								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - * 0.53 697 0.78 705								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - * 0.24 501 0.43 870								
0 1 2 3 4 5 6 7 8 9 0										Right Total Right Total								

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
IM137M										78	1	2	8	830.24	103.78	2.26	-1.9	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****								
0 1 2 3 4 5 6 7 8 9 0										****REFERENCE**								
0 1 2 3 4 5 6 7 8 9 0										- - * 0.96 691 0.99 619								
0 1 2 3 4 5 6 7 8 9 0										- - - * 0.89 700 0.96 670								
0 1 2 3 4 5 6 7 8 9 0										- - - - - * 0.80 725 0.92 701								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - * 0.67 639 0.85 626								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - * 0.56 653 0.78 634								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - * 0.41 712 0.63 664								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - - * 0.31 616 0.42 687								
0 1 2 3 4 5 6 7 8 9 0										- - * 0.14 487 0.18 831								
0 1 2 3 4 5 6 7 8 9 0										Right Total Right Total								

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
JM137M										78	1	2	8	1070.93	133.87	2.49	-2.1	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****								
0 1 2 3 4 5 6 7 8 9 0										****REFERENCE**								
0 1 2 3 4 5 6 7 8 9 0										- * 0.96 634 0.99 596								
0 1 2 3 4 5 6 7 8 9 0										- - - - * 0.90 629 0.97 617								
0 1 2 3 4 5 6 7 8 9 0										- - - - - * 0.80 682 0.93 659								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - * 0.70 651 0.91 616								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - * 0.58 681 0.80 620								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - * 0.43 651 0.63 691								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - - * 0.30 640 0.45 705								
0 1 2 3 4 5 6 7 8 9 0										- - - * 0.16 518 0.23 841								
0 1 2 3 4 5 6 7 8 9 0										Right Total Right Total								

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
KM117M										58	1	2	8	1211.53	151.44	2.46	-2.1	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****								
0 1 2 3 4 5 6 7 8 9 0										****REFERENCE**								
0 1 2 3 4 5 6 7 8 9 0										- - * 0.95 656 0.99 610								
0 1 2 3 4 5 6 7 8 9 0										- - - * 0.89 655 0.96 570								
0 1 2 3 4 5 6 7 8 9 0										- - - - - * 0.79 668 0.95 638								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - * 0.69 611 0.88 606								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - * 0.54 640 0.82 702								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - * 0.50 658 0.68 604								
0 1 2 3 4 5 6 7 8 9 0										- - - - - - - - - * 0.37 602 0.47 725								
0 1 2 3 4 5 6 7 8 9 0										- - - * 0.20 457 0.27 806								
0 1 2 3 4 5 6 7 8 9 0										Right Total Right Total								

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
GM119M		60	1	2	8	96.27	12.03	1.94	-1.6	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									****REFERENCE**
							0.90	39	0.90	1265	
							0.74	39	0.88	1188	
							0.72	69	0.81	1318	
							0.65	79	0.72	1223	
							0.52	108	0.66	1098	
							0.34	205	0.50	1138	
							0.19	262	0.37	961	
							0.13	359	0.22	847	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
HM119M		60	1	2	8	209.27	26.16	2.45	-2.1	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									****REFERENCE**
							0.97	31	0.98	1236	
							0.98	41	0.97	1178	
							0.84	63	0.95	1151	
							0.84	104	0.92	1230	
							0.70	138	0.88	1148	
							0.71	174	0.83	1204	
							0.50	278	0.72	1013	
							0.25	391	0.44	819	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
KM118M		59	1	2	8	104.85	13.11	1.97	-1.6	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									****REFERENCE**
							0.87	23	0.95	1177	
							0.85	47	0.89	1125	
							0.75	63	0.84	1184	
							0.67	87	0.78	1063	
							0.57	128	0.70	1149	
							0.38	167	0.58	1014	
							0.27	282	0.45	950	
							0.18	351	0.28	759	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
LM139M		80	1	2	8	165.89	20.74	2.27	-1.9	C-	
0		1	2	3	4	5	6	7	8	9	0
		****FOCAL****									****REFERENCE**
							0.90	20	0.98	1190	
							0.95	44	0.97	1181	
							0.91	67	0.94	1202	
							0.80	85	0.91	1109	
							0.77	128	0.87	941	
							0.64	180	0.81	964	
							0.38	277	0.65	850	
							0.26	330	0.37	741	
0		1	2	3	4	5	6	7	8	9	0
		Right Total									Right Total

