



California
English
Language
Development
Test

California English Language Development Test Technical Report Replication Study

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February 21, 2017

For the
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1. Purpose and Methodology

1.1 Purpose

For the 2016–17 and 2017–18 editions of the California English Language Development Test (CELDT), Educational Data Systems (EDS¹) staff will perform all psychometric, analysis, and technical reporting activities, assuming responsibility for these tasks from its current subcontractor, Educational Testing Service (ETS). To ensure test validity and psychometric consistency across CELDT editions and to ensure a smooth transition, EDS has conducted an independent replication study of the analyses included in the 2014–15 Edition Technical Report, the most recently completed report at the time this activity began. This report provides the results of that study.

Since the start of the contract in February 2012, we at EDS have replicated ETS's statistical analysis and technical report tasks for purposes of quality control. This study is intended to demonstrate to the California Department of Education (CDE) that we have the procedures, processes, and programs in place to provide all necessary tasks required to analyze and report the 2016–17 and 2017–18 editions of the test.

The goals of the Replication Study and this report are to:

Demonstrate to the CDE that the analyses produced by EDS are comparable to those produced by ETS

Provide the CDE with any differences in the comparison data, possible explanations for the differences, and potential impacts

Obtain approval from the CDE on the methodologies and software programs used by EDS in order to complete all operational activities for the 2016–17 and 2017–18 editions of the exams

Toward that end, our study included:

- | | | |
|--|---|---|
| <ul style="list-style-type: none">• Key checking• Equating data sample• Classical item analysis• DIF classifications• Reliability analysis | <ul style="list-style-type: none">• Writing scoring reliability• Item calibration• Scale transformation• Operational test scaling constants• Test characteristic curves | <ul style="list-style-type: none">• Scoring/conversion tables• Conditional SEM• Model fit statistics• Decision classification analysis• Validity evidence |
|--|---|---|

1.2 Methodology

EDS independently performed all of the analyses contained in the 2014–15 Edition CELDT Technical Report. That report includes several chapters of explanatory text with data tables within the body of the main report, followed by a series of tables and charts in appendixes. In the current study, we present the results of our analyses displayed side-by-side with the

¹ EDS is a trademark name of Hewlett Packard Development Company, LP, however in the context of this document, EDS refers exclusively to Educational Data Systems, Inc. of Morgan Hill, California.

2014–15 Edition Technical Report analyses, and we have flagged data that show “unexpected” differences.

Although the criteria for flagging unexpected differences are unavoidably subjective and vary by table, we are interested in differences that seem to be larger than rounding error or are larger than one would expect simply by using different software. We are particularly interested in discrepancies that seem to have a pattern and suggest a systemic difference. We describe the process used to generate each table and discuss the practical and theoretical significance of any observed discrepancies. Sometimes we use graphical aids such as scatterplots to summarize differences between two results, as these are sometimes more effective than tabular comparisons in identifying discrepant results and patterns.

In a few cases, we propose a different procedure than that employed by ETS, either because we are technically unable to replicate their results using the existing procedure (e.g., because we lack access to the same software) or because a different procedure is deemed more useful for some reason.

For tables with no discrepancies relative to the 2014–15 Edition Technical Report beyond what is clearly rounding error, we describe our processes but do not publish the corresponding data tables.

The emphasis of this report is on item calibration and scale transformation parameters, together with the resulting raw-to-scale score conversion tables, as these are the results most critical for establishing comparability with past procedures and for which EDS uses different software from ETS’s. We offer explanations for differences in outcome and discuss implications and recommendations for future editions.

1.3 How to Read This Report

Given the profusion of tables and appendixes in the CELDT Technical Report and their order of presentation, we have attempted to simplify and organize the various comparisons for clarity and ease of lookup. We employ the following conventions:

- The term “Replication Study” refers to this Technical Report Replication Study. The term “Technical Report” refers to the CELDT 2014–15 Edition Technical Report.
- A term such as “EDS results” refers to results generated by Educational Data Systems in its effort to replicate results in the Technical Report. A term such as “ETS results” refers to results originally generated by Educational Testing Service in 2014–15 and is approximately synonymous with “Technical Report”.
- Section 2, below, contains a list of tables and appendixes for which there are no important discrepancies between the EDS results and the Technical Report, with brief descriptions of data sources and process.
- Section 3, below, and the appendixes to which it refers are the core of the report, containing comparison data tables, charts, and explanations. Each subsection focuses on a specific table or appendix of the Technical Report. The subsections, tables, and appendixes are listed in order in Table 3.0.
- Most replication tables are contained in an appendix. To make it easier to match the Section 3 subsections to their corresponding appendixes, we have labeled each appendix with the corresponding subsection heading number and title. In some cases,

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an extra suffix number is added to distinguish multiple appendixes per subsection. Thus, the Section 3.1 item calibration results are contained in Appendix 3.1.1 while the corresponding figures are in Appendix 3.1.2.

- Each Replication Study subsection corresponds, with a few exceptions, to a table or an appendix in the Technical Report. These are indicated using the prefix “TR” (e.g., “TR Table 8.1” refers to Table 8.1 of the Technical Report; “TR Appendix M” refers to Appendix M of the Technical Report).
- The Replication Study subsections for Section 3 are ordered to correspond roughly to the analysis sequence, a different sequence than that used in the Technical Report.

2. Results with No Discrepancies

EDS replicated exactly the classical item analysis, descriptive statistics, and correlation analysis in the Technical Report, as well as three sets of results that were not included in the Technical Report but are important for a complete replication.

All tasks, tables, and appendixes for which we found no discrepancies beyond rounding error are described in Table 2.0, below. The table includes the source data file(s) used for each task, the software, and additional notes about the replication process. Table 2.0 begins with the three tasks that are not presented in the Technical Report, and then follows the order of the Technical Report.

Table 2.0: Technical Report Tables and Appendixes with No Discrepancies

TR Table / Appendix Number	Name or Description	Data File(s)	Process
NA	2014–15 Edition Key Checking	Student response batch files: A1_Score.txt, Score_B1_Aug.txt, Score_C1_Sep.txt	<ul style="list-style-type: none"> • Exclude Braille form examinees • Use the Statistical Package for the Social Sciences (SPSS) to produce classical item analysis (p-values, item-total correlations) for each grade span/domain • Check for negative item-total correlations and low p-values (< .15)
NA	2014–15 Equating File Sampling	2014–15 Merged Post-DRM SSF v4.txt	<ul style="list-style-type: none"> • Exclude examinees with fewer than 5 valid attempted items per domain • Omitted responses are not valid • Constructed-response (CR) values of 'B' and dichotomous CR (DCR) values of '3' are not valid • Use SPSS to draw a random sample of remaining cases; 75,000 per grade span/domain (rv.uniform [0,1], seed = 123; rank the random variable, reverse sort, select first 75,000 cases) • For kindergarten, select annual assessment (AA) examinees before initial assessment (IA) examinees • For grades 1 through 12 include only AA examinees

TR Table / Appendix Number	Name or Description	Data File(s)	Process
NA	2014–15 Operational Item Analysis Report - Two Versions; Equating file data and End-of-Year data	2014–15 Equating File Repeat with 2014–15 Pre Final Merge SSF.txt (2014–15 Merged Post-DRM SSF v4.txt plus Nov-June SSF.txt)	<ul style="list-style-type: none"> • Exclude Braille form examinees • Score omits (including 'B' for CR items and '3' for DCR items), multiple marks and all special codes as incorrect • Use SPSS to produce classical item analysis for each grade span/domain, and each grade/domain • Compute quintiles based on raw score (ties = mean) • Compute the following for each multiple choice (MC)/DCR response option by total and by quintile: p-value, item-total (point-biserial) correlation • Compute the following for each CR item: Mean divided by the score maximum, percent at each score point • Repeat with data file: Pre-Merge EOY SSF.txt
Table 5.2	Number of Students Using Accommodations, Modifications, and Alternate Assessments	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA and IA examinees • Use Access and C++ to produce counts
Table 7.1	Percentage of Examinees in Performance Levels	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use Access and C++ to produce frequencies and percentages
Table 8.1	Number of Students in the 2014–15 Test Population by Test Purpose	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • Include all examinees • Use Access and C++ to produce counts
Table 8.2	Mean p-Values, Annual Assessment	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Omits scored as zero • Use SPSS to compute p-values

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Table 8.3	Mean Point-Biserial Correlations, Annual Assessment	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Omits scored as zero • Use SPSS to compute item-total correlations
Table 8.4	Mean Omit Rates, Annual Assessment	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Use SPSS to compute percentage of students omitting item responses
Table 8.5	Test Reliability Coefficients	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees, and alternate or modified assessment examinees • Use SPSS to compute coefficient alpha ("Reliability" function) • Omits scored as zero
Table 8.6	Operational Test Standard Errors of Measurement (SEM) Based on Classical Test Theory	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees, and alternate or modified assessment examinees • Use SPSS to compute coefficient alpha ("Reliability" function) • Omits scored as zero • Use Excel and SPSS results to compute SEM
Table 8.10	DIF Results	2014–15 Equating File	<ul style="list-style-type: none"> • Mantel Haenszel (1959) D-DIF and Standardized Mean Difference (Dorans and Kulick, 1986) • EDS Python program
Table 10.1	Summary Statistics, Annual Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use C++ and Access to compute descriptive statistics

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Table 10.2	Summary Statistics, Initial Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees • Use C++ and Access to compute descriptive statistics
Table 10.3	2001–02 to 2014–15 Editions Percent English Proficient Students	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use C++ and Access to compute counts • Replicated only 2014–15 results
Figures 10.1 through 10.5	Percent Proficient, Annual Assessment Data for each domain and Overall	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use MS Excel to chart 2014–15 results
Table 10.4	2014–15 Edition Average p-Values	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Omits scored as zero • Use SPSS to compute p-values • Replicated only 2014–15 results
Table 10.5	2014–15 Edition Average Point-Biserial Coefficients	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Omits scored as zero • Use SPSS to compute item-total correlations • Replicated only 2014–15 results
Table 10.6	2006–07 to 2014–15 Editions Standard Errors of Measurement	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees, and alternate or modified assessment examinees • Use SPSS to compute coefficient alpha ("Reliability" function) • Omits scored as zero • Use Excel and SPSS results to compute SEM • Replicated only 2014–15 results

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix E Table E-1	2014–15 Edition Scale Score Summary Statistics by Grade, Annual Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use Access and C++ to compute descriptive statistics
Appendix E Table E-2	2014–15 Edition Scale Score Summary Statistics by Grade Span, Annual Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use Access and C++ to compute descriptive statistics
Appendix E Table E-3	2014–15 Edition Scale Score Summary Statistics by Grade, Initial Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees • Use Access and C++ to compute descriptive statistics
Appendix E Table E-4	2014–15 Edition Scale Score Summary Statistics by Grade Span, Initial Assessment Data	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees • Use Access and C++ to compute descriptive statistics
Appendix F Table F-1	Descriptive Statistics, Annual Assessment, Grade Span K–1	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-2	Pearson Correlation Coefficients, Annual Assessment, Grade Span K–1	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix F Table F-3	Descriptive Statistics, Annual Assessment, Grade 2	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-4	Pearson Correlation Coefficients, Annual Assessment, Grade 2	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-5	Descriptive Statistics, Annual Assessment, Grade Span 3–5	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-6	Pearson Correlation Coefficients, Annual Assessment, Grade Span 3–5	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-7	Descriptive Statistics, Annual Assessment, Grade Span 6–8	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-8	Pearson Correlation Coefficients, Annual Assessment, Grade Span 6–8	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix F Table F-9	Descriptive Statistics, Annual Assessment, Grade Span 9–12	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-10	Pearson Correlation Coefficients, Annual Assessment, Grade Span 9–12	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-11	Descriptive Statistics, Initial Assessment, Grade Span K–1	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-12	Pearson Correlation Coefficients, Initial Assessment, Grade Span K–1	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-13	Descriptive Statistics, Initial Assessment, Grade 2	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-14	Pearson Correlation Coefficients, Initial Assessment, Grade 2	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix F Table F-15	Descriptive Statistics, Initial Assessment, Grade Span 3–5	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-16	Pearson Correlation Coefficients, Initial Assessment, Grade Span 3–5	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-17	Descriptive Statistics, Initial Assessment, Grade Span 6–8	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-18	Pearson Correlation Coefficients, Initial Assessment, Grade Span 6–8	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations
Appendix F Table F-19	Descriptive Statistics, Initial Assessment, Grade Span 9–12	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute descriptive statistics
Appendix F Table F-20	Pearson Correlation Coefficients, Initial Assessment, Grade Span 9–12	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Score omits, multiple marks and special codes as incorrect • Use SPSS to compute correlations

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix I Table I-1 through I-30	Scale Score Frequency Distributions, Annual Assessment (Grade span/domain, comprehension and overall)	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Use SPSS to compute frequency distributions
Appendix I Table I-30 through I-60	Scale Score Frequency Distributions, Initial Assessment (Grade span/domain, comprehension and overall)	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Use SPSS to compute frequency distributions
Appendix J Table J-1 through J-5	Frequency Distribution, Home Language, Annual Assessment, Grade Spans K–1, 2, 3–5, 6–8 and 9–12	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees with valid demographic data • Use Access to produce frequency distributions
Appendix J Table J-6 through J-10	Frequency Distribution, Home Language, Initial Assessment, Grade Spans K–1, 2, 3–5, 6–8 and 9–12	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees with valid demographic data • Use Access to produce frequency distributions
Appendix J Table J-11 through J-20	Ethnicity Tables were not included in the Technical Report		

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix J Table J-21	Frequency Distribution, Migrant Education, Annual Assessment, All Grade Spans	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees with valid demographic data • Use Access to produce frequency distributions
Appendix J Table J-22	Frequency Distribution, Migrant Education, Initial Assessment, All Grade Spans	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees with valid demographic data • Use Access to produce frequency distributions
Appendix J Tables J-23 through J-34	Gifted and Talented, and English Learner Tables were not included in the Technical Report		
Appendix J Table J-35 through J-39	Frequency Distribution, Primary Disability, Annual Assessment, Grade Spans K–1, 2, 3–5, 6–8 and 9–12	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees with valid demographic data • Use Access to produce frequency distributions
Appendix J Table J-40 through J-44	Frequency Distribution, Primary Disability, Initial Assessment, Grade Spans K–1, 2, 3–5, 6–8 and 9–12	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • IA examinees with valid demographic data • Use Access to produce frequency distributions
Appendix K Tables K-1 through K-23	Annual Assessment Item Analysis (Domain) (Grade Span), (MC/CR)	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Use SPSS to produce classical item analysis statistics

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix K Tables K-24 through K-46	Initial Assessment Item Analysis (Domain) (Grade Span), (MC/CR)	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Exclude Braille form examinees • Use SPSS to produce classical item analysis statistics
Appendix L Tables L-1 through L-20	Comparison of Item Difficulty (Annual vs. Initial Assessment), (Domain), (Grade Span)	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) and IA examinees • Exclude Braille form examinees • Use SPSS to produce p-values • Compare AA and IA values in Excel
Appendix N Table N-1	Item-Type Descriptive Statistics, Annual Assessment	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • AA (inside window) examinees • Exclude Braille form examinees • Use SPSS to produce descriptive statistics and correlations
Appendix N Table N-2	Item-Type Descriptive Statistics, Initial Assessment	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> • IA examinees • Exclude Braille form examinees • Use SPSS to produce descriptive statistics and correlations
Appendix O Tables O-1 through O-5	Inter-rater Agreement, Annual Assessment, Writing (Grade Span)	2014–15 AA Rater Reliability data.txt (this file includes best available value of Test Purpose)	<ul style="list-style-type: none"> • Use Access and C++ to produce frequencies and percentages • AA (inside window) examinees • Exclude Braille form examinees • Exclude values of "Z" and "V" from calculations • Special codes (B, I, L, etc.) are scored as zero
Appendix R Table R-1	Historical Proficiency by Grade and Grade Span, 2014–15 Edition values replicated	2014–15 Merged EOY SSF.txt	<ul style="list-style-type: none"> • Reference: 2013–14 Technical Report • AA examinees • Use Access and C++ to calculate frequencies and percentages

TR Table / Appendix Number	Name or Description	Data File(s)	Process
Appendix S Table S-1	Consistency of Local and Centralized Scoring, Writing	Data file: Special file generated that consists of students with local scoring data; SCANALL_CELDT1415.txt Note: Data file must be merged with 2014–15 Merged EOY SSF.txt using Lithcode/BookID as the key.	<ul style="list-style-type: none"> • AA (inside window) examinees Multiple marks treated as unscored • Special codes (B, I, L, etc) are scored as zero • Use Access and C++ to produce descriptive statistics
Appendix U Tables U-1 through U-18	Reference Item Parameters	2013–14 Technical Report; Appendix M and Table 8.8	<ul style="list-style-type: none"> • Use Excel to compute Onscale item parameter values

3. Results with Discrepancies

Table 3.0, below, lists tables and appendixes in the Technical Report for which EDS did not produce an exact match. These include unscaled item parameter estimates, Stocking & Lord scale transformation constants, raw-to-scale-score conversion tables, classification accuracy and consistency, and item misfit counts.

Of these, the most important for the continuation of the CELDT contract are the item parameters and conversion tables, with related statistics. Fortunately, these are replicated quite closely and provide assurance that, should it prove necessary to build new conversion tables in the remaining years of the contract, the resulting student scores will be comparable to those of previous years.

The classification accuracy and consistency statistics were calculated using a new methodology, both for theoretical and practical reasons. The results turn out to be reasonably close to those calculated using the existing methodology, with some notable exceptions that we discuss.

The only table that EDS was unable to replicate was TR Table 8.7, the count of misfitting items per test. EDS found fewer misfitting items. This, also, is discussed in detail.

Below table 3.0, we discuss each set of results in the order of appearance in Table 3.0.

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Table 3.0: Summary of Technical Report Tables and Appendixes with Discrepancies

Replication Study / Appendix Subsection	TR Table / Appendix	Name or Description	Data File(s)	Process
3.1 (.1, .2)	Appendix M Tables M-1 through M-18 with corresponding scatterplots	Item Calibrations (by Domain and Grade Span)	2014–15 Equating File	<ul style="list-style-type: none"> • Use jMetrik to estimate item parameter values • "Ignore" missing data • Use default prior values for parameters • Fix c parameters as noted in Analysis Specifications • Estimate 2PL, 3PL and GPCM as noted in Analysis Specifications
3.2	Table 8.8	Stocking & Lord Scale Transformations	2014–15 Unscaled item parameter estimates (jMetrik output) Form Planner Excel files or Appendix U of Technical Report	<ul style="list-style-type: none"> • Obtain "on scale" (CELDT scale) item parameter values from Form Planner excel files, or Appendix U of Technical Report for repeat forms • Use jMetrik to link unscaled parameter values to the on-scale values • Assume normal distribution • Use 41 quadrature points • Save Stocking & Lord constants
3.3	Appendix P Figure P-1 through P-18	Test Characteristic Curves (by Domain and Grade Span)	2014–15 Edition jMetrik on-scale item parameters	<ul style="list-style-type: none"> • Load item parameters into EDS python program <code>damon1.irt_tools.build_conversion_table</code>, as well as <code>irt_tools.compare_tccs</code>, to generate TCCs with SEMs

Replication Study / Appendix Subsection	TR Table / Appendix	Name or Description	Data File(s)	Process
3.4 (.1, .2)	Appendix H Tables H-1 through H-52	Raw to Scale Score Conversion Tables (by Domain and Grade)	2014–15 Edition jMetrik on-scale item parameters	<ul style="list-style-type: none"> Load item parameters into EDS python program damon1.irt_tools build_conversion_table to generate conversion tables with SEMs
3.5	Appendix G Tables G-1 through G-4	Classification Consistency and Accuracy	2014–15 Pre Final Merge SSF.txt	<ul style="list-style-type: none"> Use SPSS to create a file containing raw score, scale score, SEM, and student frequency This is entered with a file of cut-points into EDS python program damon1.irt_tools.classify to generate accuracy, consistency, and Cohen's kappa both for the test as a whole and for each individual cut-score
3.6	Table 8.7	Count of Misfitting Items	2014–15 Equating File	<ul style="list-style-type: none"> From jMetrik, obtain unscaled theta (EAP) and item parameters Enter these in EDS python program damon1.irt_tools.fit_for_celdt to compute item fit statistics
3.7	Appendix T Tables T-1 through T-18	Operational Item Parameters (by Domain and Grade Span)	2013–14 Item bank, 2013–14 Appendix M, 2013–14 Table 8.8 jMetrik unscaled item parameters and S&L constants	<ul style="list-style-type: none"> Appendix T consists of on-scale item parameters pulled from the form planners, which in turn pull the most recent versions of the parameters from the item bank For test forms reused in their entirety, Appendix T is replaced by Appendix U, calculated by applying the previous year's S&L constants to the previous year's Appendix M

3.1 Item Calibrations (TR Appendix M)

The item calibration software used by previous subcontractors, Multilog, is no longer commercially available. EDS studied three well-regarded software packages: Xcalibre², IRTPro³, and the open-source IRT package jMetrik (version 4.0) developed by J. Patrick Meyer⁴ and available as a download from the internet⁵. We also studied several IRT packages in R. We found that jMetrik offered the closest approximation to Multilog's functionality, in particular with mixed-model IRT designs. It was also the easiest to use and automate.

EDS used jMetrik for both the item calibrations and Stocking & Lord transformations. jMetrik applies Marginal Maximum Likelihood Estimation (MMLE) to produce standard IRT item parameter estimates for Rasch, 2-parameter logistic (2PL), 3-parameter logistic (3PL), generalized partial credit (GPC) and mixed models. Multilog fits a Nominal Response Model for its item parameter estimation.

To the extent possible when using different software, EDS followed the procedures described in the 2014–15 Edition CELDT Analysis Specifications v3 (Analysis Specifications) document. We describe our process below, noting where we differed from the procedures outlined in the Analysis Specifications.

Create equating file data. EDS exactly replicated the cases included in the 2014–15 Equating File data (see Table 2.0) so differences in outcome cannot be explained by different samples. In creating the 2014–15 Equating File data we treated omitted responses as “not seen”; that is, we left the responses blank and in jMetrik chose the “ignore missing data” option.

Model specifications. For all grade span/domain tests, EDS followed the models specified in the Analysis Specifications. We modeled dichotomous items using a three-parameter (3PL) logistic model:

$$P(\theta) = c + (1 - c) \frac{\exp[Da(\theta - b)]}{1 + \exp[Da(\theta - b)]},$$

For dichotomous items where guessing was not a consideration, we used a two-parameter (2PL) logistic model, equivalent to the 3PL model except that c is constrained to equal zero. For polytomous items, we used the generalized partial credit model (GPCM):

$$P_{jk}(\theta) = \frac{\exp\left[\sum_{v=1}^k Da_j(\theta - b_{jv})\right]}{\sum_{h=1}^{m_j} \exp\left[\sum_{v=1}^h Da_j(\theta - b_{jv})\right]},$$

² <http://www.assess.com/>

³ <http://www.ssicentral.com/>

⁴ Meyer, J. Patrick (2014) *Applied Measurement with jMetrik*, Routledge, Taylor and Francis

⁵ <http://www.jmetrik.com/>

For all models we assumed an underlying normal distribution and used scaling constant $D = 1.7$. In all of the jMetrik models, missing data were “ignored” rather than scored as incorrect (zero). For all models, we used the default prior values provided by jMetrik. Because of differences in model estimation between jMetrik and Multilog we were unable to use the priors specified in Appendix 3 of the Analysis Specifications.

Item calibration process. The item calibration process involved two steps. First, all item parameters were freely estimated, including c-parameters. Second, for 3PL items with $(b-2)/a \leq -3$, we ran another item calibration with the c-parameters fixed at historical values provided in Appendix 6 of the Analysis Specifications, with all other c-parameters freely estimated.

Note that due to rounding in the process of transforming the Multilog c-parameter values to the standard IRT metric, the value of fixed c-parameters in TR Appendix M does not always match the value given in the specifications. EDS used the c-parameter values provided in Appendix 6 of the Analysis Specifications rather than those reported in TR Appendix M.

The jMetrik-based procedure differed in two ways from the Multilog-based procedure. First, since jMetrik produces item parameter estimates in the standard IRT metric, we did not need to transform the estimates as described in the Analysis Specifications to accommodate the Multilog Nominal Response Model. Second, as mentioned, we found that we could not use the Multilog priors specifications because of differences in the way Multilog and jMetrik estimate parameter values; instead we applied jMetrik’s default priors.

Compare item parameter estimates. The item calibrations tables in Appendix 3.1.1 display TR Appendix M item parameter estimates alongside the corresponding EDS jMetrik values. They are also charted graphically across grade spans in the Appendix 3.1.2 calibration plots. Each chart plots all parameters of a given type (a , b , c , or one of the step parameters) for jMetrik (x-axis) against those of Multilog (y-axis), displayed against an identity line.

(The “Model” columns in 3.1.1 differ only in nomenclature. jMetrik’s “L3” corresponds to either the 2PL or 3PL model; “PC1” refers to the GPC model.)

A brief inspection of the calibration plots shows that item parameter values calculated by the two software packages are visually indistinguishable from the identity line in all but a handful of cases. Items with visually discrepant parameters are labeled in the scatterplots and highlighted in the tables.

The flagged discrepant values are generally c-parameters at the extremes of the scale. That is where the student population is relatively thin, standard errors are largest, and where parameter estimation, especially of c-parameters, is most likely to be disturbed. That there are discrepant values at all is due to several factors:

- Internal formulation of the model and estimation algorithm
- Degree of convergence
- Internal convergence controls specific to the algorithm
- Selection of priors (Multilog and jMetrik apply different priors)
- With some models, especially the 3PL, there is no mathematical guarantee of a unique solution, so there may occasionally be more than one set of parameters for a given item that fits the observed data. It is also why c-parameters are sometimes hard to estimate.

Reading, K–1 (Appendix 3.1.2, Plots for Table M-9), shows some instability. The plots for items CER01066 and CER01033 show some of the step parameters to be off the identity line, but this is due mainly to the high scaling resolution of the x- and y-axes; the actual parameter values differ by less than 1/10 of a logit.

Item CER01315 (Table M-9) is disturbed by a discrepant c-parameter. It isn't just that c-parameters differ from each other (0.0493 vs 0.0152) but that they are so close to zero. One expects c-parameters to be somewhere around the chance guessing probability of 0.25. At the same time, the b-parameter (item difficulty) is also discrepant (0.-4824 vs -0.5983). This pattern—a very small c-parameter coupled with a discrepant or extreme b-parameter—may signify that the estimation algorithm is having trouble converging due ultimately to the fact that the 3PL model is mathematically indeterminate (does not require a unique solution). By this it is meant that the 3PL model, unlike the 1PL model, allows for the possibility that multiple combinations of (a-, b-, c-) parameters for a given item may fit the same data vector approximately as well, and some of those parameter combinations may involve extreme values. Thus, during the iteration process, if the c-parameter wanders toward zero, the a- and b- parameters may over-compensate to keep the expected values near the observed values. If the iteration is allowed to continue indefinitely, a feedback loop among the three parameters may cause the b-parameter to wander to an extreme value. This is potentially a serious problem and can have real-world effects on student scores, and it isn't always easy to catch.

The remedy is to set the c-parameter at a fixed value as described in the Analysis Specifications. For whatever reason, this particular item did not meet the flagging criterion for fixing the c parameter. Item CER00990 (Table M-12, Reading, Grades 6–8) looks like it is similarly troubled.

3.2 Stocking & Lord Scale Transformations (TR Table 8.8)

EDS used jMetrik to place the 2014–15 unscaled item parameter values onto the CELDT scale. The 2014–15 Form Planner files (drawing on the CELDT item bank) contained the “on scale” values used to compute the Stocking and Lord (S&L) scaling constants for each test. We assumed an underlying normal distribution and used 41 quadrature points. For each test, all items were included in the scale transformation, including those flagged as outliers during the transformation.

Table 3.2 contains the TR S&L constant values calculated by ETS using StuIRT (the Stocking & Lord software used by ETS) and by EDS using jMetrik in a side-by-side comparison. Scatterplots in Appendix 3.2 provide a graphical display of the comparison across grade spans, drawn against an identity line.

Table 3.2. Stocking & Lord Transformation Constants (TR Table 8.8)

Listening	ETS		EDS		Differences	
	m1	m2	m1	m2	m1	m2
K–2	51.6961	437.7151	51.7779	437.5882	-0.082	0.127
Grades 3–5	59.8774	513.7168	59.9222	513.7013	-0.045	0.016
Grades 6–8	65.6075	566.6468	65.6592	566.6234	-0.052	0.023
Grades 9–12	77.2099	597.3546	77.2077	597.3134	0.002	0.041

ETS			EDS		Differences	
Speaking	m1	m2	m1	m2	m1	m2
K–2	57.1964	455.6213	57.2907	455.0636	-0.094	0.558
Grades 3–5	45.4113	522.2503	45.6362	522.9180	-0.225	-0.668
Grades 6–8	61.3257	553.0793	61.1643	553.1042	0.161	-0.025
Grades 9–12	69.7186	581.4076	69.8973	581.1518	-0.179	0.256
 Reading			 m1 m2		 m1 m2	
K–1	75.5030	336.4419	75.6597	335.7548	-0.157	0.687
Grade 2	51.1402	454.1381	51.2602	454.0756	-0.120	0.063
Grades 3–5	53.7992	501.5875	53.9301	501.7953	-0.131	-0.208
Grades 6–8	53.6560	549.4450	53.7983	549.6134	-0.142	-0.168
Grades 9–12	59.9773	585.9590	60.0978	586.0254	-0.121	-0.066
 Writing			 m1 m2		 m1 m2	
K–1	57.5213	353.6076	57.3106	353.4831	0.211	0.125
Grade 2	53.4742	465.8073	53.6474	466.8922	-0.173	-1.085
Grades 3–5	51.6428	510.1129	51.7404	509.9182	-0.098	0.195
Grades 6–8	48.0614	542.3482	48.3486	542.1784	-0.287	0.170
Grades 9–12	56.6060	563.9483	56.1224	563.9210	0.484	0.027

In Appendix 3.2, the S&L m1 and m2 constants are virtually indistinguishable from the identity line. The largest difference in m1 values is 0.484 (Writing, Grades 9–12), and the largest difference in m2 values is -1.085 (Grade 2 Writing), both of which are small relative to the typical range of m1 and m2 values. Given the similarity of the unscaled parameters between the jMetrik values and the Technical Report (Section 3.1) and the fact that these go into the S&L formula, it is not surprising that the scaling constants needed to approximate the bank values should also be highly similar.

Note that the S&L constants and resulting on-scale item parameters and test characteristic curves are not reported in the current year but may be used for form construction in future years, if needed.

3.3 Test Characteristic Curves (TR Appendix P)

Appendix 3.3 displays for each test an overlay of two sets of test characteristic curves (TCCs) with their conditional standard error of measure (SEM) curves, based on: a) ETS Multilog item parameters, and b) EDS jMetrik item parameters.

The TCCs published in each edition of the CELDT Technical Reports are based on item parameter values from previous administrations and are used to build new test forms. Instead of replicating the TCCs actually published in the 2014–15 Technical Report (which would require analysis of 2013–14 data), we built the ETS and EDS TCCs using item parameters calculated from 2014–15 data. The ETS on-scale item parameters already existed in the 2015–16 form planners; we used those for the comparison. The EDS on-scale item parameters were calculated by transforming the jMetrik 2014–15 unscaled parameters (TR Appendix M) by means of the jMetrik S&L constants in Table 3.2 above. A successful replication means that EDS, using jMetrik and its own TCC software, has the technical capacity:

- To build TCCs in general
- To calculate the item parameters and scaling constants that go into the TCCs

In addition to the comparisons just described, we performed a separate battery of tests (not shown here) using just ETS item parameters to confirm that we obtain identical TCCs.

A review of Appendix 3.3 shows that in almost all cases the EDS TCCs lie on top of the ETS TCCs. The same is true of the SEM curves. The only clearly visible discrepancies appear at the lower ends of the SEM curves for Reading in Grades 3–5 and 6–8 (Figures 3.3.11 and 3.3.12). At this section of the scale, the SEMs mathematically blow up to large numbers and tiny differences in the item parameters can cause visible discrepancies.

3.4 Raw-to-Scale Score Conversion Tables (TR Appendix H)

Because they are used to assign scores to students, it is critical that the raw-to-scale score conversion tables produced using jMetrik and the EDS conversion table software be strongly comparable to those produced by ETS using Multilog, StuIRT, and the ETS conversion table software. Remember that the current plan is to reuse existing ETS conversion tables until the end of the CELDT contract, so it is unlikely that the EDS conversion table software will be needed. If for some reason we need to change a test form, or ignore one or two items, it will be necessary to build new raw-to-scale score conversion tables, and we need to know the new table will be comparable to previous tables.

The analysis used to replicate conversion tables (TR Appendix H) is the same as that used to replicate test characteristic curves, since the conversion tables are in fact derived from them. Like test characteristic curves, the conversion tables in the 2014–15 Technical Report reflect item calibration and scale transformations from previous editions of the CELDT. Thus, we perform two analyses to show that:

- Given the ETS on-scale item parameters (pulled from the item bank, calculated mostly from 2013–14 data), we can reproduce the conversion tables in the Technical Report (TR Appendix H). This is called the “Replication of Process.”
- Conversion tables calculated using 2014–15 jMetrik item parameters and S&L scaling constants (calculated from 2014–15 data) will match the corresponding conversion tables calculated by EDS using ETS Multilog item parameters and StuIRT S&L scaling constants (also calculated from 2014–15 data). Bear in mind that the “ETS” conversion tables of interest in this analysis do not actually appear in a Technical Report, as for purposes of this replication we only used ETS item parameters drawn from 2014–15, not previous years. This is called the “Complete Replication.”

Appendix 3.4.1 provides the Replication of Process. The EDS and ETS conversion tables are shown side by side for each grade, with a difference table. We see that the scale score differences are never more than a point, indicative of little more than rounding error.

Appendix 3.4.2 provides the Complete Replication. Again, the EDS and ETS conversion tables are for the most part quite close (within a few scale score points), but in Reading, Grades 3–5 (Tables H-30 through H-32), there are larger discrepancies at the low end of the scale, as large as 16 scale score points with a standard error scale score point discrepancy of 203. It is worth reviewing this in detail.

An inspection of Figure 3.3.11, the TCCs for Reading, Grades 3–5, shows that the EDS and ETS TCCs are very close, but it also shows that the TCCs are virtually flat when the scale score is less than 400. That means a tiny discrepancy in expected percent correct may correspond to a large discrepancy in scale scores—a discrepancy of 16 scale score points looks entirely plausible. Add to that the fact that the TCCs are continuous curves whereas the conversion tables are not, that the scale scores have a hard lower boundary and the corresponding SEMs have fixed maxima which diverge about 50 points (reflecting huge measurement error at the bottom of the scale, constrained only by whatever artificial controls have been written into the software). These two conditions conspire to create a large discrepancy between the two error curves over the space of one raw score point at the location on the scale where the scale score minimum begins to be exceeded. The TCCs show that while there is indeed a discrepancy between the EDS and ETS scales, it is relatively minor and the spike in the conversion tables is mostly an artifact of the minimum scale score boundary and the non-continuity of raw scores. In other words, the conversion table discrepancy is large at the point where the scale score maximum begins to be exceeded because of the discrete jumps between adjacent raw score levels whereas the TCCs that lie behind the conversion tables only show a small discrepancy because the curves are smooth and continuous and not subject to the discreteness of the conversion tables.

There are some other discrepancies in Writing, Grades 9–12 (Table H-51), up to around 6 scale score points, but it is hard to discern in the corresponding TCCs.

Note that discrepancies as small as one scale score point can bump the performance level cut-point up or down one raw score point. These bumps are shown in Appendix 3.4.2 and highlighted in pink. While such bumps show up as discrepancies when comparing the two conversion tables, they have little practical significance.

Also, note that Reading, Grade 1 (Table H-28), shows blue highlighting to indicate that this particular test lacks an “Advanced” performance level in the EDS replication analysis.

3.5 Classification Accuracy and Consistency (TR Appendix G)

Over the course of the CELDT contract, classification accuracy and consistency have been calculated using the method proposed by Livingston & Lewis (1993)⁶. Anchored in Classical Test Theory, it offers the advantage that it can be calculated without the use of IRT software. However, it does assume that student scores can be modeled by a unimodal 4-parameter beta

⁶ Livingston, Samuel A., & Lewis, Charles (1993). Estimating the Consistency and Accuracy of Classifications Based on Test Scores. Education Testing Service, Research Report.
<https://www.ets.org/Media/Research/pdf/RR-93-48.pdf>

distribution, an assumption that is occasionally problematic and is unnecessary under an IRT paradigm. In addition, we were unsuccessful in obtaining or writing software that replicated the ETS results consistently. For in-house replication, we have since 2013 used the Hansen & Brennan BB-CLASS classification software (2004), which includes an implementation of Livingston & Lewis.⁷ However, its results did not match the ETS results uniformly across tests.

In 2016, we implemented an IRT-based method based on work by Lawrence Rudner (2001).⁸ In Rudner's method, the standard error associated with each scale score, assumed to be normally distributed, is used to calculate the probability that a student with that scale score will fall into each of the performance levels. The resulting probabilities are used to compute the desired accuracy, consistency, and Cohen's kappa statistics (Cohen's kappa is an alternative measure of consistency). The method is fast, reliable, and relatively easy to understand. It also makes no assumptions about the shape of the student distribution.

Appendix 3.5 compares Accuracy, Consistency, and Cohen's kappa statistics for EDS (Rudner's method) and ETS (Livingston and Lewis) across all grades and domains. Tables G-1 through G-4 provide summary statistics for each test. Tables G-5 through G-8 provide Accuracy statistics at each CELDT cut-point. Tables G-9 through G-12 provide Consistency statistics at each cut-point. Statistics range from 0.0 to 1.0. Differences greater than 0.05 are highlighted in pink.

In general, the match is reasonably close given the difference in methodologies. Setting aside Cohen's kappa, only around 4% of the differences exceed 0.05. For Cohen's kappa, on the other hand, the EDS values consistently exceed the Livingston & Lewis values by around 0.16. Our research suggests that the ETS kappa is unique to the Livingston & Lewis algorithm and differs in key points from conventional definitions of kappa, perhaps by being applied not to the actual test but to the hypothetical test adjusted for test length that is part of the Livingston & Lewis algorithm. In any case, the EDS version of Cohen's kappa has been cross-checked against other implementations, matching them exactly, and it tends to be quite close to the Consistency statistic, within a few points, which is expected given that Cohen's kappa is an alternative measure of consistency.

3.6 Count of Misfitting Items (TR Table 8.7)

TR Table 8.7 provides a count of misfitting items per test. The procedure used to calculate fit was first implemented for CELDT by CTB/McGraw-Hill in conjunction with its own proprietary IRT software. The procedure was subsequently adapted for use with Multilog outputs and has been in use ever since, first by MetriTech, then by ETS. At one point, ETS suggested changing how the fit statistic is calculated, but the decision was made to stay the course in order to preserve backwards comparability. These item fit statistics have not been used to make decisions relating to form design.

Implementing the procedure as described in the Technical Report and in ongoing consultation with ETS, we have been unable to replicate TR Table 8.7. The procedure depends on comparing the observed and expected counts of each score category for a given item. As long

⁷ Robert L. Brennan (2004). Manual for BB-CLASS: A Computer Program that uses the Beta-Binomial Model for Classification Consistency and Accuracy, Version 1.1. Center for Advanced Studies in Measurement and Assessment (CASMA), College of Education, University of Iowa.

⁸ Rudner, Lawrence M. (2001). Computing the expected proportions of misclassified examinees. *Practical Assessment, Research & Evaluation*, 7(14). <http://PAREonline.net/getvn.asp?v=7&n=14>.

as we use the Multilog expected proportion correct statistic per score category, we can exactly replicate Table 8.7; it is the expected proportion statistic that we have trouble replicating exactly. It has been found by ETS and EDS that the Multilog-based fit statistics seem to interact with the count or nature of the missing values per item. The precise nature of this interaction is unclear, but ETS has found that most of the misfit goes away when only students who have taken all items are included in the analysis. Alternatively, EDS most closely approximated the ETS results by hypothesizing that Multilog assumes complete data, but based on ETS research into the matter this hypothesis does not seem to be correct.

In any case, what seems sensible is that item fit statistics should not be influenced substantially by the cells that happen to be missing in a column. Therefore, EDS implemented the procedure in such a way as to minimize the likelihood of this possibility (a copy of the source code is available upon request). As shown in Table 3.6, when this is done almost all the items fit.

Having validated every step in the fit calculation procedure from the ground up, we are confident that we have correctly implemented the procedure as described in the Technical Report. We also believe there is a strong presumptive case that misfitting items should be rare due to the other procedures used to vet CELDT items (e.g., checks for DIF). Therefore, in the absence of a better fit statistic, we recommend using the EDS fit calculation program to count misfitting items for TR Table 8.7 in the 2016–17 and 2017–18 edition Technical Reports, but not to rely on it for decisions relating to form design.

Table 3.6: Count of Misfitting Items Per Test

Source	Domain	Grades K–1	Grade 2	Grades 3–5	Grades 6–8	Grades 9–12
TR 2014–15	Listening	1		0	0	0
TR 2014–15	Speaking	7		1	0	9
TR 2014–15	Reading	2	0	0	0	0
TR 2014–15	Writing	5	0	0	0	0
EDS	Listening	2		0	0	0
EDS	Speaking	0		0	0	0
EDS	Reading	0	0	0	0	0
EDS	Writing	0	0	0	0	0

3.7 Operational Item Parameters (TR Appendix T, TR Appendix U)

TR Appendixes T and U report the on-scale operational item parameters. Because they are drawn from previous editions of the CELDT, they are not reflective of computational work that was done for the 2014–15 Technical Report, so there is no point in trying to replicate them.

That said, it is important to remember what they represent. In winter and spring of each year, new tests forms are developed (or old ones re-used), requiring new (or re-used) raw-to-scale score conversion tables. To calculate test form conversion tables, the most recent on-scale parameters for each item on the form are pulled from the item bank. It is this set of item parameters that is reported in TR Appendix T. TR Appendix T does *not* contain the parameters calculated from data collected in the year of the Technical Report, 2014–15 in this case.

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3. Results with Discrepancies

Appendix U is similar to Appendix T except that instead of pulling the most recent item on-scale parameters from the CELDT item bank (which may be from the previous year or from earlier years), it calculates on-scale item parameters from the unscaled parameters of the previous year (Appendix M from 2013–14) and the corresponding Stocking & Lord constants (Table 8.8 from 2013–14). Appendix U is only used when the test forms and conversion tables of the current year are a repeat of the previous year. Both tables are generated for the technical reports from year to year to maintain consistency, but only one of them is used to calculate that year's conversion tables.

4. Discussion and Recommendations

In general, we find that the procedures, tables, and appendixes that are described in the Technical Report, or that are in other ways needed for CELDT psychometric analysis, have been successfully replicated by EDS and that the transition of this work from ETS to EDS will be smooth and uneventful. There are two possible exceptions to this finding, however.

TR Appendix G, classification accuracy and consistency, was not exactly replicated due to the adoption of a new methodology, Rudner's IRT-based method. Because CELDT relies on IRT, and because the new results are not substantively different from previous results (with the exception of Cohen's kappa, as discussed above), we believe a transition to Rudner's method is defensible and will pose no difficulties.

TR Table 8.7, counts of misfitting items per test, is more problematic because the new results do not match the previous results. However, we believe the new results are less prone to interactions involving variation in missing cells and that they are better understood since we no longer have to speculate on what Multilog is doing in its "black box" calculations. We also find the reduced frequency of misfitting cells to be more believable. However, we do not feel the question of fit as relates to CELDT has been definitively addressed. The current fit procedure is used only because it was used in the past and its results are not used during form design. Both ETS and EDS are in favor of using other fit statistics. Even though CELDT relies on the 2PL and 3PL models, EDS recommends exploring the possibility of using Rasch fit statistics for all items, both because they are widely used and easy to interpret and because their strict unidimensionality requirement makes them particularly useful in form design.

As regards item calibration, we are confident that the jMetrik IRT package will be a suitable successor to Multilog. When the two deviate at all, it tends to be at the extremes of the scale and to involve estimation of c-parameters. We recommend that if existing items need to be recalibrated in the future for some reason, their c-parameters be fixed at ETS historical values instead of allowed to float.

Appendix 3.1.1: Item Calibrations (TR Appendix M)

Table M-1: Unscaled Item Parameters, Listening, Grades K–2

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CEL00728	3PL	0.9754	-0.3481	0.3102	L3	0.9781	-0.3451	0.3103
CEL00526	3PL	2.1370	1.4048	0.3102	L3	2.2726	1.3966	0.3103
CEL00786	3PL	0.9938	0.5589	0.3102	L3	0.9975	0.5609	0.3103
CEL00399	3PL	0.9589	0.3838	0.3102	L3	0.9620	0.3860	0.3103
CEL00899	3PL	1.2134	0.6148	0.3102	L3	1.2186	0.6167	0.3103
CEL00515	3PL	0.6701	0.3023	0.3102	L3	0.6717	0.3045	0.3103
CEL00330	3PL	1.2166	0.4458	0.3102	L3	1.2228	0.4481	0.3103
CEL00284	3PL	0.9193	0.5133	0.3102	L3	0.9221	0.5154	0.3103
CEL00285	3PL	1.0276	-0.9477	0.3102	L3	1.0306	-0.9441	0.3103
CEL00286	3PL	0.9691	-0.9608	0.3102	L3	0.9718	-0.9574	0.3103
CEL00730	2PL	1.0142	-1.0478		L3	1.0161	-1.0448	
CEL00782	2PL	0.8539	-0.3621		L3	0.8554	-0.3595	
CEL00788	2PL	0.5627	-1.2211		L3	0.5635	-1.2184	
CEL00471	2PL	1.3101	-1.3134		L3	1.3132	-1.3099	
CEL00787	2PL	1.0179	-0.8934		L3	1.0198	-0.8904	
CEL00397	2PL	0.9097	-1.4456		L3	0.9111	-1.4425	
CEL00836	2PL	0.9573	-0.0393		L3	0.9591	-0.0368	
CEL00400	2PL	1.0670	0.7161		L3	1.0690	0.7179	
CEL00789	2PL	0.7101	0.2603		L3	0.7112	0.2625	
CEL00463	2PL	0.7139	0.0044		L3	0.7150	0.0067	

Table M-2: Unscaled Item Parameters, Listening, Grades 3–5

ETS Parameters					EDS jMetrik Equating Sample Results			
Item ID	Model	a	b	c	Model	aparam	bparam	cparam
CEL00151	3PL	0.6712	-2.2546	0.2791	L3	0.6725	-2.2534	0.2791
CEL00425	3PL	0.9965	-2.0389	0.2791	L3	1.0005	-2.0360	0.2791
CEL00154	3PL	0.5725	-1.8271	0.2791	L3	0.5733	-1.8268	0.2791
CEL00177	3PL	0.6583	-1.6239	0.2791	L3	0.6591	-1.6235	0.2791
CEL00484	3PL	0.7219	-1.2241	0.2791	L3	0.7228	-1.2237	0.2791
CEL00554	3PL	0.5519	-1.0883	0.2791	L3	0.5524	-1.0881	0.2791
CEL00800	3PL	0.3615	-1.1318	0.2791	L3	0.3617	-1.1319	0.2791
CEL00352	3PL	0.4461	0.2986	0.2791	L3	0.4464	0.2991	0.2791
CEL00186	3PL	0.8474	-0.5837	0.2791	L3	0.8485	-0.5833	0.2791
CEL00357	3PL	0.6331	-0.0235	0.2791	L3	0.6337	-0.0231	0.2791
CEL00435	3PL	0.8568	-1.7463	0.2791	L3	0.8586	-1.7452	0.2791
CEL00356	3PL	0.8857	-0.7947	0.2791	L3	0.8869	-0.7942	0.2791
CEL00793	3PL	0.9054	0.1447	0.2791	L3	0.9067	0.1451	0.2791
CEL00843	3PL	0.7390	-0.3503	0.2791	L3	0.7398	-0.3499	0.2791
CEL00744	3PL	1.1777	0.6573	0.2791	L3	1.1814	0.6576	0.2791
CEL00557	3PL	0.7417	-0.8015	0.2791	L3	0.7426	-0.8011	0.2791
CEL00736	3PL	1.2889	0.6639	0.2791	L3	1.2944	0.6641	0.2791
CEL00738	3PL	0.7829	0.3877	0.2791	L3	0.7838	0.3881	0.2791
CEL00740	3PL	0.5335	0.0372	0.2791	L3	0.5339	0.0376	0.2791
CEL00739	3PL	0.5498	1.0147	0.2791	L3	0.5502	1.0155	0.2791

Table M-3: Unscaled Item Parameters, Listening, Grades 6–8

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CEL00487	3PL	0.7732	-1.6282	0.3081	L3	0.7745	-1.6275	0.3081
CEL00538	3PL	0.8883	-0.9939	0.3081	L3	0.8897	-0.9933	0.3081
CEL00307	3PL	0.6529	-1.2608	0.3081	L3	0.6537	-1.2604	0.3081
CEL00804	3PL	0.8279	0.1137	0.3081	L3	0.8290	0.1140	0.3081
CEL00531	3PL	0.7488	0.1139	0.3081	L3	0.7497	0.1143	0.3081
CEL00224	3PL	0.7870	-1.4743	0.3081	L3	0.7884	-1.4736	0.3081
CEL00363	3PL	0.7606	-1.4875	0.3081	L3	0.7618	-1.4869	0.3081
CEL00806	3PL	0.7484	-0.9545	0.3081	L3	0.7494	-0.9541	0.3081
CEL00453	3PL	0.1713	0.9500	0.3081	L3	0.1713	0.9521	0.3081
CEL00754	3PL	0.9198	-0.9832	0.3081	L3	0.9214	-0.9826	0.3081
CEL00230	3PL	0.3706	0.0459	0.3081	L3	0.3708	0.0462	0.3081
CEL00540	3PL	0.9991	-1.0688	0.3081	L3	1.0012	-1.0680	0.3081
CEL00805	3PL	0.6772	0.2686	0.3081	L3	0.6779	0.2690	0.3081
CEL00451	3PL	0.7221	-0.0459	0.3081	L3	0.7229	-0.0456	0.3081
CEL00532	3PL	0.3220	0.8458	0.3081	L3	0.3221	0.8468	0.3081
CEL00489	3PL	0.4584	-0.8054	0.3081	L3	0.4588	-0.8054	0.3081
CEL00541	3PL	0.6207	0.6536	0.3081	L3	0.6212	0.6540	0.3081
CEL00437	3PL	0.8664	-0.3616	0.3081	L3	0.8675	-0.3612	0.3081
CEL00438	3PL	0.9516	0.7893	0.3081	L3	0.9534	0.7896	0.3081
CEL00439	3PL	0.7400	0.0904	0.3081	L3	0.7407	0.0907	0.3081

Table M-4: Unscaled Item Parameters, Listening, Grades 9–12

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CEL00415	3PL	0.8995	-1.8327	0.2980	L3	0.9017	-1.8316	0.2979
CEL00262	3PL	0.7379	-1.3223	0.2980	L3	0.7388	-1.3224	0.2979
CEL00551	3PL	0.5457	-0.4290	0.2980	L3	0.5459	-0.4292	0.2979
CEL00543	3PL	0.4328	1.5944	0.2980	L3	0.4323	1.5973	0.2979
CEL00319	3PL	0.8635	-1.4550	0.2980	L3	0.8649	-1.4547	0.2979
CEL00379	3PL	0.7423	0.0354	0.2980	L3	0.7428	0.0355	0.2979
CEL00244	3PL	1.3804	1.5681	0.2980	L3	1.4142	1.5600	0.2979
CEL00767	3PL	0.4166	0.4439	0.2980	L3	0.4167	0.4442	0.2979
CEL00862	3PL	0.8954	-1.2804	0.2980	L3	0.8970	-1.2801	0.2979
CEL00817	3PL	0.8575	-0.2698	0.2980	L3	0.8584	-0.2698	0.2979
CEL00417	3PL	1.0939	-1.1149	0.2980	L3	1.0964	-1.1143	0.2979
CEL00412	3PL	0.8914	-1.5881	0.2980	L3	0.8931	-1.5876	0.2979
CEL00818	3PL	0.5615	0.3552	0.2980	L3	0.5617	0.3554	0.2979
CEL00863	3PL	0.5423	-1.5096	0.2980	L3	0.5427	-1.5101	0.2979
CEL00418	3PL	0.4926	-0.6500	0.2980	L3	0.4928	-0.6504	0.2979
CEL00761	3PL	0.5492	-0.7455	0.2980	L3	0.5495	-0.7458	0.2979
CEL00865	3PL	0.7799	-1.3891	0.2980	L3	0.7810	-1.3890	0.2979
CEL00546	3PL	0.8202	-0.1991	0.2980	L3	0.8207	-0.1991	0.2979
CEL00547	3PL	0.4617	0.0642	0.2980	L3	0.4617	0.0642	0.2979
CEL00549	3PL	0.7711	-0.2992	0.2980	L3	0.7716	-0.2993	0.2979