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

Reference Group = White, Focal Group = Hispanic

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										AM109M	50	1	3	8	28.06	3.51	2.05	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.43	7	0.68	1175						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.50	12	0.54	1138						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.35	20	0.49	1217						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.20	35	0.43	1068						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.23	31	0.40	1051						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.26	50	0.36	1016						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.16	75	0.31	932						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.18	112	0.24	762						
----- ----- ----- ----- ----- ----- ----- ----- -----										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										BM118M	59	1	3	8	30.81	3.85	2.03	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
----- ----- ----- ----- ----- ----- ----- ----- -----										1.00	5	0.95	1152						
----- ----- ----- ----- ----- ----- ----- ----- -----										1.00	15	0.89	1156						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.73	15	0.84	1263						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.79	24	0.76	1138						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.58	31	0.67	1066						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.41	41	0.58	1056						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.23	82	0.43	917						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.15	110	0.28	783						
----- ----- ----- ----- ----- ----- ----- ----- -----										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										CM121M	62	1	3	8	45.10	5.64	1.98	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.88	8	0.89	1241						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.88	17	0.87	1212						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.81	26	0.82	1205						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.68	19	0.77	1123						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.67	36	0.68	1077						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.31	59	0.61	1059						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.21	81	0.46	919						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.25	108	0.29	805						
----- ----- ----- ----- ----- ----- ----- ----- -----										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										DM121M	62	1	3	8	38.31	4.79	2.09	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		**REFERENCE**						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.94	17	0.90	1262						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.63	8	0.86	1158						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.71	17	0.84	1160						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.71	24	0.79	1192						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.56	34	0.71	1106						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.44	55	0.63	1109						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.28	78	0.48	1005						
----- ----- ----- ----- ----- ----- ----- ----- -----										0.19	138	0.29	817						
----- ----- ----- ----- ----- ----- ----- ----- -----										Right Total		Right Total							

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										HM119M	60	1	3	8	41.85	5.23	2.26	-1.9	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****			****REFERENCE**						
															1.00	5	0.98	1236	
															1.00	14	0.97	1178	
															0.87	15	0.95	1151	
															0.81	32	0.92	1230	
															0.89	28	0.88	1148	
															0.80	50	0.83	1204	
															0.55	75	0.72	1013	
															0.22	113	0.44	819	
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										JM117M	58	1	3	8	38.63	4.83	1.92	-1.5	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****			****REFERENCE**						
															0.88	8	0.97	1155	
															0.88	16	0.93	1163	
															0.84	19	0.92	1223	
															0.77	30	0.89	1145	
															0.67	36	0.89	1125	
															0.75	53	0.85	1079	
															0.67	66	0.73	958	
															0.40	124	0.51	829	
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										JM137M	78	1	3	8	31.44	3.93	2.00	-1.6	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****			****REFERENCE**						
															0.88	8	0.98	1155	
															1.00	16	0.94	1163	
															0.89	19	0.87	1223	
															0.73	30	0.80	1145	
															0.58	36	0.70	1125	
															0.45	53	0.57	1079	
															0.21	66	0.41	958	
															0.11	124	0.23	829	
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
										KM101M	42	1	3	8	50.05	6.26	2.13	-1.8	C-
0 1 2 3 4 5 6 7 8 9 0										****FOCAL****			****REFERENCE**						
															0.78	9	0.87	1177	
															1.00	15	0.82	1125	
															0.73	22	0.79	1184	
															0.81	31	0.75	1063	
															0.46	35	0.69	1149	
															0.33	52	0.59	1014	
															0.27	64	0.46	950	
															0.17	109	0.32	759	
0 1 2 3 4 5 6 7 8 9 0										Right Total		Right Total							

Appendix V(a): Grade Eleven Reading Between Group DIF Analysis – Multiple Choice Items

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code				
										LM118M	59	1	3	8	55.46	6.93	1.95	-1.6	C-			
										****FOCAL****		**REFERENCE**										
0	1	2	3	4	5	6	7	8	9	0												
															0.57	7	0.94	1190				
															1.00	11	0.88	1181				
															0.67	30	0.84	1202				
															0.67	36	0.76	1109				
															0.52	33	0.67	941				
															0.31	52	0.56	964				
															0.22	67	0.41	850				
															0.25	99	0.29	741				
										0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code				
										LM139M	80	1	3	8	35.22	4.40	2.06	-1.7	C-			
										****FOCAL****		**REFERENCE**										
0	1	2	3	4	5	6	7	8	9	0												
															1.00	7	0.98	1190				
															0.91	11	0.97	1181				
															0.90	30	0.94	1202				
															0.89	36	0.91	1109				
															0.82	33	0.87	941				
															0.58	52	0.81	964				
															0.49	67	0.65	850				
															0.24	99	0.37	741				
										0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total