Table M-5: Unscaled Item Parameters, Speaking, Grades K–2

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results							
		a	b	g1	g2	g3	g4	Model	aparam	bparam	step1	step2	step3	step4
CES00674	2PL	0.7697	-1.3440					L3	0.7715	-1.3393				
CES00346	2PL	0.7417	-0.5342					L3	0.7434	-0.5304				
CES00436	2PL	0.6643	-1.4355					L3	0.6659	-1.4306				
CES00770	2PL	0.9233	-0.9665					L3	0.9254	-0.9622				
CES00396	2PL	1.0292	-2.0796					L3	1.0315	-2.0743				
CES00680	2PL	1.2331	-1.2350					L3	1.2358	-1.2305				
CES00391	2PL	0.6443	-1.3799					L3	0.6458	-1.3752				
CES00675	2PL	0.9748	-1.0335					L3	0.9770	-1.0291				
CES00728	2PL	0.9419	-1.7180					L3	0.9439	-1.7131				
CES00723	2PL	1.2431	-2.1897					L3	1.2458	-2.1843				
CES00290	2PL	0.8107	-0.3246					L3	0.8126	-0.3210				
CES00287	2PL	1.0424	-0.8178					L3	1.0447	-0.8137				
CES00148	2PL	1.0369	-2.1005					L3	1.0393	-2.0951				
CES00818	GPC	1.0402		-0.3117	0.1572			PC1	1.0426		-0.3082	0.1603		
CES00774	GPC	0.9117		-0.2613	-0.4856			PC1	0.9138		-0.2578	-0.4818		
CES00682	GPC	0.8141		0.0880	0.4316			PC1	0.8160		0.0911	0.4344		
CES00683	GPC	0.8061		0.0684	-0.4023			PC1	0.8080		0.0715	-0.3985		
CES00777	GPC	1.0873		-1.1268	-0.0868			PC1	1.0897		-1.1224	-0.0835		
CES00823	GPC	1.0918		-0.6931	0.3167			PC1	1.0942		-0.6892	0.3196		
CES00813	GPC	0.8003		-1.5428	-1.0968	0.2151	1.6797	PC1	0.8020		-1.5381	-1.0925	0.2181	1.6812

Table M-6: Unscaled Item Parameters, Speaking, Grades 3–5

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results							
		a	b	g1	g2	g3	g4	Model	aparam	bparam	step1	step2	step3	step4
CES00252	2PL	0.8211	-1.7929					L3	0.8232	-1.7895				
CES00402	2PL	0.7483	-1.8702					L3	0.7502	-1.8666				
CES00258	2PL	0.4101	-2.0380					L3	0.4112	-2.0341				
CES00463	2PL	0.7274	0.0880					L3	0.7289	0.0890				
CES00243	2PL	0.7118	-4.5137					L3	0.7158	-4.4932				
CES00692	2PL	0.7179	-2.6568					L3	0.7203	-2.6506				
CES00371	2PL	0.8720	-2.8156					L3	0.8753	-2.8082				
CES00304	2PL	0.6935	-1.6762					L3	0.6952	-1.6731				
CES00844	2PL	0.8909	-2.3877					L3	0.8934	-2.3831				
CES00693	2PL	0.9771	-1.4187					L3	0.9792	-1.4162				
CES00741	2PL	0.6465	-1.6576					L3	0.6481	-1.6546				
CES00471	2PL	0.5182	-1.1403					L3	0.5193	-1.1379				
CES00687	2PL	0.6433	-0.1955					L3	0.6446	-0.1941				
CES00835	GPC	0.6989		-0.4989	-0.4280			PC1	0.7003		-0.4974	-0.4265		
CES00404	GPC	0.7888		0.3260	0.3184			PC1	0.7903		0.3269	0.3193		
CES00838	GPC	0.4884		-0.5574	-0.9620			PC1	0.4894		-0.5558	-0.9600		
CES00466	GPC	0.6726		-0.1576	-0.6668			PC1	0.6739		-0.1564	-0.6652		
CES00744	GPC	0.7949		-2.2483	-1.0098			PC1	0.7968		-2.2441	-1.0076		
CES00832	GPC	0.7915		-1.9638	-0.5284			PC1	0.7933		-1.9604	-0.5267		
CES00840	GPC	0.6117		-2.5426	-2.5081	-1.1475	0.9632	PC1	0.6132		-2.5347	-2.5046	-1.1453	0.9634

Table M-7: Unscaled Item Parameters, Speaking, Grades 6–8

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results							
		a	b	g1	g2	g3	g4	Model	aparam	bparam	step1	step2	step3	step4
CES00183	2PL	0.6206	-1.0261					L3	0.6221	-1.0236				
CES00455	2PL	0.6487	-3.3330					L3	0.6516	-3.3219				
CES00790	2PL	0.7960	-2.8077					L3	0.7991	-2.7997				
CES00412	2PL	0.5605	0.0450					L3	0.5618	0.0462				
CES00752	2PL	0.5408	-1.1542					L3	0.5420	-1.1517				
CES00456	2PL	0.6468	0.3023					L3	0.6481	0.3032				
CES00747	2PL	0.5289	-0.6823					L3	0.5301	-0.6804				
CES00704	2PL	0.7907	-1.5196					L3	0.7926	-1.5167				
CES00449	2PL	0.5951	-0.7472					L3	0.5964	-0.7452				
CES00263	2PL	0.6615	-2.3855					L3	0.6634	-2.3806				
CES00847	2PL	0.7344	-0.7625					L3	0.7360	-0.7605				
CES00386	2PL	0.7631	0.8761					L3	0.7646	0.8766				
CES00190	2PL	0.7031	-0.7194					L3	0.7046	-0.7174				
CES00748	GPC	0.8098		-1.0308	-0.8493			PC1	0.8118		-1.0284	-0.8472		
CES00706	GPC	0.8129		-1.7223	-0.9164			PC1	0.8150		-1.7187	-0.9141		
CES00384	GPC	0.8471		-1.6426	-1.7707			PC1	0.8492		-1.6392	-1.7673		
CES00317	GPC	0.8608		-0.9713	-0.4583			PC1	0.8627		-0.9691	-0.4567		
CES00798	GPC	0.8163		-2.4906	-1.4082			PC1	0.8187		-2.4845	-1.4050		
CES00460	GPC	0.8503		-2.2572	-1.4221			PC1	0.8527		-2.2519	-1.4190		
CES00461	GPC	0.7008		-2.2965	-2.0911	-0.7972	0.9712	PC1	0.7026		-2.2898	-2.0877	-0.7950	0.9713

Table M-8: Unscaled Item Parameters, Speaking, Grades 9–12

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results							
		a	b	g1	g2	g3	g4	Model	aparam	bparam	step1	step2	step3	step4
CES00335	2PL	0.5359	-0.6538					L3	0.5370	-0.6527				
CES00475	2PL	0.4942	-1.5008					L3	0.4952	-1.4987				
CES00430	2PL	0.5561	-0.1813					L3	0.5572	-0.1805				
CES00476	2PL	0.6474	-0.3097					L3	0.6486	-0.3088				
CES00483	2PL	0.6492	0.3175					L3	0.6504	0.3180				
CES00801	2PL	0.8769	-0.4789					L3	0.8784	-0.4779				
CES00477	2PL	0.7303	-0.0427					L3	0.7315	-0.0420				
CES00759	2PL	0.5981	-0.2913					L3	0.5992	-0.2904				
CES00710	2PL	0.9459	-2.0131					L3	0.9478	-2.0109				
CES00218	2PL	0.7874	-1.7359					L3	0.7888	-1.7341				
CES00802	2PL	0.6421	-0.4646					L3	0.6433	-0.4636				
CES00367	2PL	0.7956	0.2065					L3	0.7969	0.2070				
CES00338	2PL	0.7291	-1.5444					L3	0.7305	-1.5426				
CES00426	GPC	1.0168		-1.5282	-1.1394			PC1	1.0189		-1.5263	-1.1379		
CES00368	GPC	0.7816		-1.4011	-0.5818			PC1	0.7831		-1.3994	-0.5807		
CES00364	GPC	0.9039		-1.5114	-0.6019			PC1	0.9056		-1.5097	-0.6008		
CES00712	GPC	1.0185		-1.5667	-0.8562			PC1	1.0205		-1.5650	-0.8550		
CES00768	GPC	0.9996		-2.1541	-1.0610			PC1	1.0017		-2.1512	-1.0595		
CES00807	GPC	1.0001		-1.7331	-0.5317			PC1	1.0020		-1.7310	-0.5307		
CES00909	GPC	0.7093		-2.3062	-2.1982	-1.1861	0.4102	PC1	0.7106		-2.3012	-2.1963	-1.1847	0.4106

Table M-9: Unscaled Item Parameters, Reading, Grades K–1

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results						
		a	b	c	g1	g2	g3	Model	aparam	bparam	cparam	step1	step2
CER01031	3PL	1.0104	-0.5868	0.4029				L3	1.0092	-0.5844	0.4002		
CER01030	3PL	0.8278	0.0028	0.3170				L3	0.8294	0.0096	0.3164		
CER01041	3PL	1.3312	1.0199	0.2705				L3	1.3454	1.0259	0.2710		
CER01314	3PL	1.0708	0.6326	0.3166				L3	1.0792	0.6415	0.3174		
CER01315	3PL	0.3514	-0.4824	0.0493				L3	0.3428	-0.5983	0.0152		
CER01312	3PL	1.1635	-0.0854	0.3275				L3	1.1692	-0.0754	0.3279		
CER01316	3PL	2.0500	0.5528	0.3302				L3	2.0943	0.5650	0.3319		
CER01216	3PL	1.0065	1.3955	0.3169				L3	1.0269	1.3987	0.3182		
CER01311	3PL	2.1490	0.9934	0.2651				L3	2.2344	0.9998	0.2666		
CER01034	3PL	1.2797	-0.4968	0.2699				L3	1.2834	-0.4884	0.2695		
CER01179	3PL	1.5334	0.8103	0.3599				L3	1.5604	0.8187	0.3610		
CER01025	3PL	2.5058	0.3333	0.2398				L3	2.5610	0.3456	0.2415		
CER01079	3PL	2.2503	0.3155	0.3426				L3	2.3041	0.3290	0.3446		
CER01055	3PL	2.5224	0.3186	0.2279				L3	2.5798	0.3311	0.2297		
CER01083	2PL	1.1063	0.5646					L3	1.1104	0.5720	0.0000		
CER01027	2PL	1.4495	0.8727					L3	1.4561	0.8790	0.0000		
CER01047	3PL	1.1241	0.6520	0.1436				L3	1.1310	0.6597	0.1439		
CER01057	3PL	0.9353	0.3179	0.1833				L3	0.9390	0.3265	0.1835		
CER01066	GPC	1.8439			-1.1274	-0.8727	-0.7847	PC1	1.8512			-1.1184	-0.8639
CER01033	GPC	2.3870			-1.1184	-0.9374	-0.7516	PC1	2.4102			-1.1137	-0.9231

Table M-10: Unscaled Item Parameters, Reading, Grade 2

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00348	3PL	0.9638	0.3327	0.2165	L3	0.9674	0.3335	0.2168
CER00353	3PL	1.0944	-0.1260	0.2899	L3	1.0975	-0.1251	0.2899
CER00270	3PL	1.2893	1.8532	0.1943	L3	1.3255	1.8433	0.1953
CER01090	3PL	0.7237	0.2026	0.2695	L3	0.7242	0.2003	0.2687
CER01212	3PL	0.9326	1.1708	0.1596	L3	0.9387	1.1699	0.1602
CER00032	3PL	0.9202	0.4383	0.3336	L3	0.9248	0.4394	0.3340
CER00011	3PL	0.8140	0.1921	0.1653	L3	0.8151	0.1905	0.1645
CER00009	3PL	1.1381	-0.2140	0.2372	L3	1.1419	-0.2126	0.2375
CER01099	3PL	1.0591	-0.0628	0.1957	L3	1.0605	-0.0634	0.1951
CER00336	3PL	1.6607	1.2170	0.3315	L3	1.7107	1.2164	0.3329
CER00343	3PL	0.8963	-0.6124	0.2178	L3	0.8963	-0.6166	0.2152
CER01100	3PL	1.1507	1.4981	0.1905	L3	1.1668	1.4948	0.1914
CER01101	3PL	1.0887	-0.1313	0.0980	L3	1.0890	-0.1332	0.0965
CER00442	3PL	1.3227	0.2091	0.2395	L3	1.3302	0.2108	0.2402
CER01200	3PL	1.1235	0.7285	0.3464	L3	1.1322	0.7296	0.3470
CER00955	3PL	1.1077	1.0903	0.2515	L3	1.1172	1.0899	0.2522
CER00211	3PL	1.9453	-0.3113	0.2402	L3	1.9647	-0.3071	0.2420
CER00220	3PL	1.1530	-0.6703	0.2218	L3	1.1580	-0.6669	0.2230
CER00545	3PL	0.7211	0.5478	0.0899	L3	0.7202	0.5435	0.0881
CER01192	3PL	0.7061	0.5704	0.2011	L3	0.7093	0.5718	0.2018
CER00546	3PL	0.7806	0.0548	0.0783	L3	0.7768	0.0449	0.0736
CER00877	3PL	0.6803	0.3942	0.1360	L3	0.6814	0.3927	0.1354
CER00338	3PL	1.2389	-0.0195	0.0688	L3	1.2393	-0.0211	0.0674
CER00949	3PL	0.6403	1.2834	0.2075	L3	0.6414	1.2795	0.2068
CER00355	3PL	1.1834	1.3714	0.2065	L3	1.1997	1.3692	0.2074

Table M-10: Unscaled Item Parameters, Reading, Grade 2

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00957	3PL	0.7638	1.4717	0.2726	L3	0.7711	1.4701	0.2735
CER00958	3PL	1.6865	-0.1919	0.2473	L3	1.7007	-0.1880	0.2488
CER00959	3PL	1.6993	0.7877	0.1962	L3	1.7186	0.7880	0.1969
CER01103	3PL	1.5676	0.7454	0.2801	L3	1.5875	0.7467	0.2811
CER01104	3PL	0.6157	-0.6916	0.2075	L3	0.6167	-0.6924	0.2068
CER01105	3PL	1.3623	0.4616	0.2029	L3	1.3736	0.4634	0.2038
CER01094	3PL	0.5828	0.7607	0.1306	L3	0.5836	0.7584	0.1300
CER01096	3PL	1.2258	0.3622	0.2334	L3	1.2345	0.3644	0.2344
CER01171	3PL	0.8605	0.4332	0.1813	L3	0.8643	0.4345	0.1819
CER01097	3PL	0.7079	0.8277	0.1485	L3	0.7105	0.8273	0.1486

Table M-11: Unscaled Item Parameters, Reading, Grades 3–5

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00893	3PL	0.7229	0.0424	0.0500	L3	0.71152	0.01127	0.0378
CER00463	3PL	0.6054	0.3621	0.1683	L3	0.60462	0.35235	0.1664
CER01242	3PL	0.8772	0.4202	0.0812	L3	0.87602	0.41228	0.0796
CER00050	3PL	0.5890	1.0276	0.2269	L3	0.59132	1.02331	0.2273
CER00964	3PL	0.9430	0.1450	0.2865	L3	0.94677	0.14187	0.2869
CER00052	3PL	0.8690	0.8673	0.2156	L3	0.87281	0.86299	0.2160
CER00072	3PL	0.8634	0.2556	0.0575	L3	0.85908	0.24392	0.0538
CER01108	3PL	0.7619	-0.1711	0.1931	L3	0.76415	-0.1744	0.1933
CER01107	3PL	0.8828	0.7612	0.2291	L3	0.8869	0.75725	0.2295
CER00377	3PL	0.7560	-0.0986	0.1319	L3	0.75578	-0.1072	0.1299
CER00898	3PL	1.1386	-0.0222	0.0950	L3	1.13984	-0.0282	0.0940
CER00897	3PL	0.8686	1.2148	0.3388	L3	0.87604	1.21083	0.3396
CER01241	3PL	0.4808	1.3658	0.0830	L3	0.47399	1.34934	0.0777
CER00458	3PL	0.9444	0.2925	0.1114	L3	0.94486	0.28626	0.1105
CER00296	3PL	0.7440	-0.1846	0.0904	L3	0.7401	-0.2019	0.0843
CER00498	3PL	0.8907	0.2208	0.1372	L3	0.89233	0.21551	0.1367
CER00235	3PL	1.1893	0.2609	0.1288	L3	1.19318	0.25645	0.1288
CER00896	3PL	0.7382	-0.5226	0.1931	L3	0.74042	-0.5252	0.1933
CER00599	3PL	1.3612	0.3556	0.2282	L3	1.36939	0.3522	0.2287
CER01110	3PL	0.8133	-0.2436	0.1278	L3	0.81367	-0.2511	0.1260
CER00900	3PL	1.0626	0.2302	0.2201	L3	1.06785	0.22717	0.2207
CER00604	3PL	1.8080	-0.2955	0.2181	L3	1.82443	-0.2965	0.2195
CER00600	3PL	1.3152	0.6633	0.2235	L3	1.32412	0.65934	0.2240
CER00972	3PL	0.9456	0.2447	0.1737	L3	0.94812	0.24014	0.1736
CER00895	3PL	0.9388	1.0166	0.1896	L3	0.943	1.01188	0.1900

Table M-11: Unscaled Item Parameters, Reading, Grades 3–5

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00906	3PL	0.8783	-0.5572	0.0909	L3	0.87424	-0.5748	0.0832
CER00907	3PL	0.7723	0.8474	0.1666	L3	0.77376	0.84206	0.1664
CER00908	3PL	0.8417	0.6554	0.2854	L3	0.84562	0.65189	0.2859
CER00909	3PL	0.8050	0.0273	0.1931	L3	0.80757	0.02378	0.1933
CER01161	3PL	1.1052	-0.0888	0.1396	L3	1.10839	-0.0933	0.1393
CER01121	3PL	0.6795	0.0362	0.0598	L3	0.67071	0.00748	0.0492
CER01123	3PL	1.0817	0.3222	0.1944	L3	1.08589	0.31819	0.1947
CER00974	3PL	1.0027	0.4751	0.1796	L3	1.00665	0.4709	0.1798
CER00975	3PL	0.6087	0.2386	0.1931	L3	0.61059	0.23504	0.1933
CER00977	3PL	1.3657	1.1912	0.1996	L3	1.38014	1.18567	0.2002

Table M-12: Unscaled Item Parameters, Reading, Grades 6–8

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00928	3PL	0.3902	-0.7383	0.1947	L3	0.39124	-0.7395	0.1950
CER00982	3PL	0.5984	-0.1752	0.1947	L3	0.6003	-0.1774	0.1950
CER00128	3PL	1.0377	-0.6853	0.1947	L3	1.04144	-0.6869	0.1950
CER00380	3PL	0.7878	1.1469	0.1752	L3	0.79259	1.14227	0.1758
CER00513	3PL	0.4868	-0.0334	0.1947	L3	0.48829	-0.0357	0.1950
CER00303	3PL	0.7028	0.1355	0.1947	L3	0.70526	0.13277	0.1950
CER00393	3PL	0.5996	0.5410	0.1947	L3	0.60175	0.53766	0.1950
CER00987	3PL	0.6582	0.6402	0.1947	L3	0.66068	0.63661	0.1950
CER00988	3PL	0.4880	0.1554	0.1947	L3	0.48951	0.15289	0.1950
CER00934	3PL	0.3276	0.1108	0.1947	L3	0.32866	0.10873	0.1950
CER00510	3PL	0.4507	1.0192	0.1947	L3	0.45238	1.01525	0.1950
CER00514	3PL	0.6871	1.0782	0.1547	L3	0.68939	1.07304	0.1547
CER00985	3PL	0.7392	-0.3179	0.1135	L3	0.73776	-0.3297	0.1096
CER00564	3PL	0.7411	0.6767	0.1822	L3	0.74336	0.67222	0.1823
CER00990	3PL	1.1060	-1.1307	0.0356	L3	1.09492	-1.1633	0.0117
CER00515	3PL	0.6636	1.1367	0.1947	L3	0.66634	1.13205	0.1950
CER00563	3PL	0.8950	-0.3066	0.1675	L3	0.89688	-0.3109	0.1668
CER01128	3PL	0.8800	-0.2308	0.1947	L3	0.88311	-0.233	0.1950
CER00402	3PL	0.8323	-0.2211	0.1947	L3	0.83513	-0.2233	0.1950
CER00932	3PL	1.0851	0.6364	0.1964	L3	1.09137	0.63287	0.1969
CER00937	3PL	0.9470	0.9413	0.2200	L3	0.95326	0.93719	0.2206
CER00569	3PL	1.1979	1.1652	0.1737	L3	1.20829	1.15966	0.1742
CER00144	3PL	1.0745	0.1398	0.2299	L3	1.07994	0.13751	0.2305
CER00145	3PL	1.1214	0.0478	0.2478	L3	1.12743	0.04583	0.2484
CER00143	3PL	0.7365	1.0866	0.1771	L3	0.74053	1.08195	0.1776

Table M-12: Unscaled Item Parameters, Reading, Grades 6–8

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER00995	3PL	0.8600	0.5591	0.2095	L3	0.86448	0.55604	0.2101
CER00993	3PL	0.7218	0.9343	0.1855	L3	0.72536	0.93013	0.1859
CER00992	3PL	1.3904	0.2023	0.2288	L3	1.40034	0.20024	0.2296
CER00994	3PL	0.7993	1.5271	0.1686	L3	0.80508	1.52044	0.1691
CER01130	3PL	1.4414	-0.0532	0.1976	L3	1.45156	-0.0547	0.1985
CER01173	3PL	1.5378	0.6393	0.2295	L3	1.55313	0.63592	0.2302
CER01133	3PL	1.1867	0.0358	0.2004	L3	1.19395	0.03407	0.2012
CER00521	3PL	0.9243	0.7430	0.1916	L3	0.92934	0.73911	0.1921
CER00523	3PL	0.8183	1.1865	0.2126	L3	0.82362	1.18152	0.2131
CER00524	3PL	0.9377	0.6016	0.2111	L3	0.94294	0.5982	0.2116

Table M-13: Unscaled Item Parameters, Reading, Grades 9–12

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER01152	3PL	0.5011	-1.2724	0.2059	L3	0.5024	-1.2711	0.2065
CER00179	3PL	0.2810	-0.7189	0.2059	L3	0.2818	-0.7167	0.2065
CER01143	3PL	0.6377	0.1244	0.1578	L3	0.6382	0.1200	0.1569
CER00327	3PL	0.6834	-0.2563	0.2059	L3	0.6856	-0.2562	0.2065
CER00531	3PL	0.6234	0.5316	0.2610	L3	0.6257	0.5305	0.2615
CER00451	3PL	0.6054	-0.3528	0.2059	L3	0.6073	-0.3525	0.2065
CER00471	3PL	0.5172	0.0878	0.2059	L3	0.5189	0.0879	0.2065
CER01006	3PL	0.9094	-1.2563	0.2059	L3	0.9125	-1.2554	0.2065
CER00911	3PL	1.0982	-0.7204	0.2059	L3	1.1024	-0.7201	0.2065
CER01005	3PL	0.7798	0.1190	0.1179	L3	0.7798	0.1139	0.1165
CER00157	3PL	0.7476	-0.9085	0.2059	L3	0.7498	-0.9079	0.2065
CER00242	3PL	0.7553	1.3952	0.2059	L3	0.7594	1.3925	0.2065
CER00533	3PL	0.4490	1.4654	0.2059	L3	0.4511	1.4634	0.2065
CER00918	3PL	0.4310	0.7770	0.2059	L3	0.4326	0.7766	0.2065
CER00419	3PL	0.8728	-1.0217	0.2059	L3	0.8757	-1.0211	0.2065
CER00457	3PL	0.8954	0.4111	0.1712	L3	0.8981	0.4088	0.1712
CER00321	3PL	0.7869	0.2139	0.2059	L3	0.7897	0.2134	0.2065
CER00418	3PL	1.0874	-1.1029	0.2059	L3	1.0915	-1.1022	0.2065
CER01007	3PL	0.9182	0.7993	0.3063	L3	0.9245	0.7981	0.3071
CER00912	3PL	0.5864	0.0157	0.2059	L3	0.5884	0.0158	0.2065
CER00443	3PL	0.8056	1.0799	0.2171	L3	0.8108	1.0776	0.2177
CER01309	3PL	0.7557	0.5993	0.1835	L3	0.7583	0.5972	0.1837
CER00926	3PL	0.5532	0.5792	0.2059	L3	0.5554	0.5785	0.2065
CER00924	3PL	0.9340	1.1889	0.2178	L3	0.9423	1.1858	0.2186
CER00925	3PL	0.5547	1.1654	0.2379	L3	0.5579	1.1639	0.2387

Table M-13: Unscaled Item Parameters, Reading, Grades 9–12

Item ID	Model	ETS Parameters			EDS jMetrik Equating Sample Results			
		a	b	c	Model	aparam	bparam	cparam
CER01016	3PL	0.7671	1.1036	0.2256	L3	0.7720	1.1012	0.2263
CER01017	3PL	1.0309	0.9093	0.1544	L3	1.0377	0.9068	0.1549
CER01014	3PL	1.0548	0.1043	0.1889	L3	1.0595	0.1035	0.1894
CER01279	3PL	1.1159	0.3698	0.3087	L3	1.1239	0.3698	0.3096
CER01280	3PL	0.7996	-0.4186	0.2059	L3	0.8023	-0.4184	0.2065
CER01277	3PL	0.9261	1.4396	0.2183	L3	0.9359	1.4351	0.2191
CER01282	3PL	0.8871	0.3868	0.2088	L3	0.8916	0.3862	0.2095
CER01011	3PL	0.5793	1.6421	0.1553	L3	0.5828	1.6377	0.1558
CER01012	3PL	0.8032	0.3704	0.3061	L3	0.8076	0.3705	0.3069
CER01013	3PL	0.9985	1.1642	0.1922	L3	1.0074	1.1610	0.1929

Table M-14: Unscaled Item Parameters, Writing, Grades K–1

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results							
		a	b	c	g1	g2	g3	g4	Model	aparam	bparam	cparam	step1	step2
CEW00896	3PL	1.2445	1.3181	0.4566					L3	1.2658	1.3223	0.4572		
CEW00932	3PL	1.7817	1.1410	0.2528					L3	1.8167	1.1467	0.2539		
CEW00885	3PL	1.5656	1.1464	0.2450					L3	1.5884	1.1520	0.2458		
CEW00876	3PL	0.8086	0.9114	0.4337					L3	0.8091	0.9147	0.4330		
CEW00884	3PL	1.2289	1.3005	0.2228					L3	1.2424	1.3059	0.2237		
CEW00905	3PL	0.7642	1.1574	0.2407					L3	0.7705	1.1648	0.2420		
CEW00875	3PL	0.7605	0.9963	0.2977					L3	0.7657	1.0040	0.2988		
CEW00931	3PL	1.5093	1.3595	0.1617					L3	1.5314	1.3639	0.1626		
CEW00877	2PL	0.8157	-1.8511						L3	0.8169	-1.8451			
CEW00909	2PL	0.8038	-1.5589						L3	0.8049	-1.5530			
CEW00868	2PL	0.9879	-1.4006						L3	0.9891	-1.3949			
CEW00898	2PL	0.9131	-1.6200						L3	0.9143	-1.6142			
CEW00919	GPC	0.5523			-1.9592	-1.0373			PC1	0.5531		-1.9531	-1.0315	
CEW00889	GPC	0.6845			-2.3782	-0.3326			PC1	0.6855		-2.3719	-0.3268	
CEW00890	GPC	0.7137			-2.2907	-1.0274			PC1	0.7146		-2.2845	-1.0216	
CEW00891	GPC	1.5442			-1.0484	0.2181			PC1	1.5455		-1.0429	0.2241	
CEW00923	GPC	1.3651			-0.6526	1.8249			PC1	1.3667		-0.6468	1.8300	
CEW00871	GPC	1.2956			-0.8921	0.7244			PC1	1.2970		-0.8863	0.7303	
CEW00989	GPC	1.0505			-0.5505	1.4042			PC1	1.0518		-0.5446	1.4097	
CEW00902	GPC	1.1526			-0.4522	1.1707			PC1	1.1537		-0.4464	1.1765	

Table M-15: Unscaled Item Parameters, Writing, Grade 2

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results									
		a	b	c	g1	g2	g3	g4	Model	aparam	bparam	cparam	step1	step2	step3	step4
CEW00005	3PL	0.6951	-0.8545	0.3013					L3	0.6984	-0.8708	0.3014				
CEW00020	3PL	0.9228	-1.1761	0.3013					L3	0.9282	-1.1904	0.3014				
CEW00004	3PL	1.0672	-0.1366	0.3476					L3	1.0700	-0.1586	0.3464				
CEW00298	3PL	2.6690	-0.3138	0.2760					L3	3.0000	-0.3286	0.2818				
CEW00939	3PL	1.5999	0.0786	0.3054					L3	1.6048	0.0568	0.3046				
CEW00220	3PL	1.5656	-0.2490	0.2982					L3	1.5730	-0.2694	0.2974				
CEW00021	3PL	0.5900	0.3076	0.3013					L3	0.5923	0.2876	0.3014				
CEW00209	3PL	1.1448	-0.3008	0.3464					L3	1.1466	-0.3231	0.3448				
CEW00941	3PL	2.1877	0.3595	0.2888					L3	2.1868	0.3363	0.2881				
CEW00940	3PL	1.8937	-0.1771	0.3801					L3	1.9058	-0.1968	0.3798				
CEW00796	3PL	1.2382	0.3743	0.2069					L3	1.2389	0.3518	0.2061				
CEW00981	3PL	0.5380	0.8073	0.2028					L3	0.5364	0.7802	0.2007				
CEW00800	3PL	0.7807	2.3216	0.3583					L3	0.7952	2.2909	0.3592				
CEW00974	3PL	1.1447	0.1307	0.3393					L3	1.1469	0.1083	0.3385				
CEW00975	3PL	0.7889	0.8040	0.1852					L3	0.7887	0.7807	0.1843				
CEW00976	3PL	0.5861	0.8956	0.2081					L3	0.5848	0.8703	0.2065				
CEW00390	3PL	1.9611	0.5882	0.3361					L3	1.9664	0.5666	0.3361				
CEW00391	3PL	1.5862	0.4338	0.3679					L3	1.5941	0.4128	0.3680				
CEW00392	3PL	1.7616	0.3056	0.3534					L3	1.7731	0.2852	0.3537				
CEW00389	GPC	1.0275			-1.2634	0.1830	2.2963		PC1	1.0303			-1.2781	0.1622	2.2738	
CEW00995	GPC	0.9601			-1.5131	-0.3350	1.3743		PC1	0.9628			-1.5264	-0.3543	1.3520	
CEW00381	GPC	0.9644			-1.2738	0.2221	2.1266		PC1	0.9668			-1.2887	0.2012	2.1045	
CEW00802	GPC	0.9126			-1.6676	0.1002	2.1785		PC1	0.9156			-1.6808	0.0799	2.1553	
CEW01084	GPC	0.8348			-2.1736	-0.8110	0.8521	3.4280	PC1	0.8376			-2.1841	-0.8283	0.8302	3.4036

Table M-16: Unscaled Item Parameters, Writing, Grades 3–5

Item ID	Model	ETS Parameters					EDS jMetrik Equating Sample Results									
		a	b	c	g1	g2	g3	g4	Model	aparam	bparam	cparam	step1	step2	step3	step4
CEW00100	3PL	0.9824	-1.3674	0.2793					L3	0.9853	-1.3617	0.2793				
CEW00088	3PL	0.6005	-0.5539	0.2793					L3	0.6019	-0.5493	0.2793				
CEW00077	3PL	1.1495	0.1087	0.3389					L3	1.1513	0.1117	0.3386				
CEW00228	3PL	0.5998	-0.1631	0.2793					L3	0.6013	-0.1589	0.2793				
CEW00090	3PL	1.3165	0.0361	0.3582					L3	1.3189	0.0394	0.3579				
CEW00239	3PL	0.8756	0.0813	0.2257					L3	0.8764	0.0835	0.2250				
CEW00950	3PL	0.9324	0.1044	0.2492					L3	0.9336	0.1071	0.2487				
CEW00813	3PL	0.7183	0.9292	0.3078					L3	0.7201	0.9321	0.3078				
CEW00815	3PL	0.9458	-0.1154	0.3120					L3	0.9468	-0.1131	0.3113				
CEW01019	3PL	1.3342	0.0878	0.3146					L3	1.3368	0.0913	0.3144				
CEW00747	3PL	1.1188	-0.9447	0.2769					L3	1.1199	-0.9429	0.2751				
CEW00748	3PL	1.0680	-0.5501	0.2366					L3	1.0691	-0.5479	0.2354				
CEW00749	3PL	1.4422	-1.0069	0.2300					L3	1.4452	-1.0035	0.2287				
CEW00755	3PL	1.1173	-0.7404	0.2972					L3	1.1188	-0.7380	0.2960				
CEW00756	3PL	0.6594	0.4258	0.2432					L3	0.6596	0.4268	0.2423				
CEW00757	3PL	1.1249	-0.1837	0.2542					L3	1.1265	-0.1806	0.2537				
CEW00422	3PL	1.5074	-0.8414	0.3330					L3	1.5109	-0.8378	0.3321				
CEW00423	3PL	0.9222	0.0994	0.2731					L3	0.9234	0.1021	0.2727				
CEW00424	3PL	0.6514	0.4933	0.2793					L3	0.6530	0.4968	0.2793				
CEW00246	GPC	0.6684			-3.2280	-0.7462	0.0599		PC1	0.6700			-3.2168	-0.7417	0.0637	
CEW00746	GPC	0.6234			-2.7140	-1.3359	0.9688		PC1	0.6250			-2.7043	-1.3305	0.9715	
CEW01015	GPC	0.7741			-2.4345	-1.1594	0.8598		PC1	0.7761			-2.4259	-1.1542	0.8627	
CEW00094	GPC	0.7279			-2.7664	-1.0063	1.2994		PC1	0.7298			-2.7567	-1.0013	1.3017	
CEW01008	GPC	0.7396			-2.1714	-1.9073	0.4800	3.5636	PC1	0.7416			-2.1630	-1.9011	0.4833	3.5627

Table M-17: Unscaled Item Parameters, Writing, Grades 6–8

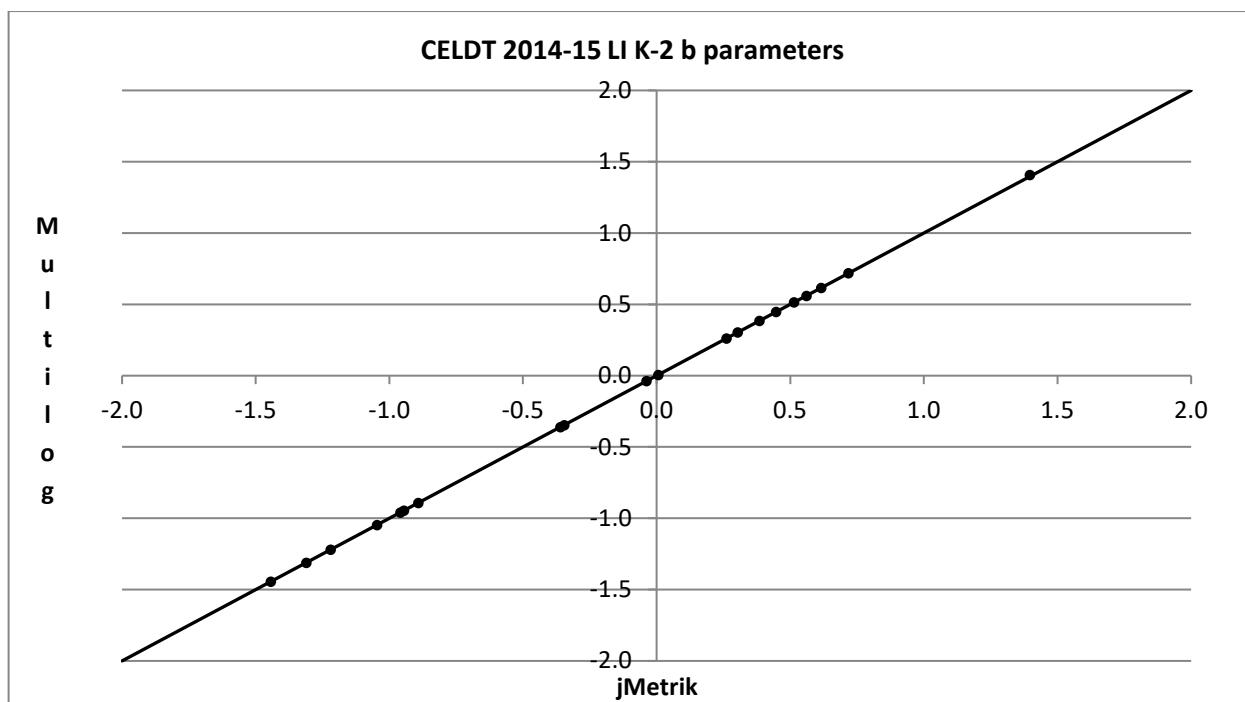
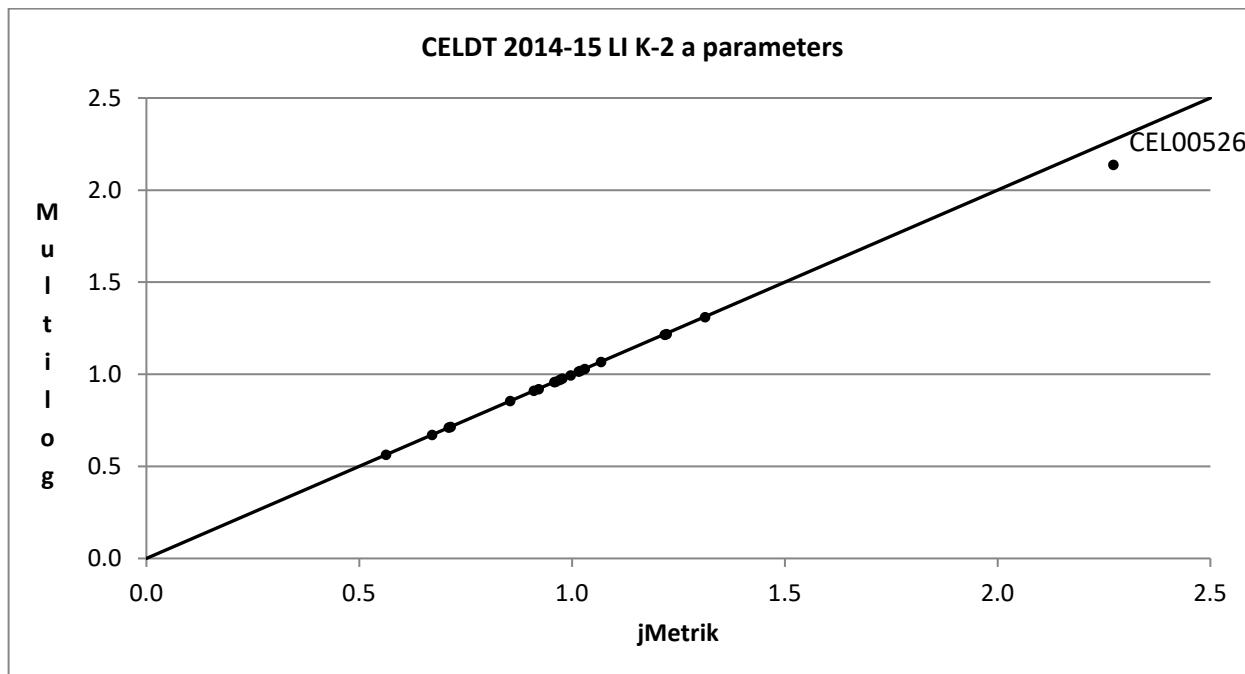
Item ID	Model	ETS Parameters							EDS jMetrik Equating Sample Results							
		a	b	c	g1	g2	g3	g4	Model	aparam	bparam	cparam	step1	step2	step3	step4
CEW00265	3PL	1.0392	-0.5832	0.1793					L3	1.0393	-0.5834	0.1773				
CEW00145	3PL	0.7195	-0.6075	0.2761					L3	0.7213	-0.6039	0.2761				
CEW00833	3PL	0.5765	-0.5840	0.2761					L3	0.5780	-0.5803	0.2761				
CEW00832	3PL	0.7292	-0.8841	0.2761					L3	0.7311	-0.8801	0.2761				
CEW00178	3PL	1.0815	0.1813	0.3416					L3	1.0832	0.1832	0.3412				
CEW00147	3PL	0.7696	0.6353	0.3940					L3	0.7692	0.6352	0.3932				
CEW00837	3PL	0.8709	-0.2722	0.3136					L3	0.8712	-0.2724	0.3123				
CEW00836	3PL	1.2635	0.3862	0.2739					L3	1.2666	0.3886	0.2739				
CEW00961	3PL	1.1575	-0.4206	0.2682					L3	1.1590	-0.4189	0.2673				
CEW00262	3PL	0.6113	0.5309	0.2761					L3	0.6128	0.5332	0.2761				
CEW00255	3PL	0.8539	-0.1293	0.2761					L3	0.8559	-0.1263	0.2761				
CEW00959	3PL	0.7126	-0.1900	0.2761					L3	0.7142	-0.1870	0.2761				
CEW00256	3PL	1.1466	-1.0351	0.3138					L3	1.1473	-1.0356	0.3112				
CEW00350	3PL	0.7365	0.0403	0.1908					L3	0.7361	0.0391	0.1892				
CEW00351	3PL	1.1218	-0.5206	0.2249					L3	1.1231	-0.5192	0.2237				
CEW00352	3PL	0.6728	-0.1405	0.2761					L3	0.6744	-0.1375	0.2761				
CEW00779	3PL	1.0433	-0.8766	0.2490					L3	1.0435	-0.8773	0.2465				
CEW00780	3PL	1.1553	-1.0018	0.2761					L3	1.1588	-0.9975	0.2761				
CEW00781	3PL	0.8543	-0.5446	0.2353					L3	0.8539	-0.5463	0.2330				
CEW00794	GPC	0.5502			-3.3966	-2.2919	1.5314		PC1	0.5522			-3.3755	-2.2842	1.5311	
CEW00142	GPC	0.5937			-3.4154	-2.5934	1.1046		PC1	0.5958			-3.3897	-2.5851	1.1053	
CEW00842	GPC	0.5990			-3.3346	-2.0724	1.0082		PC1	0.6011			-3.3140	-2.0655	1.0092	
CEW00834	GPC	0.4299			-3.2960	-3.1397	0.6382		PC1	0.4315			-3.2744	-3.1294	0.6398	
CEW00413	GPC	0.6000			-2.8257	-2.7525	-0.2498	4.9252	PC1	0.6022			-2.8048	-2.7439	-0.2462	4.9171

Table M-18: Unscaled Item Parameters, Writing, Grades 9–12

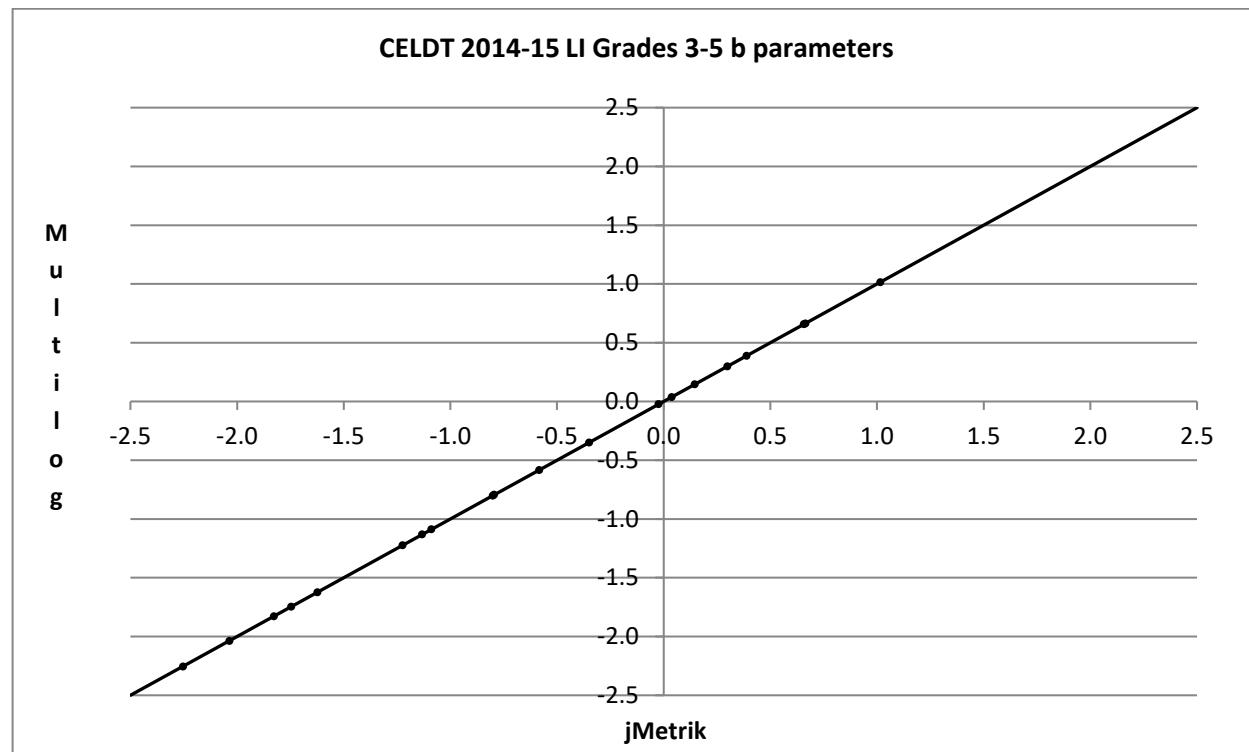
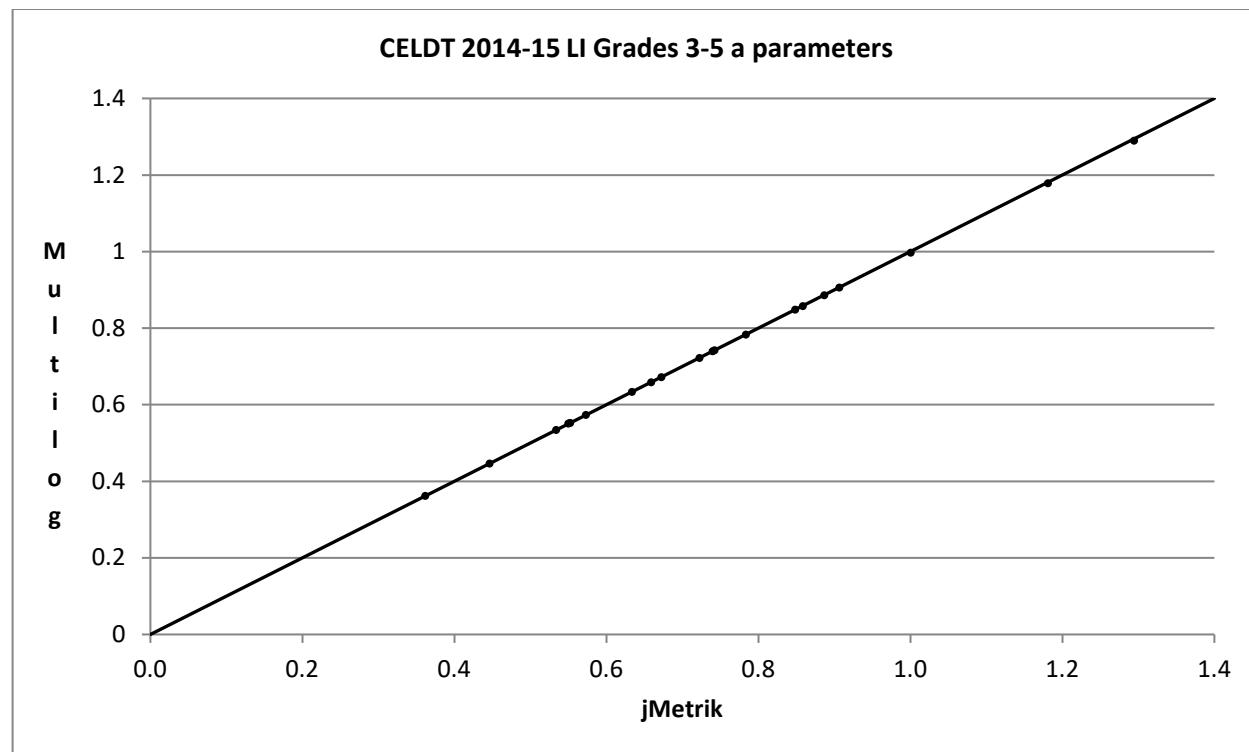
Item ID	Model	ETS Parameters							EDS jMetrik Equating Sample Results							
		a	b	c	g1	g2	g3	g4	Model	aparam	bparam	cparam	step1	step2	step3	step4
CEW00306	3PL	1.2437	-1.2281	0.2521					L3	1.2449	-1.2286	0.2493				
CEW00283	3PL	0.7635	-0.7575	0.2535					L3	0.7651	-0.7557	0.2529				
CEW00060	3PL	0.7750	-0.1919	0.2535					L3	0.7762	-0.1909	0.2529				
CEW00849	3PL	0.5761	0.0679	0.2535					L3	0.5769	0.0683	0.2529				
CEW00966	3PL	0.8443	-0.9035	0.2535					L3	0.8459	-0.9015	0.2529				
CEW00278	3PL	0.5602	-0.1909	0.2535					L3	0.5612	-0.1902	0.2529				
CEW00850	3PL	0.8504	-1.3768	0.2535					L3	0.8528	-1.3734	0.2529				
CEW00041	3PL	0.6732	-0.0915	0.2535					L3	0.6744	-0.0907	0.2529				
CEW00061	3PL	0.5318	-2.2727	0.2535					L3	0.5340	-2.2655	0.2529				
CEW00279	3PL	1.1457	-1.2067	0.3712					L3	1.1447	-1.2111	0.3670				
CEW00970	3PL	0.8622	-0.2822	0.2535					L3	0.8635	-0.2810	0.2529				
CEW00855	3PL	0.9533	0.5752	0.2027					L3	0.9547	0.5764	0.2025				
CEW00854	3PL	0.4089	-0.5191	0.2535					L3	0.4098	-0.5182	0.2529				
CEW00431	3PL	0.7612	-0.3459	0.2535					L3	0.7624	-0.3447	0.2529				
CEW00432	3PL	0.7016	-0.0716	0.2535					L3	0.7027	-0.0708	0.2529				
CEW00433	3PL	0.4189	-2.1667	0.2535					L3	0.4206	-2.1604	0.2529				
CEW00769	3PL	0.5605	-0.5379	0.2535					L3	0.5618	-0.5365	0.2529				
CEW00770	3PL	1.4029	-0.7308	0.3294					L3	1.4054	-0.7293	0.3285				
CEW00771	3PL	0.6904	-0.8915	0.2535					L3	0.6918	-0.8895	0.2529				
CEW00764	GPC	0.4080			-4.3384	-2.9898	0.1537		PC1	0.4092			-4.3153	-2.9824	0.1557	
CEW00856	GPC	0.4332			-4.3497	-2.5035	0.0304		PC1	0.4344			-4.3280	-2.4975	0.0326	
CEW00307	GPC	0.4553			-3.9861	-2.5428	1.2699		PC1	0.4566			-3.9664	-2.5364	1.2701	
CEW00860	GPC	0.4517			-4.0075	-2.3847	0.4868		PC1	0.4531			-3.9877	-2.3784	0.4883	
CEW00448	GPC	0.6509			-2.4210	-2.5574	-0.2917	4.1776	PC1	0.6531			-2.4085	-2.5509	-0.2888	4.1718

Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots

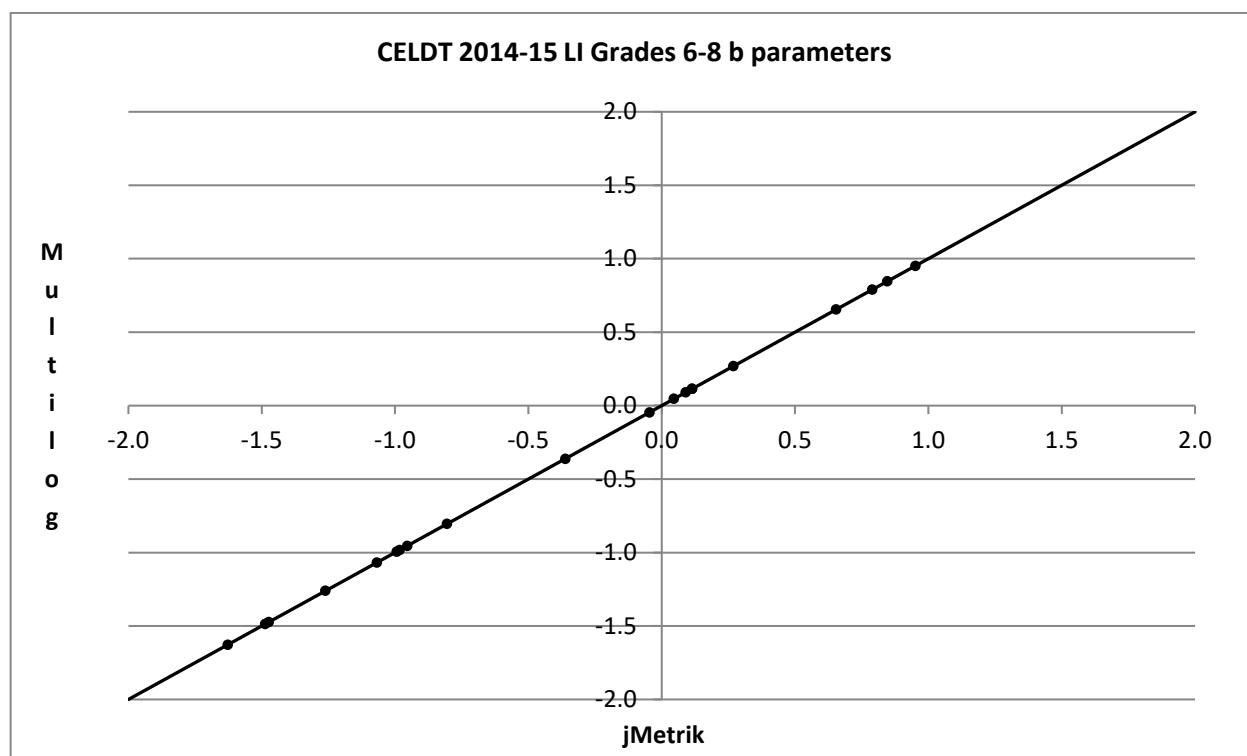
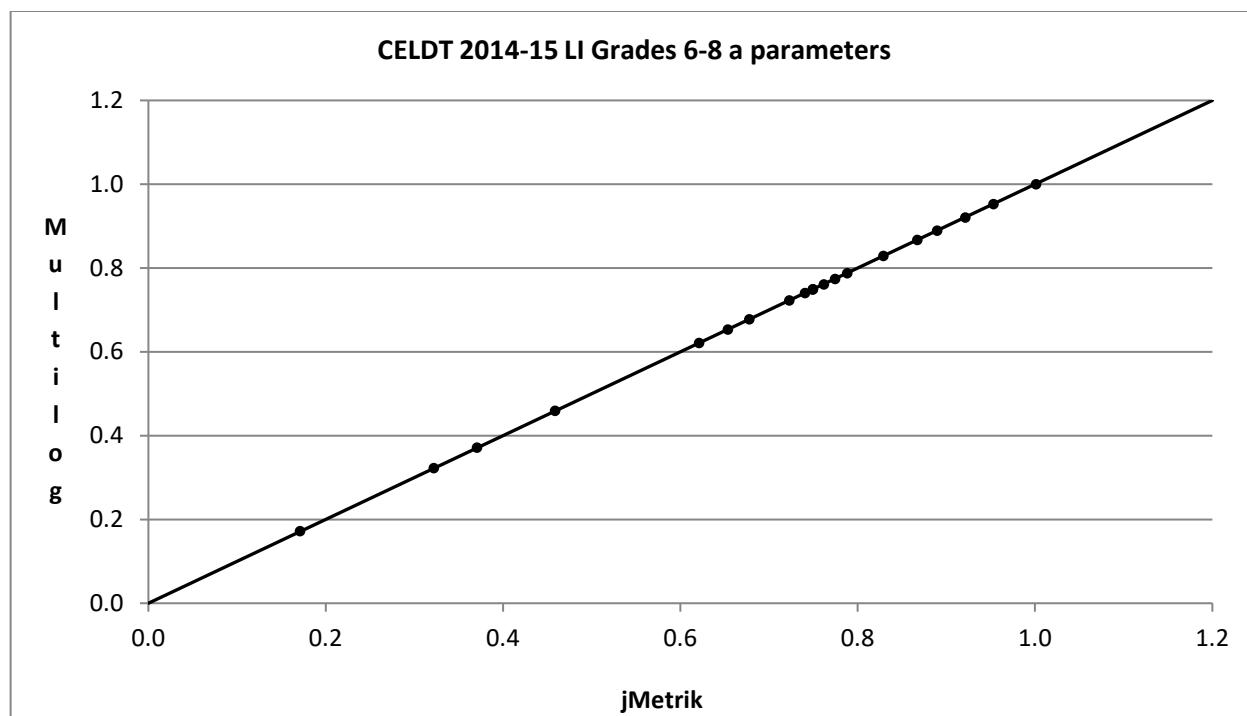
Plots for Table M-1: Listening, Grades K-2



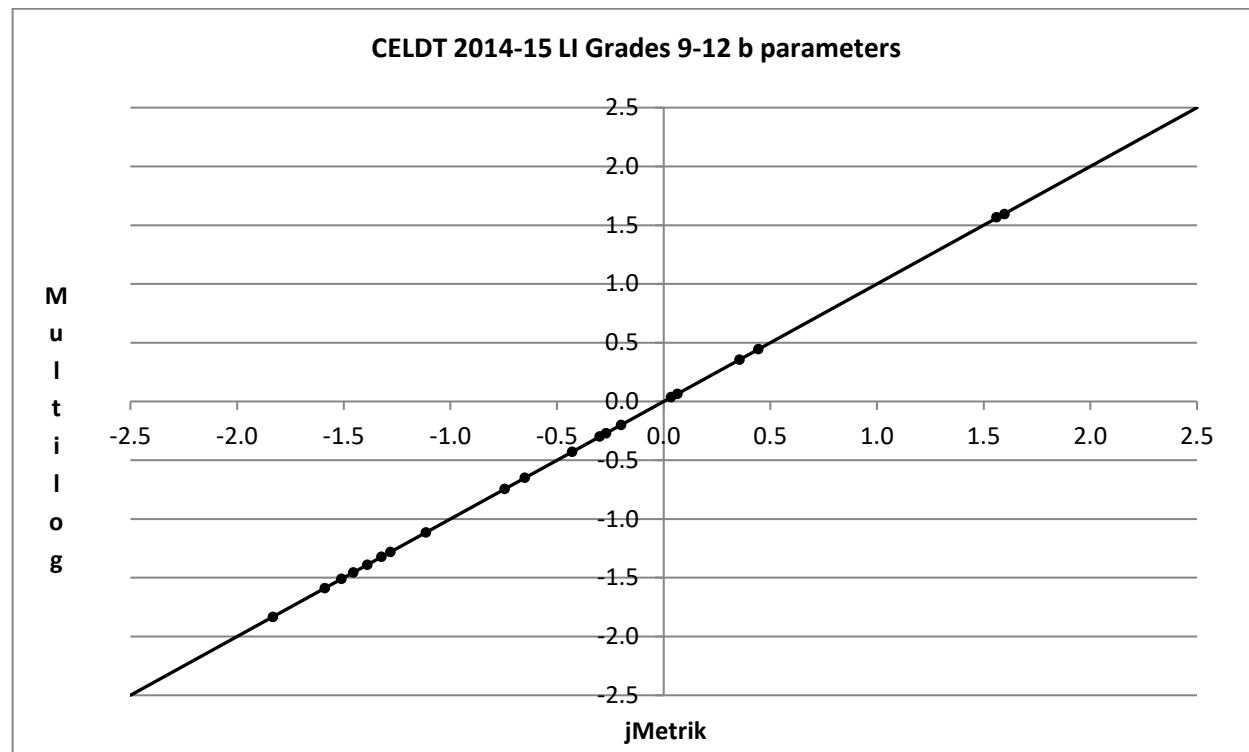
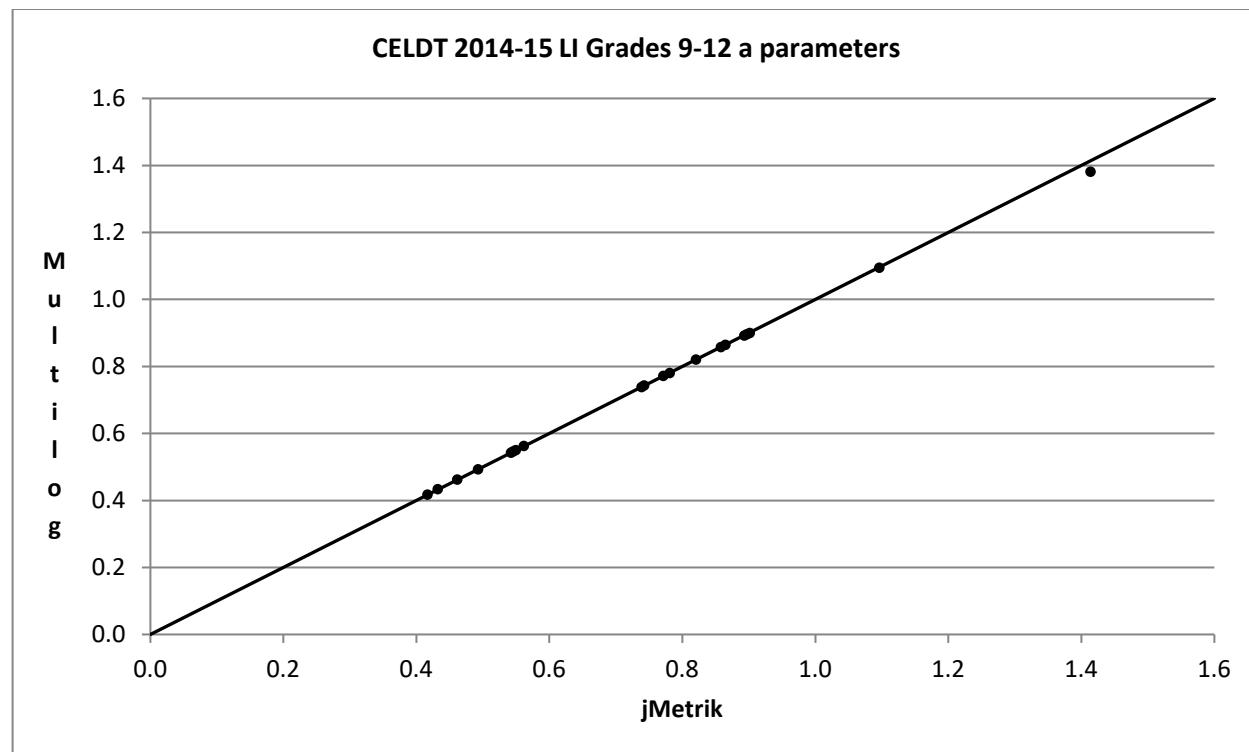
Plots for Table M-2: Listening, Grades 3–5



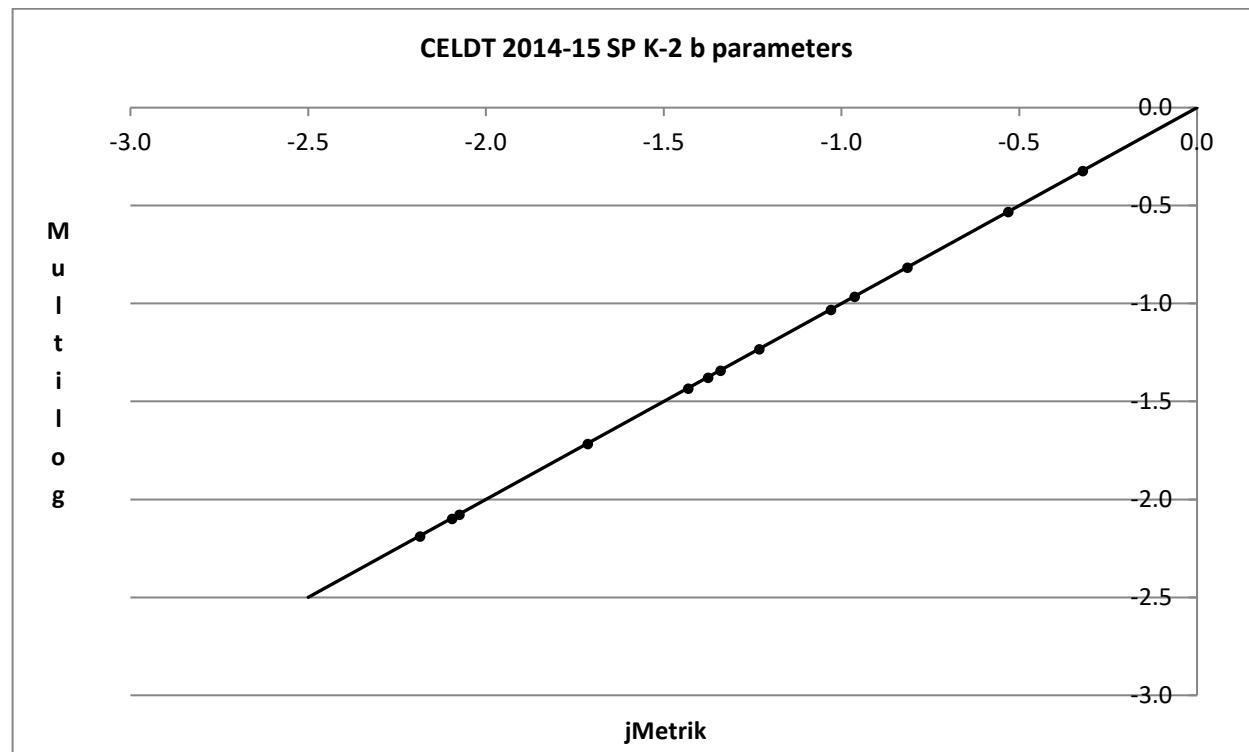
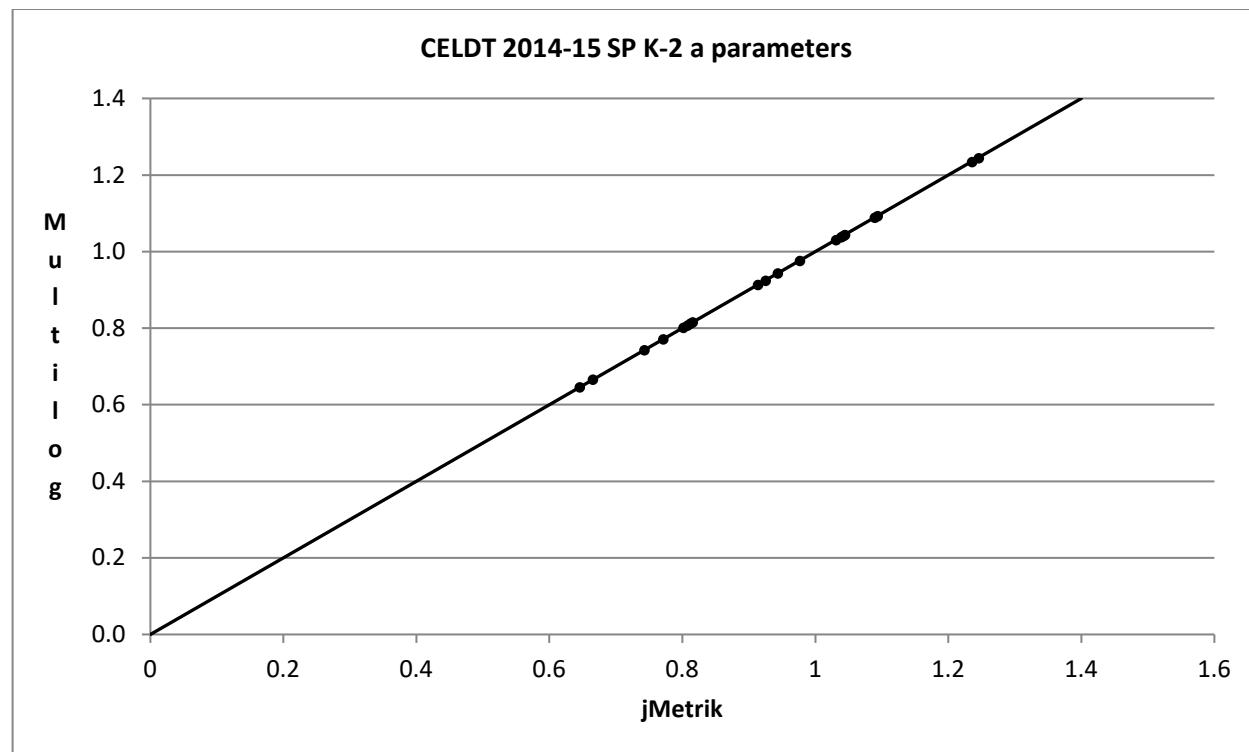
Plots for Table M-3: Listening, Grades 6–8



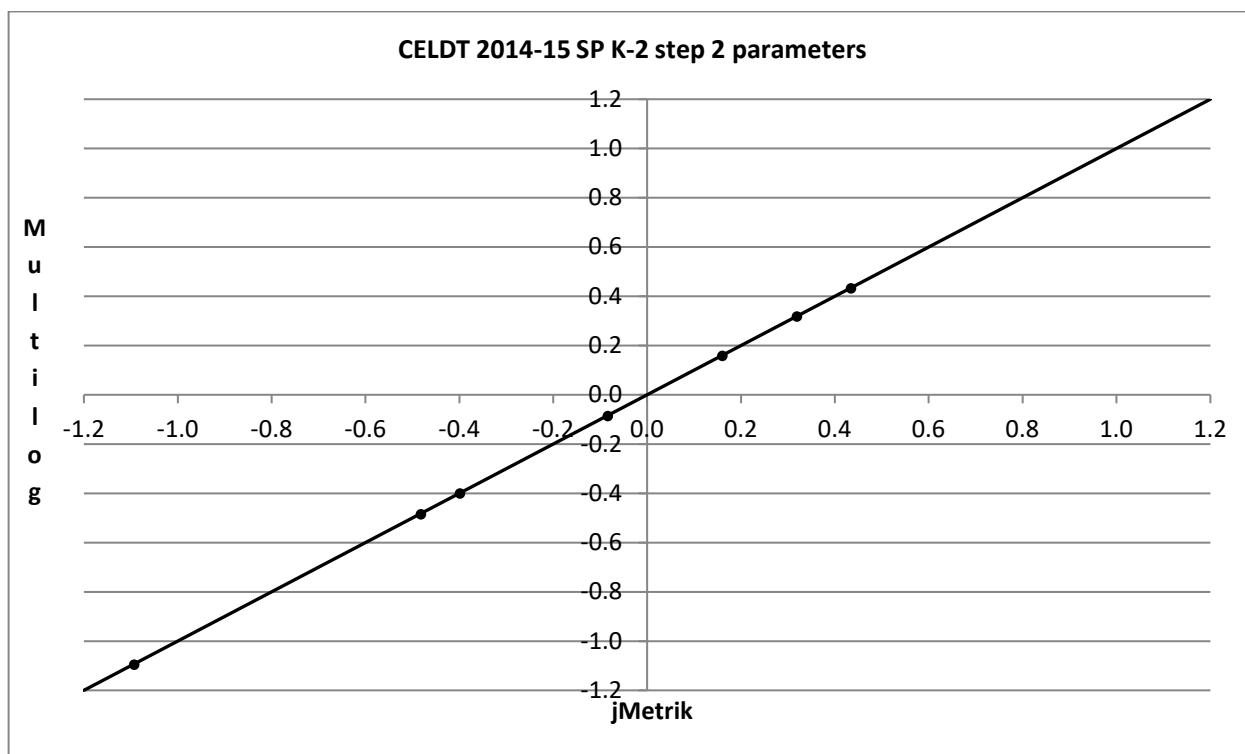
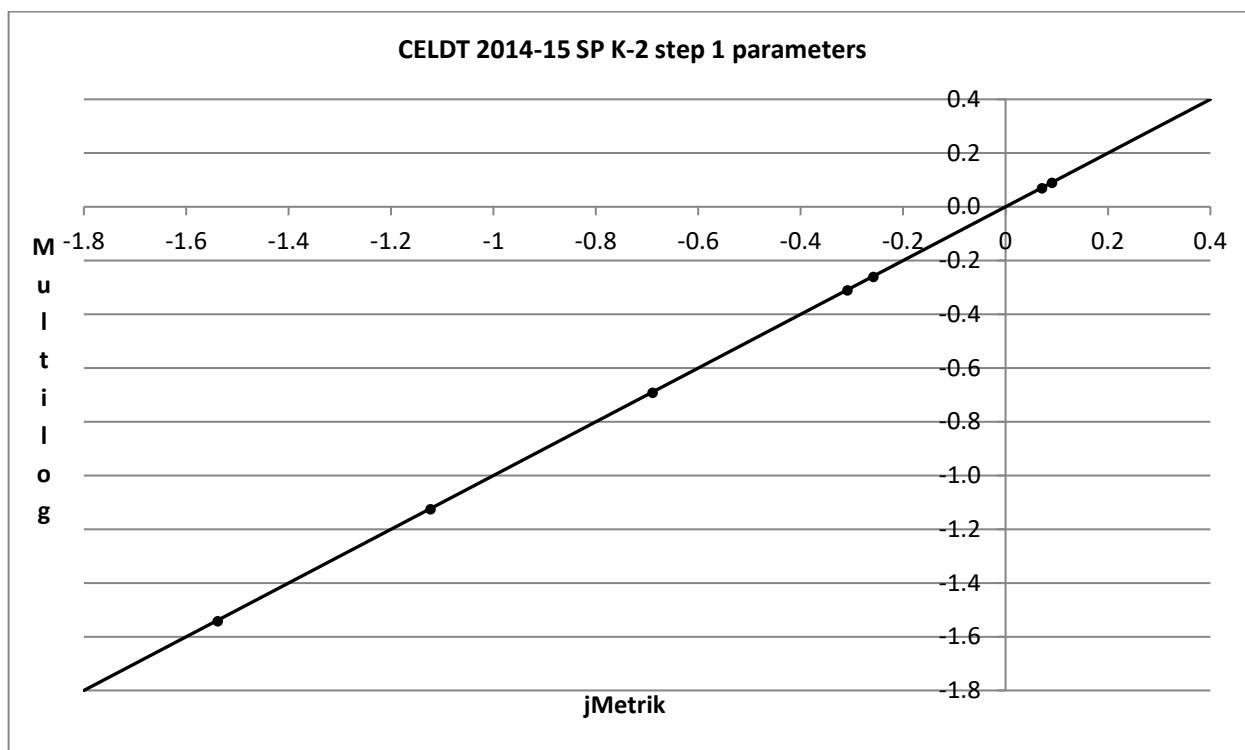
Plots for Table M-4: Listening, Grades 9–12

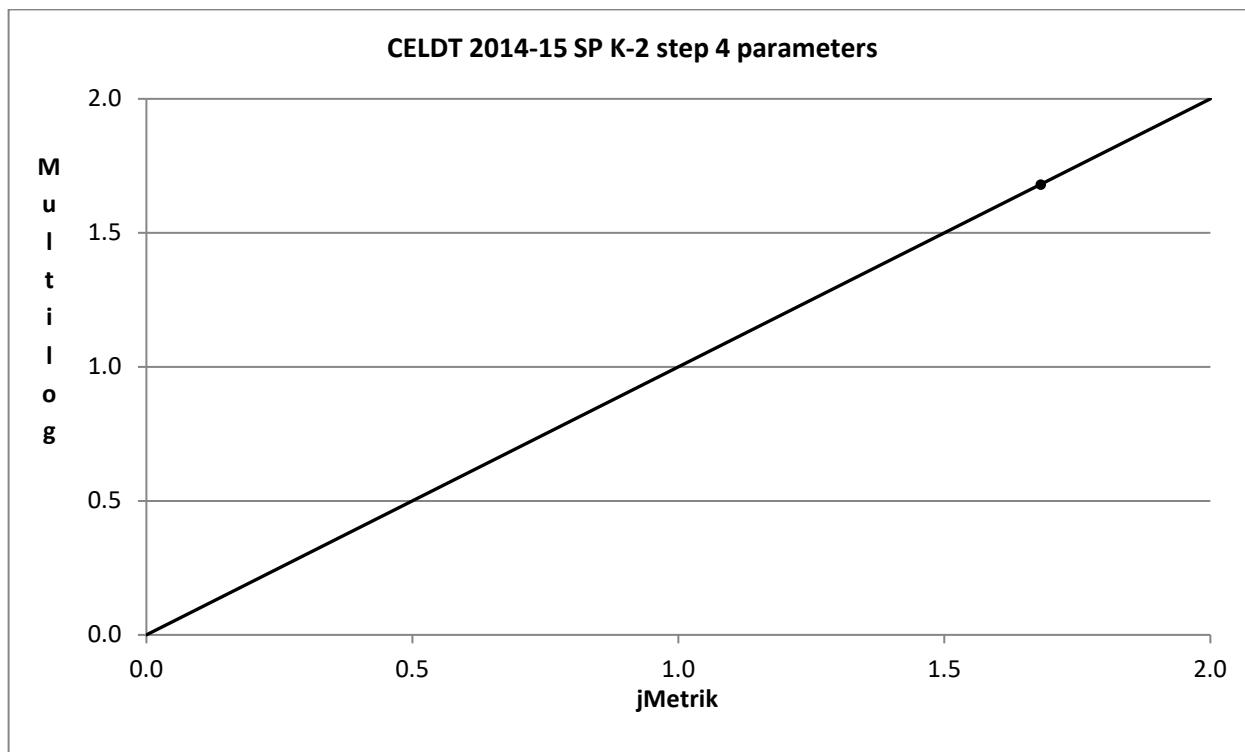
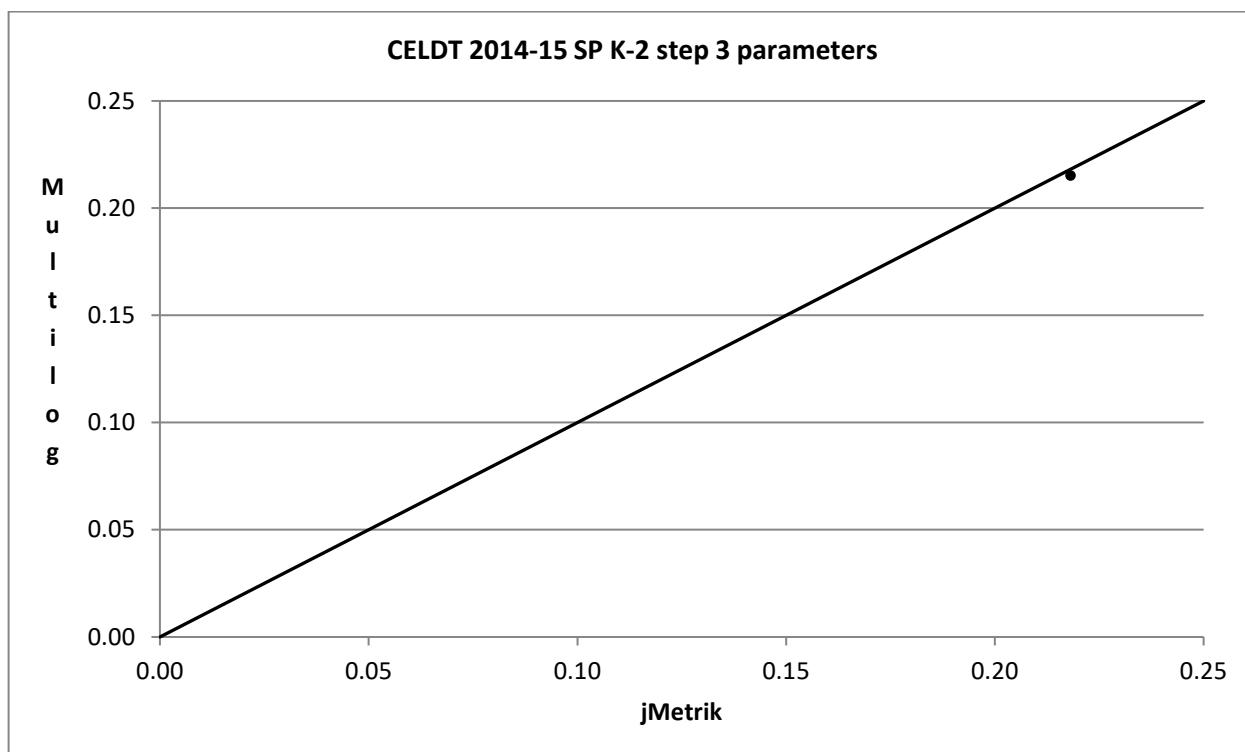


Plots for Table M-5: Speaking, Grades K–2

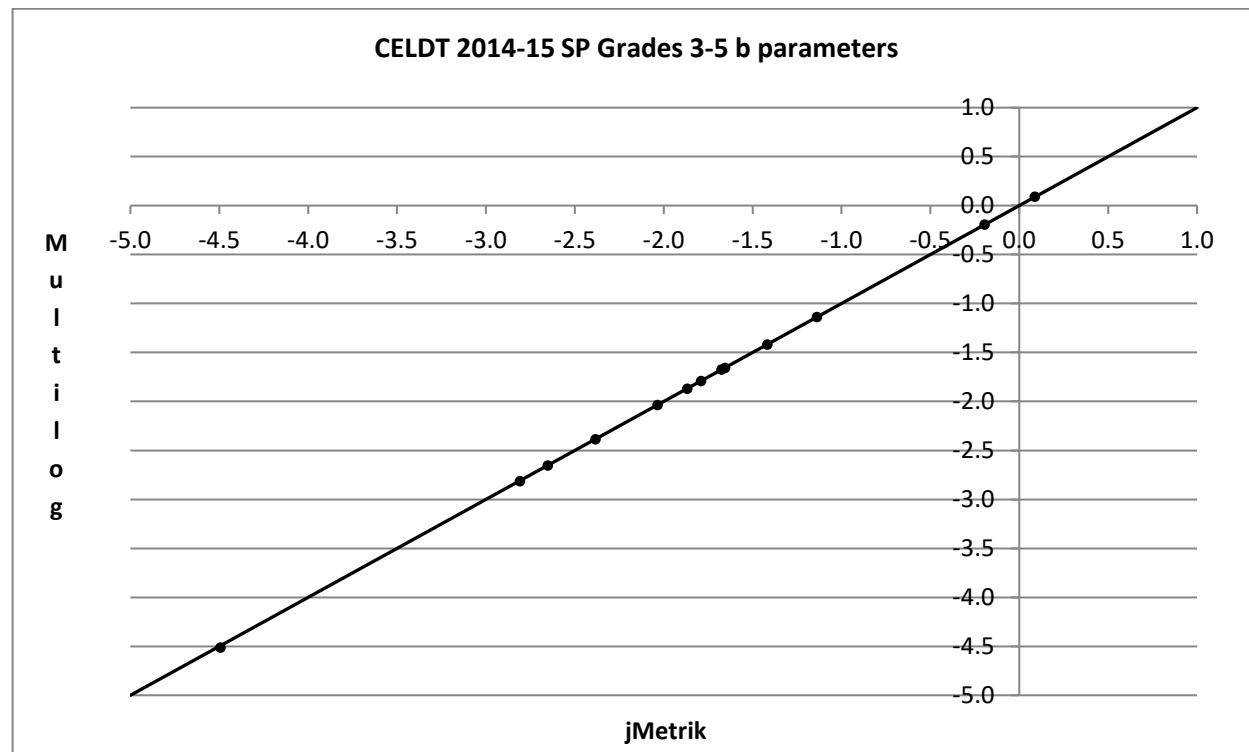
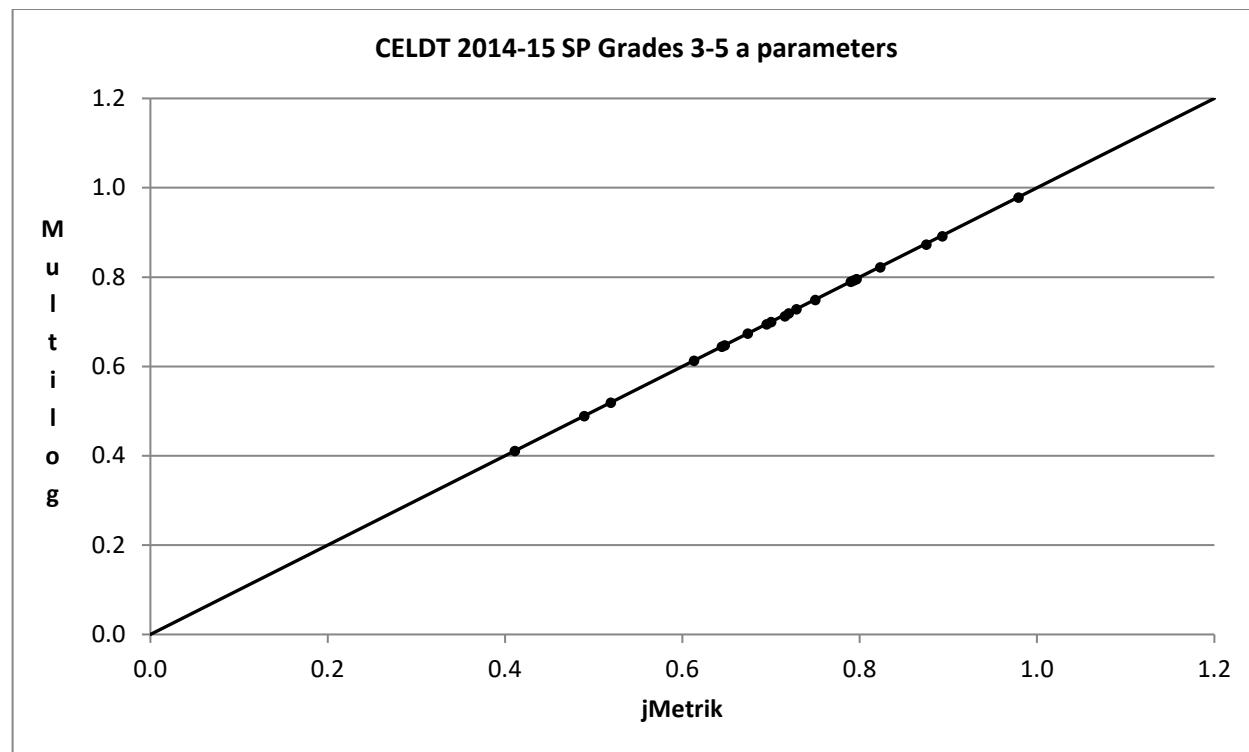


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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots

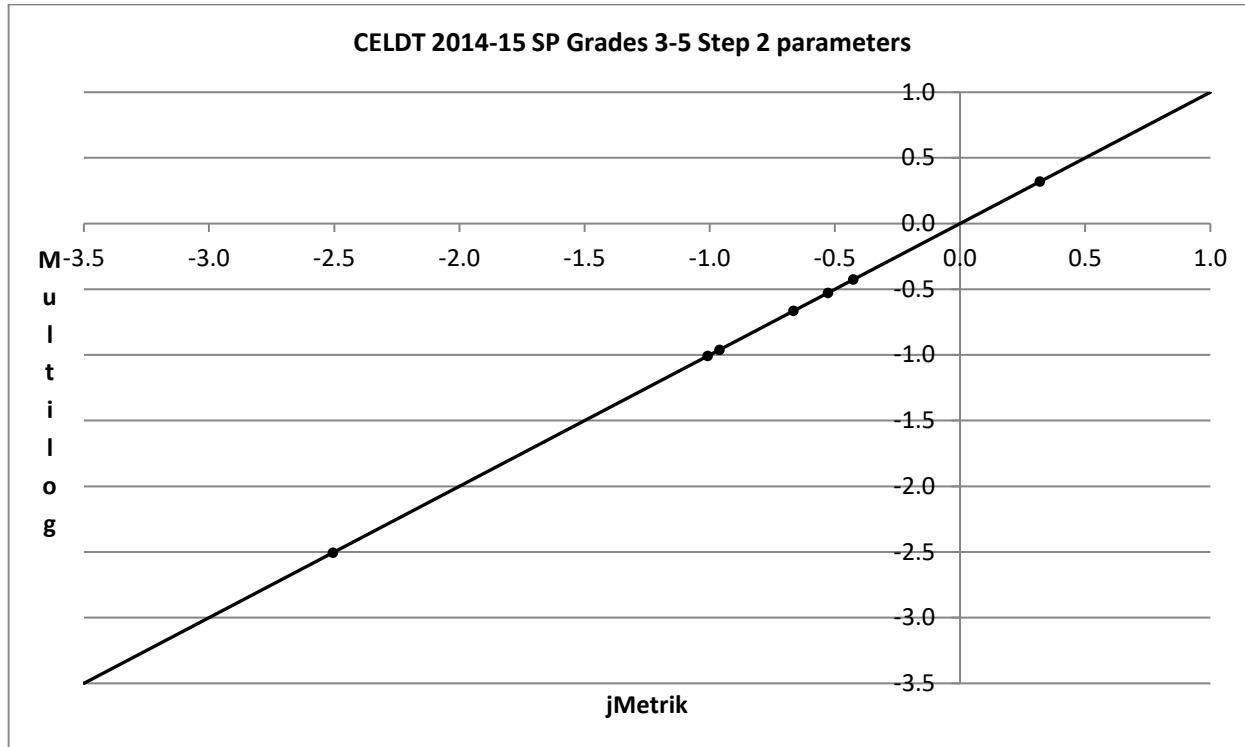
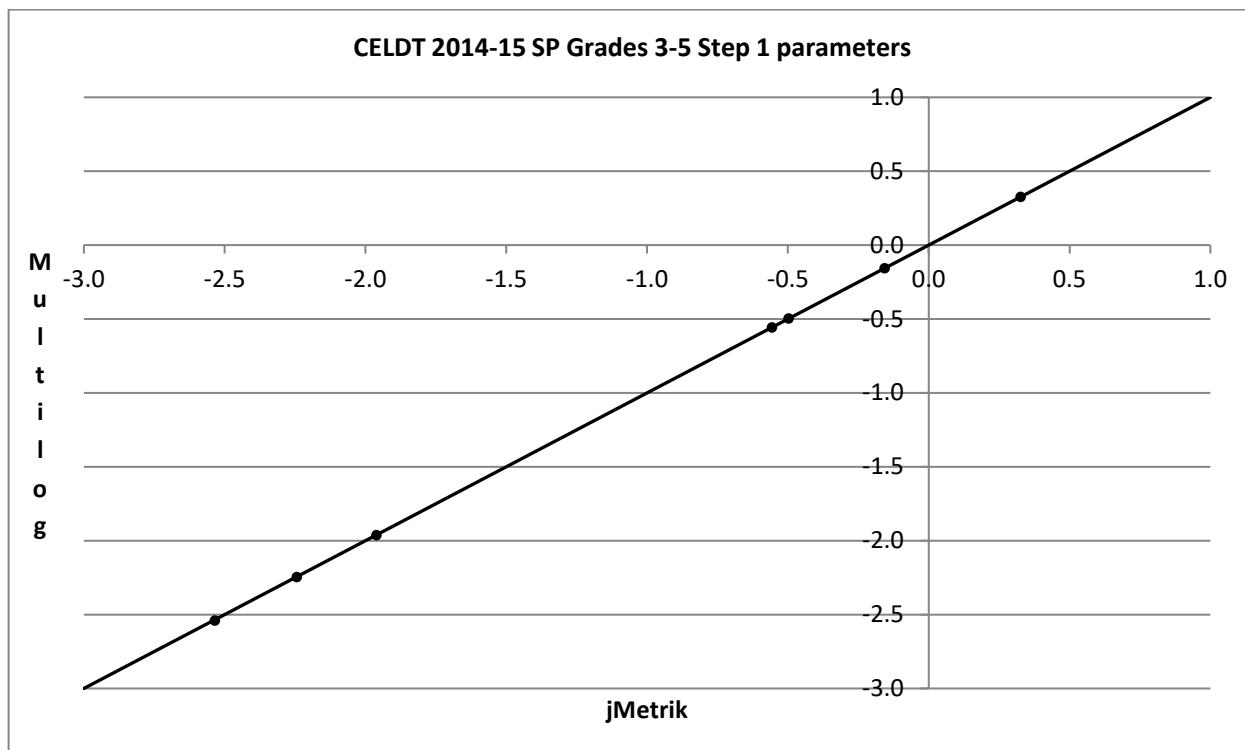


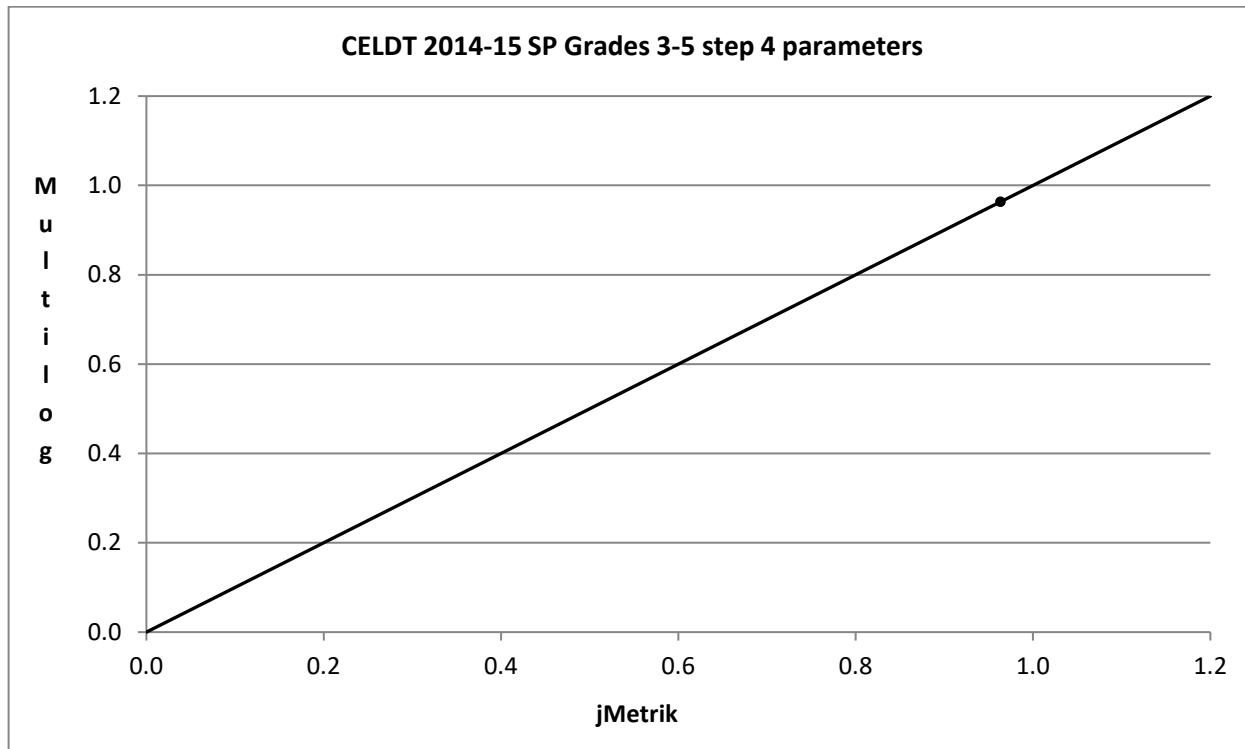
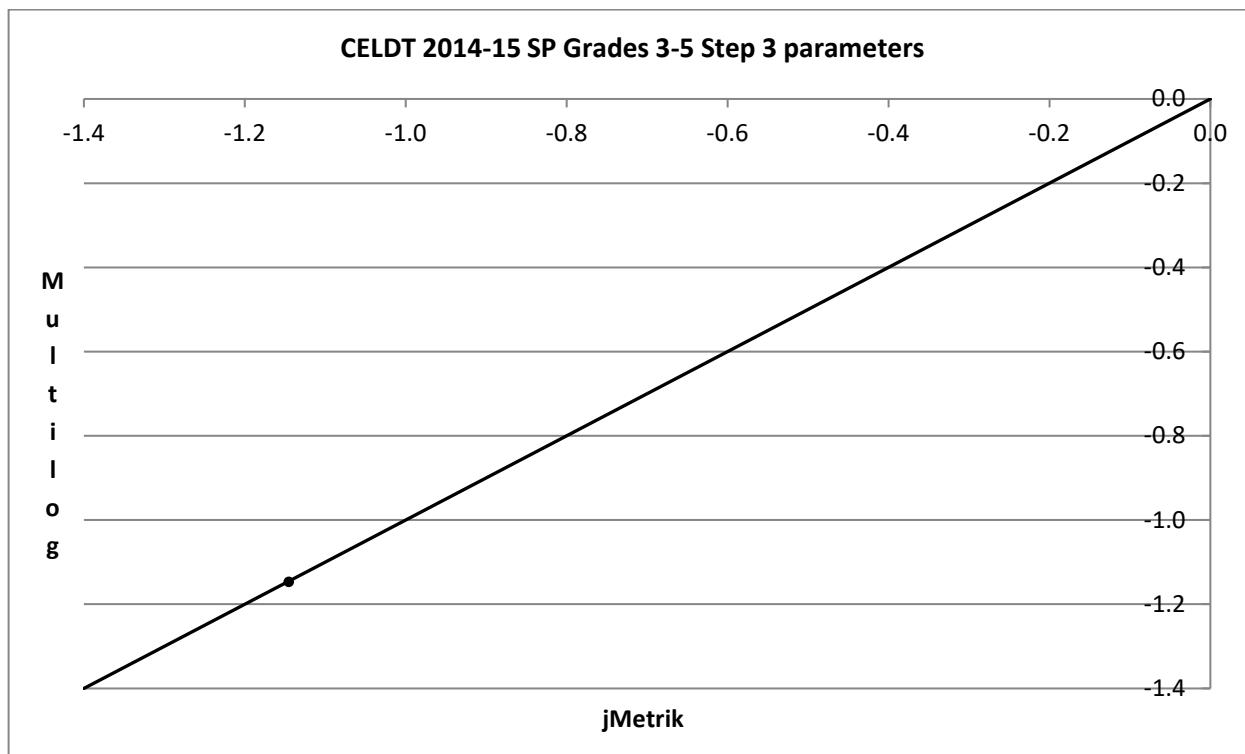


Plots for Table M-6: Speaking, Grades 3–5

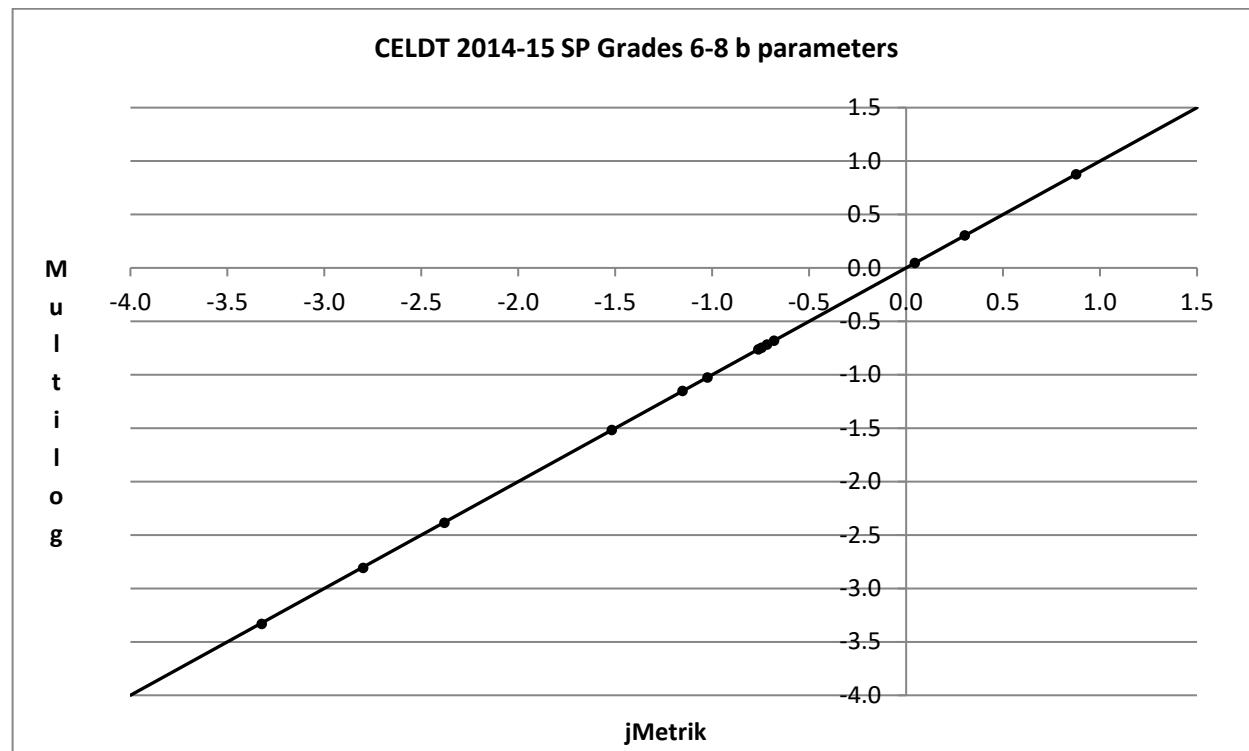
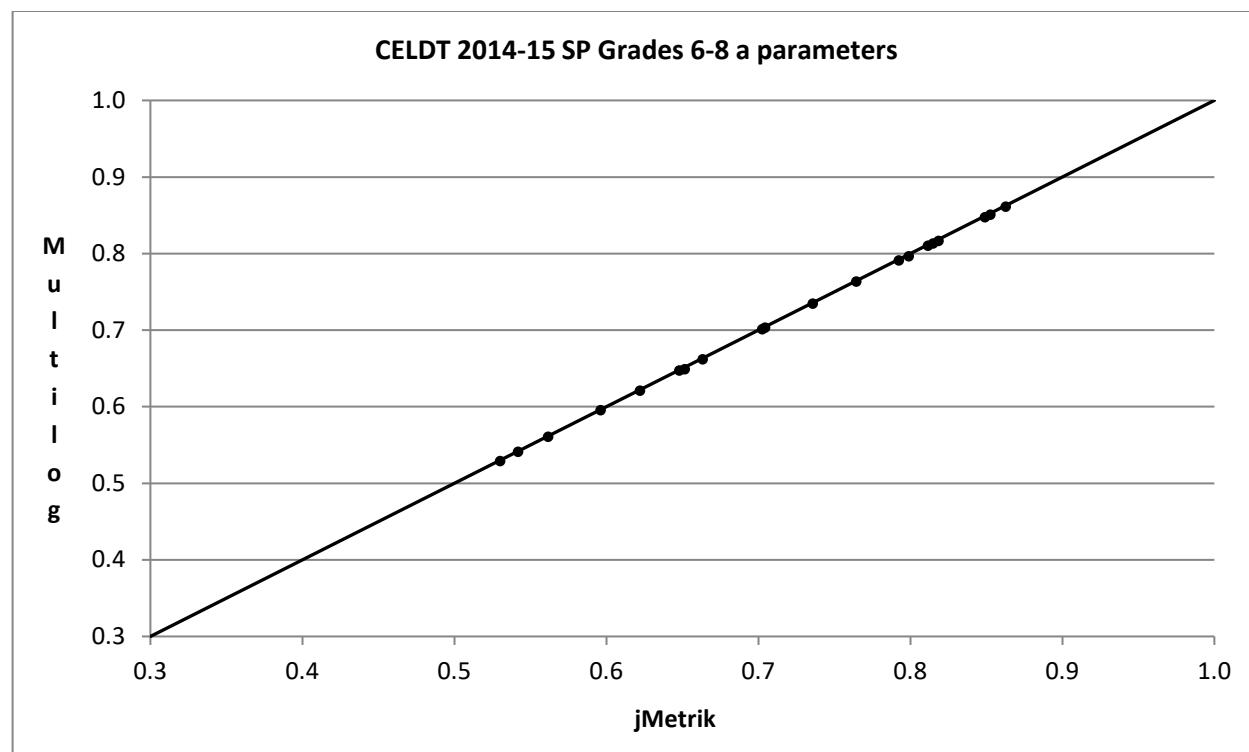