**Appendix V(b): Grade Eleven Reading
Between Group DIF Analysis -- Constructed Response Items**

Grade Eleven Reading -- Constructed Response Items									
Form	Sequence	Reference	Focal	DF	Max Score	SMD	SE	Effect	Code
A	140	White	Black	8	4	-0.045	0.025	-1.8	AA-
		White	Hispanic	8	4	-0.088	0.041	-2.1	BB-
		Male	Female	8	4	0.187	0.014	13.2	CC+
B	140	White	Black	8	4	-0.105	0.025	-4.2	BB-
		White	Hispanic	8	4	-0.044	0.043	-1	AA-
		Male	Female	8	4	0.179	0.014	13.1	CC+
C	140	White	Black	8	4	-0.074	0.026	-2.8	BB-
		White	Hispanic	8	4	-0.045	0.042	-1.1	AA-
		Male	Female	8	4	0.209	0.014	15	CC+
D	140	White	Black	8	4	-0.097	0.026	-3.7	BB-
		White	Hispanic	8	4	-0.090	0.042	-2.1	BB-
		Male	Female	8	4	0.237	0.014	17.1	CC+
E	140	White	Black	8	4	-0.138	0.025	-5.6	CC-
		White	Hispanic	8	4	-0.086	0.041	-2.1	BB-
		Male	Female	8	4	0.119	0.014	8.7	CC+
F	140	White	Black	8	4	-0.099	0.024	-4	BB-
		White	Hispanic	8	4	-0.011	0.041	-0.3	AA-
		Male	Female	8	4	0.110	0.013	8.4	CC+
G	140	White	Black	8	4	0.006	0.025	0.2	AA+
		White	Hispanic	8	4	-0.127	0.041	-3.1	BB-
		Male	Female	8	4	0.199	0.013	14.8	CC+
H	140	White	Black	8	4	-0.026	0.025	-1.1	AA-
		White	Hispanic	8	4	-0.057	0.043	-1.3	AA-
		Male	Female	8	4	0.183	0.013	13.8	CC+
I	140	White	Black	8	4	-0.058	0.025	-2.3	BB-
		White	Hispanic	8	4	-0.063	0.042	-1.5	AA-
		Male	Female	8	4	0.221	0.014	15.9	CC+
J	140	White	Black	8	4	-0.044	0.026	-1.7	AA-
		White	Hispanic	8	4	-0.048	0.043	-1.1	AA-
		Male	Female	8	4	0.229	0.014	16.1	CC+
K	140	White	Black	8	4	-0.120	0.026	-4.6	BB-
		White	Hispanic	8	4	-0.112	0.043	-2.6	BB-
		Male	Female	8	4	0.146	0.014	10.2	CC+
L	140	White	Black	8	4	-0.084	0.025	-3.3	BB-
		White	Hispanic	8	4	-0.105	0.042	-2.5	BB-
		Male	Female	8	4	0.141	0.014	10.2	CC+

Appendix V(b): Grade Eleven Reading Between Group DIF Analysis – Constructed Response Items

Item Characteristic Curves – C+/- Items

Reference Group = Male, Focal Group = Female

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
AM140P	81	1	2	8	4	0.187	0.014	13.2	C+
****FOCAL**** **REFERENCE**									
0	1	2	3	4					
						2.94	669	2.80	577
						2.69	656	2.52	568
						2.50	689	2.35	658
						2.38	640	2.16	589
						2.24	636	2.01	579
						1.90	642	1.76	611
						1.56	642	1.30	681
						0.92	424	0.74	807
0	1	2	3	4		Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
BM140P	81	1	2	8	4	0.179	0.014	13.1	C+
****FOCAL**** **REFERENCE**									
0	1	2	3	4					
						2.95	655	2.83	571
						2.68	635	2.53	604
						2.59	711	2.37	665
						2.42	666	2.21	620
						2.23	661	2.09	592
						2.05	687	1.80	617
						1.70	607	1.50	696
						0.89	448	0.78	802
0	1	2	3	4		Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
CM140P	81	1	2	8	4	0.209	0.014	15.0	C+
****FOCAL**** **REFERENCE**									
0	1	2	3	4					
						3.11	714	2.97	602
						2.87	641	2.72	652
						2.70	701	2.48	643
						2.51	643	2.30	626
						2.41	638	2.16	641
						2.16	668	1.96	654
						1.84	629	1.59	685
						1.05	480	0.78	791
0	1	2	3	4		Right Total		Right Total	

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
DM140P	81	1	2	8	4	0.237	0.014	17.1	C+
****FOCAL**** **REFERENCE**									
0	1	2	3	4					
						3.07	735	2.96	612
						2.90	688	2.70	559
						2.74	668	2.54	624
						2.61	687	2.33	637
						2.47	659	2.12	627
						2.18	671	1.92	682
						1.85	663	1.59	716
						1.09	512	0.84	841
0	1	2	3	4		Right Total		Right Total	

Appendix V(b): Grade Eleven Reading Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	EM140P	81	1	2	8	4	0.119	0.014	8.7	C+
1		2								
2										
3										
4										
								FOCAL		**REFERENCE**
								2.90	744	2.80 657
								2.62	667	2.45 644
								2.42	753	2.29 670
								2.24	779	2.19 664
								2.14	680	2.04 679
								1.90	648	1.78 693
								1.57	610	1.42 689
								1.03	433	0.85 813
0	1	2						Right Total		Right Total

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	FM140P	81	1	2	8	4	0.110	0.013	8.4	C+
1		2								
2										
3										
4										
								FOCAL		**REFERENCE**
								3.01	697	2.95 643
								2.76	743	2.66 729
								2.51	702	2.48 661
								2.38	701	2.27 629
								2.25	704	2.14 650
								2.08	662	1.97 631
								1.84	617	1.65 724
								1.21	490	1.00 849
0	1	2						Right Total		Right Total