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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots

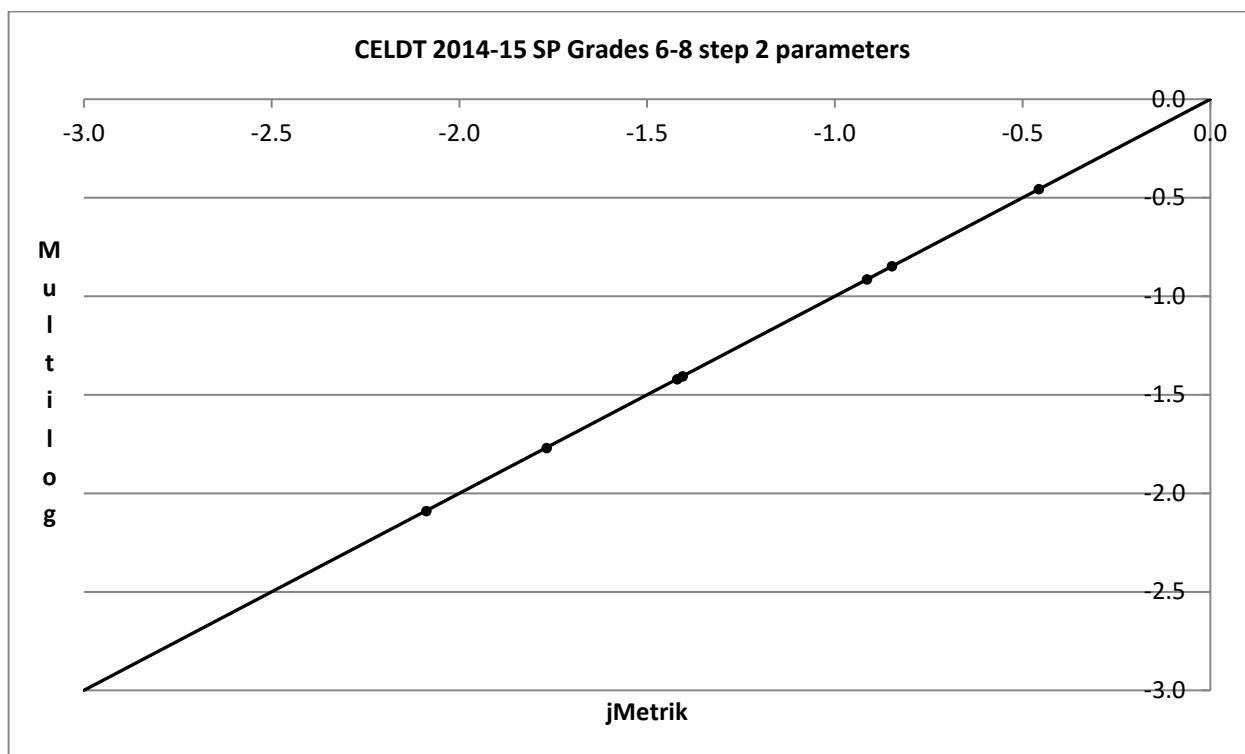
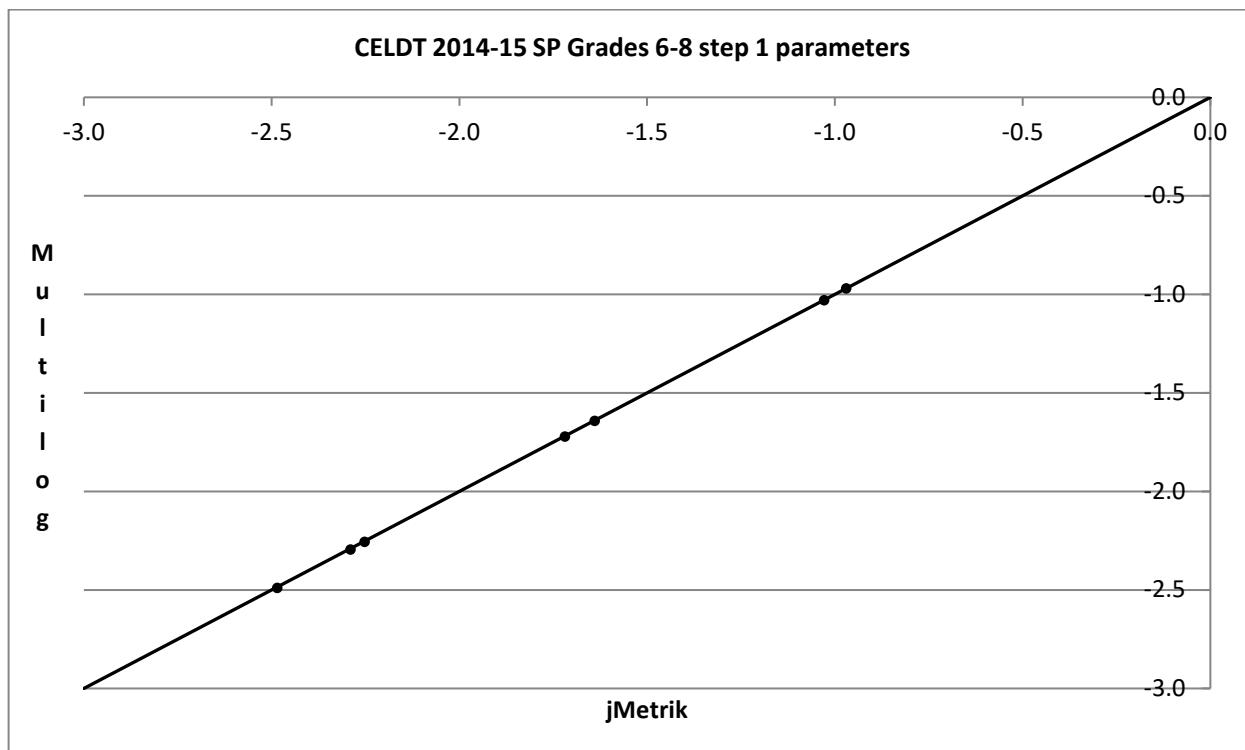




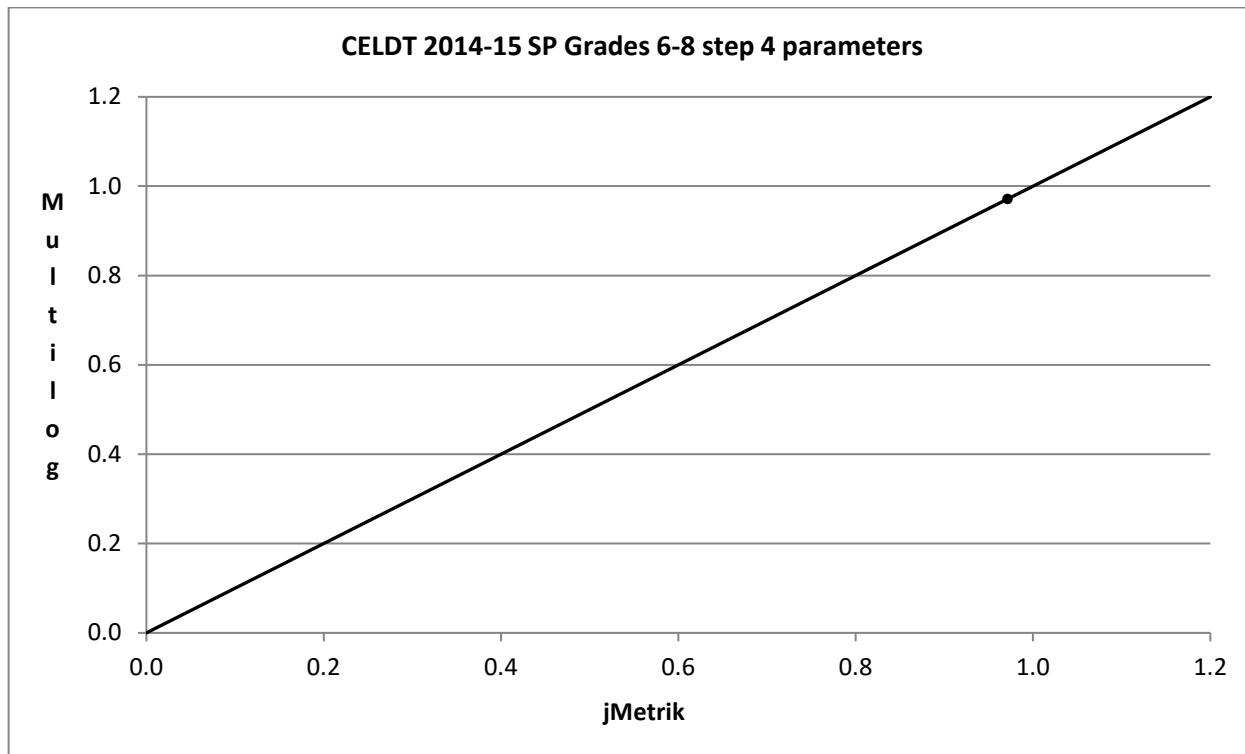
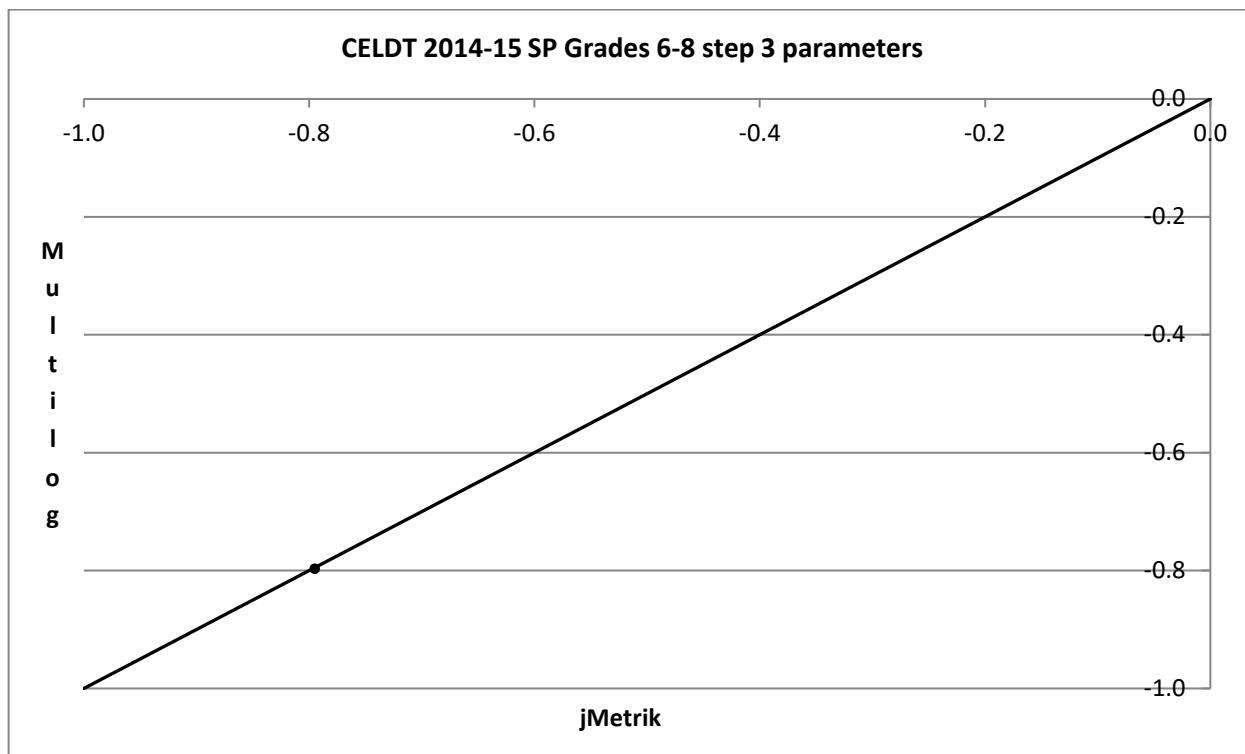
Plots for Table M-7: Speaking, Grades 6–8



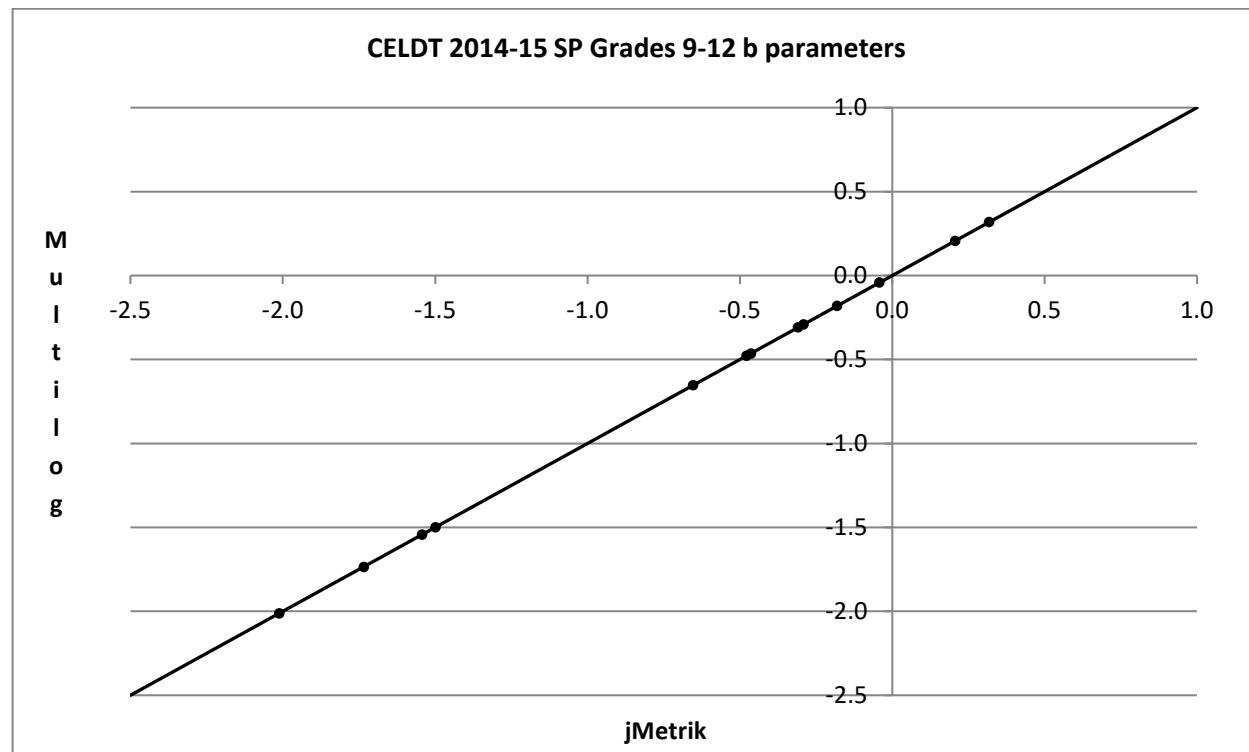
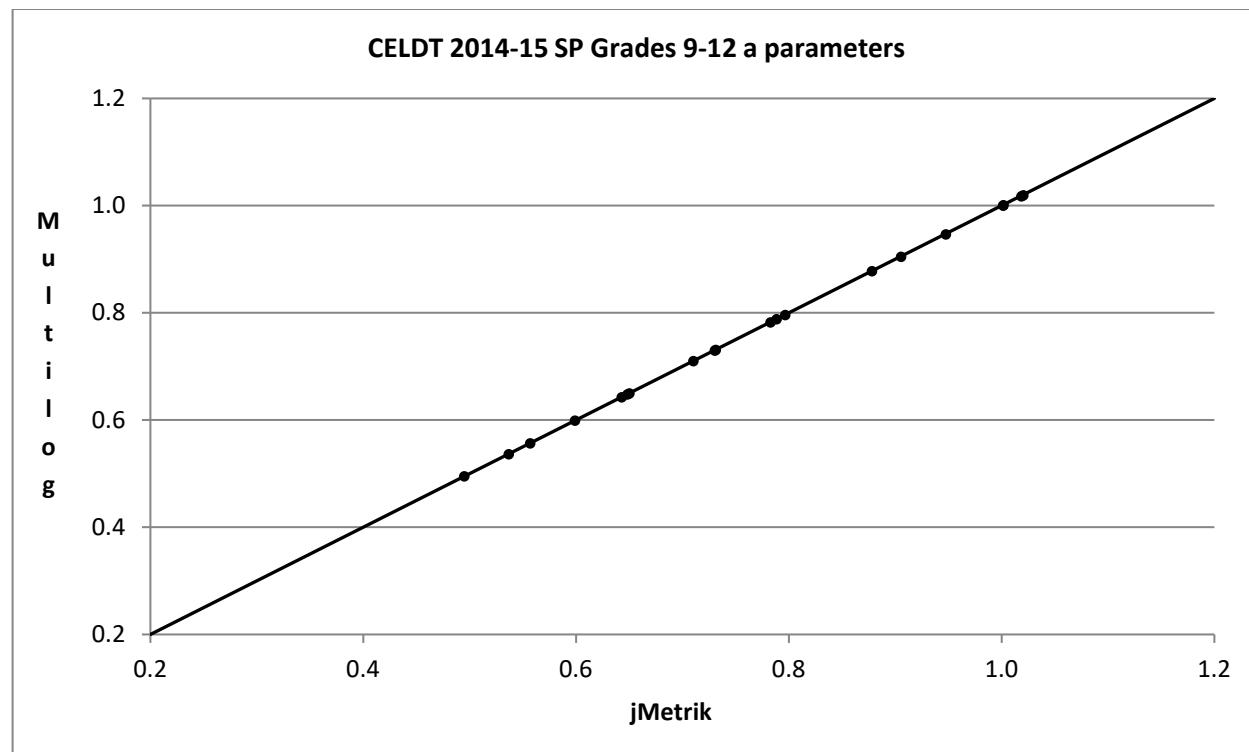
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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



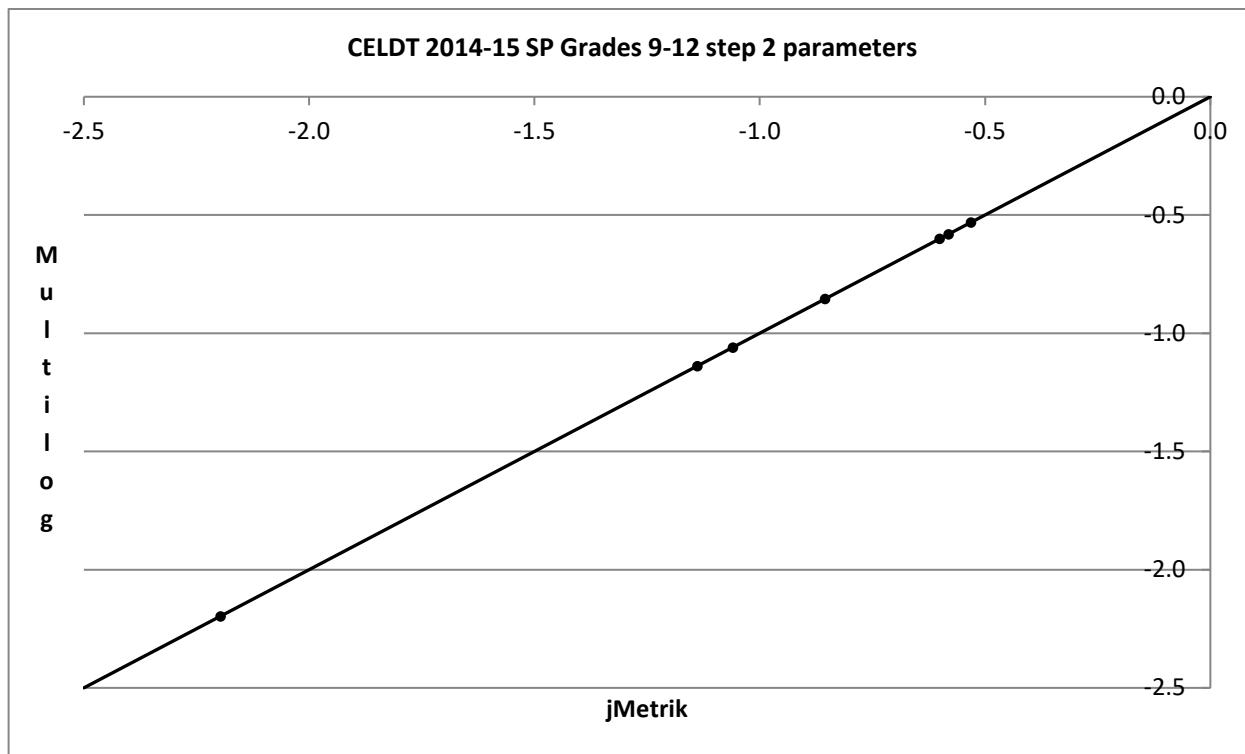
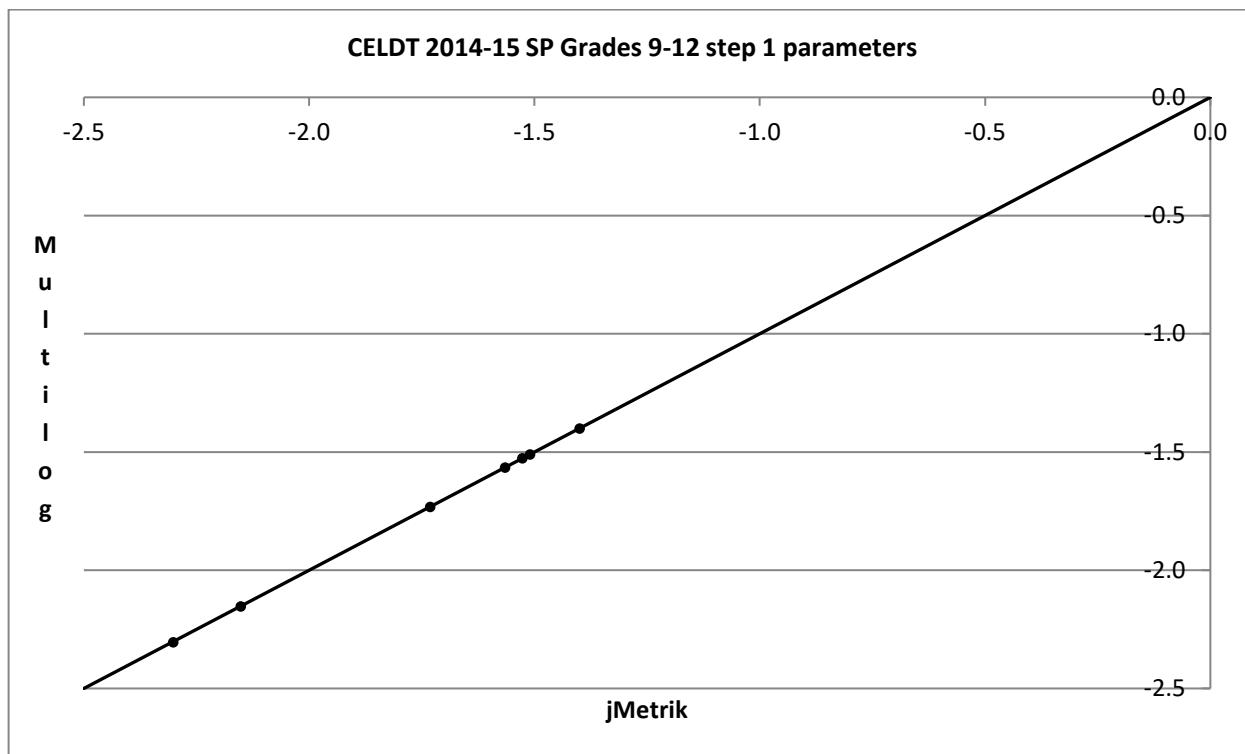
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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



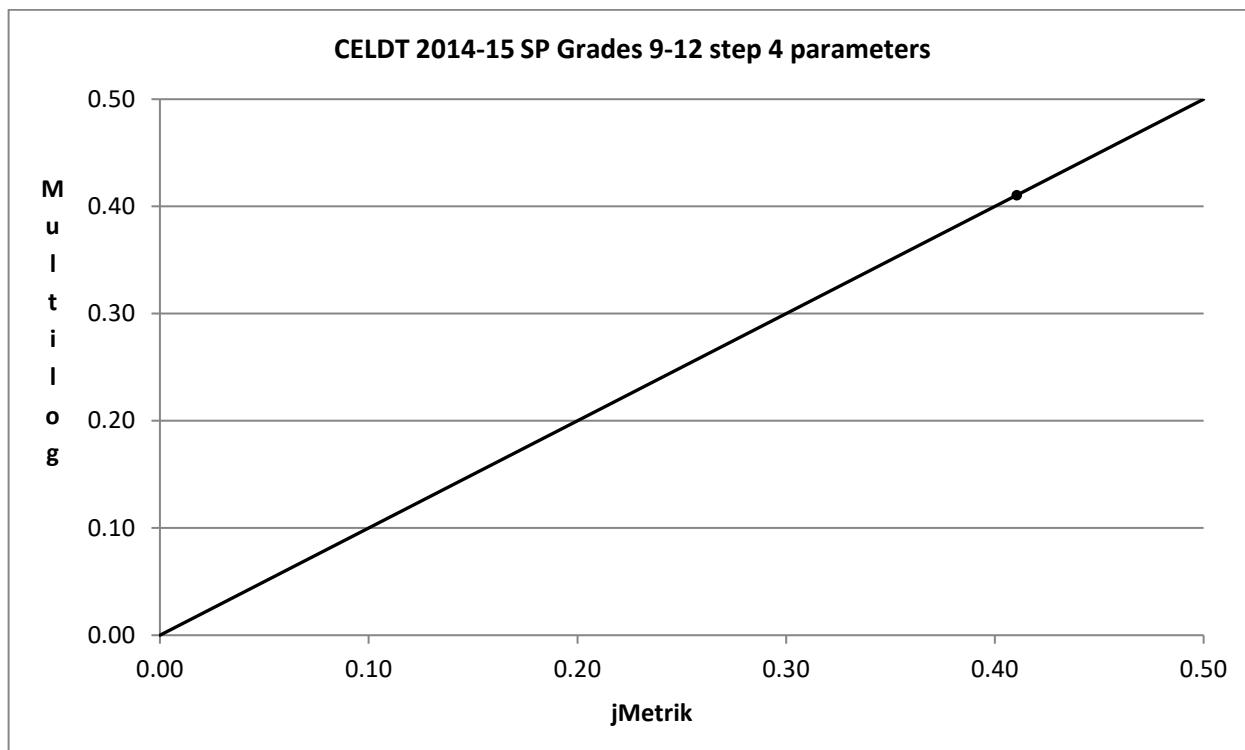
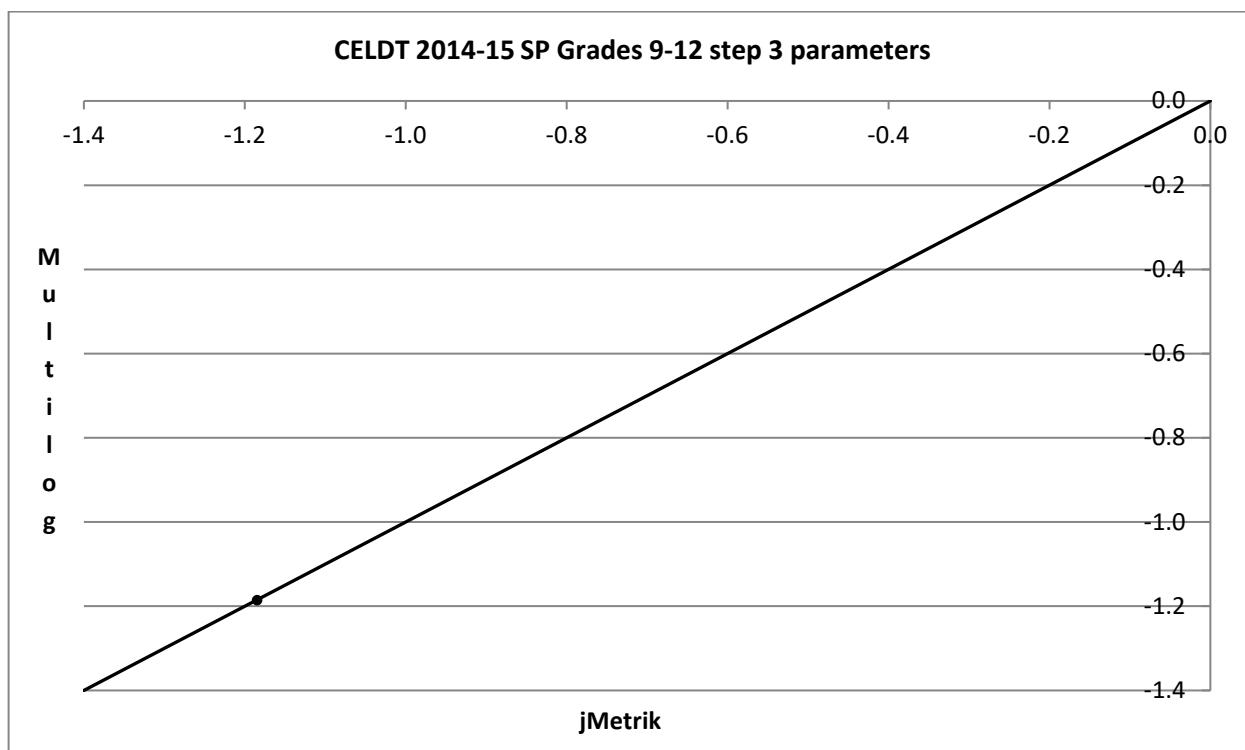
Plots for Table M-8: Speaking, Grades 9–12



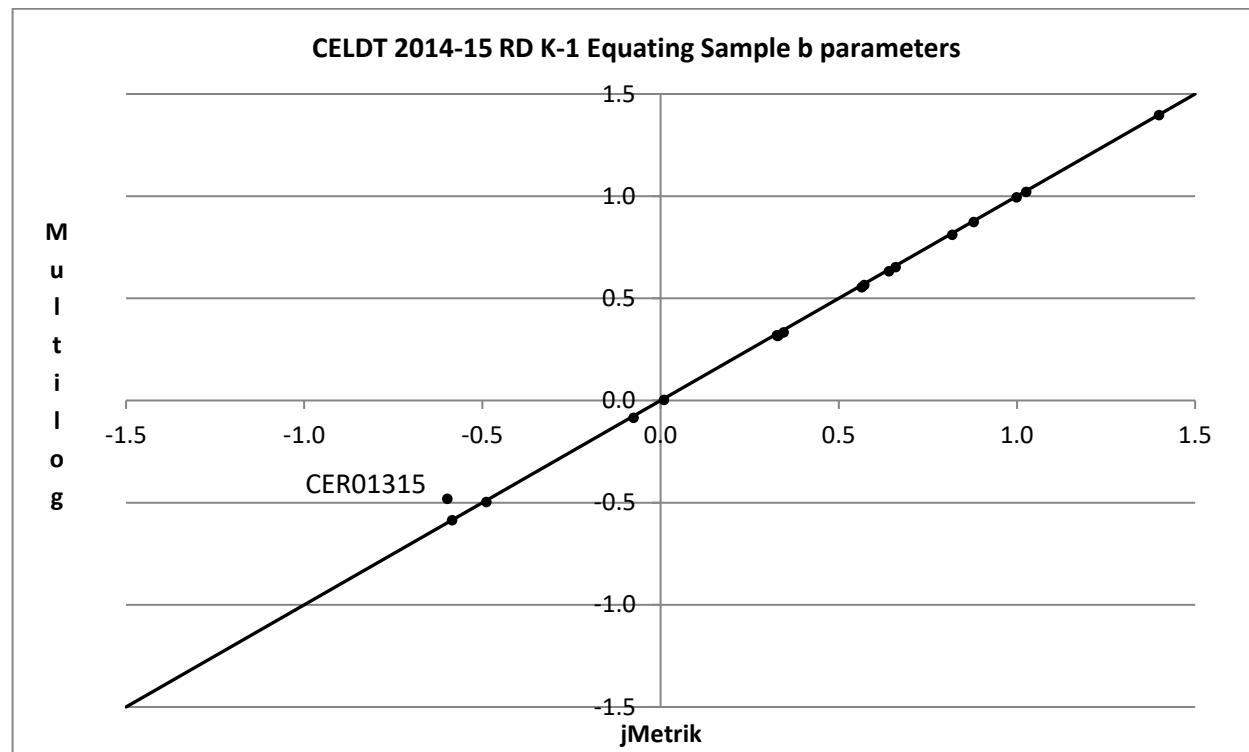
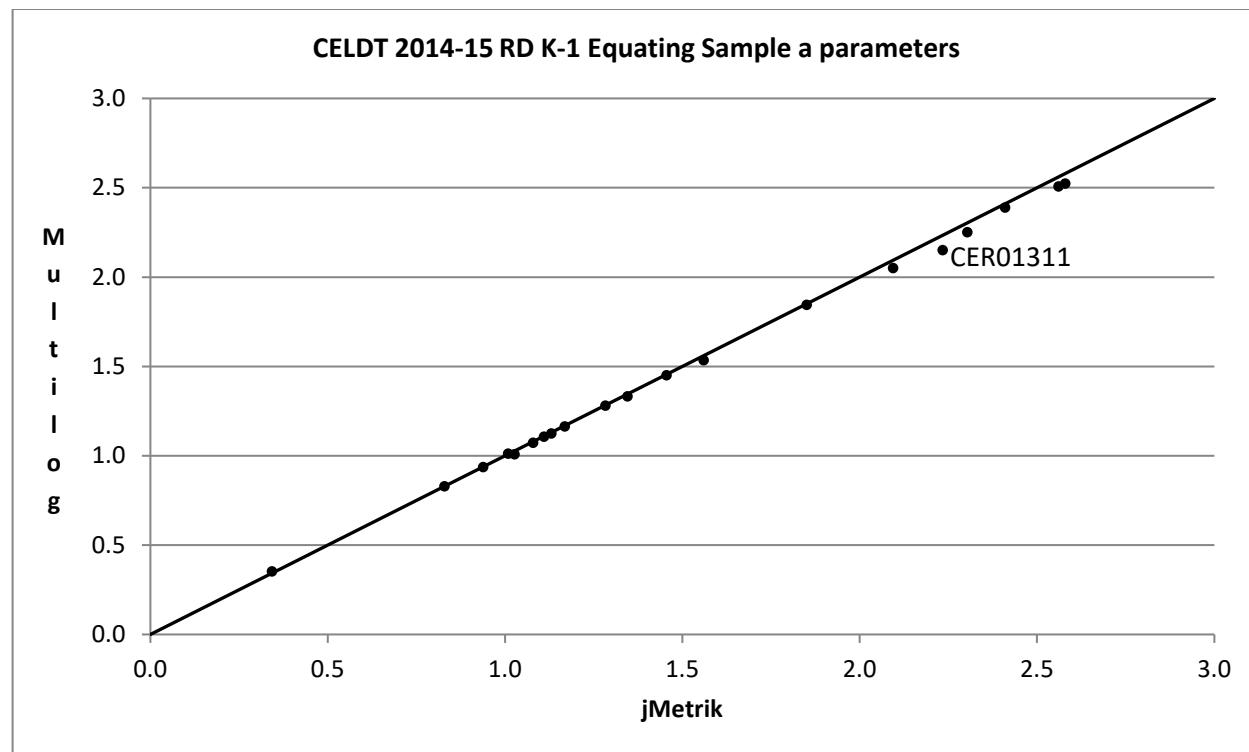
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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



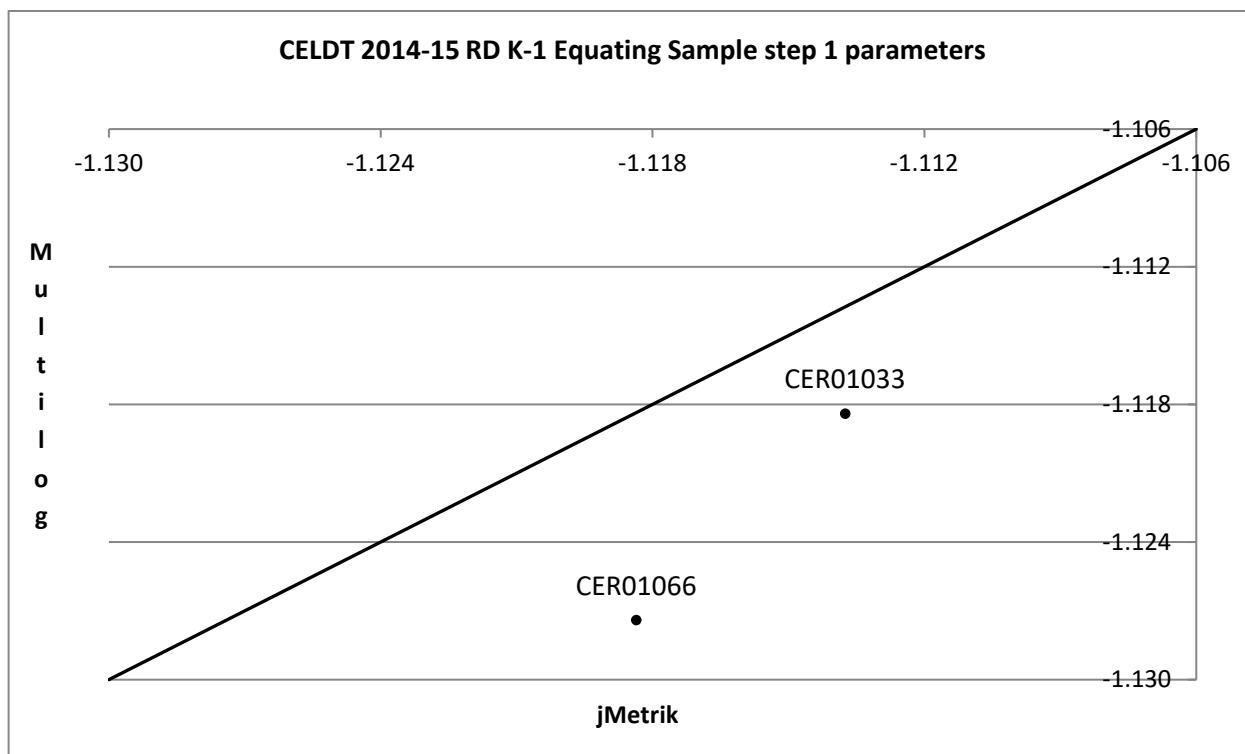
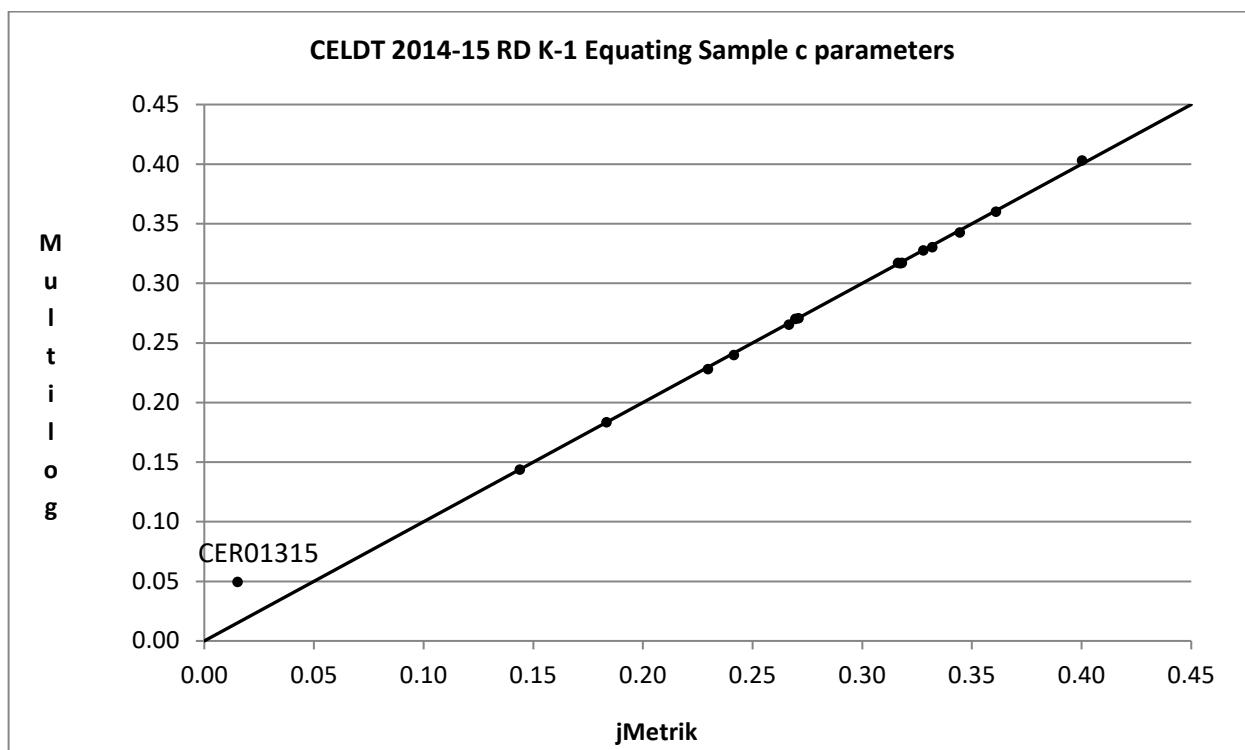
Educational Data Systems
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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



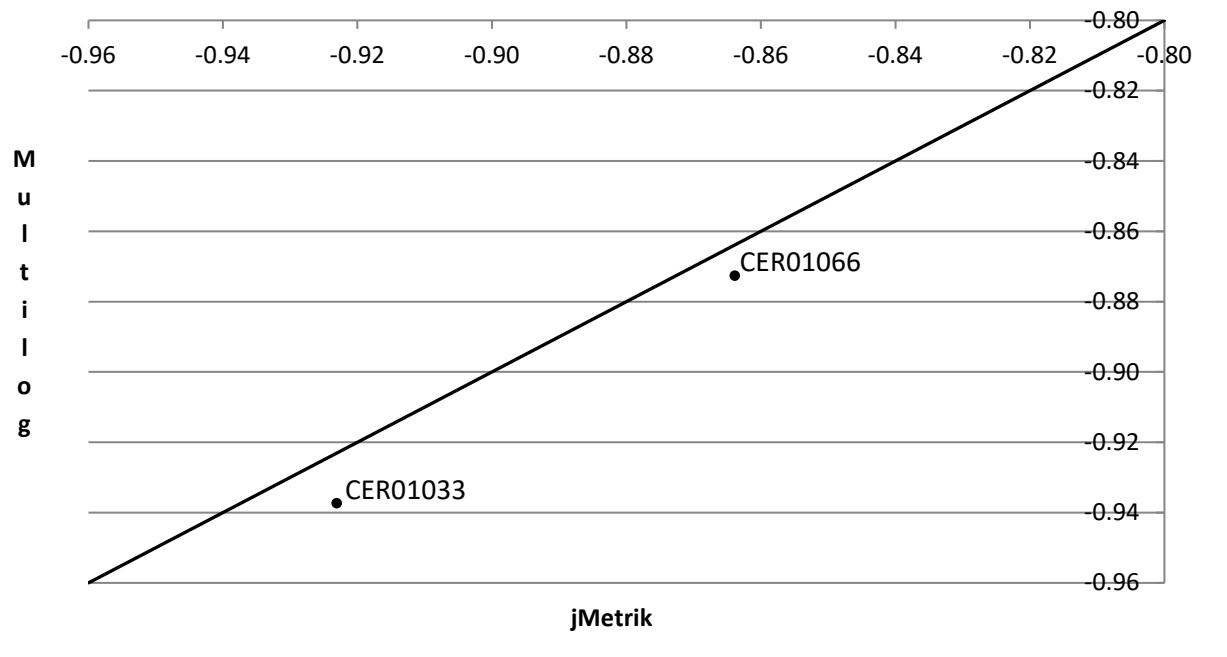
Plots for Table M-9: Reading, Grades K–1



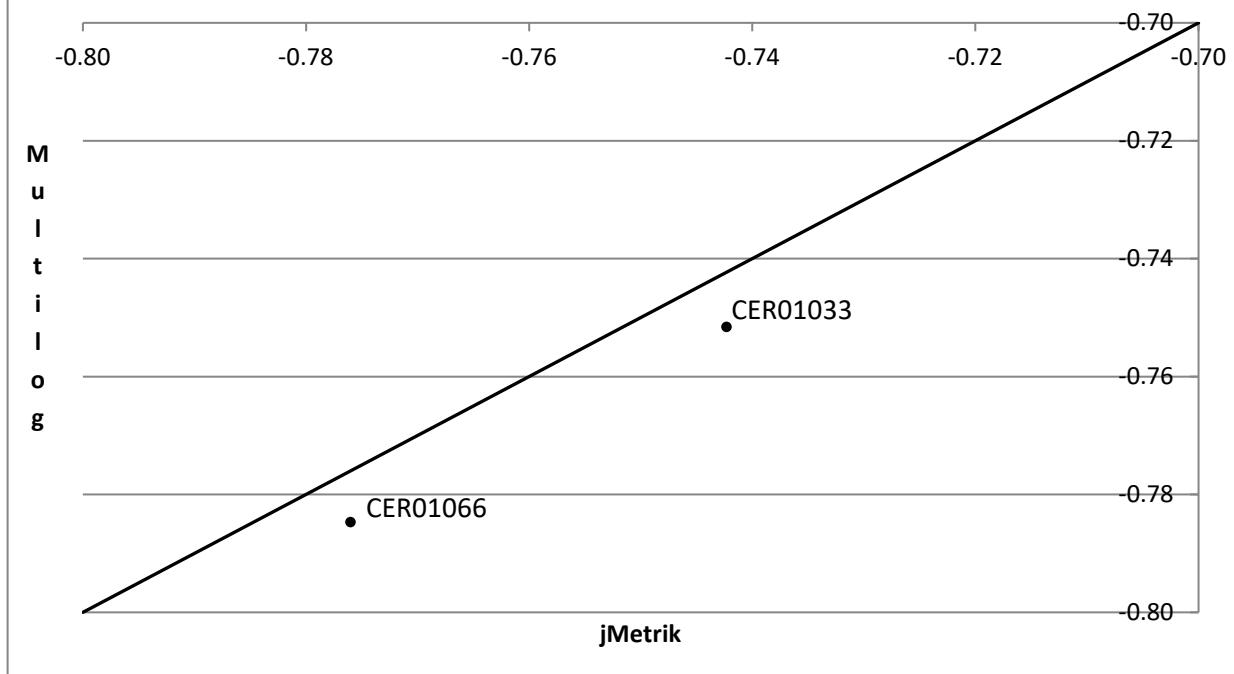
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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



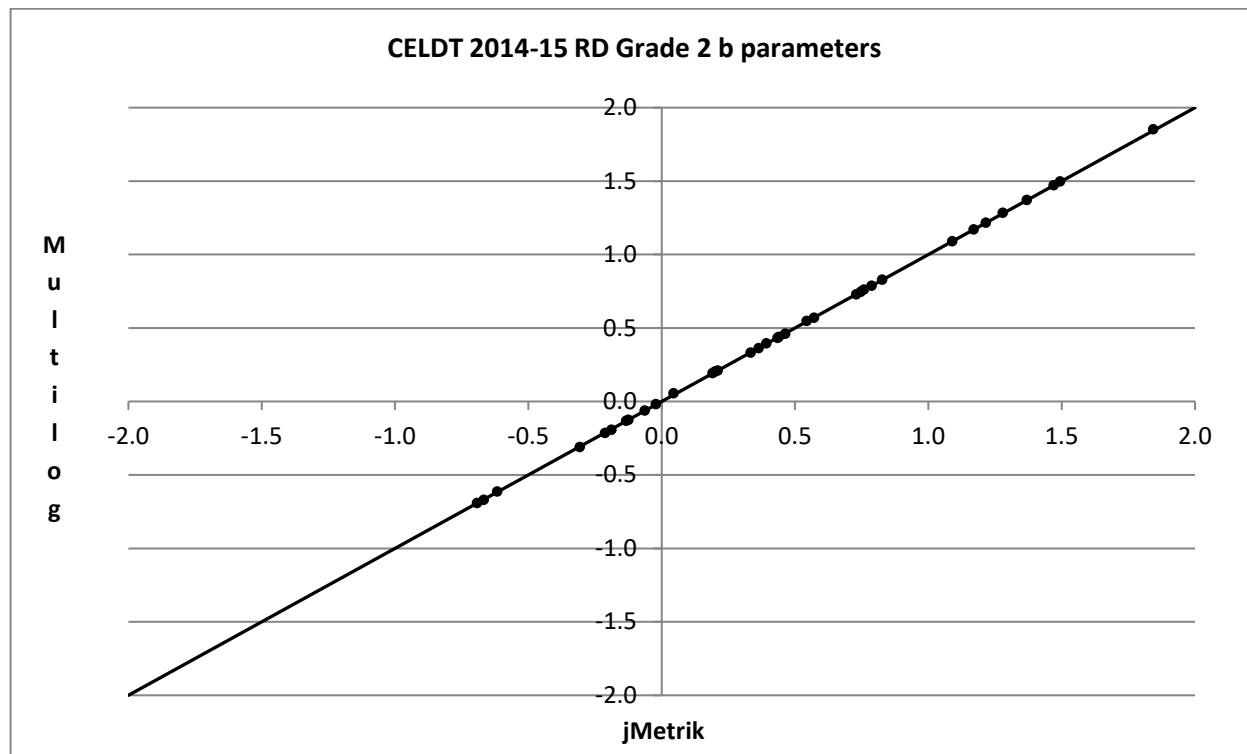
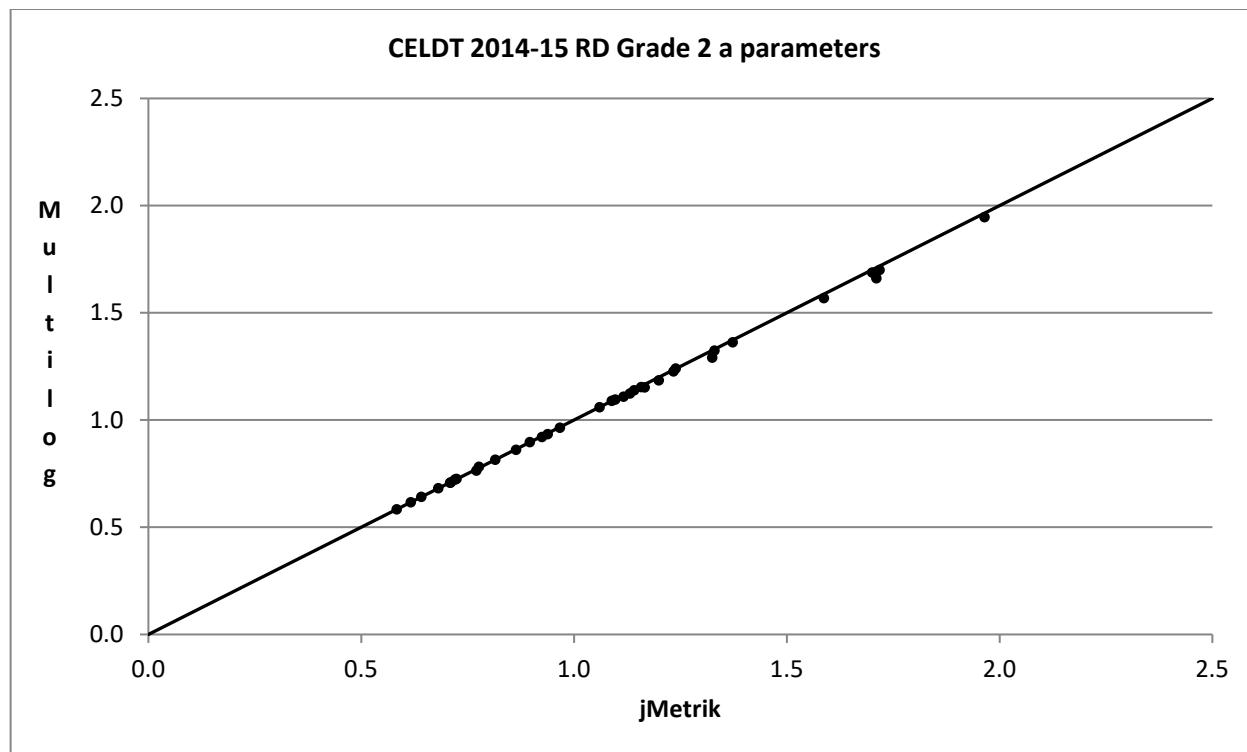
CELDT 2014-15 RD K-1 Equating Sample step 2 parameters