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	GM140P	81	1	2	8	4	0.199	0.013	14.8	C+
1		2								
2										
3										
4										
								FOCAL		**REFERENCE**
								2.96	737	2.85 648
								2.72	647	2.55 624
								2.59	731	2.37 715
								2.43	733	2.23 630
								2.26	658	2.03 622
								2.08	706	1.81 710
								1.69	658	1.45 683
								0.90	469	0.75 887
0	1	2						Right Total		Right Total

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	HM140P	81	1	2	8	4	0.183	0.013	13.8	C+
1		2								
2										
3										
4										
								FOCAL		**REFERENCE**
								2.94	734	2.82 585
								2.72	662	2.59 614
								2.59	645	2.43 618
								2.50	742	2.24 663
								2.31	698	2.14 647
								2.08	742	1.89 719
								1.71	695	1.50 702
								0.98	471	0.77 844
0	1	2						Right Total		Right Total

Appendix V(b): Grade Eleven Reading Between Group DIF Analysis – Constructed Response Items

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	IM140P	81	1	2	8	4	0.221	0.014	15.9	C+
1	2	3	4	****FOCAL**** **REFERENCE**						
0	1	2	3	4	3.15	691	2.97	619		
					2.86	700	2.69	670		
					2.70	725	2.49	701		
					2.50	639	2.30	626		
					2.38	653	2.19	634		
					2.19	712	1.86	664		
					1.82	615	1.58	685		
					1.09	468	0.84	810		
0	1	2	3	4	Right Total		Right Total			

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	JM140P	81	1	2	8	4	0.229	0.014	16.1	C+
1	2	3	4	****FOCAL**** **REFERENCE**						
0	1	2	3	4	3.09	634	2.96	596		
					2.88	629	2.68	617		
					2.74	682	2.56	659		
					2.55	651	2.37	616		
					2.40	681	2.14	620		
					2.24	651	1.97	691		
					1.89	640	1.60	704		
					1.15	496	0.79	825		
0	1	2	3	4	Right Total		Right Total			

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	KM140P	81	1	2	8	4	0.146	0.014	10.2	C+
1	2	3	4	****FOCAL**** **REFERENCE**						
0	1	2	3	4	2.93	656	2.84	610		
					2.62	655	2.56	570		
					2.49	668	2.32	638		
					2.35	611	2.17	606		
					2.18	640	2.00	702		
					1.88	658	1.72	604		
					1.65	600	1.44	725		
					0.98	439	0.85	791		
0	1	2	3	4	Right Total		Right Total			

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
0	LM140P	81	1	2	8	4	0.141	0.014	10.2	C+
1	2	3	4	****FOCAL**** **REFERENCE**						
0	1	2	3	4	3.02	698	2.96	559		
					2.71	635	2.66	638		
					2.61	677	2.47	661		
					2.40	664	2.28	593		
					2.34	584	2.10	541		
					2.09	637	1.97	592		
					1.90	583	1.68	630		
					1.17	429	0.94	743		
0	1	2	3	4	Right Total		Right Total			

Appendix V(b): Grade Eleven Reading Between Group DIF Analysis – Constructed Response Items

Reference Group = White, Focal Group = Black

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
EM140P	81	1	2	8	4	-0.138	0.025	-5.6	C-
0	1	2	3	4	****FOCAL**** **REFERENCE**				
						2.62	26	2.85	1311
						2.51	37	2.53	1211
						2.22	83	2.37	1288
						2.01	92	2.22	1284
						1.98	131	2.10	1160
						1.80	219	1.84	1030
						1.42	273	1.50	922
						0.74	308	0.99	787
0	1	2	3	4	Right	Total		Right	Total

Appendix W: 2003 PSSA School Level Percentile Ranks

Percentile Rank	Mathematics			Reading		
	Five	Eight	Eleven	Five	Eight	Eleven
1	1030	1010	970	1020	900	820
2	1070	1040	1020	1060	960	870
3	1080	1060	1030	1080	1020	910
4	1100	1070	1040	1100	1060	950
5	1120	1090	1050	1110	1070	980
6	1130	1100	1060	1120	1090	1000
7	1150	1110	1070	1130	1100	1020
8	1160	1120	1080	1150	1120	1040
9	1180		1090	1160	1130	1060
10	1190	1130	1100	1170	1140	1070
11	1200	1140	1110	1180		1090
12	1210	1150		1190	1150	1100
13	1220	1160	1130		1160	1110
14			1140	1200	1170	1140
15	1230	1170	1160		1180	1160
16			1170	1220	1190	1180
17	1240	1180				1190
18	1250	1190	1190	1230	1200	1210
19		1200	1200	1240	1210	
20	1260			1250	1220	1220
21		1210	1210		1240	1230
22	1270	1220	1220	1260		
23		1230				1240
24	1280		1240	1270	1250	
25						1250
26			1250		1260	
27	1290	1240		1280		1260
28					1270	
29		1250				
30	1300		1260	1290	1280	1270
31		1260				
32					1290	
33	1310			1300		1280
34			1270			
35		1270			1300	
36				1310		
37						1290
38	1320	1280				
39			1280	1320	1310	
40						
41		1290				1300
42	1330					
43				1330		
44			1290		1320	
45		1300				
46	1340					
47						
48				1340	1330	1310
49						
50		1310	1300			

Appendix W: 2003 PSSA School Level Percentile Ranks

Percentile Rank	Mathematics			Reading		
	Five	Eight	Eleven	Five	Eight	Eleven
50		1310	1300			
51	1350					
52				1350	1340	
53						
54			1310			
55	1360					1320
56		1320				
57				1360		
58					1350	
59						
60	1370		1320			1330
61		1330				
62				1370		
63	1380				1360	
64						
65		1340				
66			1330	1380		
67	1390					1340
68					1370	
69						
70	1400	1350	1340	1390		1350
71						
72						
73					1380	
74	1410	1360				
75			1350	1400		1360
76						
77		1370		1410	1390	
78	1420					1370
79			1360			
80						
81	1430	1380	1370	1420	1400	
82						1380
83					1410	
84	1440	1390		1430		
85			1380			
86	1450	1400		1440	1420	1390
87			1390			
88	1460					1400
89		1410		1450	1430	
90			1400			
91	1470	1420		1460	1440	1410
92	1480	1430	1410		1450	
93		1430	1420	1470		1420
94	1490	1440	1430	1480	1460	1430
95	1500	1450		1490	1470	
96	1510	1460	1440	1500		1440
97	1520	1470	1450	1510	1480	1460
98	1540	1480	1470	1520	1490	1480
99	1570	1500	1500	1550	1510	1510

Appendix X: 2003 PSSA Percentile Rank for Student-Level Scaled Scores

Percentile Rank	Mathematics						Reading					
	Grade 5		Grade 8		Grade 11		Grade 5		Grade 8		Grade 11	
	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score
1	700	1	700	1	700	1	700	1	700	1	700	1
2	931	22	958	18	945	16	868	15	811	21	793	23
3	957	24	971	19	963	17	889	16	845	23	825	25
4	981	26	984	20	980	18	928	18	877	25	840	26
5	994	27	996	21	996	19	946	19	908	27	870	28
6	1005	28	1008	22			964	20	938	29	898	30
7	1029	30	1020	23	1011	20	982	21	968	31	926	32
8	1040	31	1031	24	1026	21	999	22	983	32	940	33
9	1051	32	1042	25			1017	23	1012	34	967	35
10	1062	33	1053	26	1041	22			1026	35	980	36
11	1073	34	1064	27			1034	24	1040	36	1007	38
12	1084	35	1074	28	1055	23	1050	25	1054	37	1020	39
13	1095	36					1067	26	1069	38	1033	40
14	1105	37	1085	29	1069	24	1083	27	1083	39	1046	41
15	1116	38	1095	30					1097	40	1060	42
16			1105	31	1083	25	1100	28	1111	41	1073	43
17	1127	39							1126	42	1086	44
18	1137	40	1114	32	1096	26	1116	29	1140	43	1099	45
19	1148	41	1124	33			1132	30			1112	46
20	1158	42	1134	34	1109	27			1154	44	1125	47
21							1149	31	1169	45		
22	1169	43	1143	35	1122	28					1139	48
23	1179	44	1152	36	1135	29	1165	32	1184	46	1152	49
24			1162	37							1165	50
25	1190	45			1147	30	1182	33	1198	47		
26	1200	46	1171	38							1179	51
27			1180	39	1160	31	1199	34	1213	48		
28	1211	47									1193	52
29			1189	40					1228	49	1206	53
30	1221	48	1198	41	1172	32	1216	35				
31									1243	50	1220	54
32	1232	49	1207	42	1184	33	1233	36				
33	1243	50	1216	43	1196	34					1234	55
34									1259	51		
35	1254	51	1225	44	1208	35	1250	37				
36									1275	52	1249	56
37	1265	52	1234	45	1219	36						
38			1242	46			1268	38			1263	57
39	1276	53			1231	37			1291	53		
40			1251	47							1278	58
41	1287	54	1260	48	1243	38	1286	39				
42									1307	54		
43	1299	55	1269	49	1254	39					1293	59
44												
45	1311	56	1278	50	1266	40	1305	40	1323	55		
46											1308	60
47	1323	57	1287	51	1277	41						
48			1296	52			1324	41	1340	56	1323	61
49					1289	42						
50	1335	58	1306	53	1300	43						