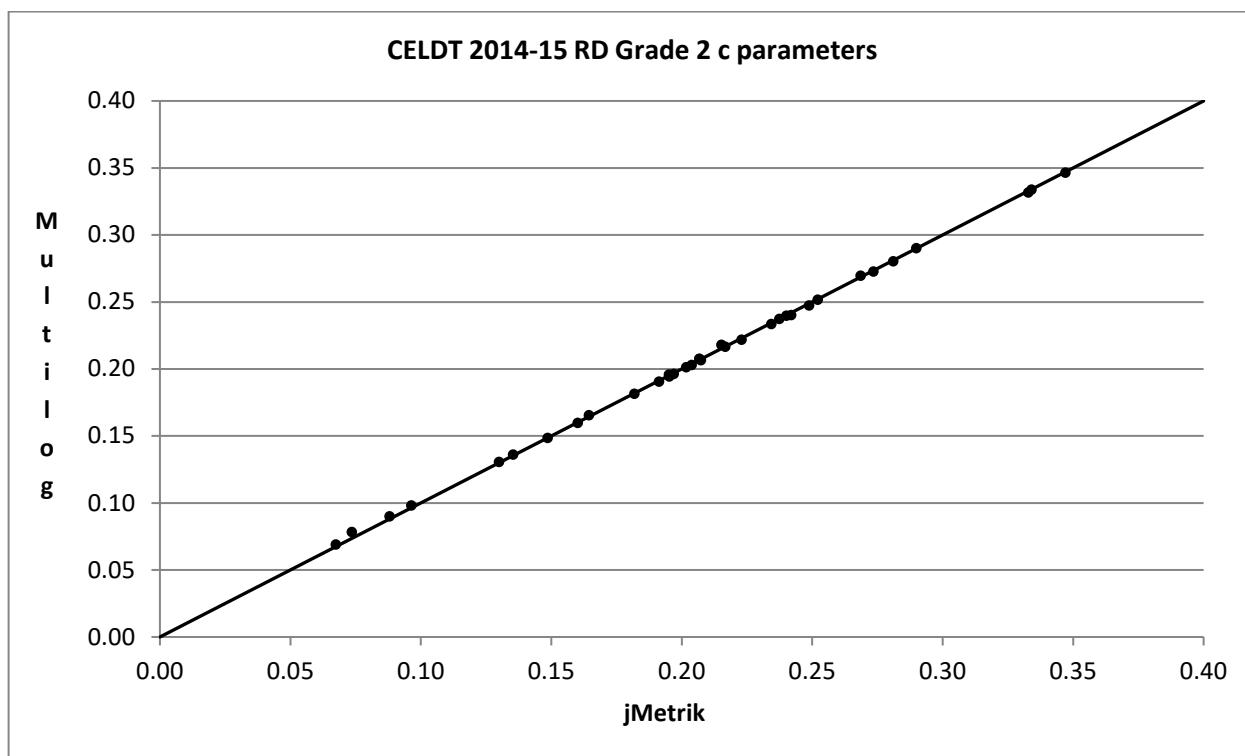
CELDT 2014-15 RD K-1 Equating Sample step 3 parameters



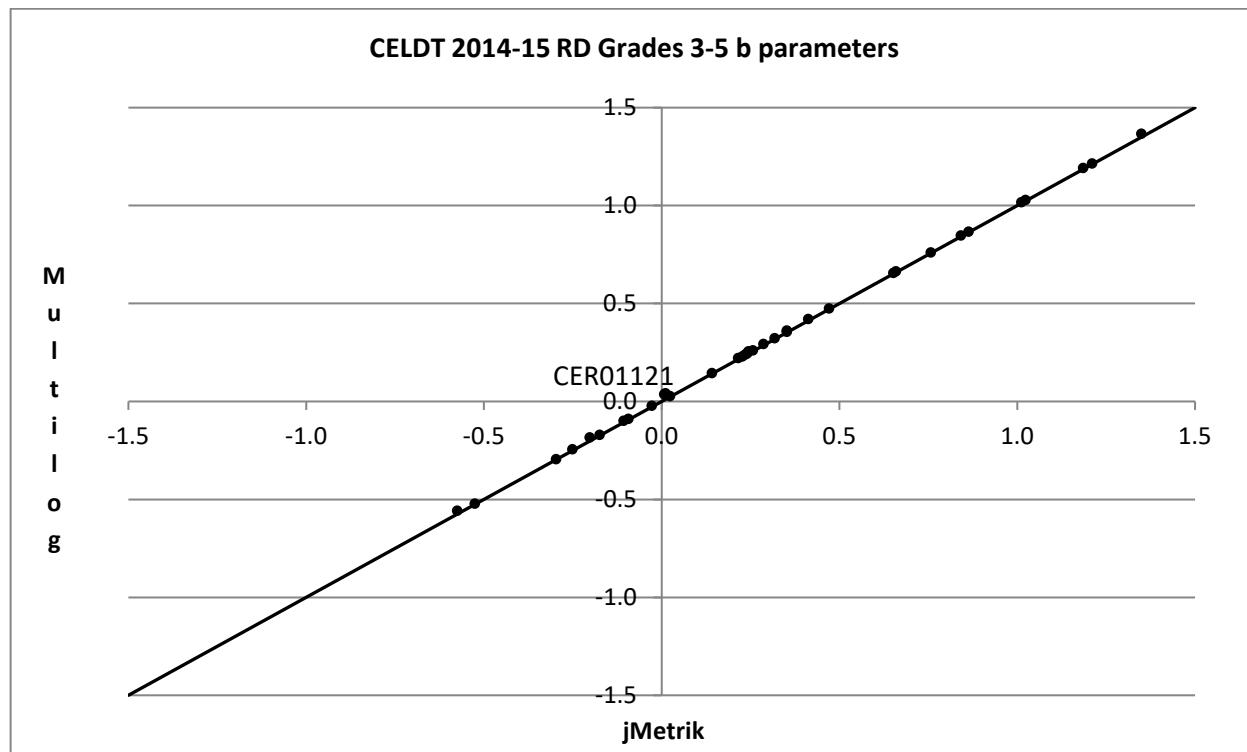
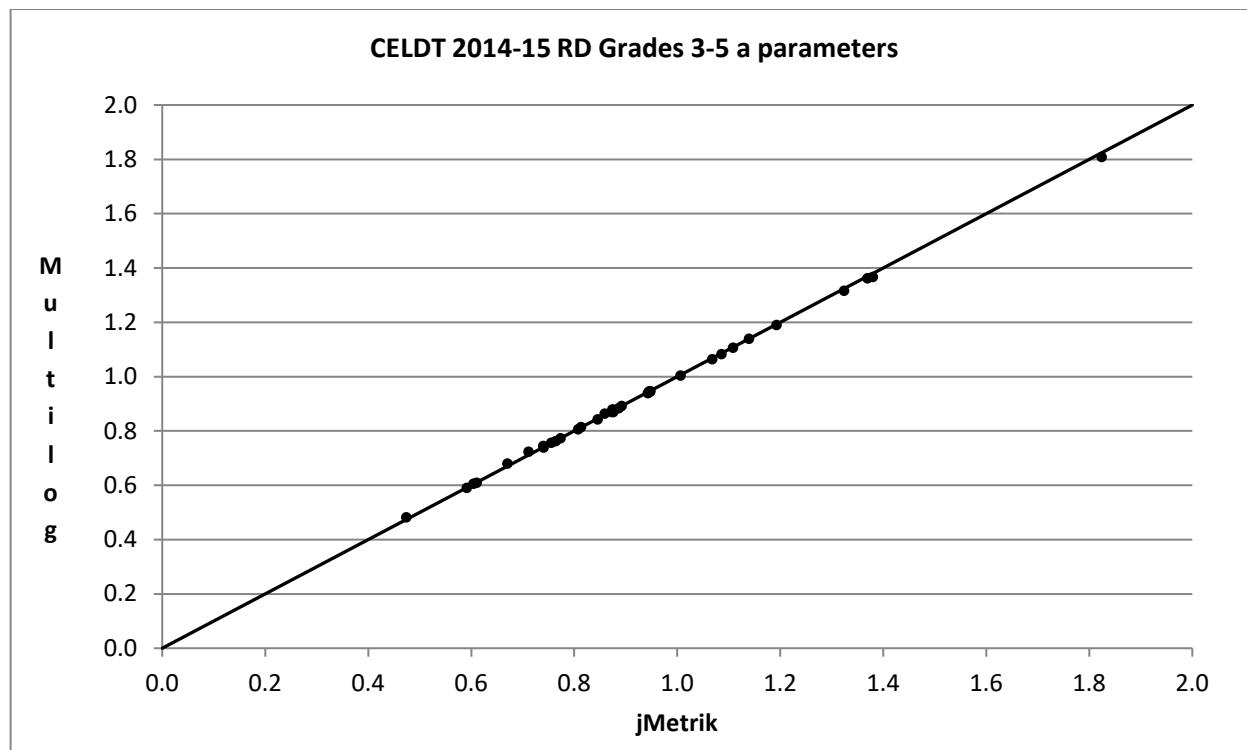
Plots for Table M-10: Reading, Grade 2

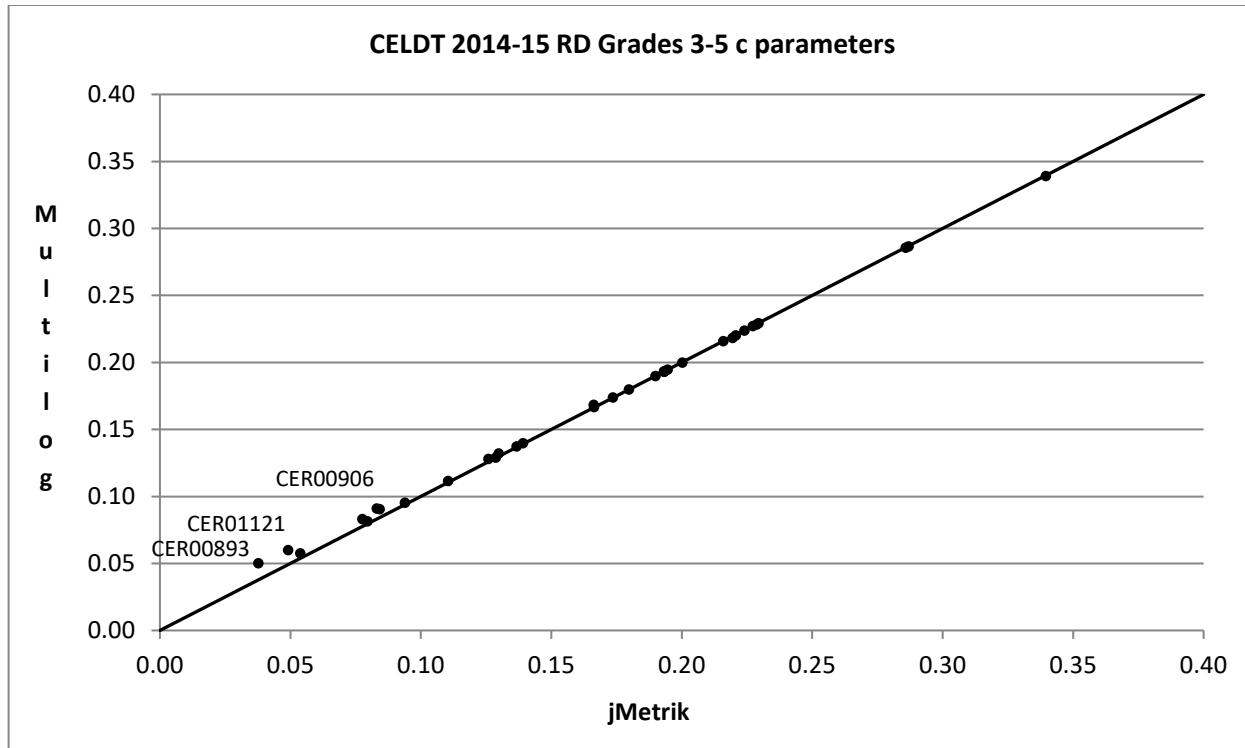


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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots

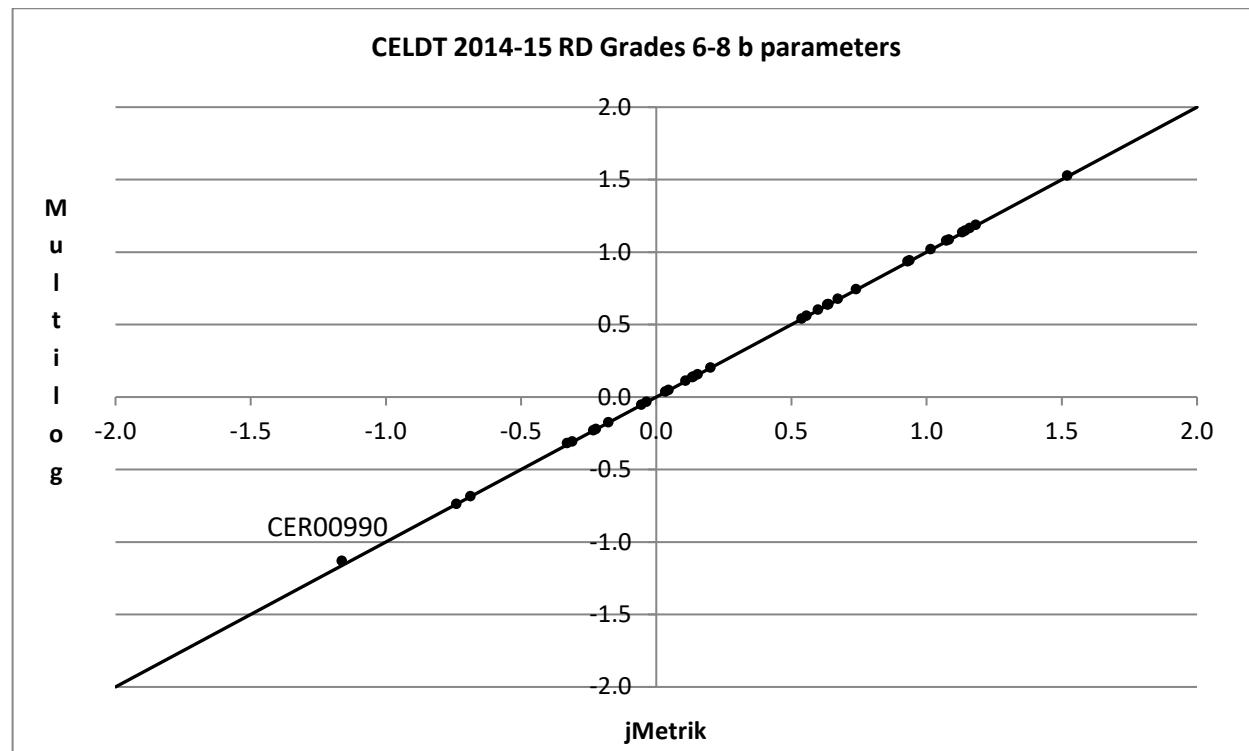
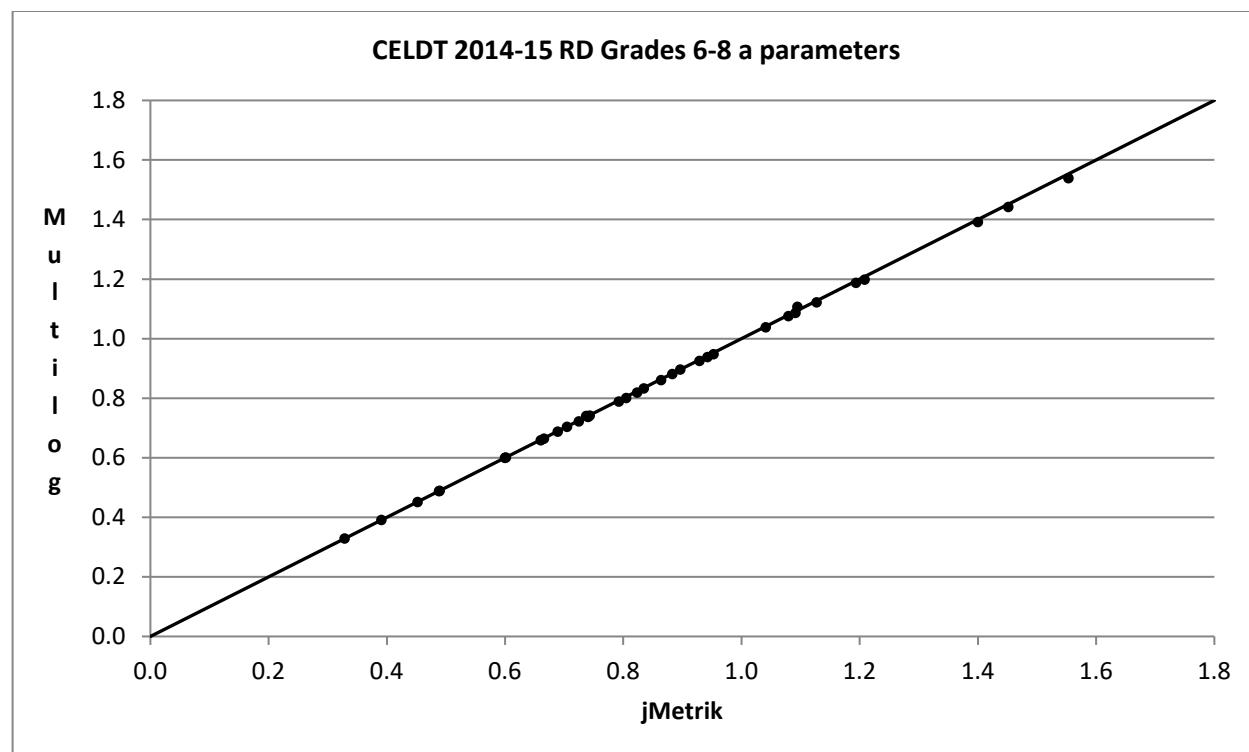


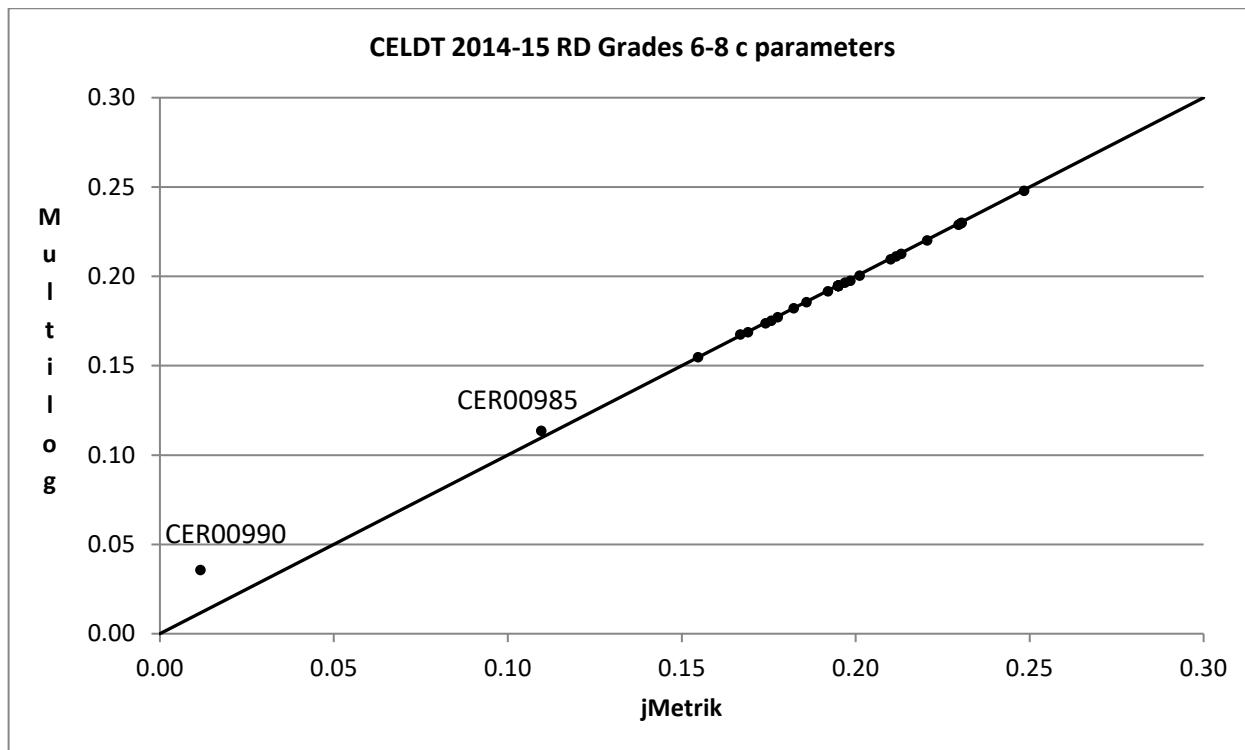
Plots for Table M-11: Reading, Grades 3–5



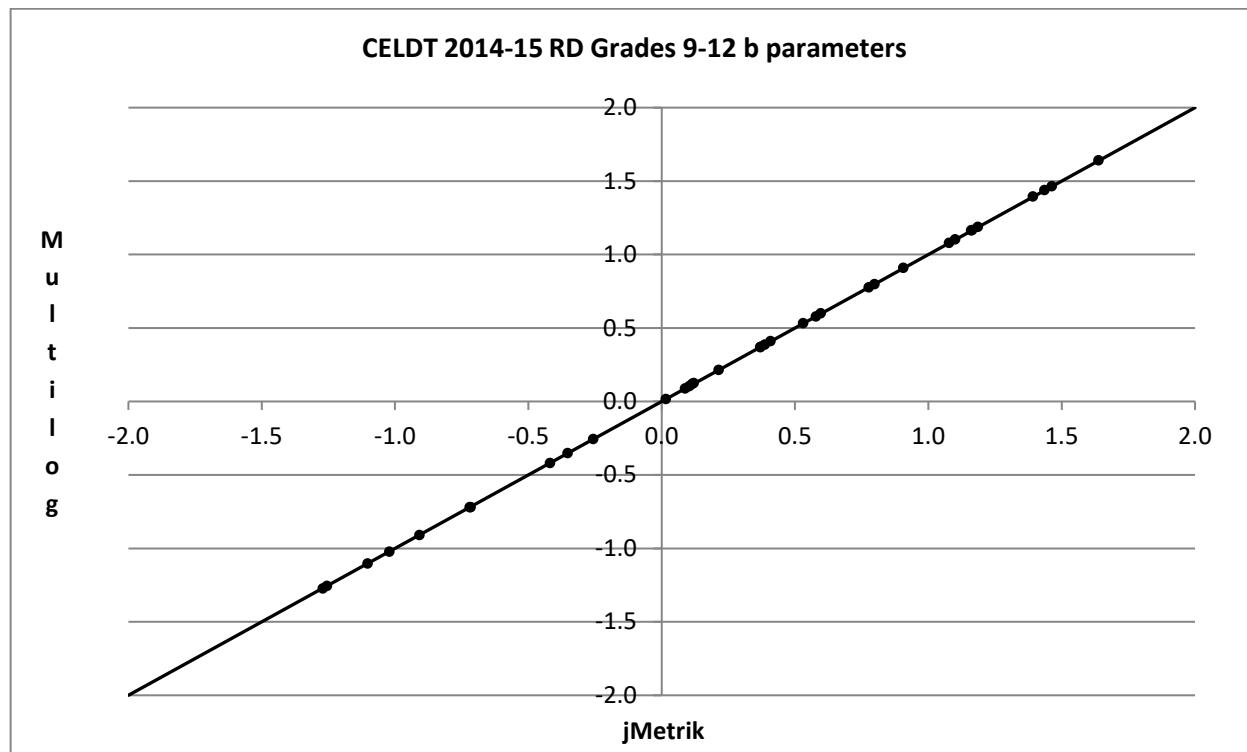
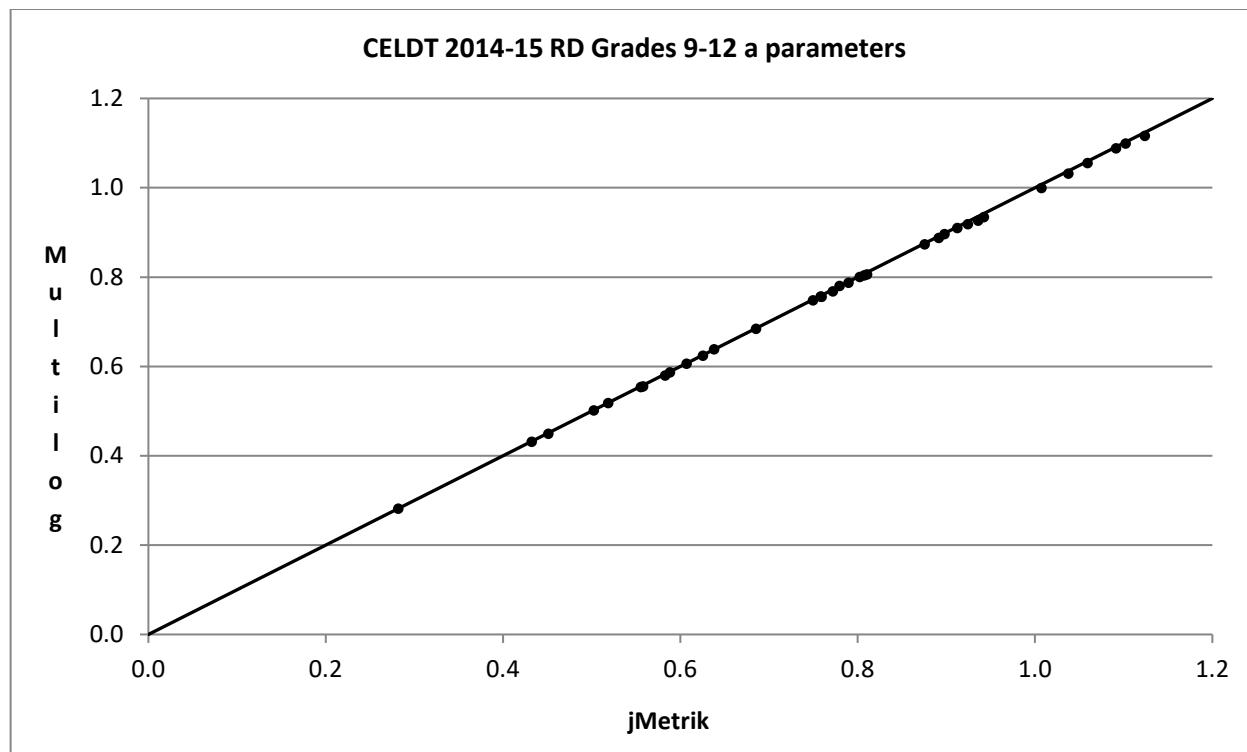


Plots for Table M-12: Reading, Grades 6–8

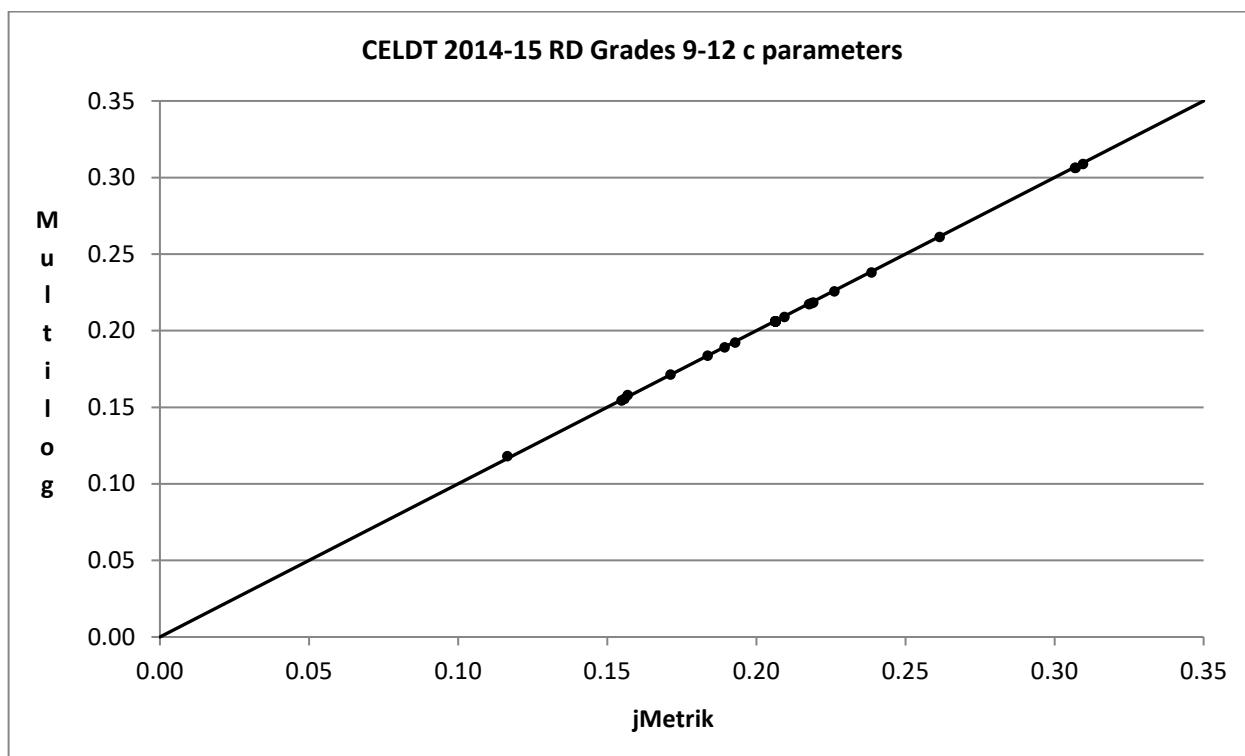




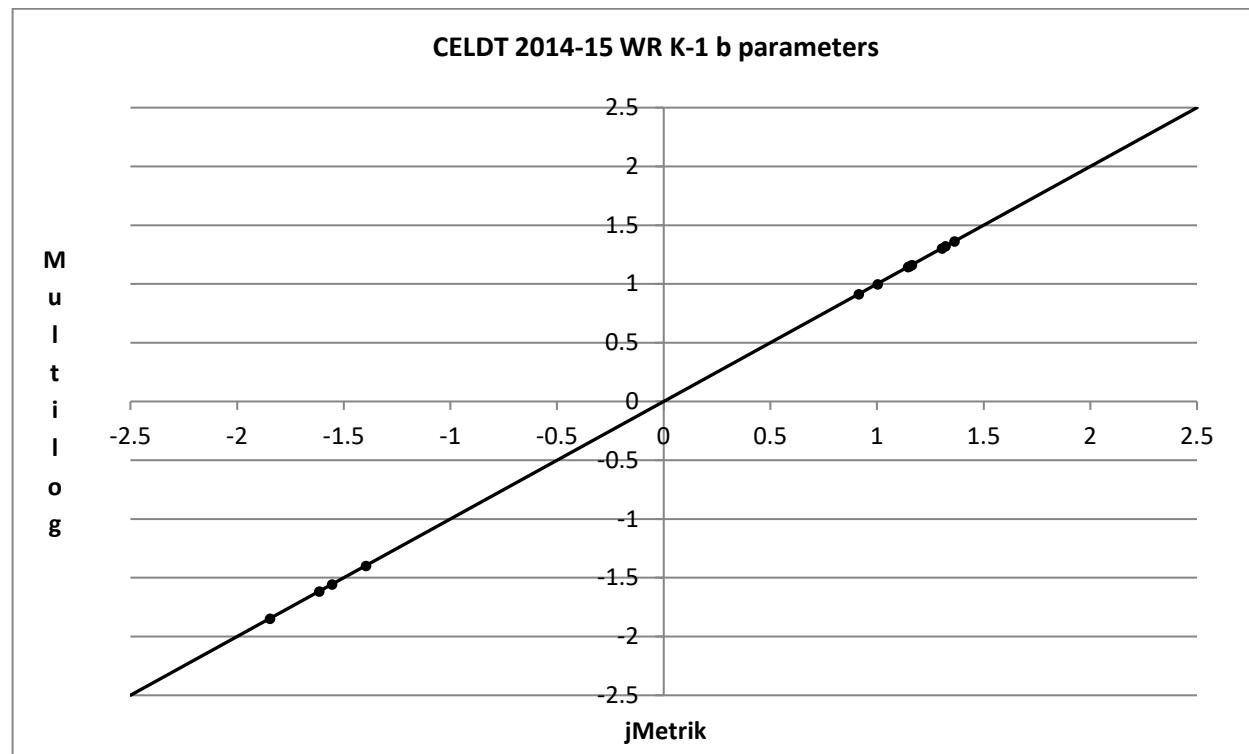
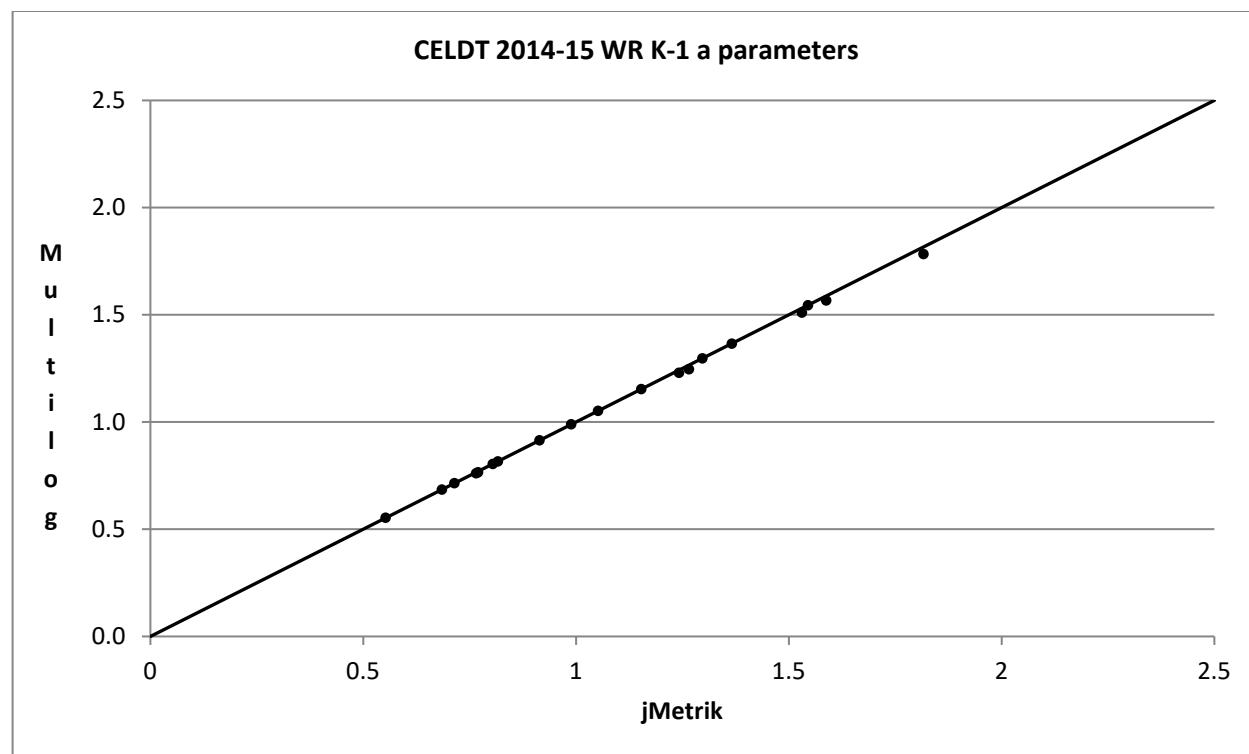
Plots for Table M-13: Reading, Grades 9–12



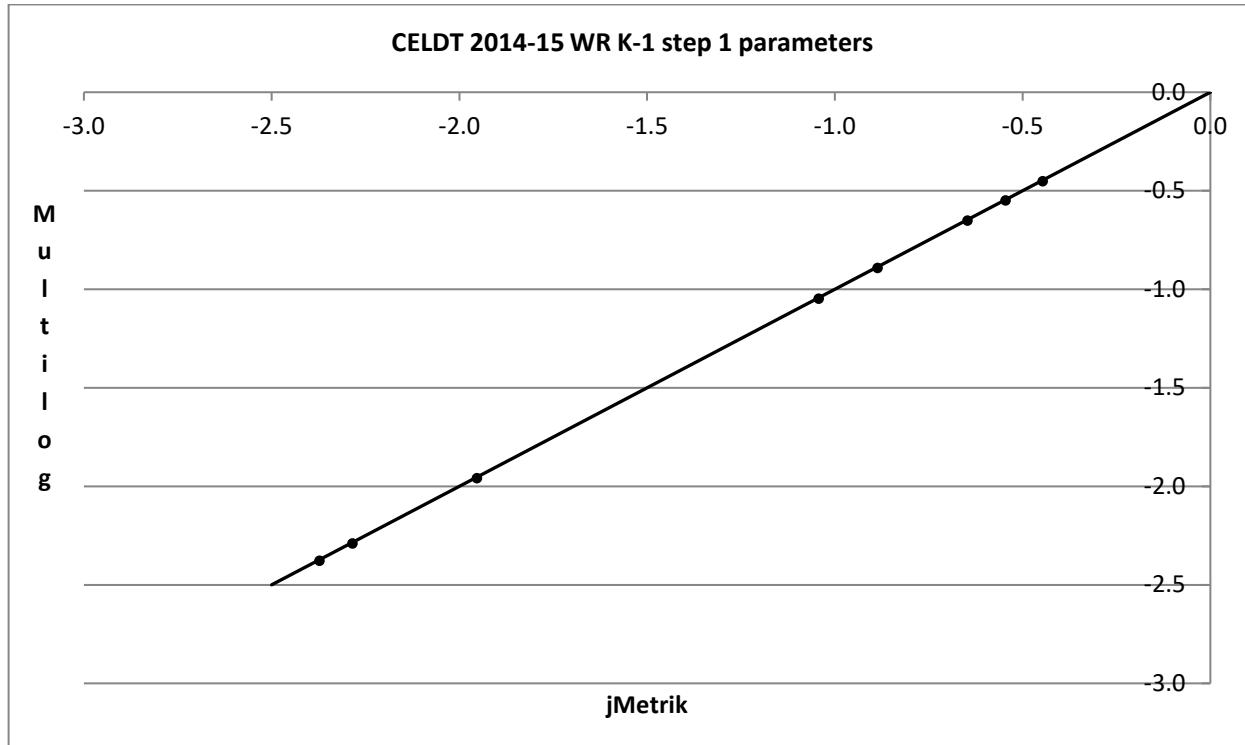
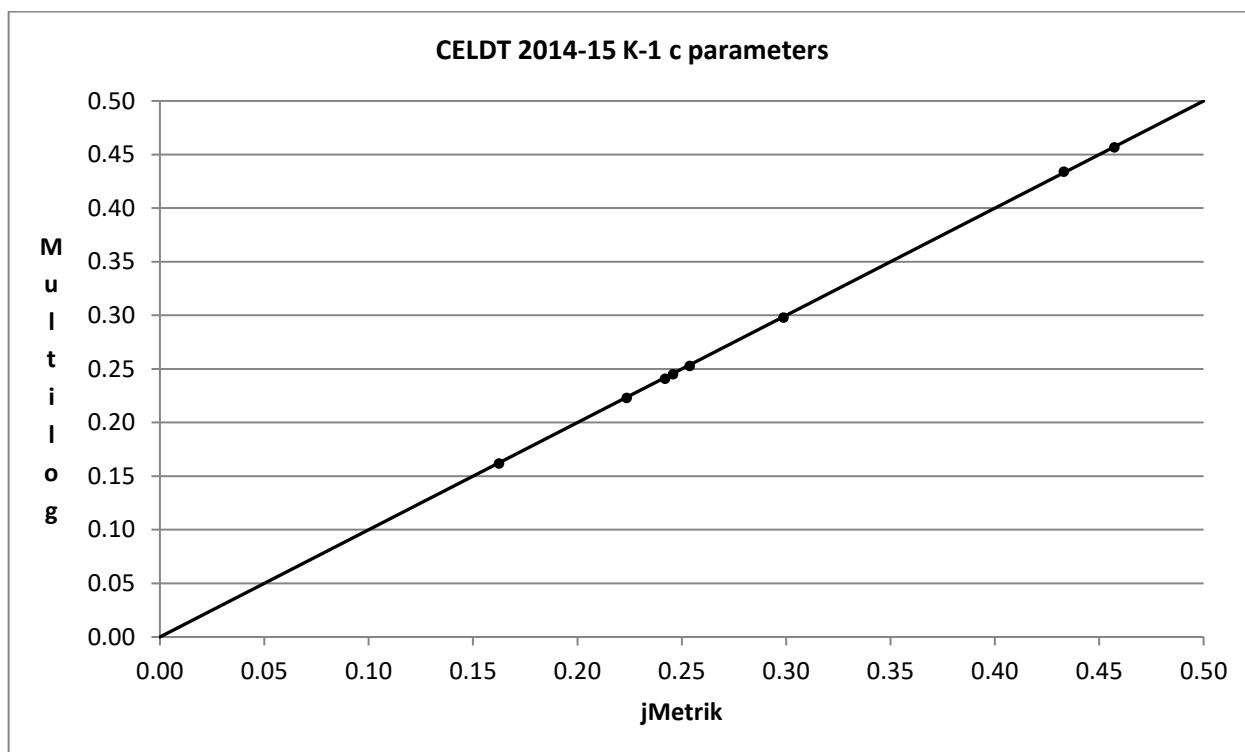
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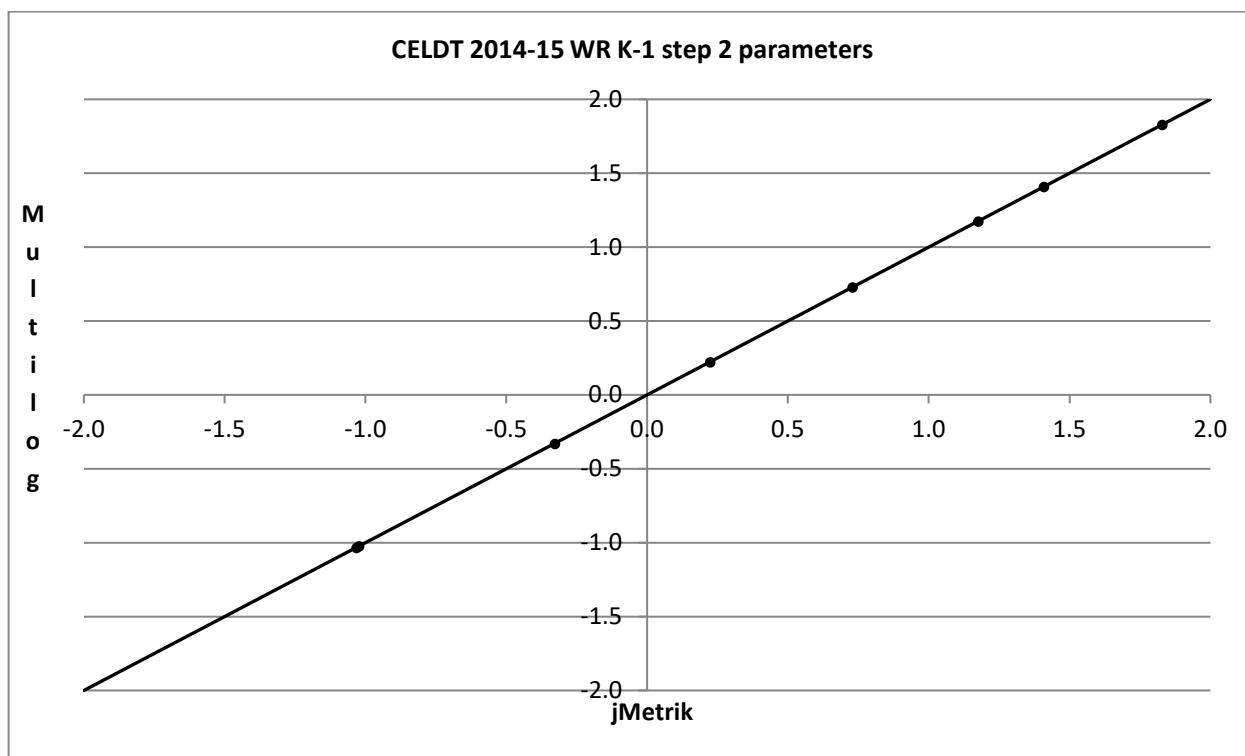


Plots for Table M-14: Writing, Grades K–1

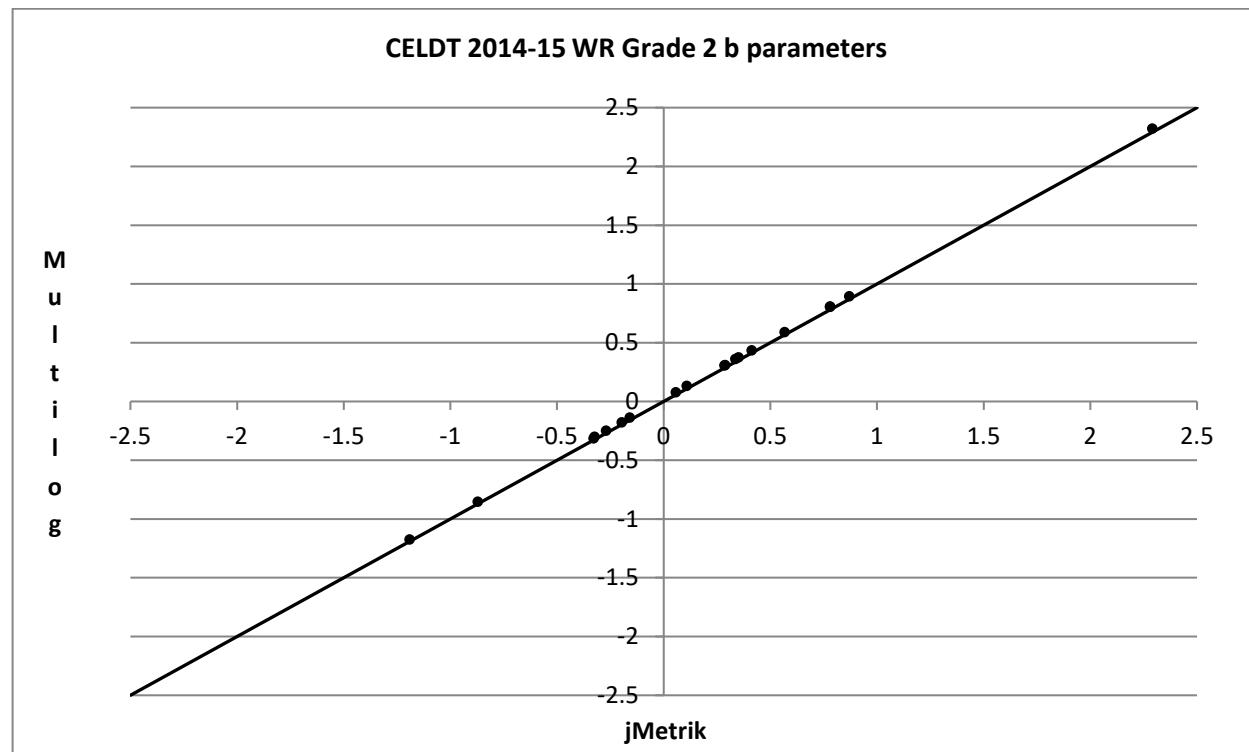
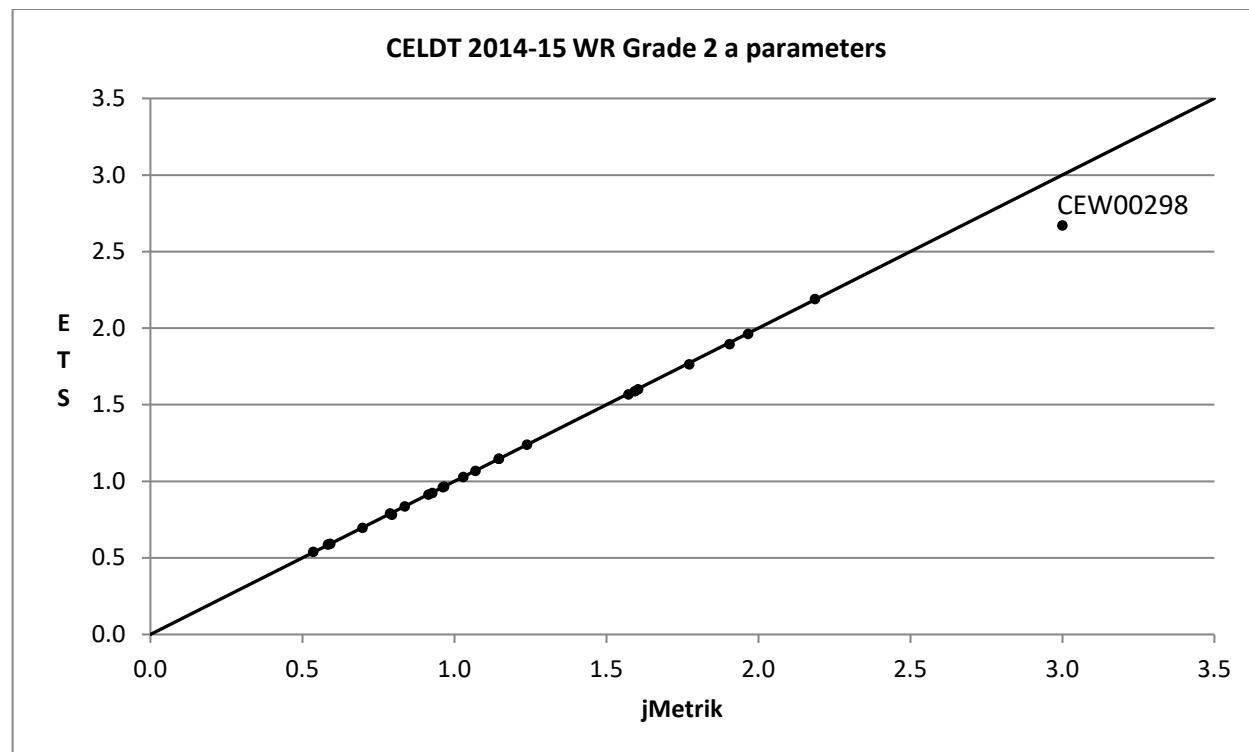