Appendix X: 2003 PSSA Percentile Rank for Student-Level Scaled Scores

Percentile Rank	Mathematics						Reading					
	Grade 5		Grade 8		Grade 11		Grade 5		Grade 8		Grade 11	
	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score	Scaled Score	Raw Score
50	1335	58	1306	53	1300	43						
51									1358	57	1339	62
52	1347	59	1315	54	1312	44	1343	42				
53			1325	55								
54	1360	60			1323	45					1355	63
55			1334	56					1376	58		
56					1335	46	1364	43				
57	1373	61	1344	57							1371	64
58					1346	47						
59	1386	62	1354	58					1394	59		
60			1364	59	1358	48	1385	44			1388	65
61					1370	49						
62	1400	63	1374	60					1413	60		
63					1381	50					1405	66
64	1414	64	1385	61			1407	45				
65					1393	51						
66			1396	62	1405	52			1432	61		
67	1428	65	1407	63							1423	67
68					1417	53	1430	46				
69	1443	66	1418	64								
70					1429	54			1453	62	1442	68
71			1430	65								
72	1459	67			1442	55	1455	47				
73			1442	66	1454	56			1474	63	1461	69
74	1475	68										
75			1454	67	1467	57						
76			1468	68	1480	58	1480	48			1481	70
77	1492	69							1496	64		
78			1481	69	1493	59						
79	1509	70									1501	71
80			1495	70	1506	60	1508	49				
81					1519	61			1519	65		
82	1527	71	1511	71							1523	72
83					1533	62						
84	1547	72	1526	72	1547	63	1538	50	1543	66		
85					1561	64					1545	73
86			1543	73								
87	1567	73	1562	74	1575	65			1569	67		
88					1589	66	1570	51			1569	74
89	1589	74	1581	75	1604	67						
90									1596	68	1595	75
91	1612	75	1603	76	1619	68	1606	52				
92					1635	69			1626	69	1621	76
93	1637	76	1626	77	1651	70						
94			1652	78	1667	71	1646	53	1658	70	1650	77
95	1664	77	1682	79	1684	72						
96	1694	78			1702	73	1692	54	1693	71	1682	78
97	1729	79	1717	80	1721	74	1746	55	1731	72	1716	79
98	1768	80	1759	81	1765	76	1811	56	1775	73	1753	80
99	1815	81	1813	82	1818	78	1893	57	1825	74	1795	81

Appendix Y: 2003 PSSA Reading Raw to Scaled Score Conversion Table

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	
0	700	365	0.54	700	430	0.55	700	450	0.55	0
1	700	203	0.98	700	237	0.99	700	248	0.99	1
2	700	146	1.36	700	170	1.38	700	177	1.39	2
3	700	121	1.64	700	140	1.68	700	146	1.68	3
4	700	107	1.86	700	122	1.92	700	128	1.92	4
5	700	97	2.05	700	111	2.12	700	115	2.13	5
6	700	90	2.21	700	102	2.30	700	106	2.31	6
7	700	84	2.36	700	95	2.46	700	99	2.48	7
8	700	80	2.48	700	90	2.60	700	94	2.62	8
9	722	77	2.60	700	86	2.73	700	89	2.76	9
10	751	74	2.70	700	82	2.85	700	85	2.88	10
11	777	71	2.79	700	79	2.96	700	82	3.00	11
12	802	69	2.88	700	77	3.06	700	79	3.10	12
13	825	67	2.96	700	74	3.15	700	77	3.20	13
14	847	66	3.03	700	73	3.24	700	74	3.29	14
15	868	64	3.09	700	71	3.32	700	73	3.38	15
16	889	63	3.15	717	69	3.39	700	71	3.46	16
17	909	62	3.20	737	68	3.46	700	69	3.54	17
18	928	61	3.25	757	67	3.52	707	68	3.61	18
19	946	60	3.29	775	66	3.58	725	67	3.68	19
20	964	60	3.33	793	65	3.63	743	66	3.74	20
21	982	59	3.36	811	64	3.68	760	65	3.80	21
22	999	59	3.39	828	63	3.73	777	64	3.85	22
23	1017	58	3.42	845	62	3.77	793	63	3.90	23
24	1034	58	3.44	861	62	3.81	809	62	3.95	24
25	1050	58	3.46	877	61	3.85	825	61	4.00	25
26	1067	57	3.47	893	61	3.88	840	61	4.04	26
27	1083	57	3.48	908	60	3.91	855	60	4.07	27
28	1100	57	3.48	923	60	3.94	870	60	4.11	28
29	1116	57	3.49	938	59	3.96	884	59	4.14	29
30	1132	57	3.48	953	59	3.98	898	59	4.17	30
31	1149	57	3.48	968	59	4.00	912	59	4.19	31
32	1165	57	3.47	983	58	4.02	926	58	4.22	32
33	1182	58	3.45	997	58	4.03	940	58	4.24	33
34	1199	58	3.44	1012	58	4.04	954	58	4.26	34
35	1216	58	3.42	1026	58	4.05	967	57	4.28	35
36	1233	59	3.39	1040	58	4.06	980	57	4.29	36
37	1250	59	3.36	1054	58	4.06	994	57	4.30	37
38	1268	60	3.33	1069	58	4.06	1007	57	4.31	38
39	1286	60	3.29	1083	58	4.06	1020	57	4.32	39
40	1305	61	3.25	1097	58	4.06	1033	57	4.32	40
41	1324	62	3.20	1111	58	4.06	1046	57	4.33	41
42	1343	63	3.15	1126	58	4.05	1060	57	4.33	42
43	1364	64	3.10	1140	58	4.04	1073	57	4.33	43
44	1385	66	3.03	1154	58	4.03	1086	57	4.32	44
45	1407	67	2.97	1169	58	4.01	1099	57	4.32	45
46	1430	69	2.89	1184	59	4.00	1112	57	4.31	46