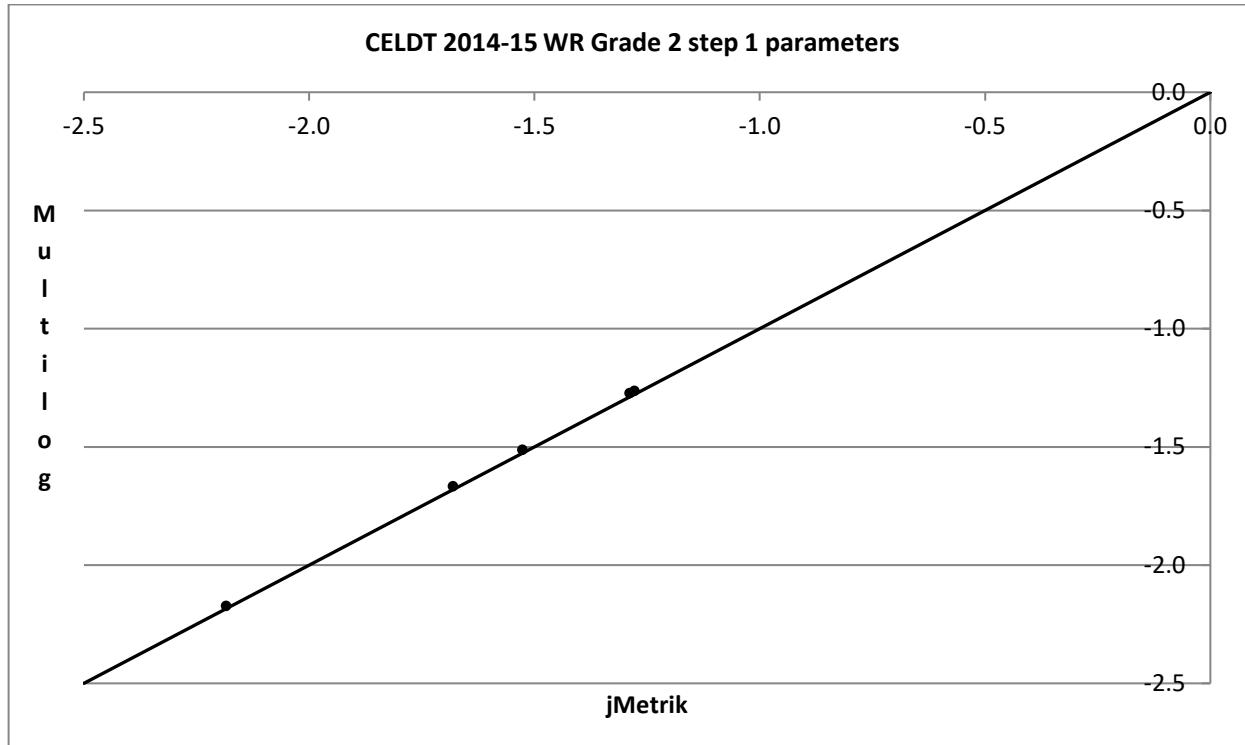
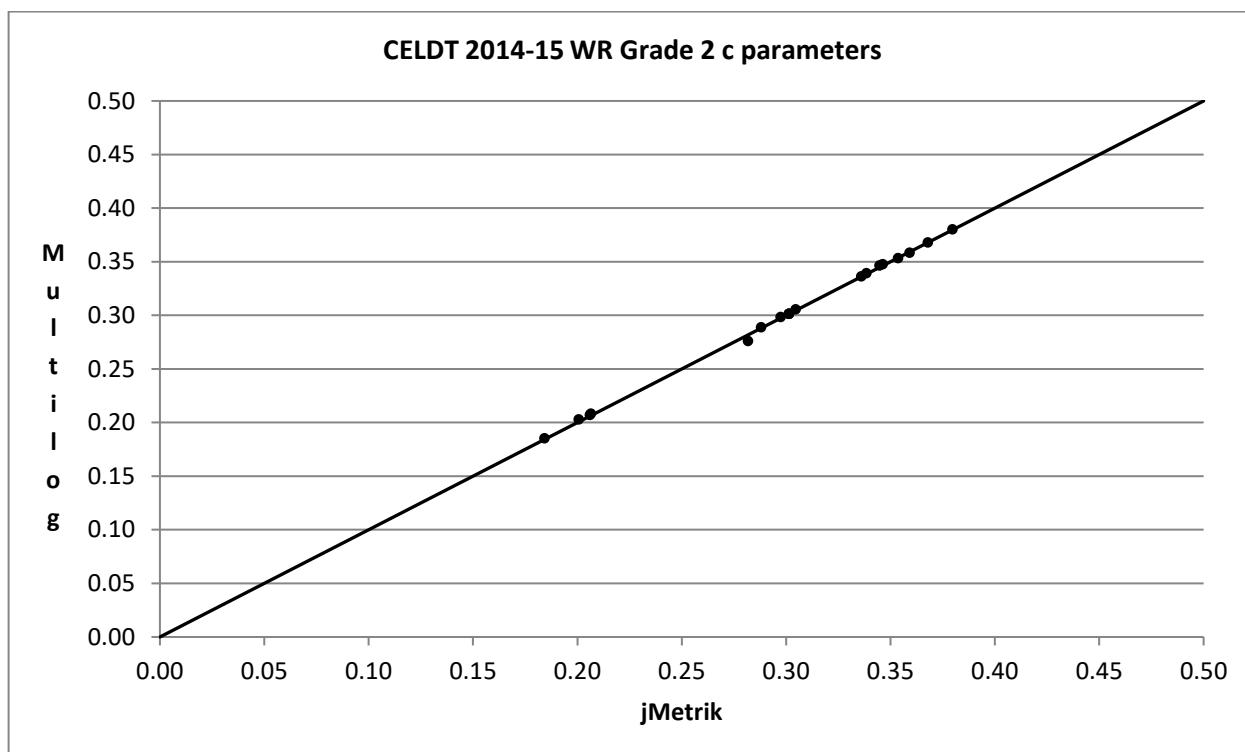
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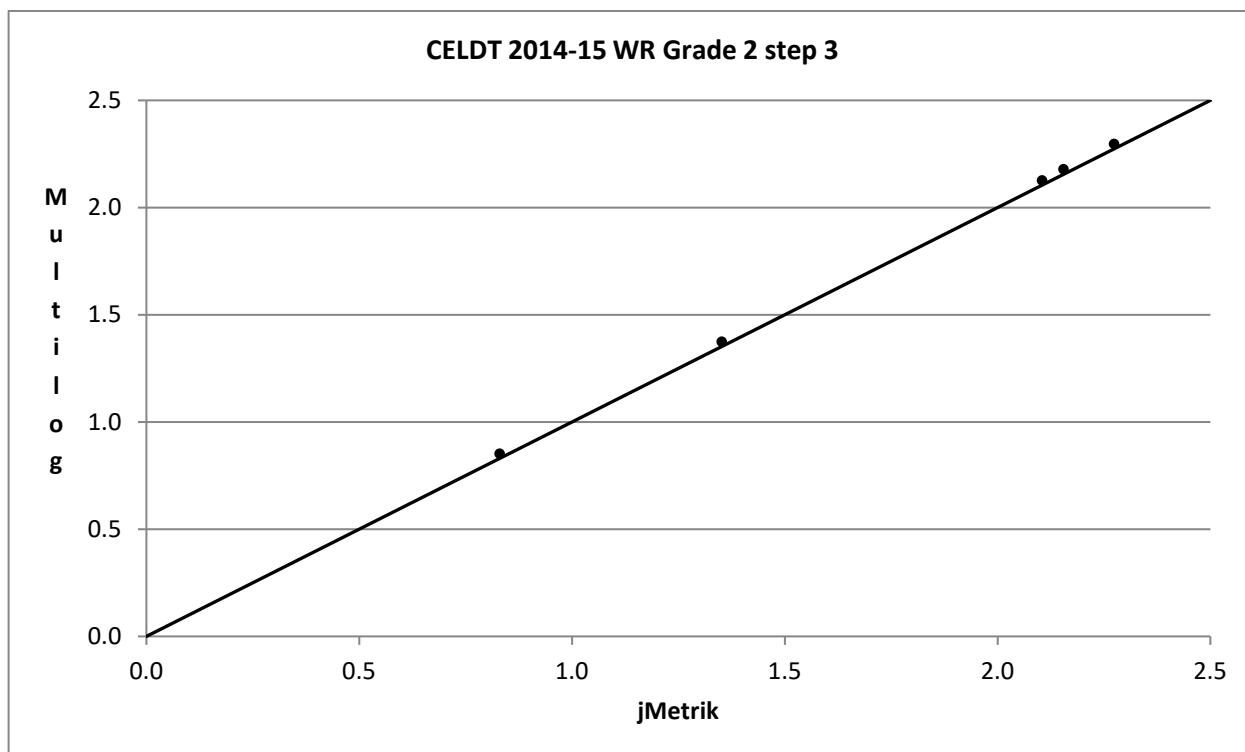
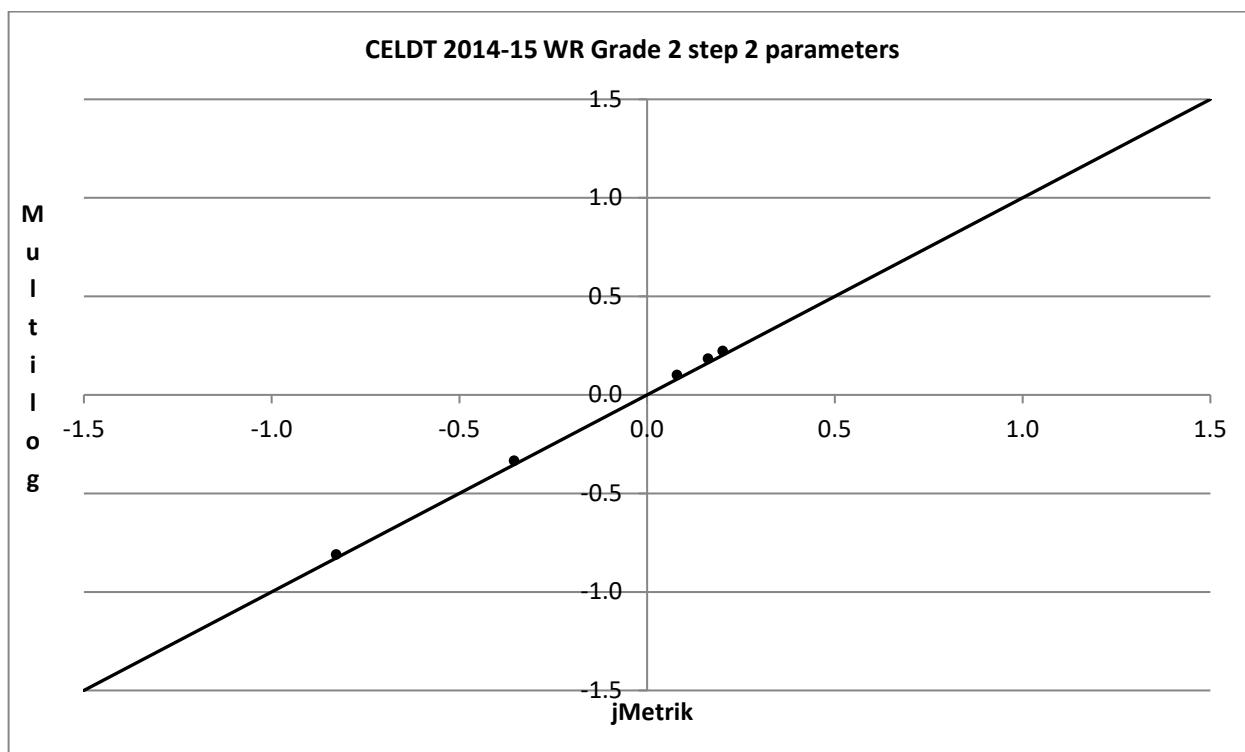


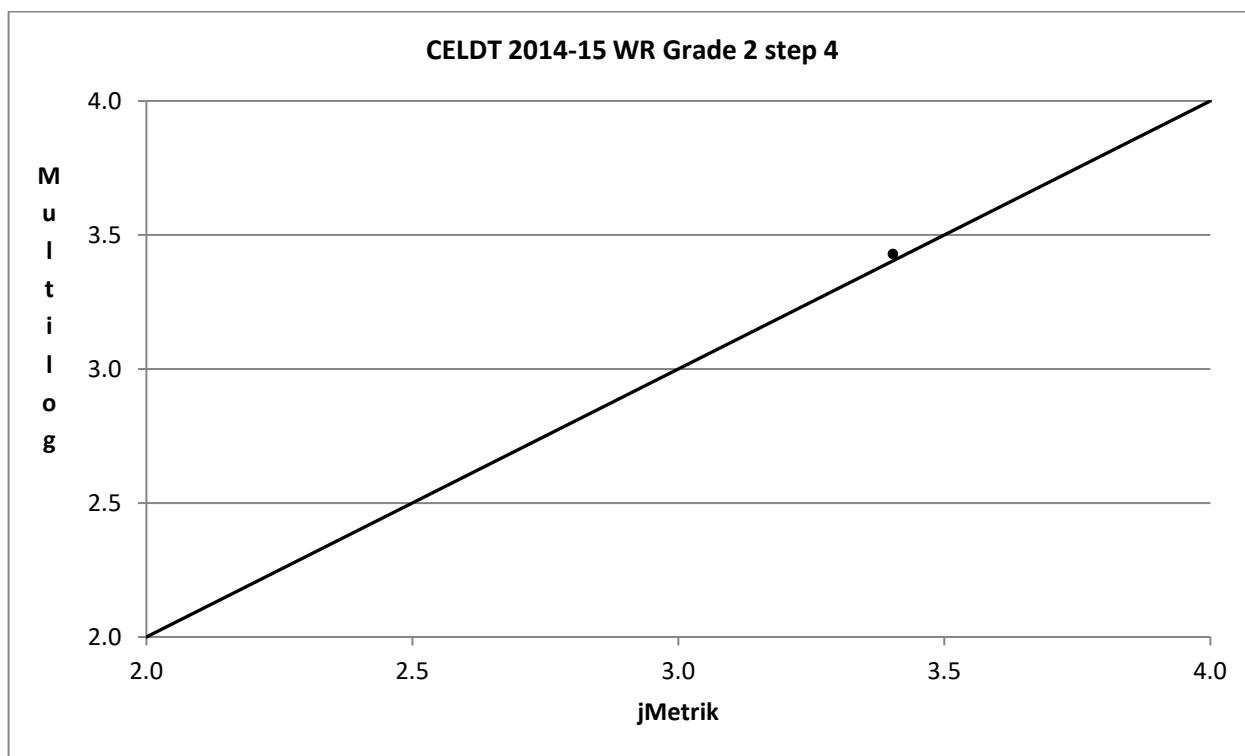


Plots for Table M-15: Writing, Grade 2

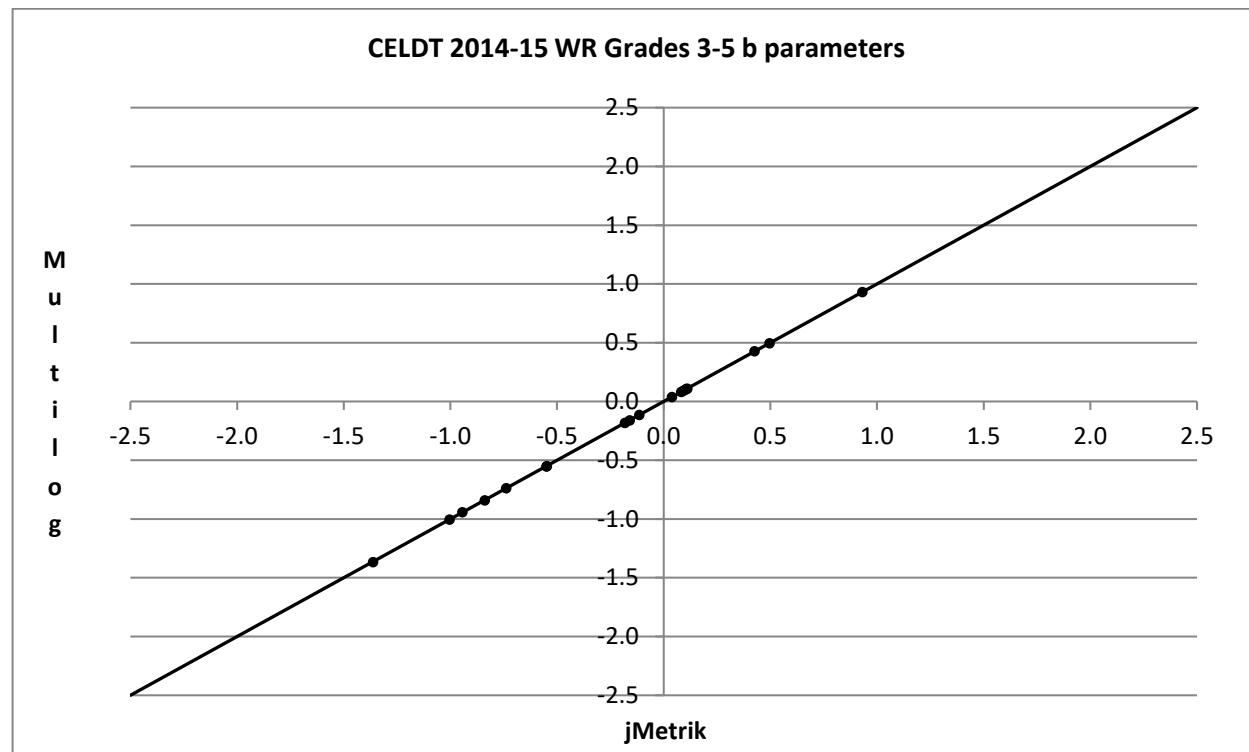
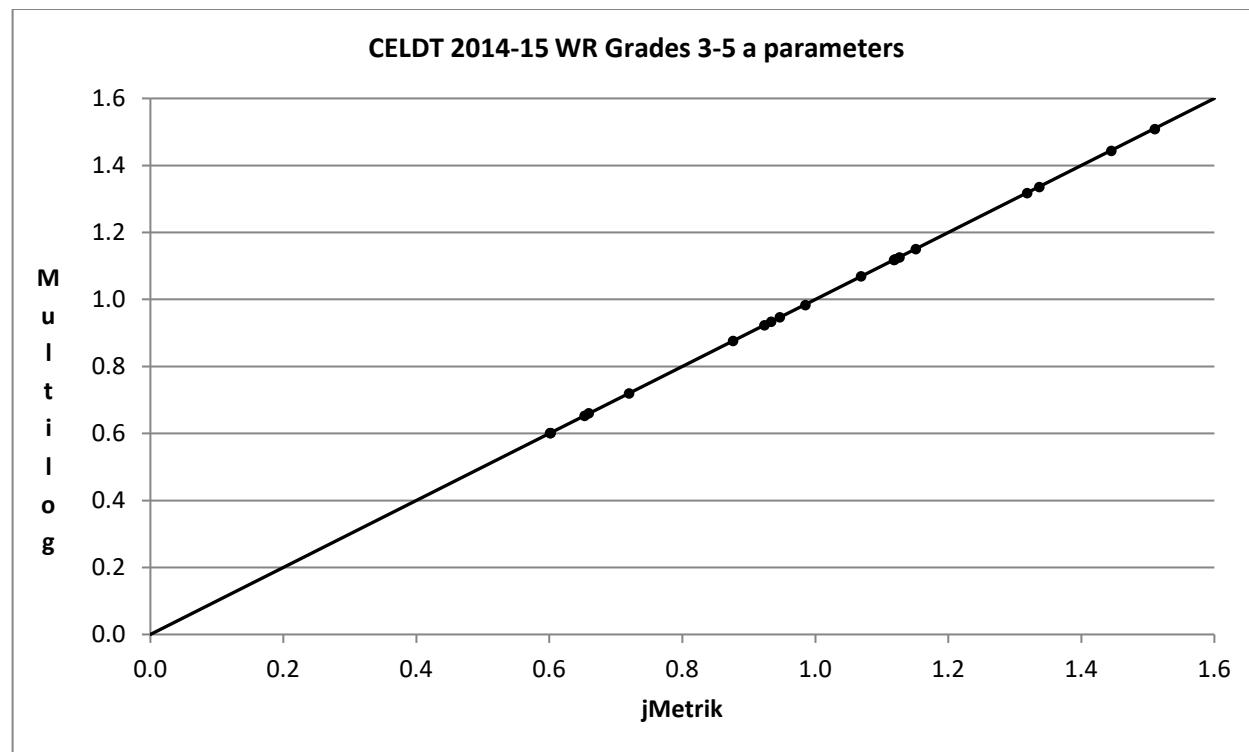




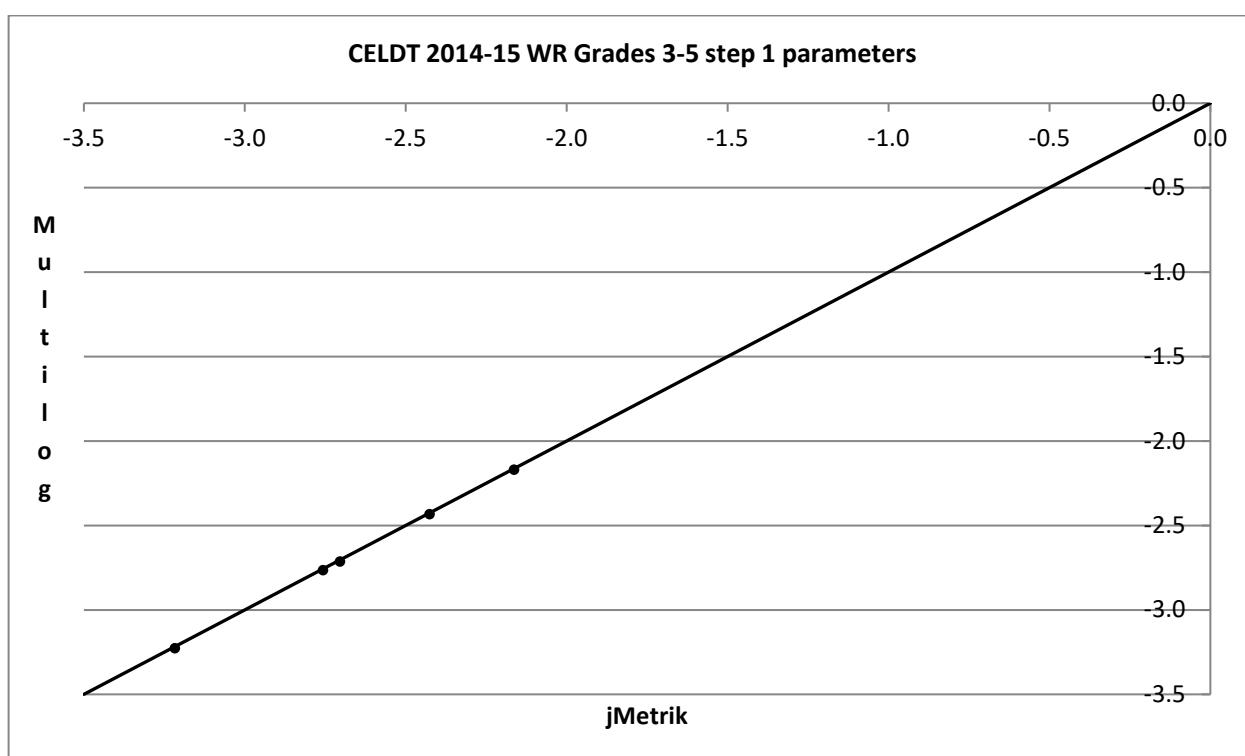
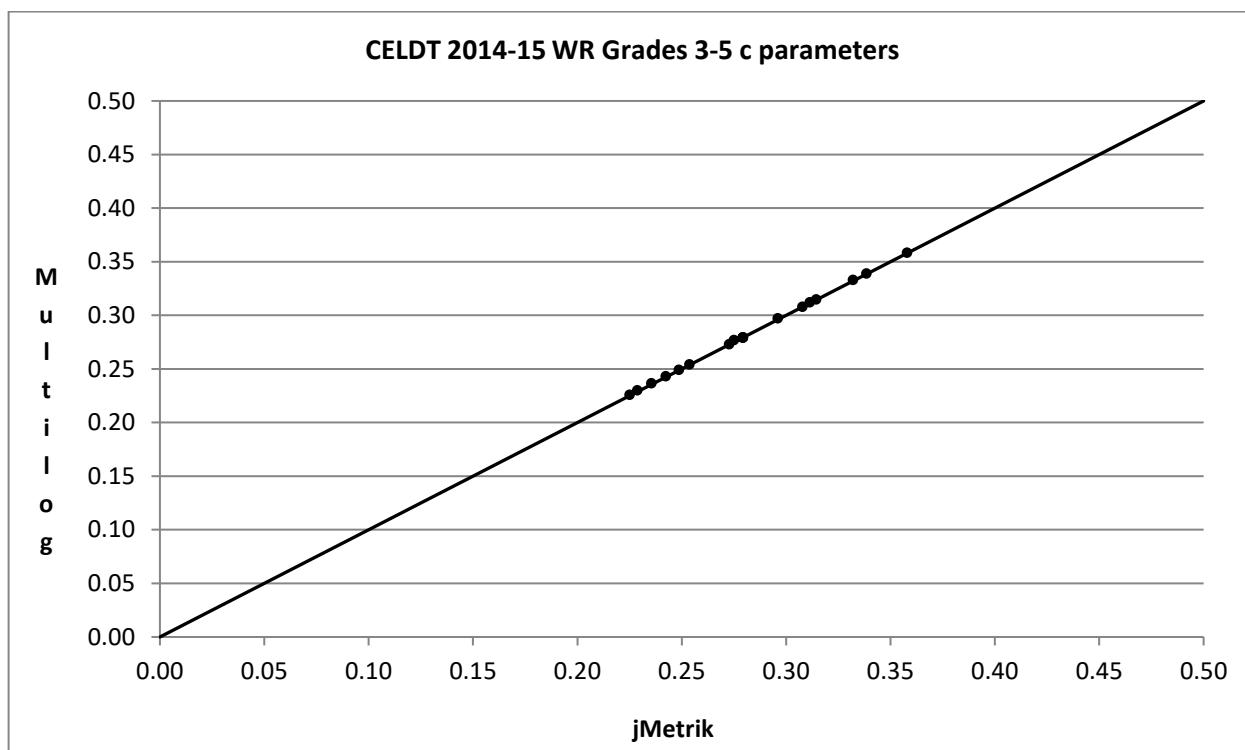


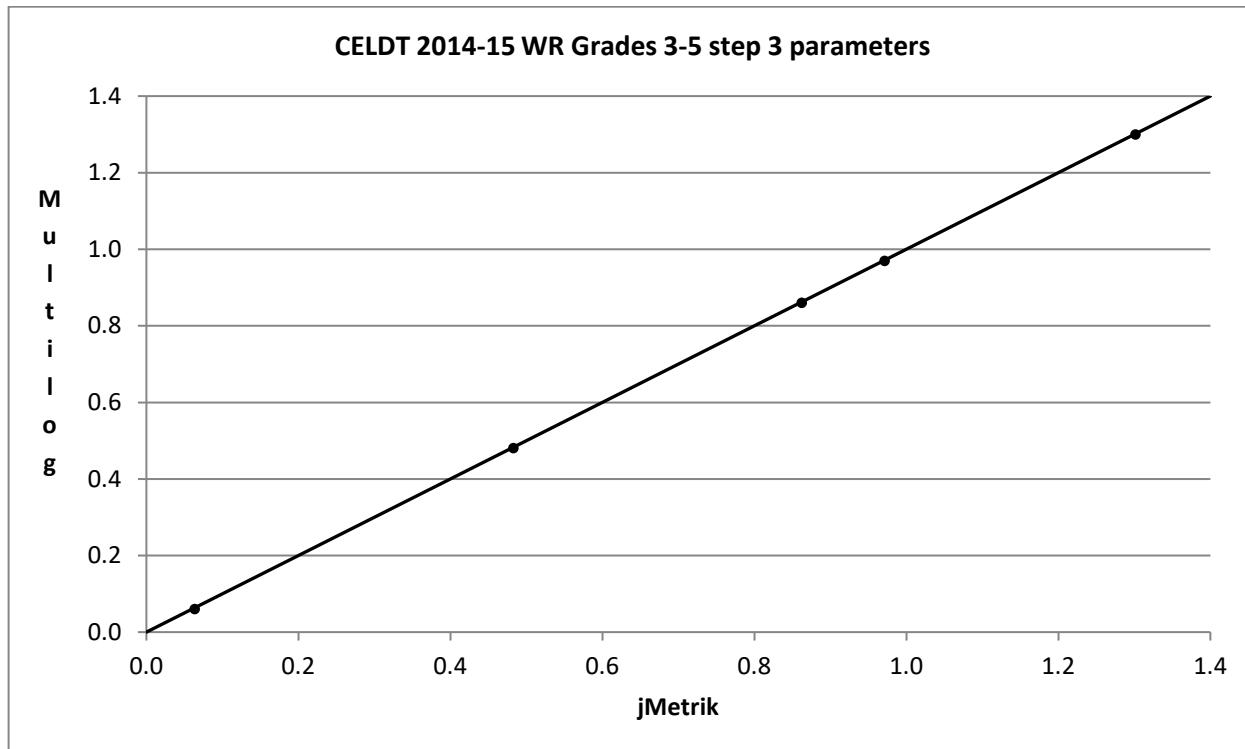
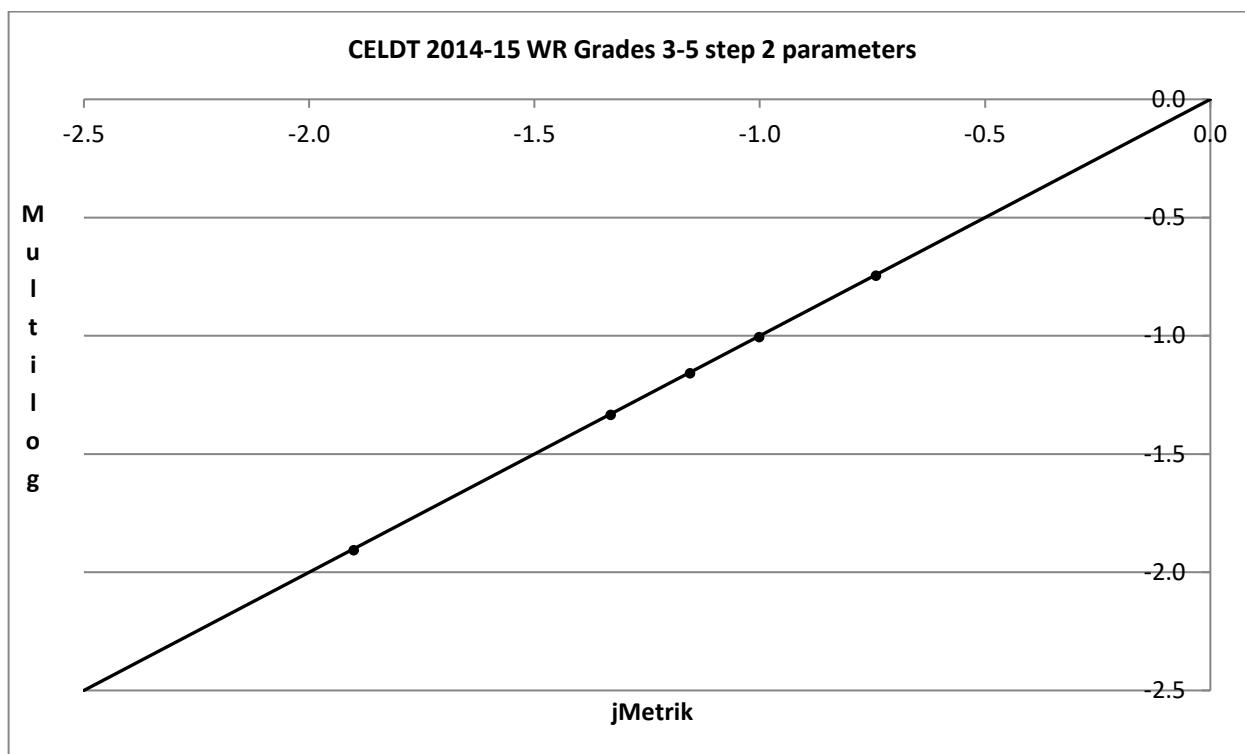


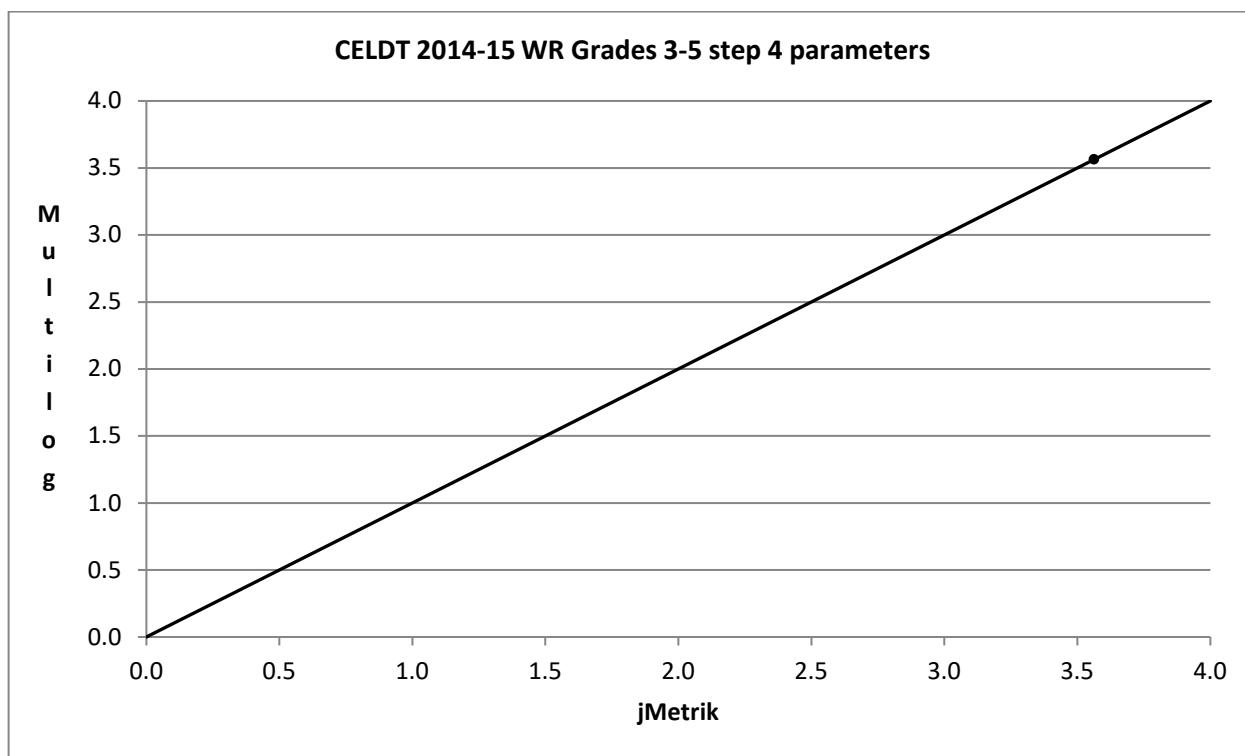
Plots for Table M-16: Writing, Grades 3–5



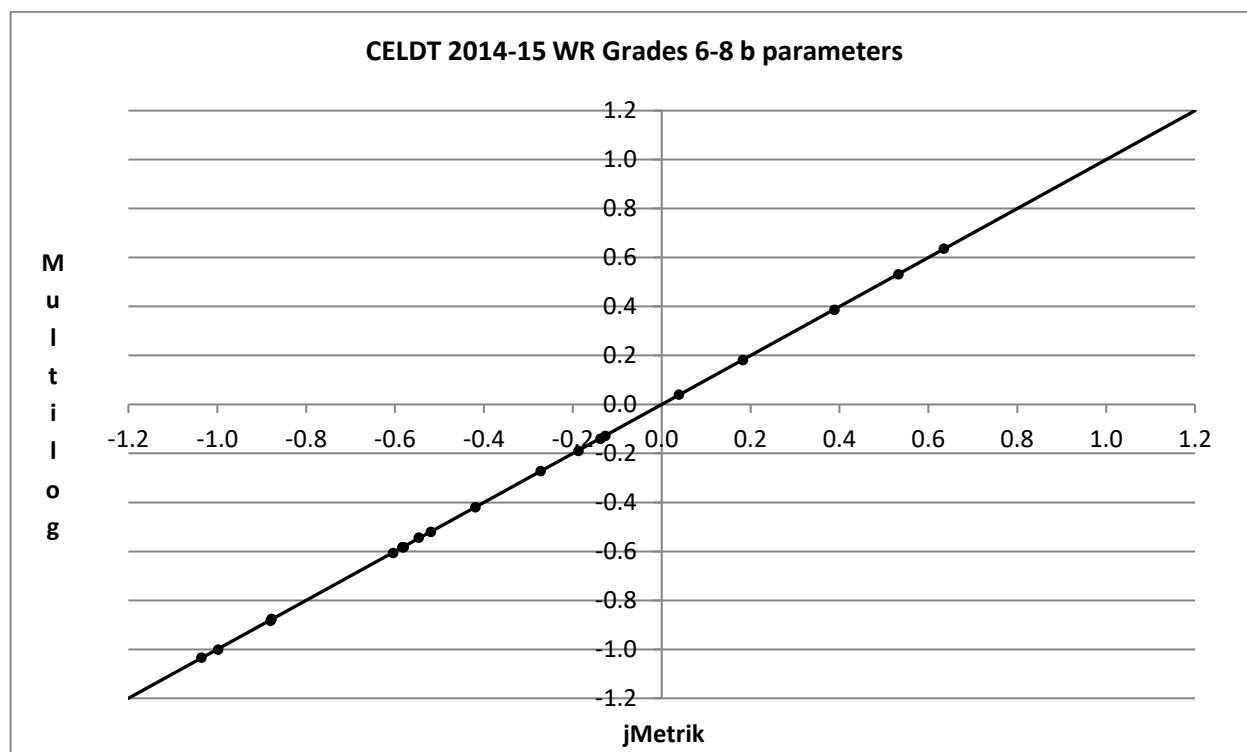
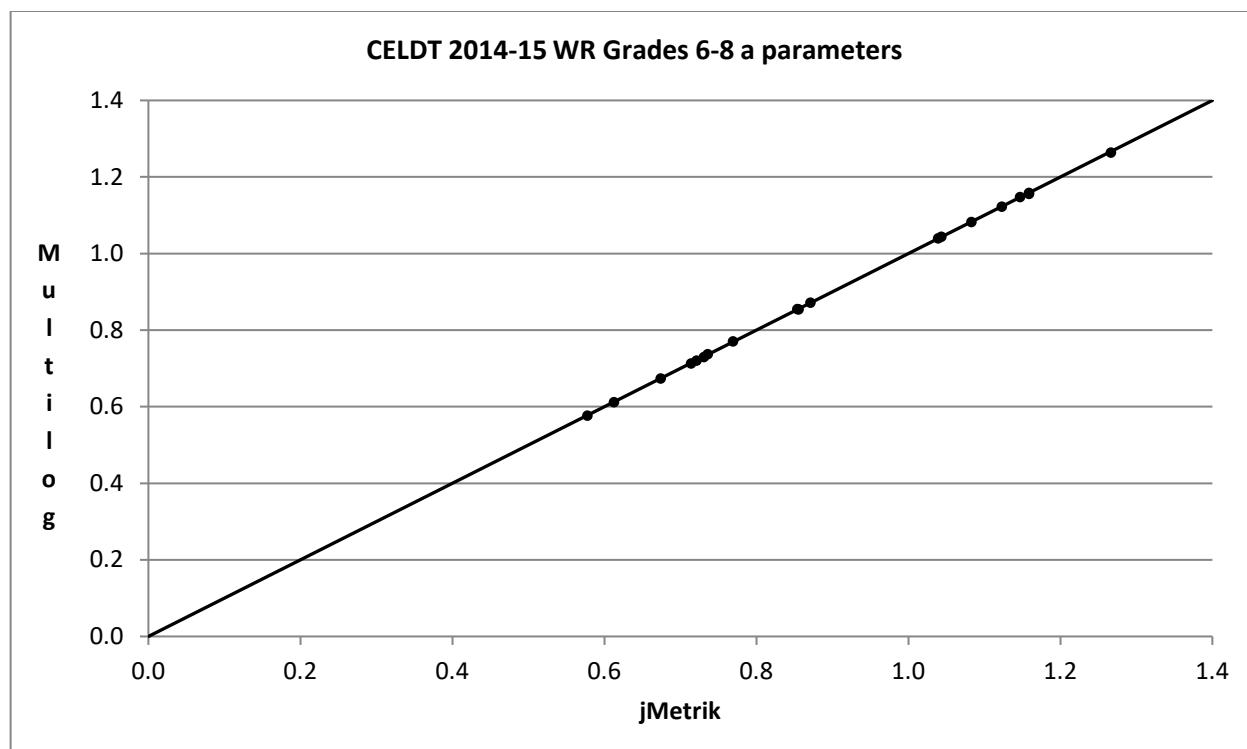
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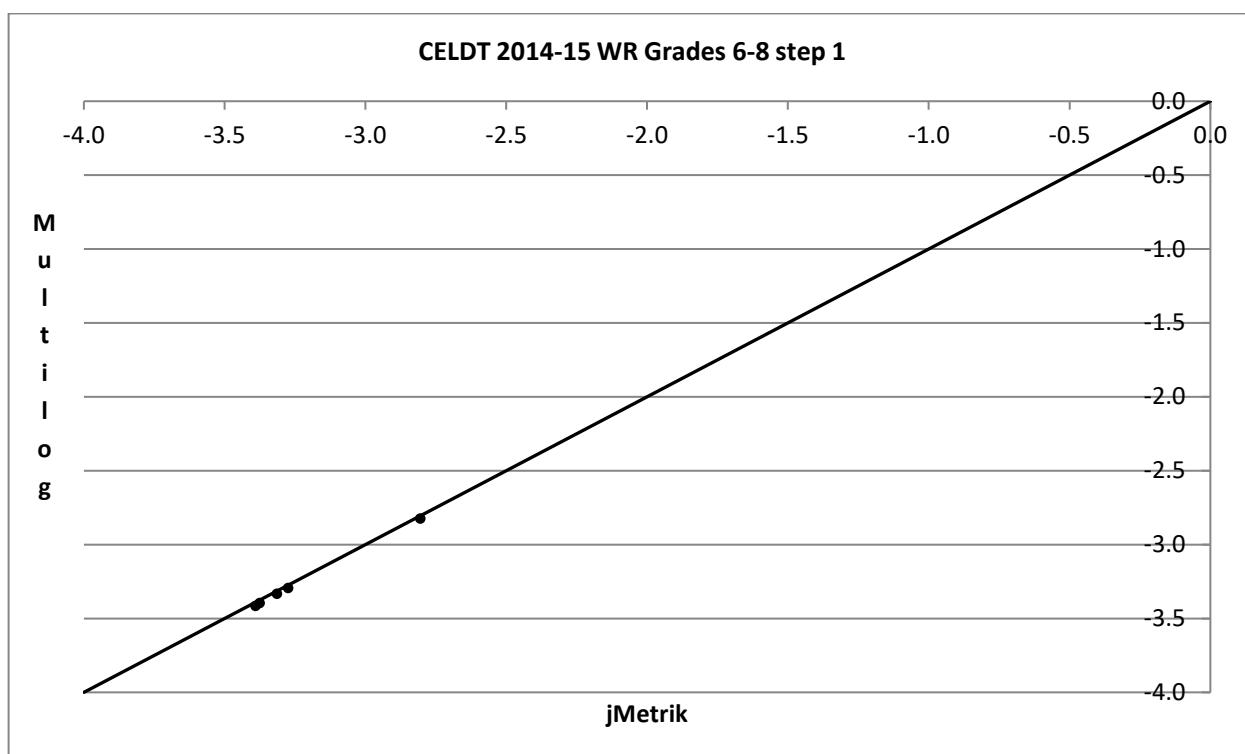
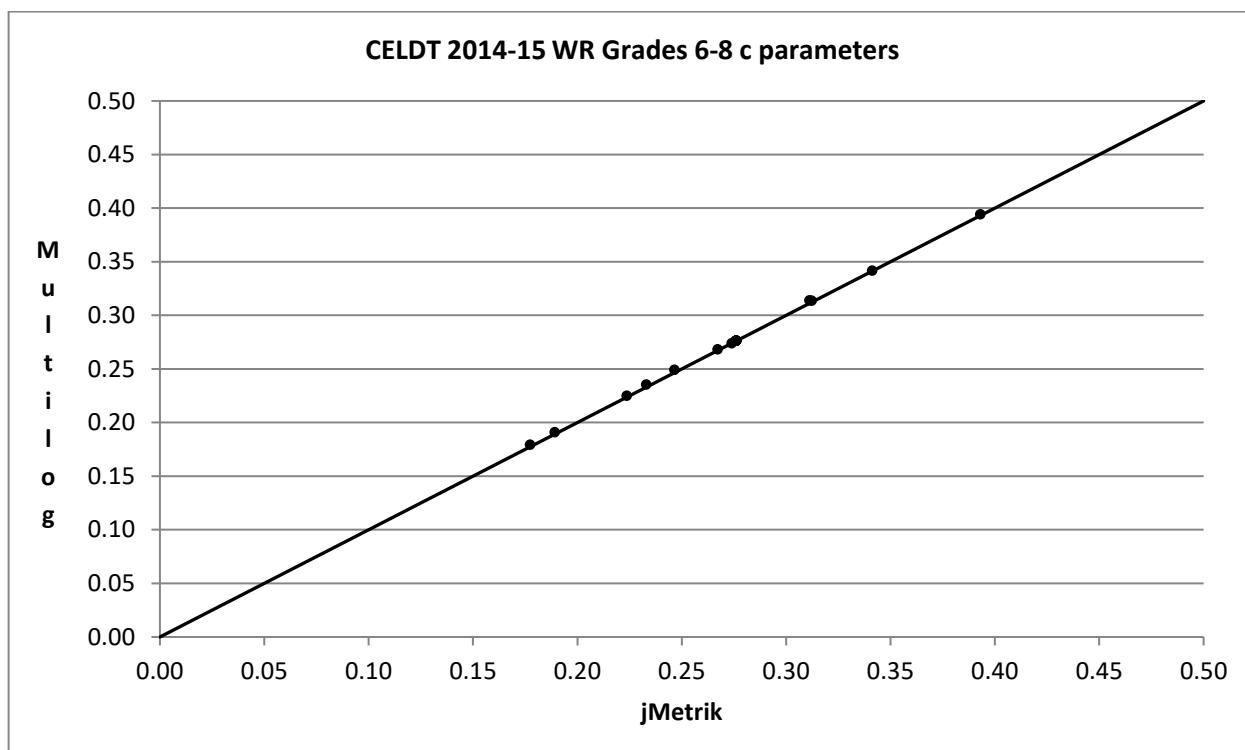




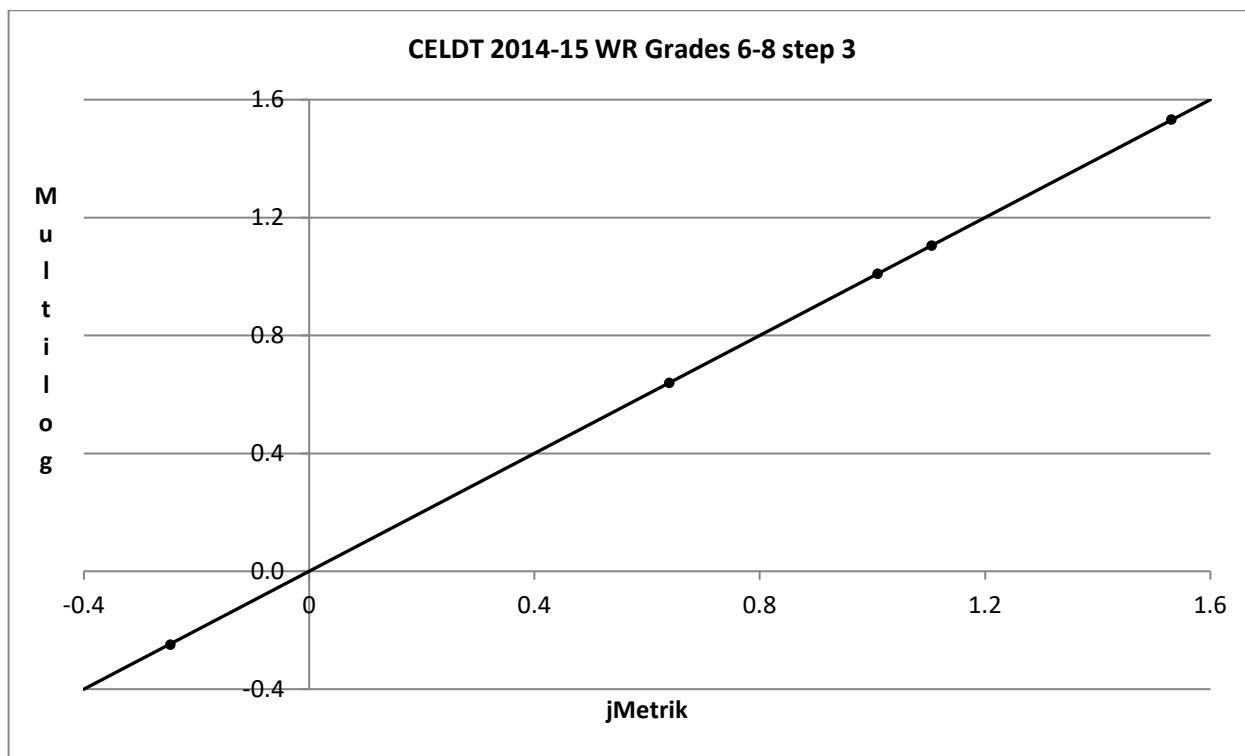
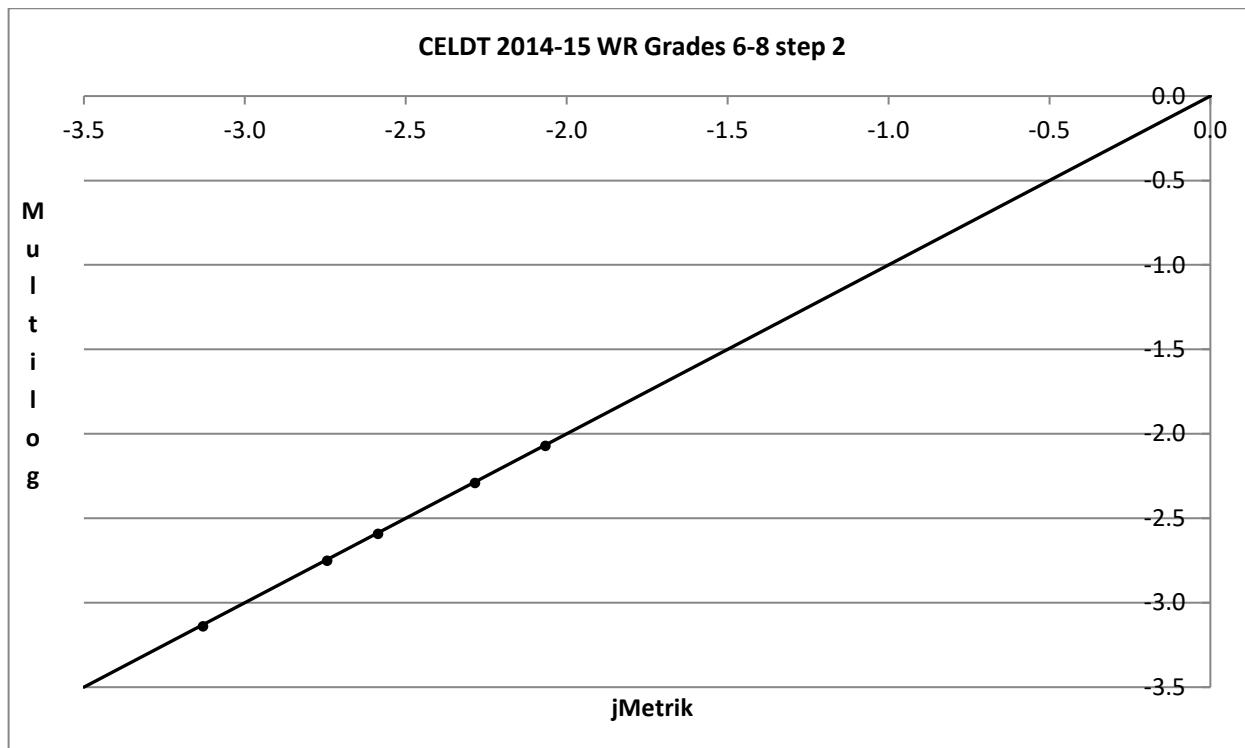
Plots for Table M-17: Writing, Grades 6–8