Appendix Y: 2003 PSSA Reading Raw to Scaled Score Conversion Table

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	
47	1455	71	2.81	1198	59	3.98	1125	57	4.30	47
48	1480	73	2.73	1213	59	3.96	1139	57	4.29	48
49	1508	76	2.63	1228	60	3.94	1152	57	4.28	49
50	1538	79	2.53	1243	60	3.91	1165	58	4.27	50
51	1570	82	2.42	1259	60	3.88	1179	58	4.25	51
52	1606	87	2.29	1275	61	3.85	1193	58	4.23	52
53	1646	92	2.16	1291	62	3.82	1206	58	4.21	53
54	1692	99	2.01	1307	62	3.78	1220	59	4.19	54
55	1746	108	1.84	1323	63	3.74	1234	59	4.16	55
56	1811	120	1.66	1340	63	3.70	1249	59	4.14	56
57	1893	136	1.46	1358	64	3.65	1263	60	4.11	57
58	2003	162	1.22	1376	65	3.60	1278	60	4.08	58
59	2177	217	0.92	1394	66	3.55	1293	61	4.05	59
60	2444	374	0.53	1413	67	3.50	1308	61	4.01	60
61				1432	68	3.44	1323	62	3.97	61
62				1453	70	3.37	1339	62	3.93	62
63				1474	71	3.30	1355	63	3.89	63
64				1496	73	3.23	1371	64	3.84	64
65				1519	75	3.15	1388	65	3.79	65
66				1543	77	3.06	1405	66	3.74	66
67				1569	79	2.97	1423	67	3.68	67
68				1596	82	2.87	1442	68	3.62	68
69				1626	85	2.77	1461	69	3.55	69
70				1658	88	2.65	1481	70	3.49	70
71				1693	93	2.53	1501	72	3.41	71
72				1731	98	2.40	1523	74	3.34	72
73				1775	104	2.25	1545	75	3.25	73
74				1825	112	2.09	1569	78	3.16	74
75				1883	122	1.92	1595	80	3.07	75
76				1953	136	1.73	1621	83	2.97	76
77				2043	155	1.52	1650	86	2.86	77
78				2164	185	1.27	1682	89	2.75	78
79				2358	251	0.93	1716	94	2.62	79
80				2666	439	0.54	1753	99	2.49	80
81							1795	105	2.34	81
82							1843	112	2.18	82
83							1899	122	2.01	83
84							1966	135	1.82	84
85							2051	154	1.59	85
86							2166	185	1.32	86
87							2355	255	0.96	87
88							2664	454	0.54	88