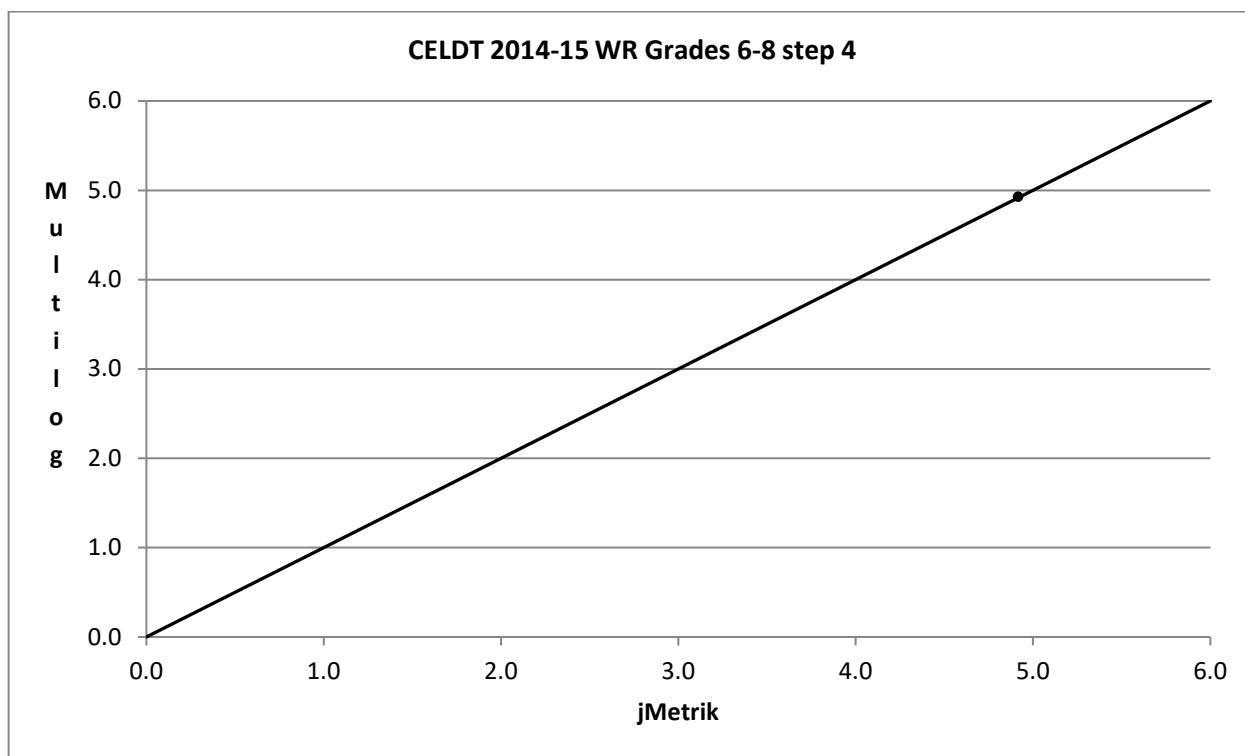


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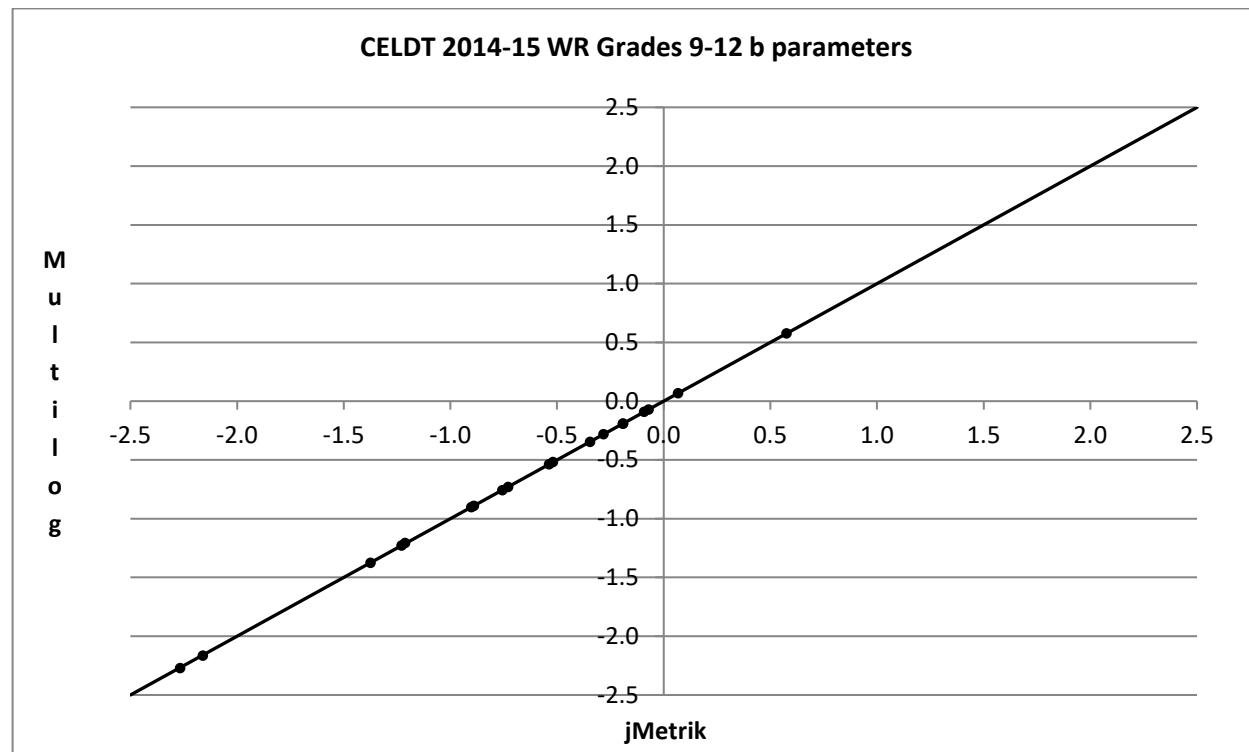
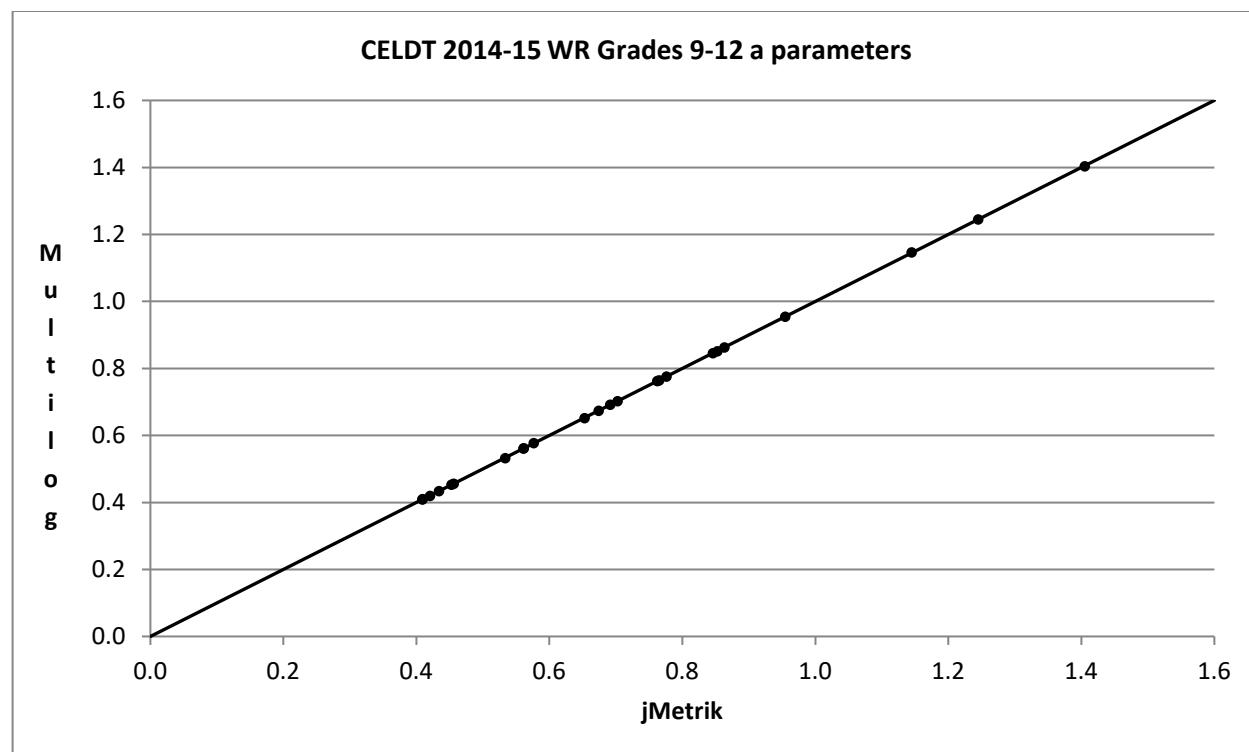


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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots

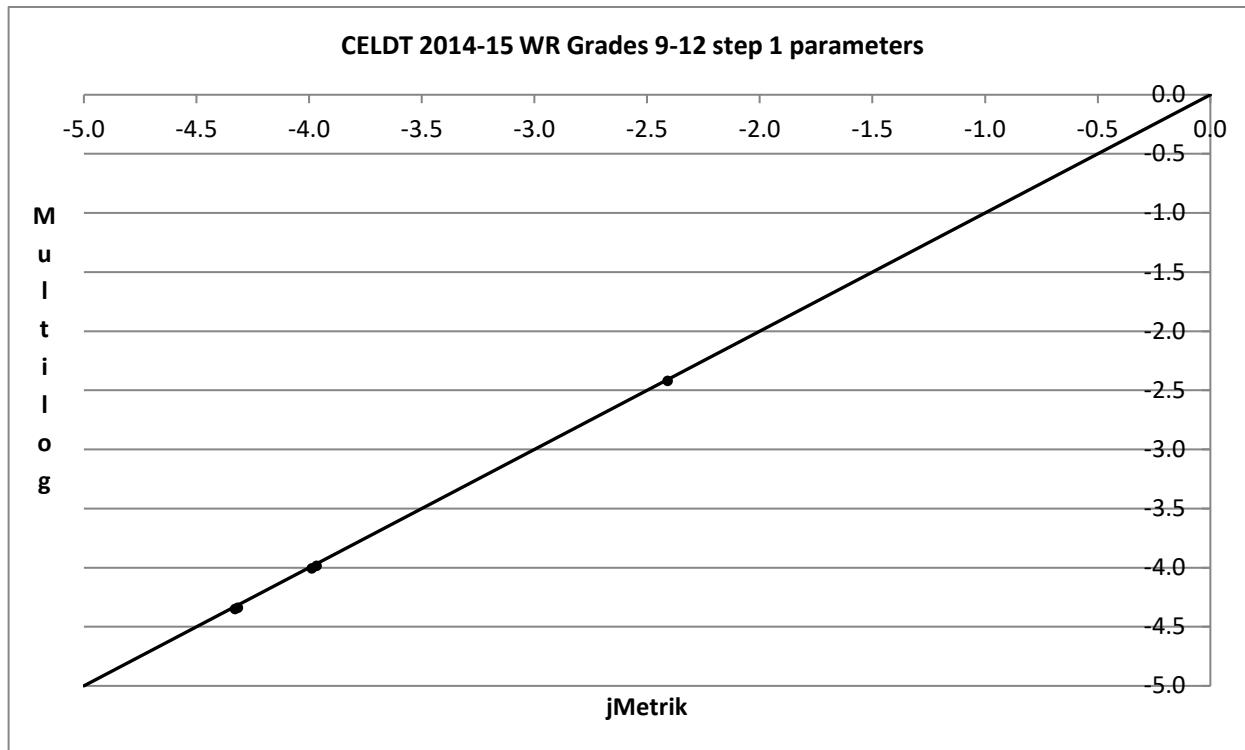
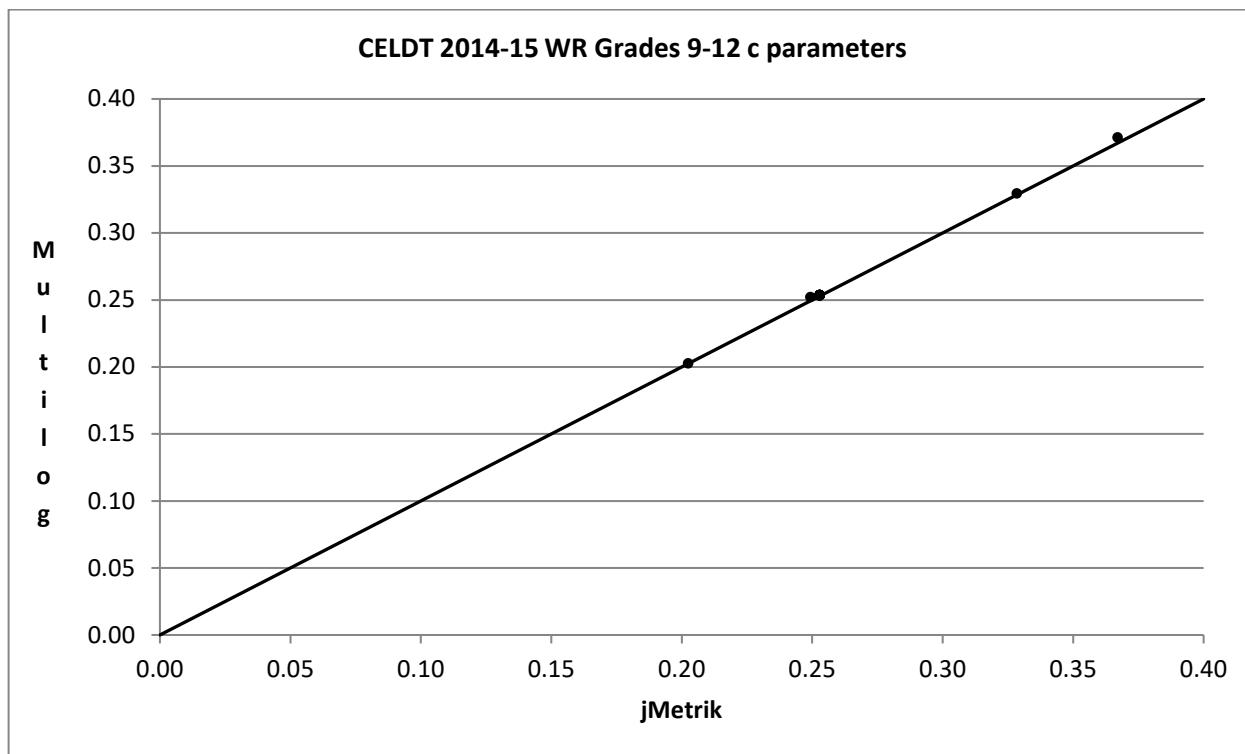




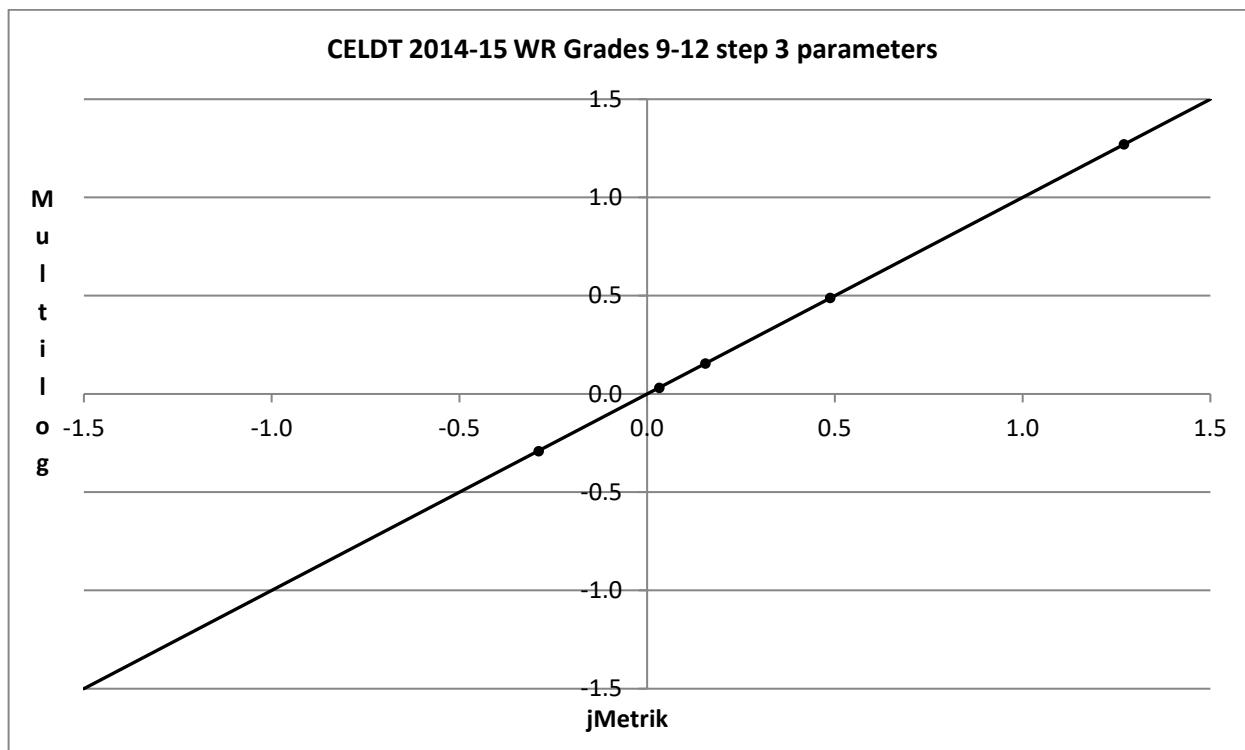
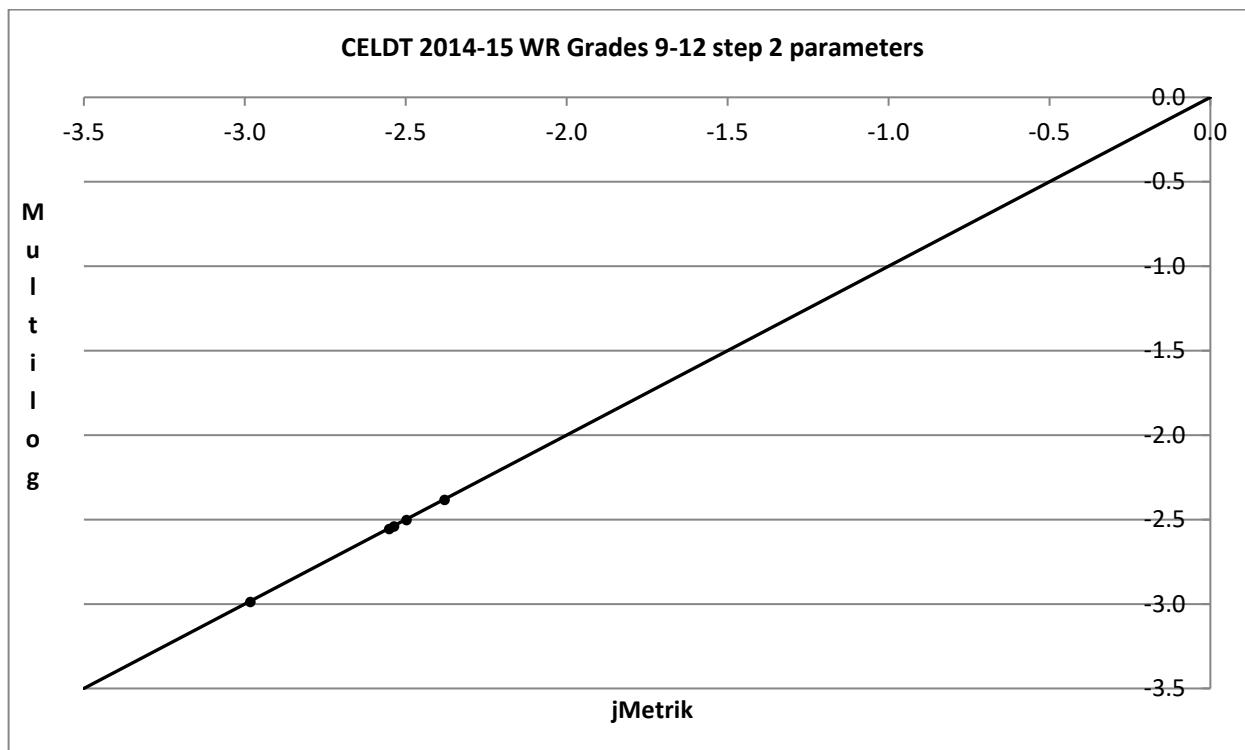
Plots for Table M-18: Writing, Grades 9–12

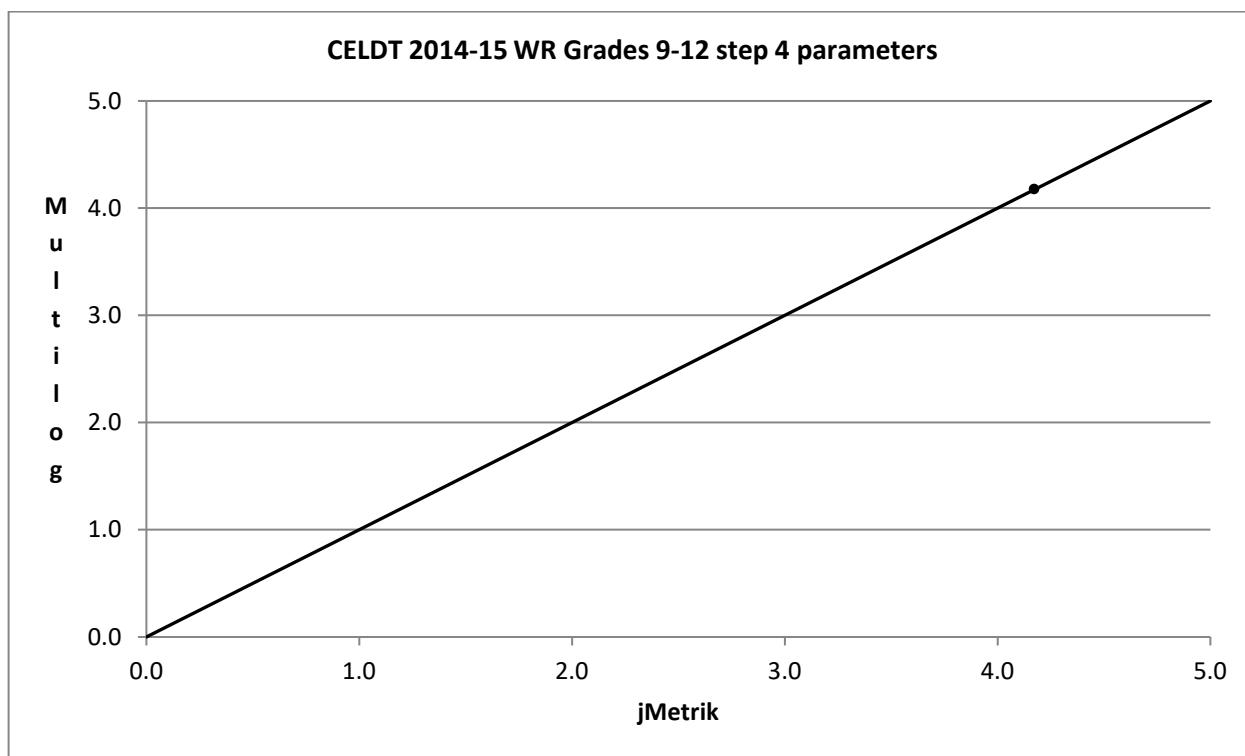


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Appendix 3.1.2: Multilog vs. jMetrik Calibration Plots



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Appendix 3.2: Stocking & Lord Scale Transformation Constants (TR Table 8.8)

Figure 3.2.1: Listening, m1 (points represent grade spans K–2, 3–5, 6–8, and 9–12)

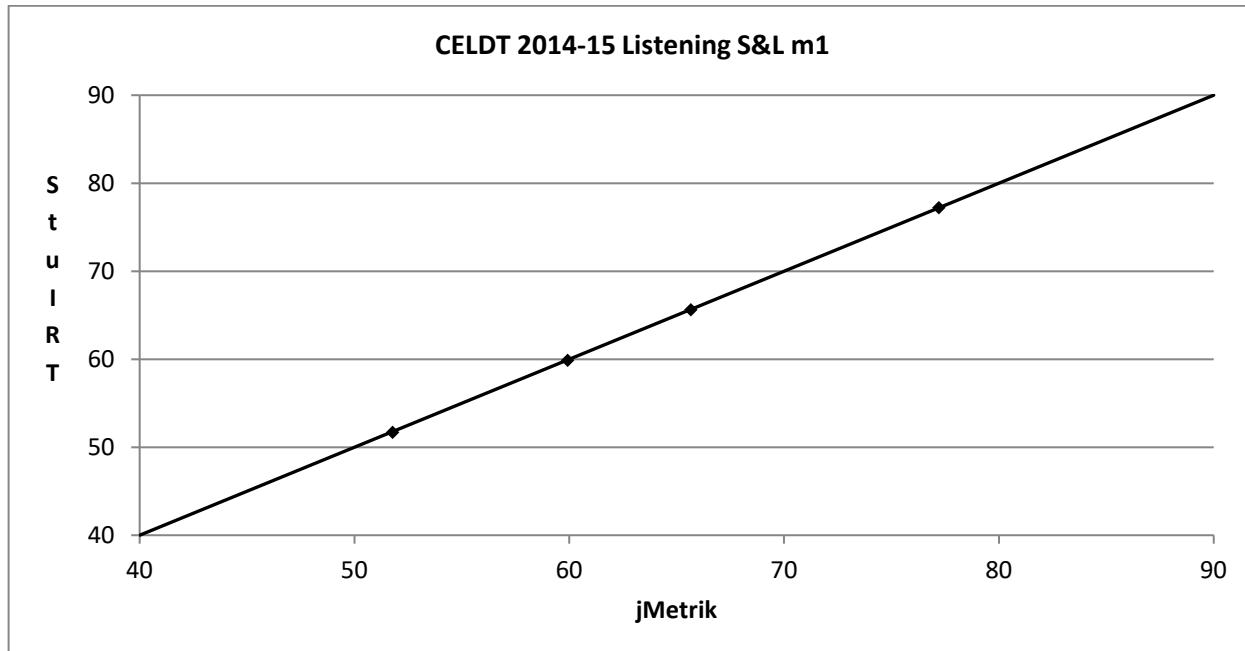


Figure 3.2.2: Listening, m2 (points represent grade spans K–2, 3–5, 6–8, and 9–12)

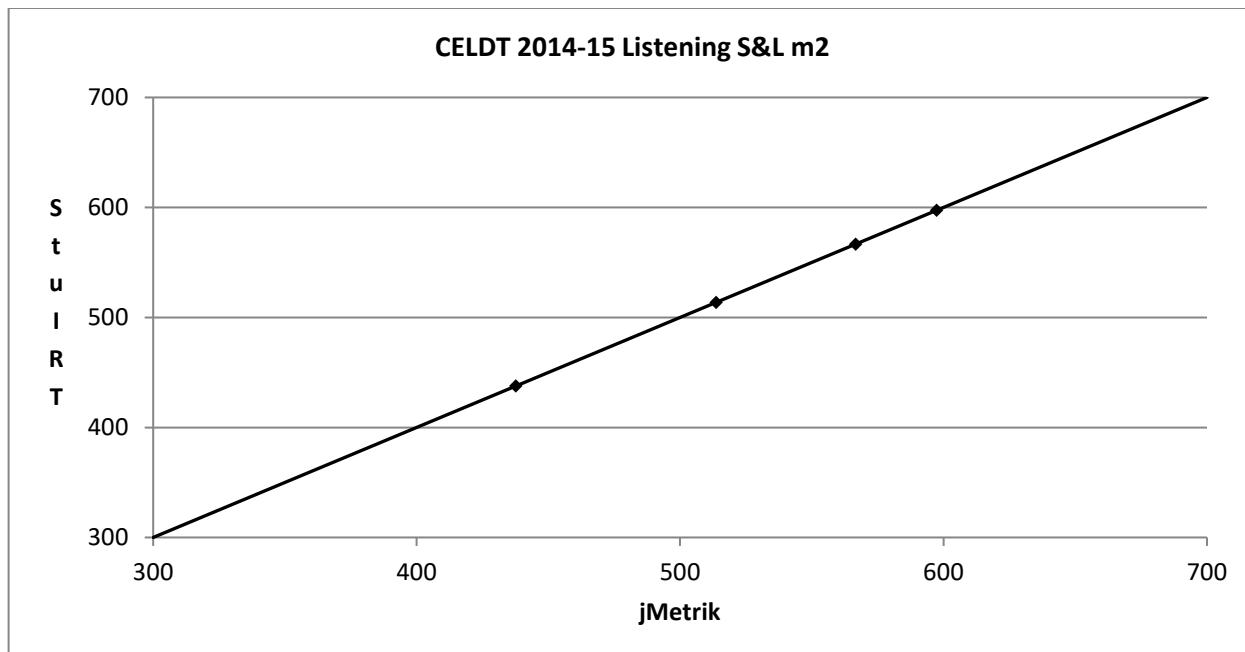


Figure 3.2.3: Speaking, m1 (points represent grade spans K–2, 3–5, 6–8, and 9–12)

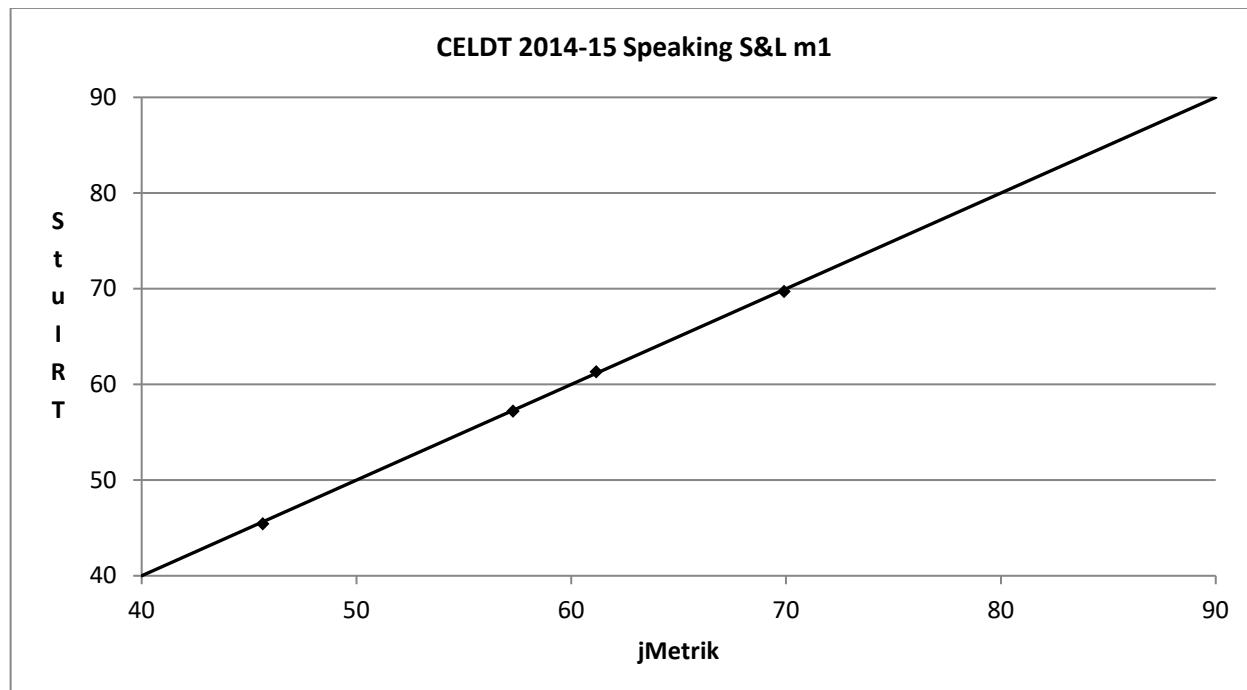


Figure 3.2.4: Speaking, m2 (points represent grade spans K–2, 3–5, 6–8, and 9–12)

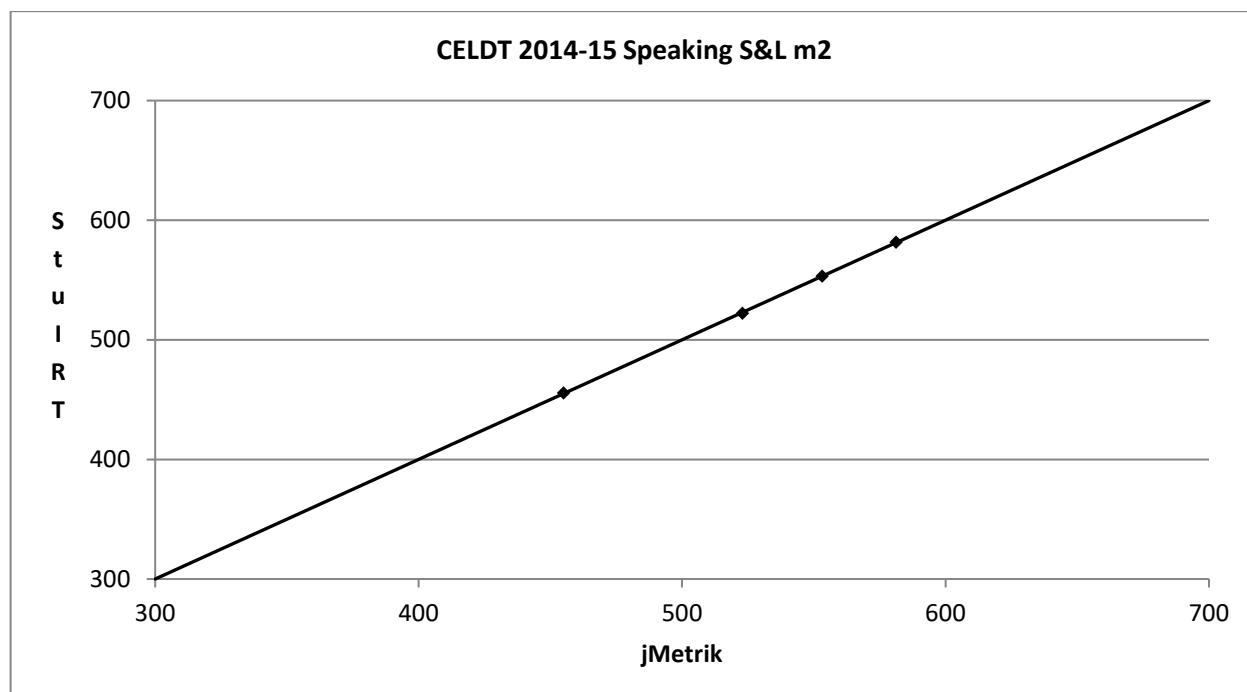


Figure 3.2.5: Reading, m1 (points represent grade spans K–1, 2, 3–5, 6–8, and 9–12)

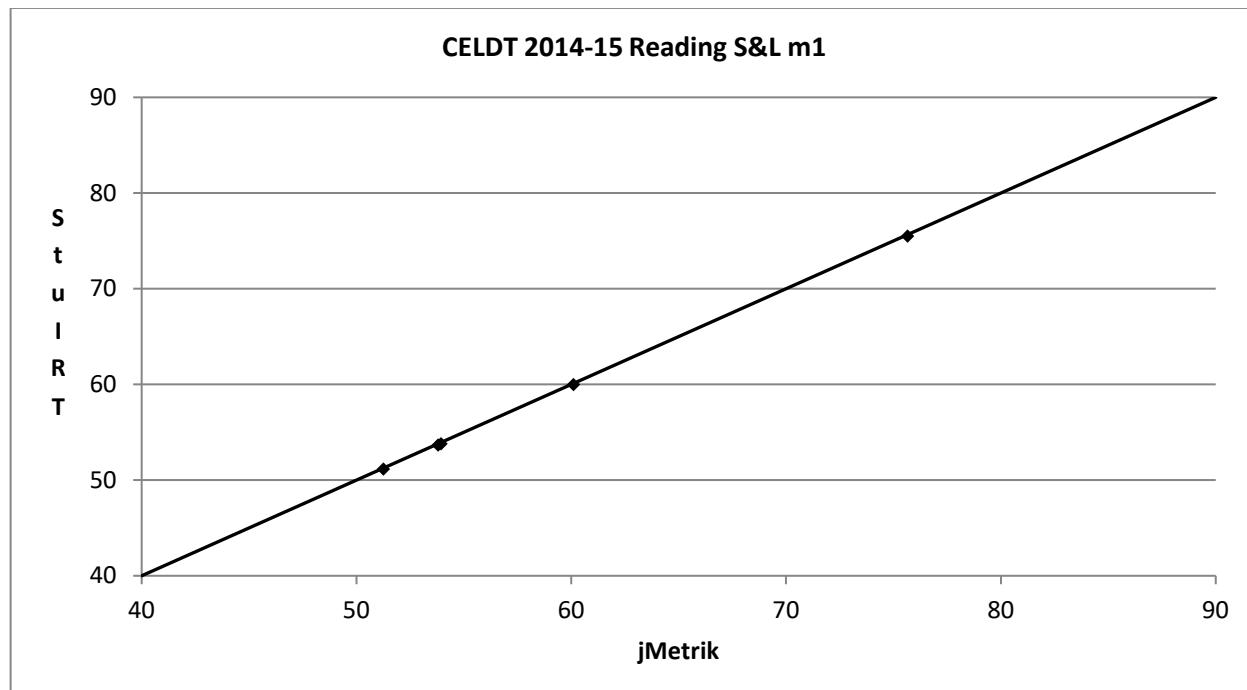


Figure 3.2.6: Reading, m2 (points represent grade spans K–1, 2, 3–5, 6–8, and 9–12)

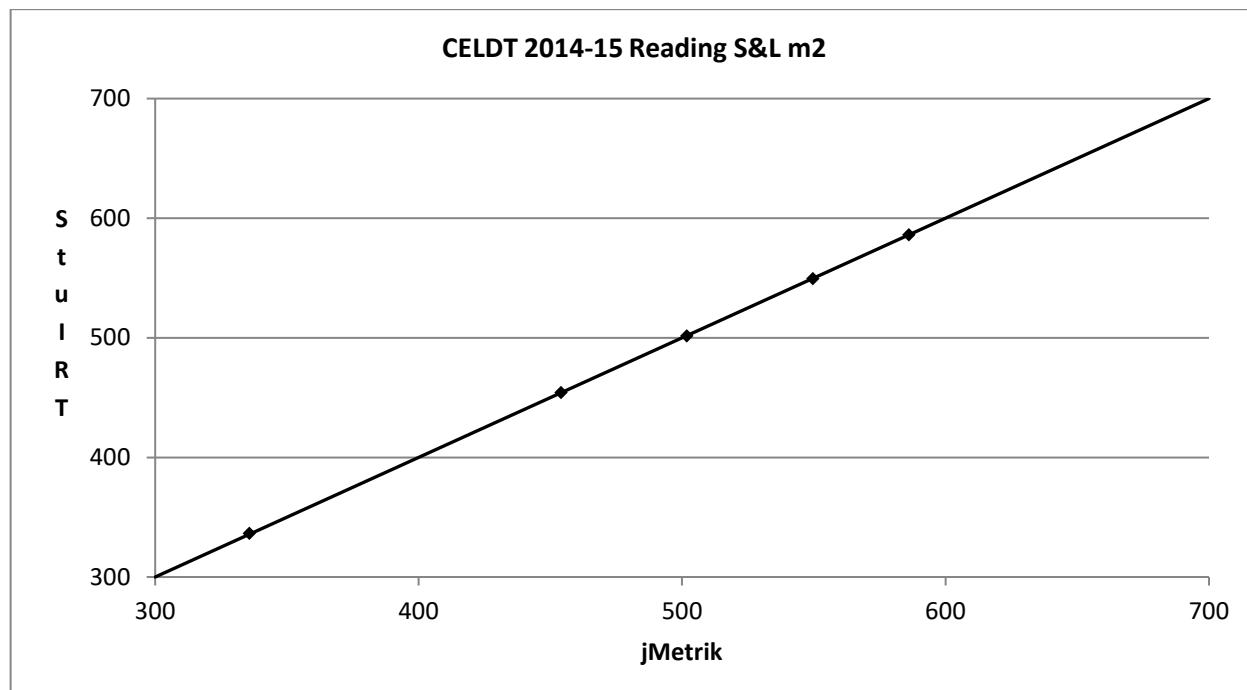


Figure 3.2.7: Writing, m1 (points represent grade spans K–1, 2, 3–5, 6–8, and 9–12)

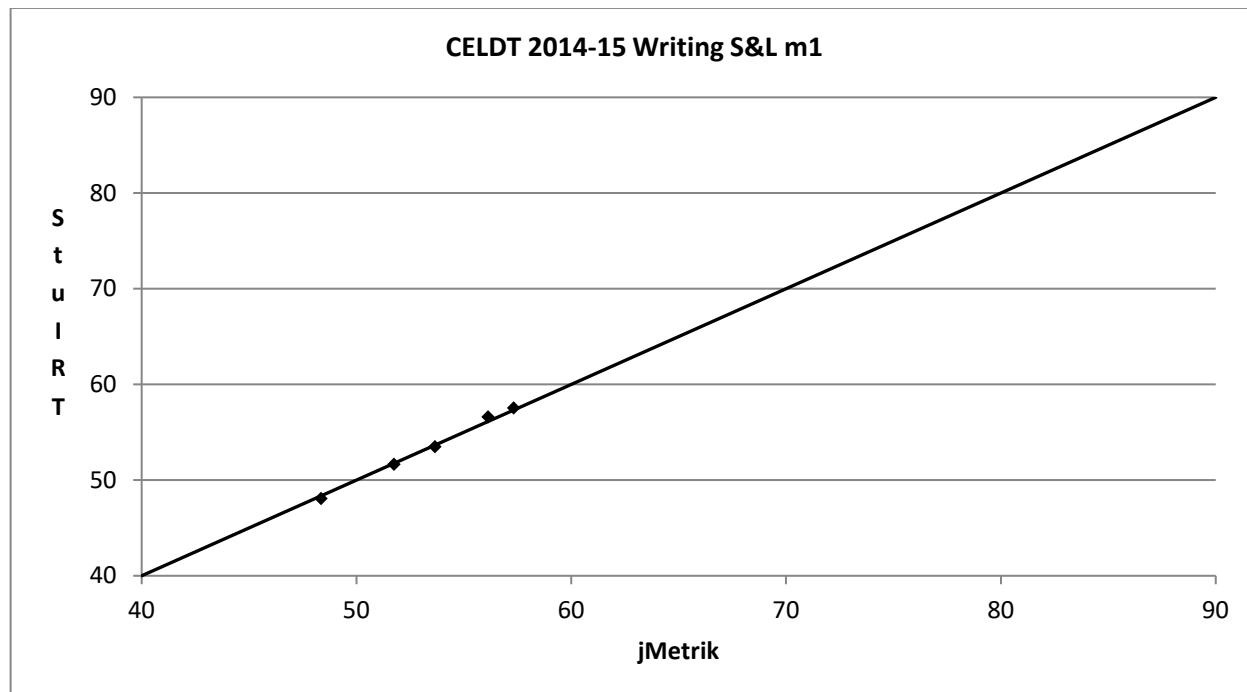
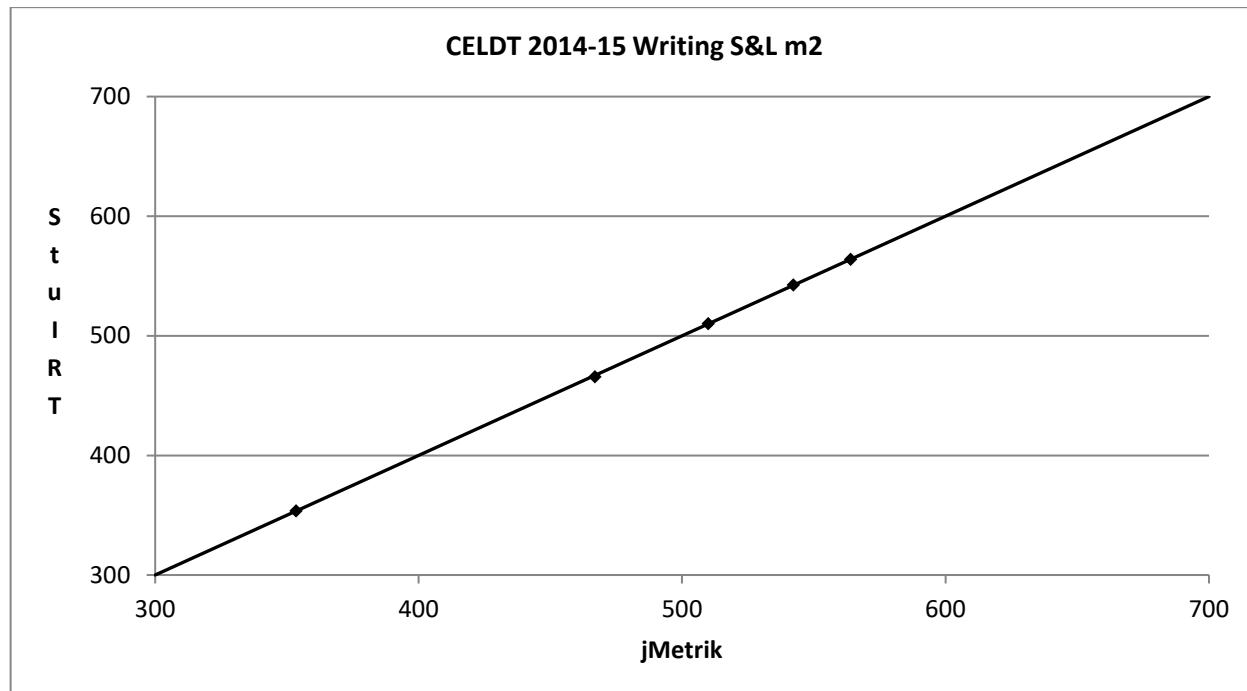


Figure 3.2.8: Writing, m2 (points represent grade spans K–1, 2, 3–5, 6–8, and 9–12)



Appendix 3.3: Test Characteristic Curves (TR Appendix P)