Appendix Z: 2003 PSSA Mathematics Raw to Scaled Score Conversion Table

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	
0	700	348	0.55	700	325	0.55	700	378	0.55	0
1	700	192	0.99	700	179	0.99	700	209	0.99	1
2	700	137	1.38	700	128	1.39	700	150	1.38	2
3	700	113	1.68	700	106	1.68	700	124	1.67	3
4	700	99	1.92	700	92	1.92	700	108	1.91	4
5	700	90	2.12	700	83	2.13	700	98	2.11	5
6	700	83	2.30	719	77	2.31	700	90	2.29	6
7	700	77	2.46	750	72	2.48	731	84	2.45	7
8	700	73	2.60	778	68	2.62	763	80	2.59	8
9	702	70	2.73	802	64	2.76	793	76	2.72	9
10	726	67	2.85	824	62	2.88	819	73	2.84	10
11	749	64	2.96	845	59	3.00	844	70	2.96	11
12	770	62	3.06	864	57	3.11	867	68	3.06	12
13	789	60	3.16	882	55	3.21	888	65	3.15	13
14	808	59	3.24	898	54	3.30	908	64	3.24	14
15	826	57	3.33	914	52	3.39	927	62	3.33	15
16	842	56	3.40	929	51	3.47	945	61	3.40	16
17	858	55	3.47	944	50	3.55	963	59	3.48	17
18	874	54	3.54	958	49	3.62	980	58	3.55	18
19	889	53	3.60	971	48	3.69	996	57	3.61	19
20	903	52	3.66	984	47	3.75	1011	56	3.67	20
21	917	51	3.72	996	47	3.81	1026	55	3.73	21
22	931	50	3.77	1008	46	3.87	1041	55	3.78	22
23	944	50	3.82	1020	45	3.92	1055	54	3.83	23
24	957	49	3.86	1031	45	3.97	1069	53	3.87	24
25	969	49	3.91	1042	44	4.02	1083	53	3.91	25
26	981	48	3.95	1053	44	4.06	1096	52	3.95	26
27	994	48	3.98	1064	43	4.10	1109	52	3.99	27
28	1005	47	4.02	1074	43	4.14	1122	51	4.02	28
29	1017	47	4.05	1085	42	4.18	1135	51	4.06	29
30	1029	47	4.08	1095	42	4.21	1147	51	4.08	30
31	1040	46	4.11	1105	42	4.24	1160	50	4.11	31
32	1051	46	4.13	1114	42	4.28	1172	50	4.13	32
33	1062	46	4.15	1124	41	4.30	1184	50	4.15	33
34	1073	45	4.18	1134	41	4.33	1196	49	4.17	34
35	1084	45	4.19	1143	41	4.35	1208	49	4.19	35
36	1095	45	4.21	1152	41	4.37	1219	49	4.20	36
37	1105	45	4.22	1162	40	4.39	1231	49	4.21	37
38	1116	45	4.23	1171	40	4.41	1243	49	4.22	38
39	1127	45	4.24	1180	40	4.42	1254	49	4.23	39
40	1137	45	4.25	1189	40	4.44	1266	49	4.24	40
41	1148	45	4.25	1198	40	4.45	1277	49	4.24	41
42	1158	45	4.25	1207	40	4.46	1289	49	4.24	42
43	1169	45	4.25	1216	40	4.46	1300	49	4.24	43
44	1179	45	4.25	1225	40	4.47	1312	49	4.24	44
45	1190	45	4.24	1234	40	4.47	1323	49	4.23	45
46	1200	45	4.24	1242	40	4.47	1335	49	4.22	46

Appendix Z: 2003 PSSA Mathematics Raw to Scaled Score Conversion Table

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	Scaled Score	Scale Score SEM	Raw Score SEM	
47	1211	45	4.22	1251	40	4.46	1346	49	4.22	47
48	1221	45	4.21	1260	40	4.45	1358	49	4.21	48
49	1232	45	4.20	1269	40	4.44	1370	49	4.19	49
50	1243	45	4.18	1278	40	4.43	1381	49	4.18	50
51	1254	46	4.16	1287	40	4.42	1393	50	4.16	51
52	1265	46	4.13	1296	40	4.39	1405	50	4.14	52
53	1276	46	4.11	1306	41	4.37	1417	50	4.12	53
54	1287	47	4.08	1315	41	4.35	1429	50	4.10	54
55	1299	47	4.05	1325	41	4.32	1442	51	4.08	55
56	1311	47	4.01	1334	41	4.29	1454	51	4.05	56
57	1323	48	3.97	1344	42	4.25	1467	51	4.03	57
58	1335	48	3.93	1354	42	4.21	1480	52	4.00	58
59	1347	49	3.89	1364	43	4.17	1493	52	3.97	59
60	1360	49	3.85	1374	43	4.13	1506	52	3.94	60
61	1373	50	3.80	1385	44	4.08	1519	53	3.91	61
62	1386	51	3.75	1396	44	4.03	1533	53	3.88	62
63	1400	51	3.70	1407	45	3.98	1547	54	3.85	63
64	1414	52	3.64	1418	45	3.92	1561	54	3.82	64
65	1428	53	3.59	1430	46	3.86	1575	54	3.79	65
66	1443	54	3.53	1442	47	3.79	1589	55	3.76	66
67	1459	55	3.47	1454	48	3.72	1604	55	3.72	67
68	1475	56	3.40	1468	49	3.65	1619	56	3.68	68
69	1492	57	3.33	1481	50	3.57	1635	57	3.63	69
70	1509	58	3.26	1496	51	3.48	1651	58	3.57	70
71	1527	60	3.18	1511	52	3.39	1667	59	3.51	71
72	1547	61	3.10	1527	54	3.29	1684	60	3.43	72
73	1567	63	3.01	1543	56	3.18	1702	62	3.34	73
74	1589	65	2.92	1562	58	3.07	1721	64	3.23	74
75	1612	68	2.81	1581	60	2.95	1742	67	3.10	75
76	1637	70	2.70	1603	63	2.82	1765	70	2.96	76
77	1664	74	2.57	1626	66	2.67	1790	74	2.79	77
78	1694	78	2.43	1652	70	2.52	1818	79	2.61	78
79	1729	83	2.28	1682	76	2.35	1851	86	2.41	79
80	1768	90	2.10	1717	82	2.16	1890	94	2.19	80
81	1815	100	1.91	1759	91	1.95	1938	106	1.95	81
82	1875	114	1.67	1813	105	1.70	2001	122	1.69	82
83	1956	137	1.38	1887	127	1.40	2089	150	1.38	83
84	2093	192	0.99	2013	179	0.99	2238	210	0.98	84
85	2325	348	0.55	2228	325	0.55	2491	379	0.54	85