Figure 3.3.1: Listening, K–2

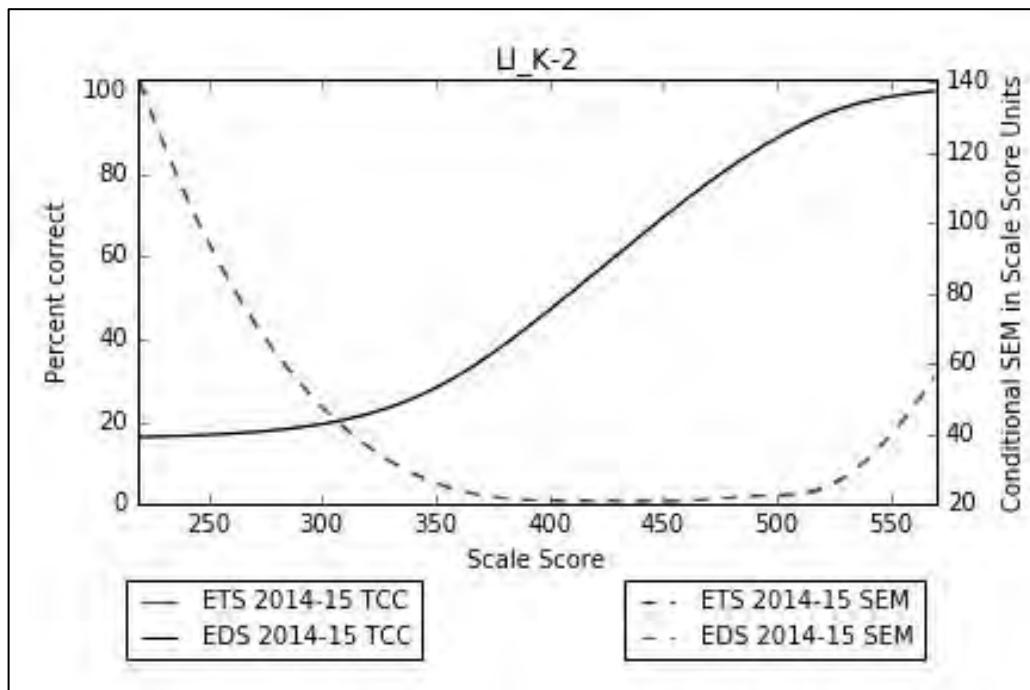


Figure 3.3.2: Listening, Grades 3–5

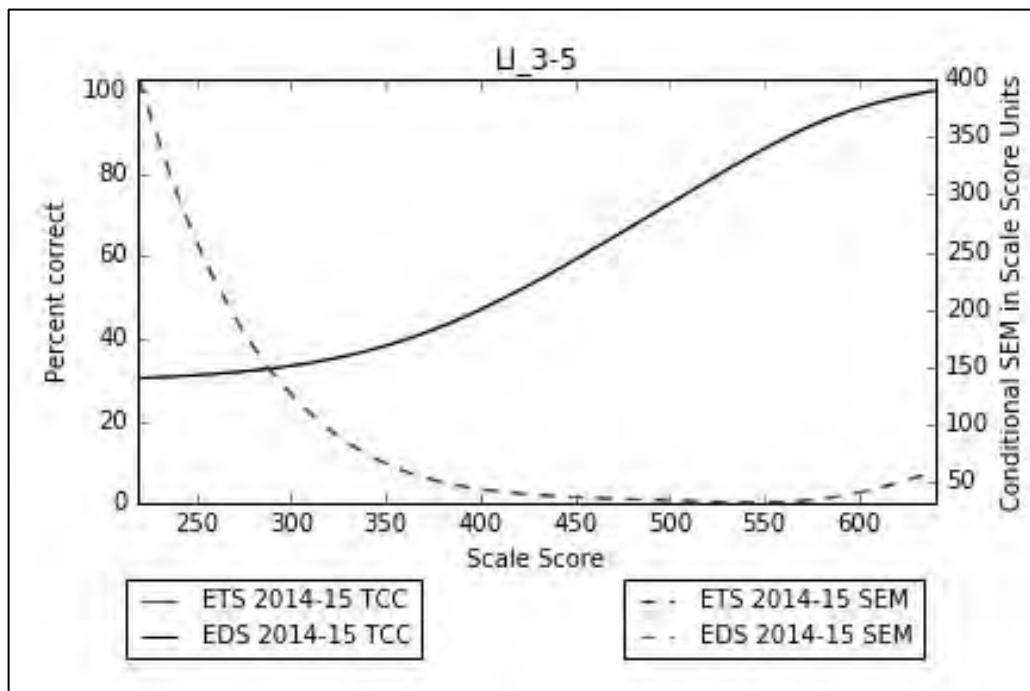


Figure 3.3.3: Listening, Grades 6–8

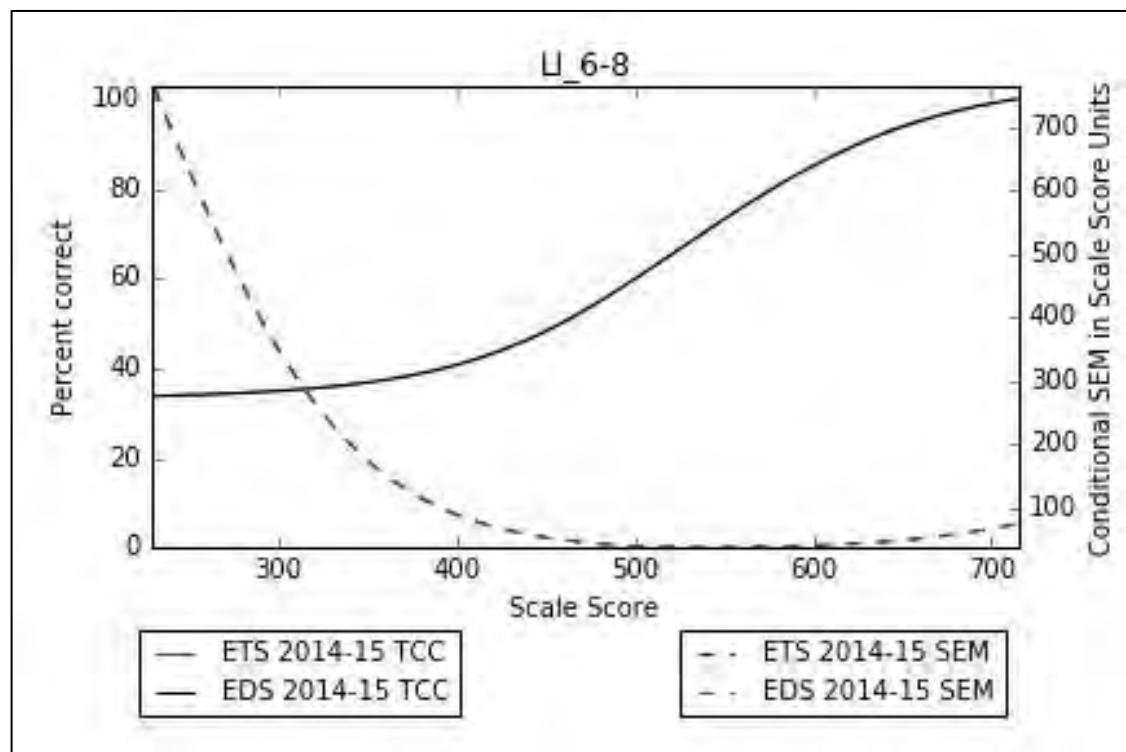


Figure 3.3.4: Listening, Grades 9–12

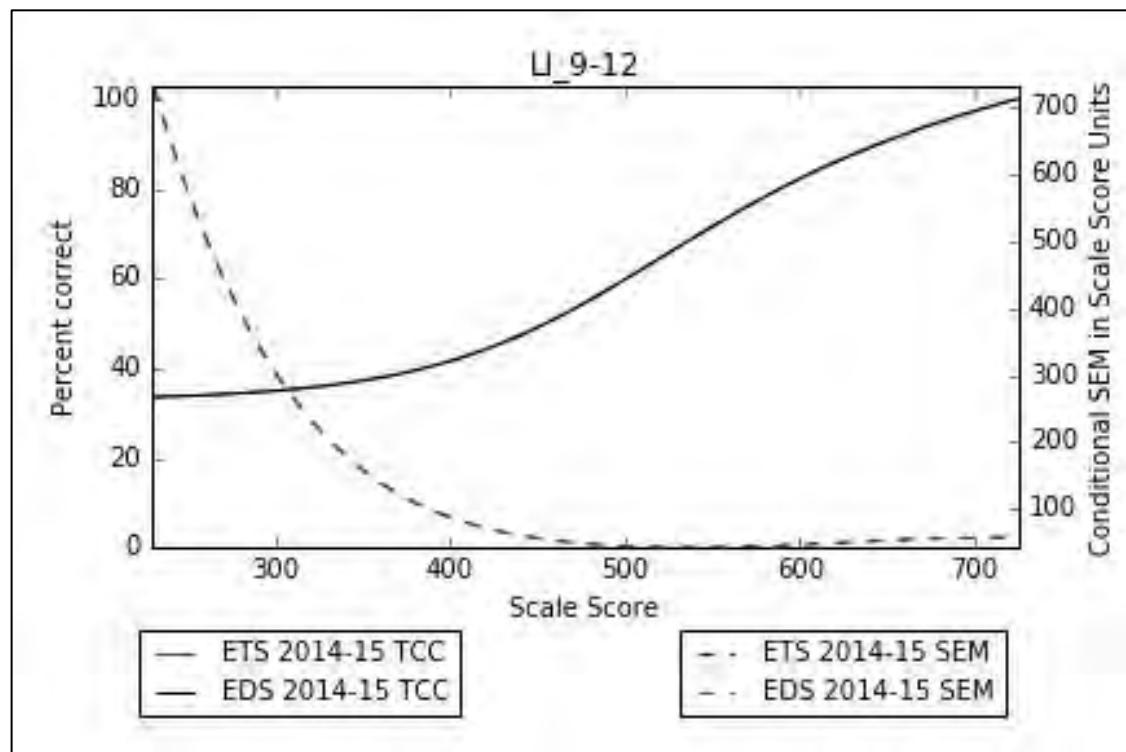


Figure 3.3.5: Speaking, K–2

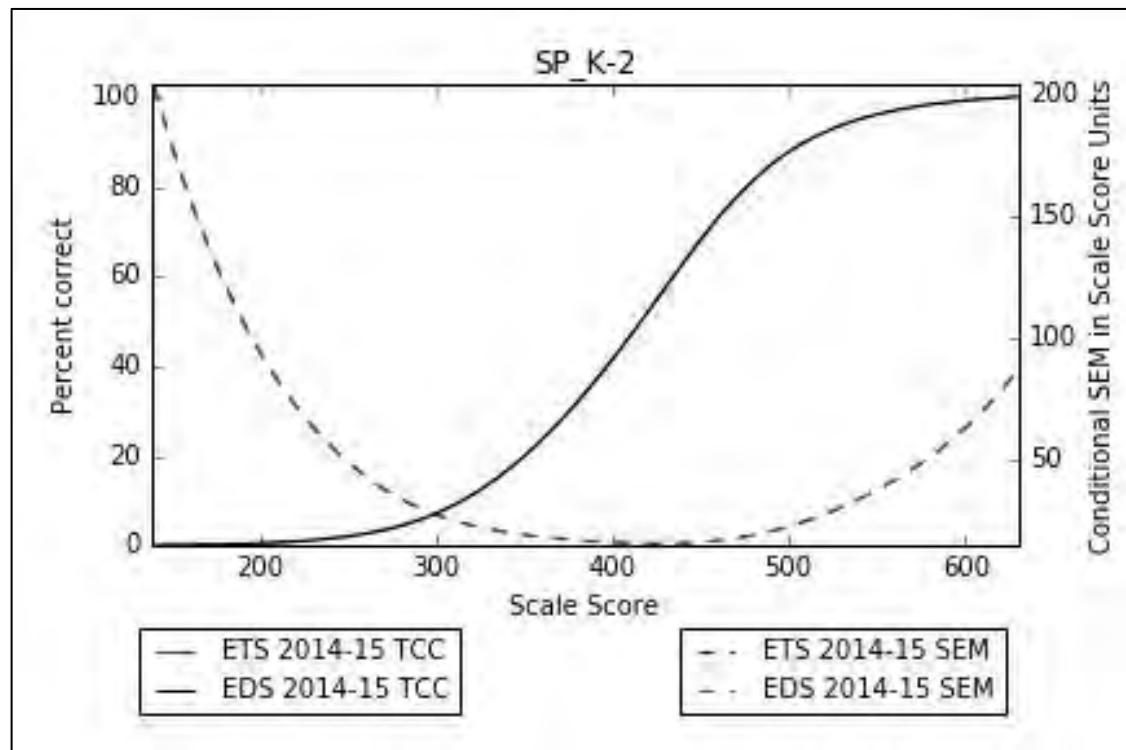


Figure 3.3.6: Speaking, Grades 3–5

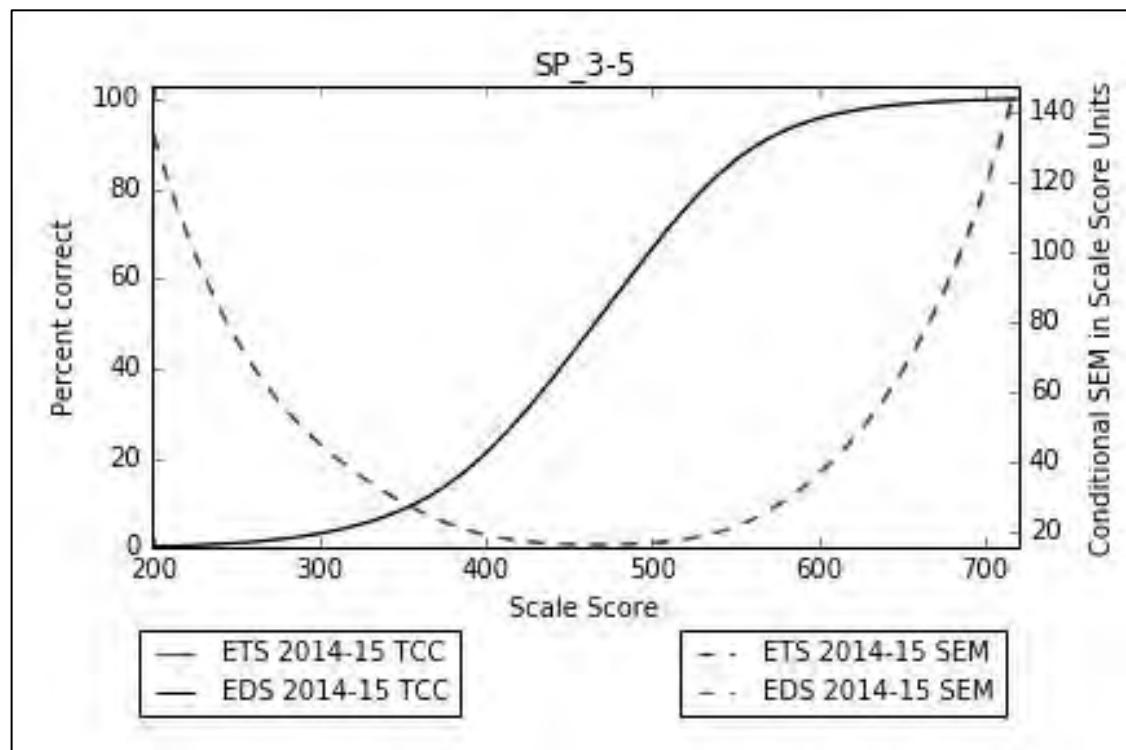


Figure 3.3.7: Speaking, Grades 6–8

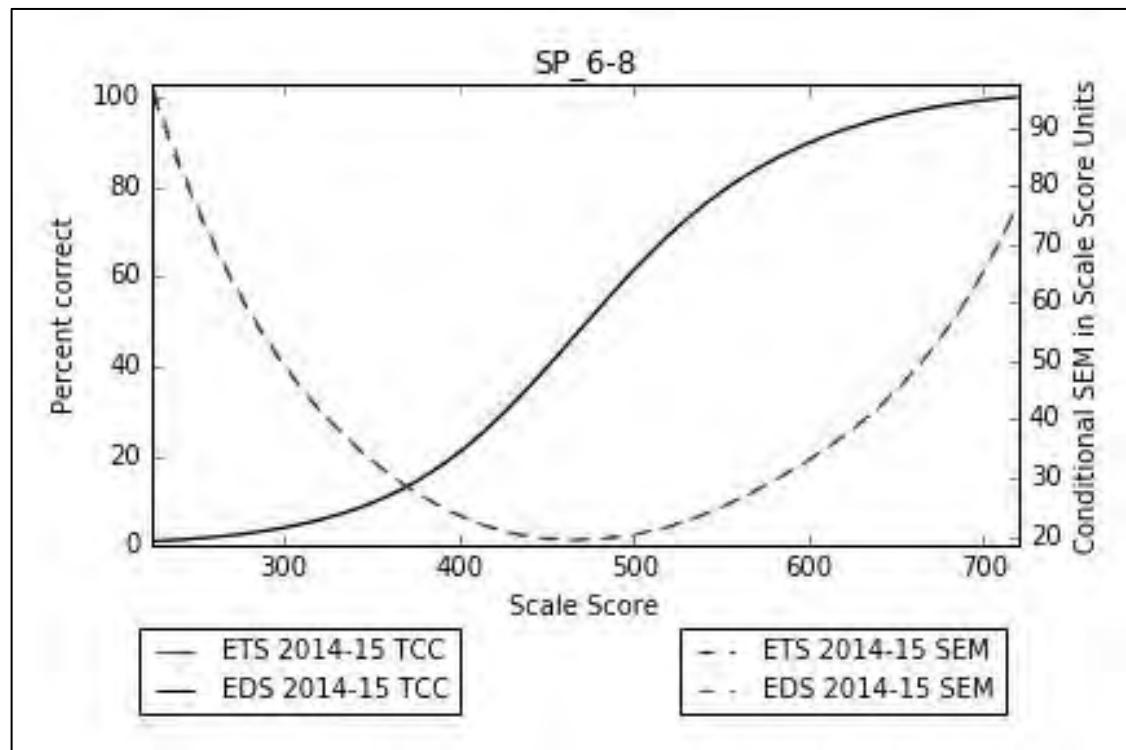


Figure 3.3.8: Speaking, Grades 9–12

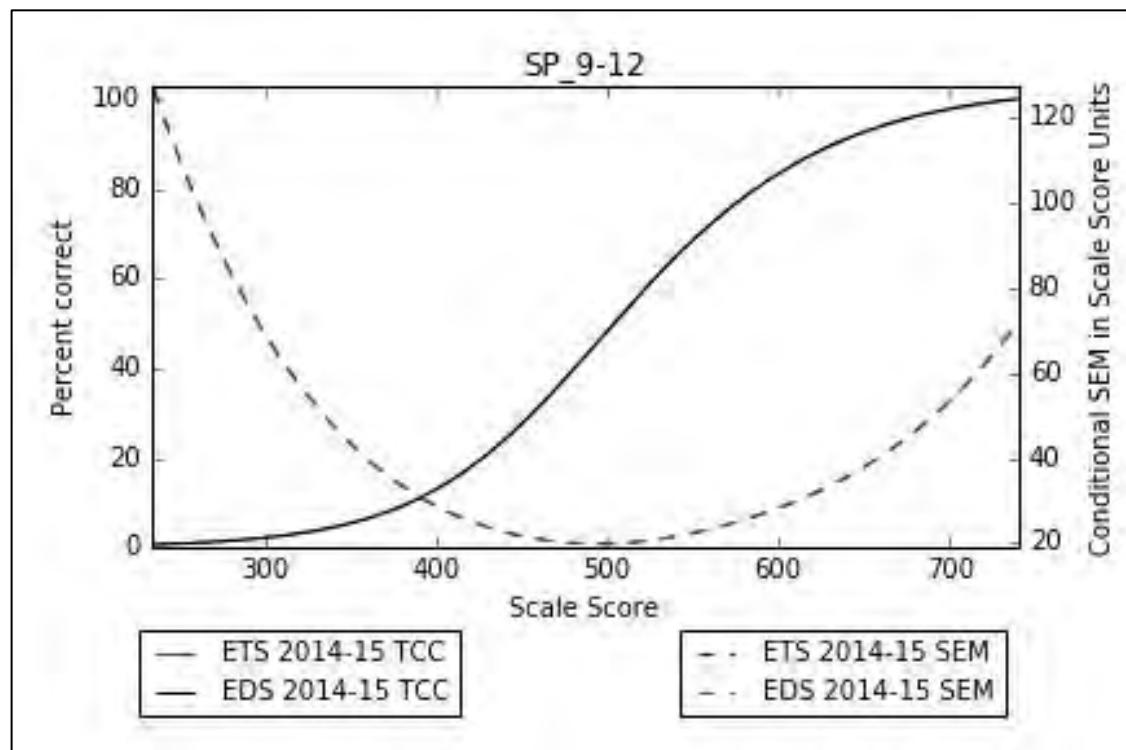


Figure 3.3.9: Reading, K–1

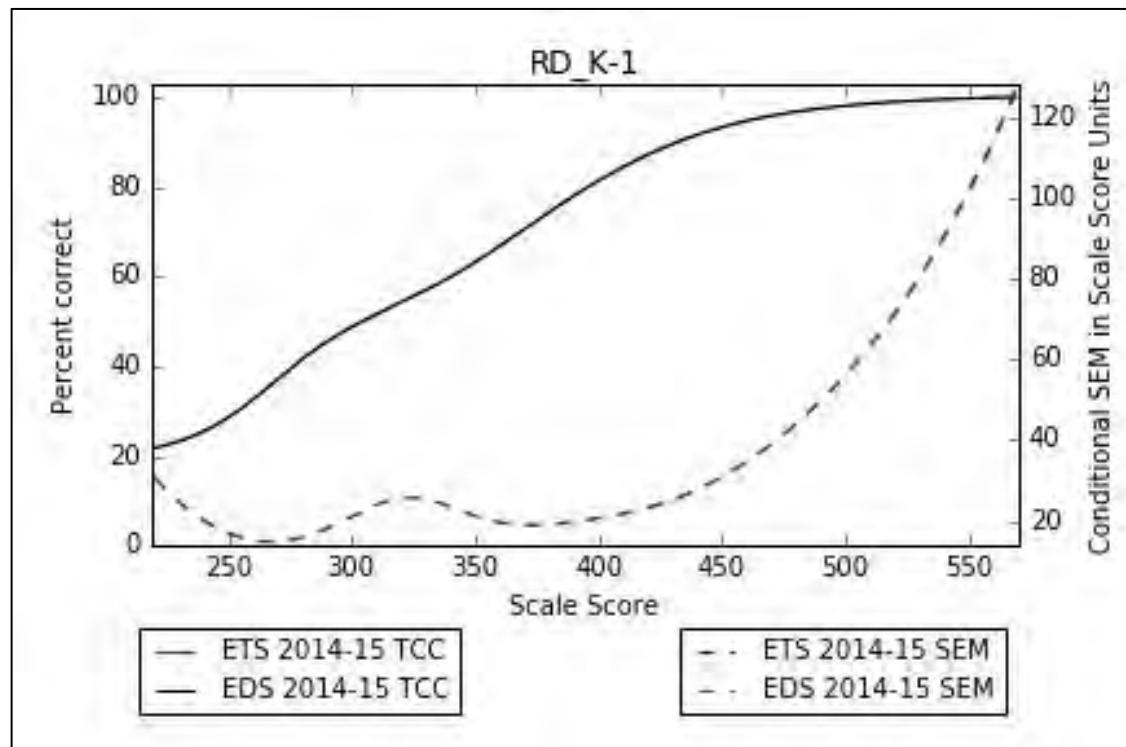


Figure 3.3.10: Reading, Grade 2

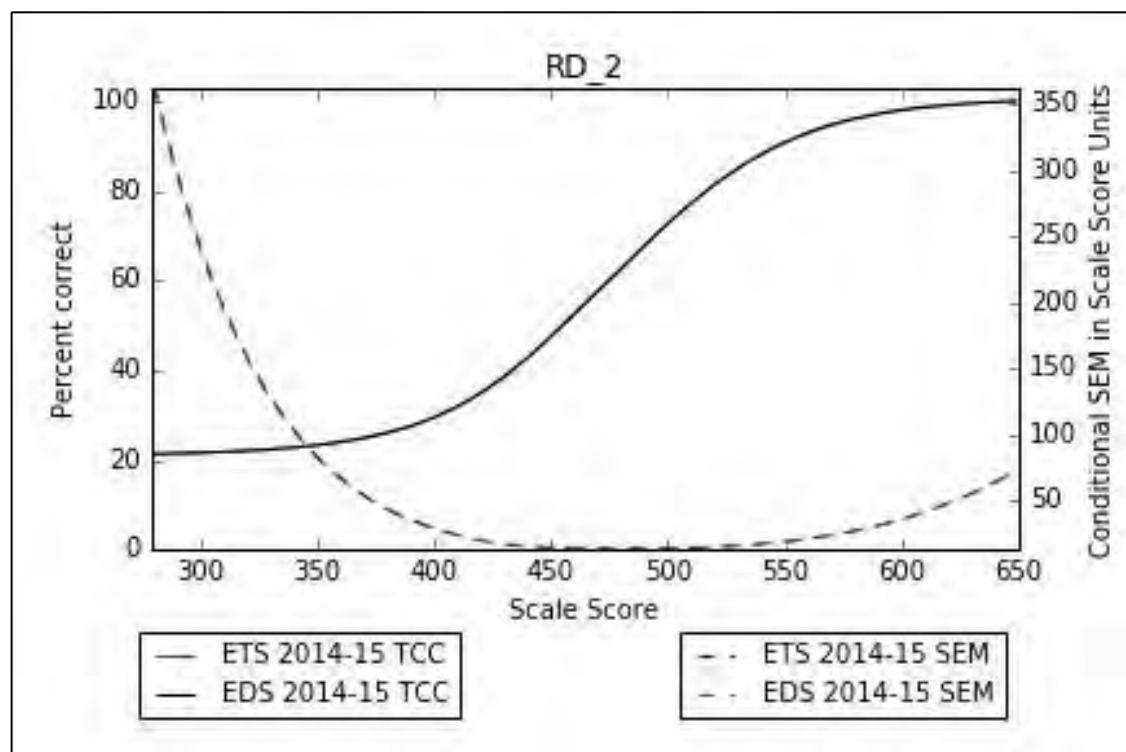


Figure 3.3.11: Reading, Grades 3–5

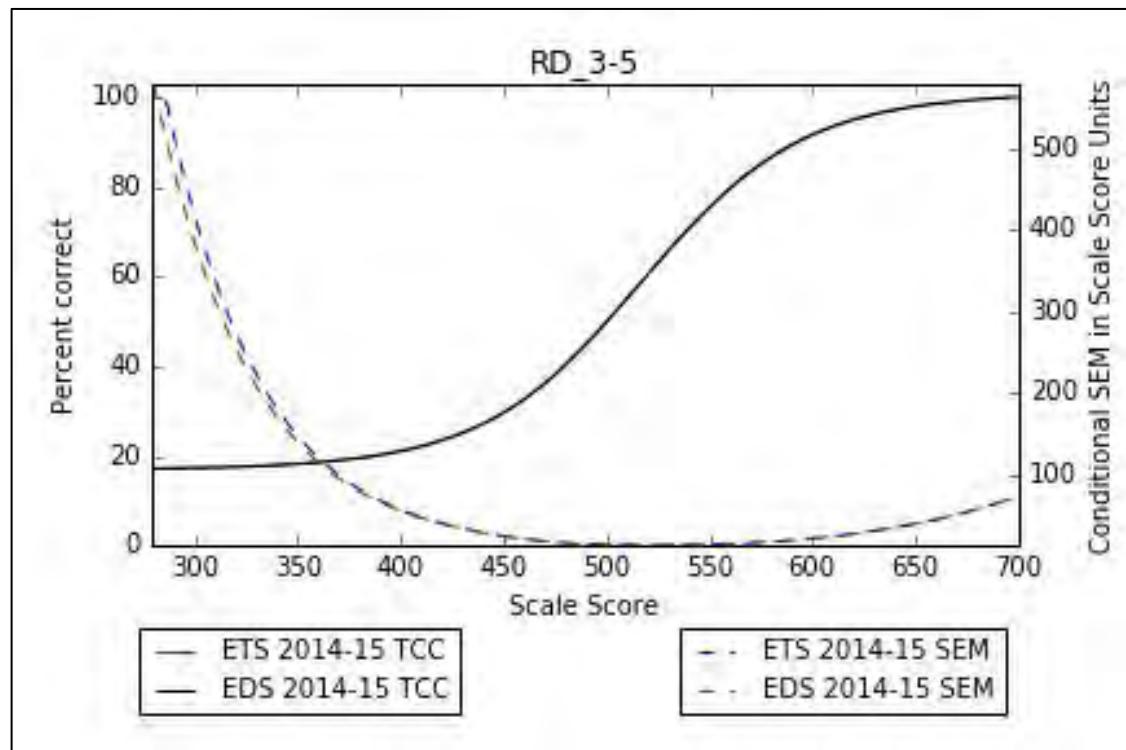


Figure 3.3.12: Reading, Grades 6–8

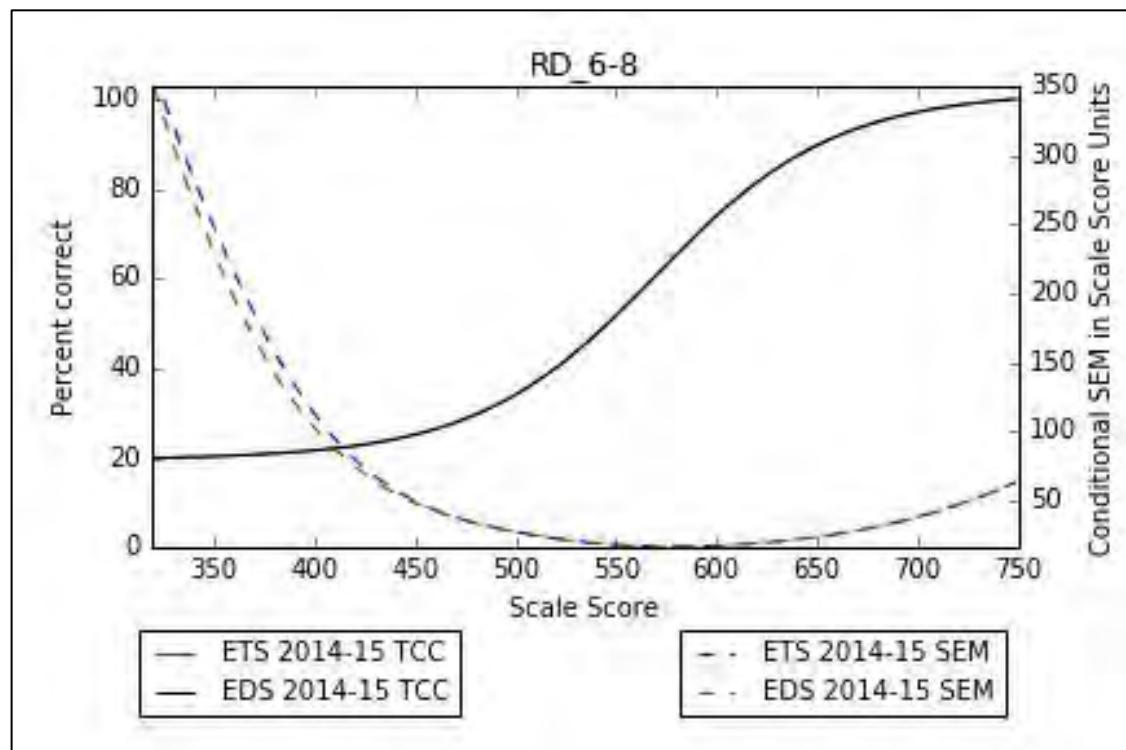


Figure 3.3.13: Reading, Grades 9–12

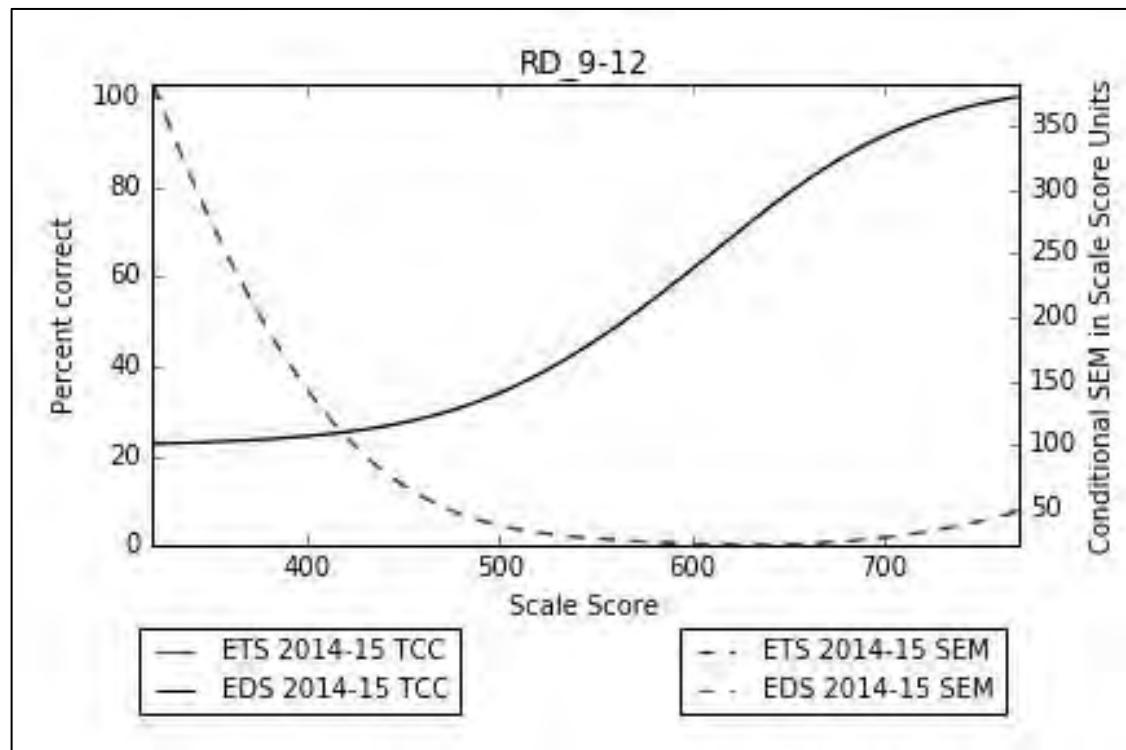


Figure 3.3.14: Writing, K–1

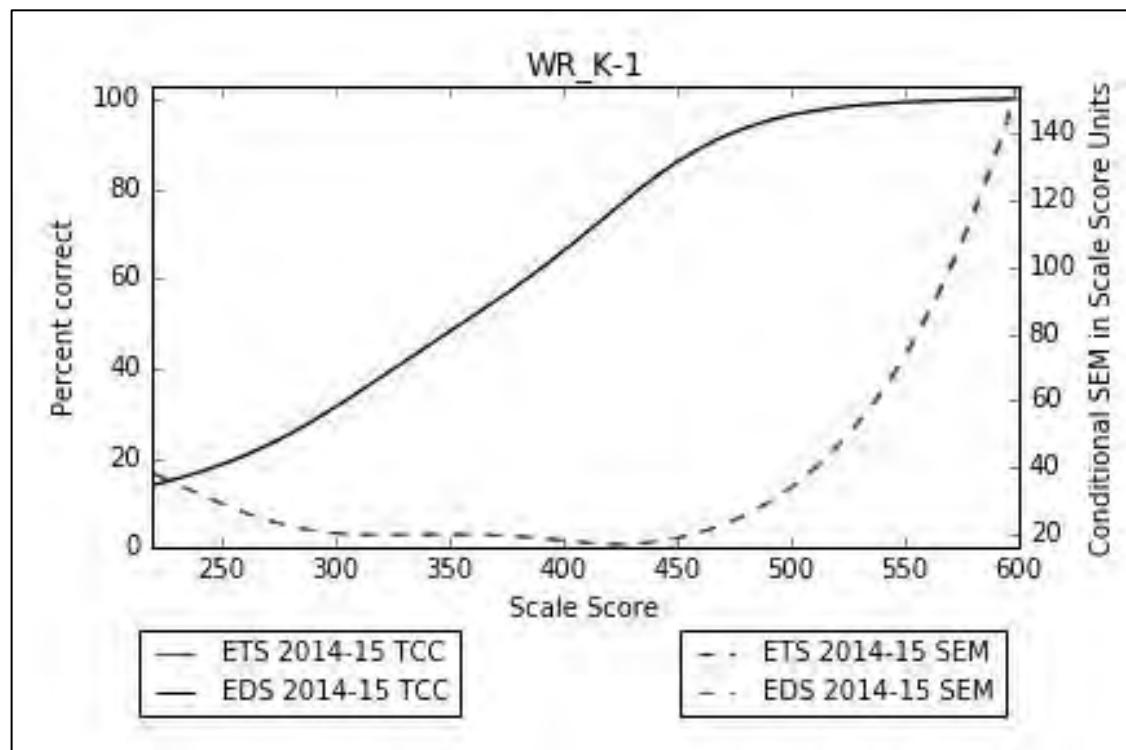


Figure 3.3.15: Writing, Grade 2

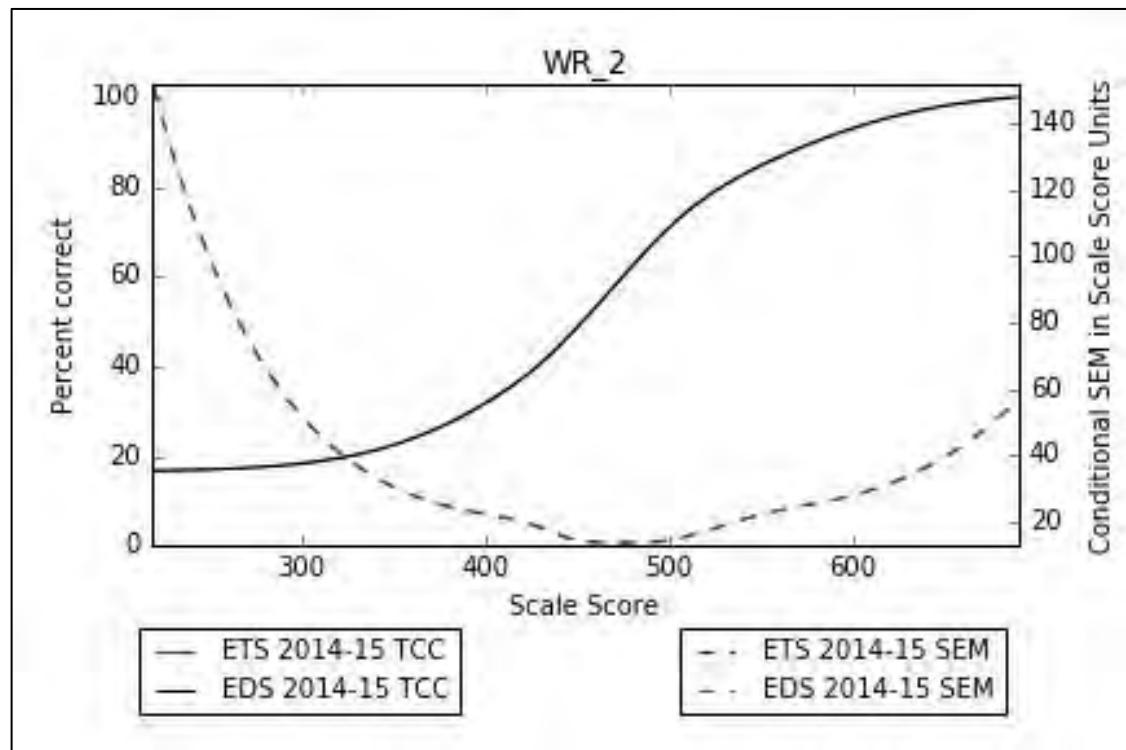


Figure 3.3.16: Writing, Grades 3–5

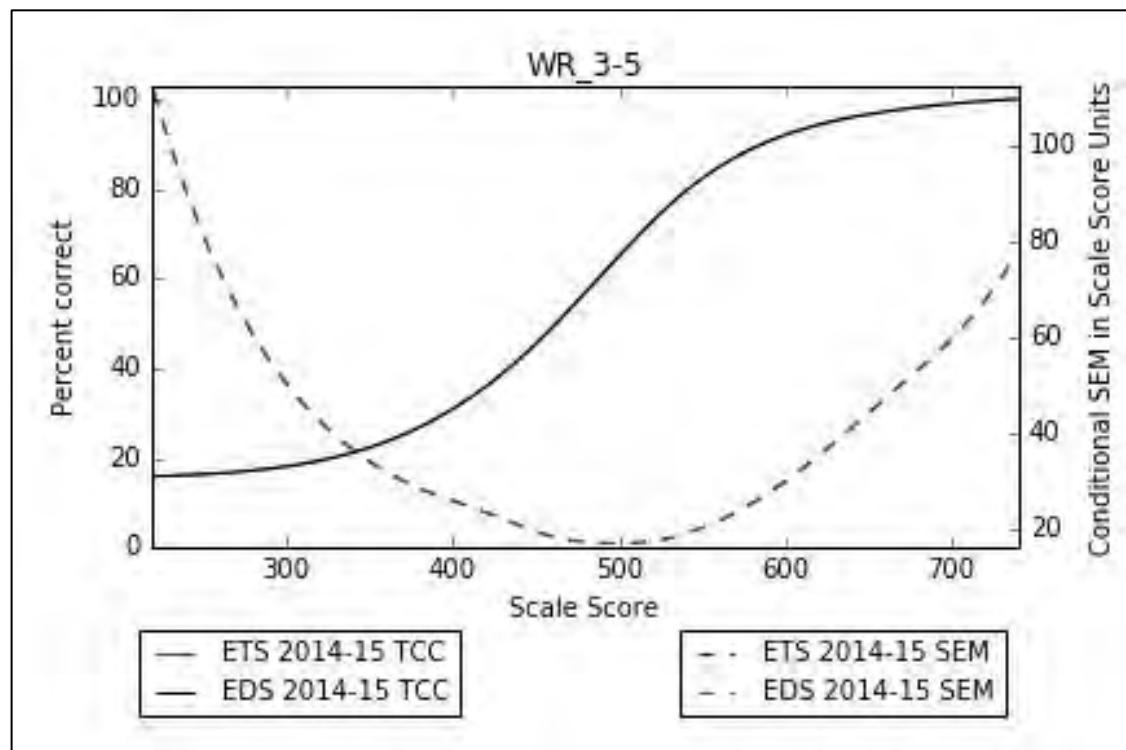


Figure 3.3.17: Writing, Grades 6–8

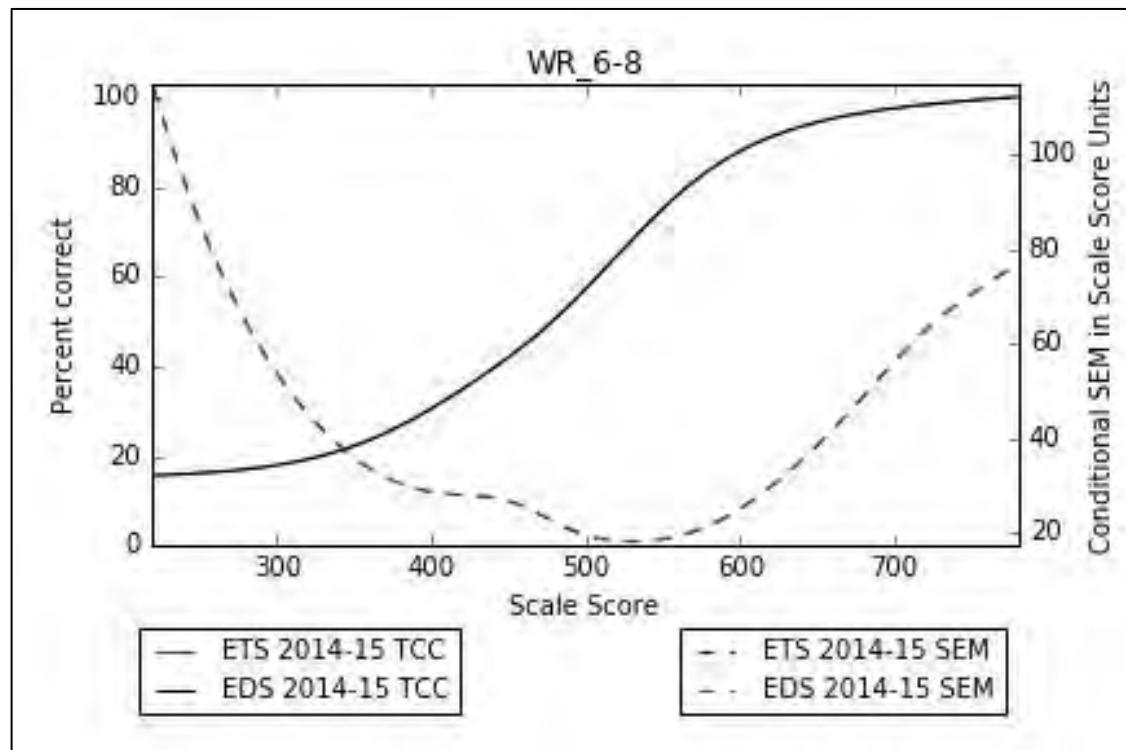
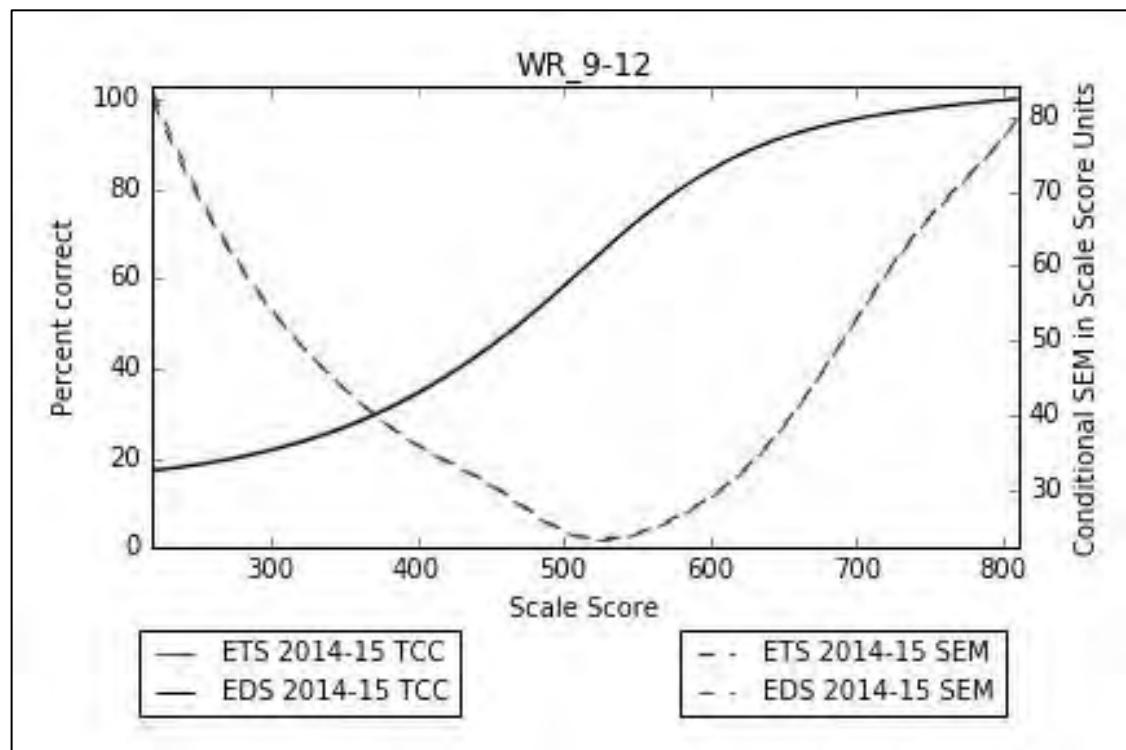


Figure 3.3.18: Writing, Grades 9–12



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Appendix 3.4.1: Conversion Tables – Replication of Process (TR Appendix H)

Table H-1: Raw Score to Scale Score, Listening, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	117		220	117		0	0	
1	220	117		220	117		0	0	
2	220	117		220	117		0	0	
3	220	117		220	117		0	0	
4	285	65		284	66		1	-1	
5	338	35		338	35		0	0	
6	363	24		363	24		0	0	
7	380	20		380	20		0	0	
8	393	19		393	19		0	0	
9	406	19		406	19		0	0	
10	418	20		418	20		0	0	
11	430	21		430	21		0	0	
12	442	21		442	21		0	0	
13	454	22		454	22		0	0	
14	467	23		467	23		0	0	
15	480	23		480	23		0	0	
16	494	22		494	22		0	0	
17	509	23		509	23		0	0	
18	528	27		529	28		-1	-1	
19	562	42		562	42		0	0	
20	570	46		570	46		0	0	

Table H-2: Raw Score to Scale Score, Listening, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	117		220	117		0	0	
1	220	117		220	117		0	0	
2	220	117		220	117		0	0	
3	220	117		220	117		0	0	
4	285	65		284	66		1	-1	
5	338	35		338	35		0	0	
6	363	24		363	24		0	0	
7	380	20		380	20		0	0	
8	393	19		393	19		0	0	
9	406	19		406	19		0	0	
10	418	20		418	20		0	0	
11	430	21		430	21		0	0	
12	442	21		442	21		0	0	
13	454	22		454	22		0	0	
14	467	23		467	23		0	0	
15	480	23		480	23		0	0	
16	494	22		494	22		0	0	
17	509	23		509	23		0	0	
18	528	27		529	28		-1	-1	
19	562	42		562	42		0	0	
20	570	46		570	46		0	0	

Table H-3: Raw Score to Scale Score, Listening, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	117		220	117		0	0	
1	220	117		220	117		0	0	
2	220	117		220	117		0	0	
3	220	117		220	117		0	0	
4	285	65		284	66		1	-1	
5	338	35		338	35		0	0	
6	363	24		363	24		0	0	
7	380	20		380	20		0	0	
8	393	19		393	19		0	0	
9	406	19		406	19		0	0	
10	418	20		418	20		0	0	
11	430	21		430	21		0	0	
12	442	21		442	21		0	0	
13	454	22		454	22		0	0	
14	467	23		467	23		0	0	
15	480	23		480	23		0	0	
16	494	22		494	22		0	0	
17	509	23		509	23		0	0	
18	528	27		529	28		-1	-1	
19	562	42		562	42		0	0	
20	570	46		570	46		0	0	

Table H-4: Raw Score to Scale Score, Listening, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	302		220	303		0	-1	
1	220	302		220	303		0	-1	
2	220	302		220	303		0	-1	
3	220	302		220	303		0	-1	
4	220	302		220	303		0	-1	
5	220	302		220	303		0	-1	
6	241	259		241	260		0	-1	
7	335	79		335	79		0	0	
8	372	48		372	48		0	0	
9	399	42		399	42		0	0	
10	423	40		423	40		0	0	
11	444	38		444	38		0	0	
12	464	37		464	37		0	0	
13	484	35		484	35		0	0	
14	502	34		502	34		0	0	
15	521	33		521	33		0	0	
16	541	33		541	33		0	0	
17	563	34		563	34		0	0	
18	589	38		589	38		0	0	
19	633	56		633	56		0	0	
20	640	60		640	60		0	0	

Table H-5: Raw Score to Scale Score, Listening, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	302		220	303		0	-1	
1	220	302		220	303		0	-1	
2	220	302		220	303		0	-1	
3	220	302		220	303		0	-1	
4	220	302		220	303		0	-1	
5	220	302		220	303		0	-1	
6	241	259		241	260		0	-1	
7	335	79		335	79		0	0	
8	372	48		372	48		0	0	
9	399	42		399	42		0	0	
10	423	40		423	40		0	0	
11	444	38		444	38		0	0	
12	464	37		464	37		0	0	
13	484	35		484	35		0	0	
14	502	34		502	34		0	0	
15	521	33		521	33		0	0	
16	541	33		541	33		0	0	
17	563	34		563	34		0	0	
18	589	38		589	38		0	0	
19	633	56		633	56		0	0	
20	640	60		640	60		0	0	

Table H-6: Raw Score to Scale Score, Listening, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	302		220	303		0	-1	
1	220	302		220	303		0	-1	
2	220	302		220	303		0	-1	
3	220	302		220	303		0	-1	
4	220	302		220	303		0	-1	
5	220	302		220	303		0	-1	
6	241	259		241	260		0	-1	
7	335	79		335	79		0	0	
8	372	48		372	48		0	0	
9	399	42		399	42		0	0	
10	423	40		423	40		0	0	
11	444	38		444	38		0	0	
12	464	37		464	37		0	0	
13	484	35		484	35		0	0	
14	502	34		502	34		0	0	
15	521	33		521	33		0	0	
16	541	33		541	33		0	0	
17	563	34		563	34		0	0	
18	589	38		589	38		0	0	
19	633	56		633	56		0	0	
20	640	60		640	60		0	0	

Table H-7: Raw Score to Scale Score, Listening, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	694		230	693		0	1	
1	230	694		230	693		0	1	
2	230	694		230	693		0	1	
3	230	694		230	693		0	1	
4	230	694		230	693		0	1	
5	230	694		230	693		0	1	
6	230	694		230	693		0	1	
7	350	156		350	156		0	0	
8	410	77		410	77		0	0	
9	445	56		445	56		0	0	
10	471	46		471	46		0	0	
11	494	41		494	41		0	0	
12	514	39		514	39		0	0	
13	534	38		534	38		0	0	
14	555	37		555	37		0	0	
15	576	38		576	38		0	0	
16	599	39		599	39		0	0	
17	625	42		626	42		-1	0	
18	660	49		660	49		0	0	
19	715	73		715	73		0	0	
20	715	73		715	73		0	0	

Table H-8: Raw Score to Scale Score, Listening, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	694		230	693		0	1	
1	230	694		230	693		0	1	
2	230	694		230	693		0	1	
3	230	694		230	693		0	1	
4	230	694		230	693		0	1	
5	230	694		230	693		0	1	
6	230	694		230	693		0	1	
7	350	156		350	156		0	0	
8	410	77		410	77		0	0	
9	445	56		445	56		0	0	
10	471	46		471	46		0	0	
11	494	41		494	41		0	0	
12	514	39		514	39		0	0	
13	534	38		534	38		0	0	
14	555	37		555	37		0	0	
15	576	38		576	38		0	0	
16	599	39		599	39		0	0	
17	625	42		626	42		-1	0	
18	660	49		660	49		0	0	
19	715	73		715	73		0	0	
20	715	73		715	73		0	0	

Table H-9: Raw Score to Scale Score, Listening, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	694		230	693		0	1	
1	230	694		230	693		0	1	
2	230	694		230	693		0	1	
3	230	694		230	693		0	1	
4	230	694		230	693		0	1	
5	230	694		230	693		0	1	
6	230	694		230	693		0	1	
7	350	156		350	156		0	0	
8	410	77		410	77		0	0	
9	445	56		445	56		0	0	
10	471	46		471	46		0	0	
11	494	41		494	41		0	0	
12	514	39		514	39		0	0	
13	534	38		534	38		0	0	
14	555	37		555	37		0	0	
15	576	38		576	38		0	0	
16	599	39		599	39		0	0	
17	625	42		626	42		-1	0	
18	660	49		660	49		0	0	
19	715	73		715	73		0	0	
20	715	73		715	73		0	0	

Table H-10: Raw Score to Scale Score, Listening, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	607		230	605		0	2	
1	230	607		230	605		0	2	
2	230	607		230	605		0	2	
3	230	607		230	605		0	2	
4	230	607		230	605		0	2	
5	230	607		230	605		0	2	
6	230	607		230	605		0	2	
7	360	135		360	135		0	0	
8	414	77		414	77		0	0	
9	449	58		449	58		0	0	
10	477	50		477	50		0	0	
11	502	45		502	45		0	0	
12	525	44		525	44		0	0	
13	549	44		549	44		0	0	
14	573	45		573	45		0	0	
15	600	47		600	47		0	0	
16	630	51		630	51		0	0	
17	666	55		666	55		0	0	
18	710	62		710	62		0	0	
19	725	66		725	65		0	1	
20	725	66		725	65		0	1	

Table H-11: Raw Score to Scale Score, Listening, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	607		230	605		0	2	
1	230	607		230	605		0	2	
2	230	607		230	605		0	2	
3	230	607		230	605		0	2	
4	230	607		230	605		0	2	
5	230	607		230	605		0	2	
6	230	607		230	605		0	2	
7	360	135		360	135		0	0	
8	414	77		414	77		0	0	
9	449	58		449	58		0	0	
10	477	50		477	50		0	0	
11	502	45		502	45		0	0	
12	525	44		525	44		0	0	
13	549	44		549	44		0	0	
14	573	45		573	45		0	0	
15	600	47		600	47		0	0	
16	630	51		630	51		0	0	
17	666	55		666	55		0	0	
18	710	62		710	62		0	0	
19	725	66		725	65		0	1	
20	725	66		725	65		0	1	

Table H-12: Raw Score to Scale Score, Listening, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	607		230	605		0	2	
1	230	607		230	605		0	2	
2	230	607		230	605		0	2	
3	230	607		230	605		0	2	
4	230	607		230	605		0	2	
5	230	607		230	605		0	2	
6	230	607		230	605		0	2	
7	360	135		360	135		0	0	
8	414	77		414	77		0	0	
9	449	58		449	58		0	0	
10	477	50		477	50		0	0	
11	502	45		502	45		0	0	
12	525	44		525	44		0	0	
13	549	44		549	44		0	0	
14	573	45		573	45		0	0	
15	600	47		600	47		0	0	
16	630	51		630	51		0	0	
17	666	55		666	55		0	0	
18	710	62		710	62		0	0	
19	725	66		725	65		0	1	
20	725	66		725	65		0	1	

Table H-13: Raw Score to Scale Score, Listening, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	607		230	605		0	2	
1	230	607		230	605		0	2	
2	230	607		230	605		0	2	
3	230	607		230	605		0	2	
4	230	607		230	605		0	2	
5	230	607		230	605		0	2	
6	230	607		230	605		0	2	
7	360	135		360	135		0	0	
8	414	77		414	77		0	0	
9	449	58		449	58		0	0	
10	477	50		477	50		0	0	
11	502	45		502	45		0	0	
12	525	44		525	44		0	0	
13	549	44		549	44		0	0	
14	573	45		573	45		0	0	
15	600	47		600	47		0	0	
16	630	51		630	51		0	0	
17	666	55		666	55		0	0	
18	710	62		710	62		0	0	
19	725	66		725	65		0	1	
20	725	66		725	65		0	1	

Table H-14: Raw Score to Scale Score, Speaking, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	203		140	203		0	0	
1	273	41		273	41		0	0	
2	304	29		304	29		0	0	
3	323	24		323	24		0	0	
4	337	21		337	21		0	0	
5	348	19		348	19		0	0	
6	358	18		358	18		0	0	
7	367	17		367	17		0	0	
8	375	17		375	17		0	0	
9	383	16		383	16		0	0	
10	390	16		390	16		0	0	
11	397	16		397	16		0	0	
12	403	16		403	16		0	0	
13	410	15		410	15		0	0	
14	416	15		416	15		0	0	
15	423	15		423	15		0	0	
16	429	15		429	15		0	0	
17	435	15		435	15		0	0	
18	441	15		441	15		0	0	
19	448	15		448	15		0	0	
20	455	16		455	16		0	0	
21	462	16		462	16		0	0	
22	469	17		469	17		0	0	
23	478	18		478	18		0	0	
24	487	19		487	19		0	0	
25	499	21		499	21		0	0	

Table H-14: Raw Score to Scale Score, Speaking, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	513	25		513	25		0	0	
27	533	31		534	31		-1	0	
28	568	43	Advanced	568	43	Advanced	0	0	Advanced
29	630	82		630	82		0	0	

Table H-15: Raw Score to Scale Score, Speaking, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	203		140	203		0	0	
1	273	41		273	41		0	0	
2	304	29		304	29		0	0	
3	323	24		323	24		0	0	
4	337	21		337	21		0	0	
5	348	19		348	19		0	0	
6	358	18		358	18		0	0	
7	367	17		367	17		0	0	
8	375	17		375	17		0	0	
9	383	16		383	16		0	0	
10	390	16		390	16		0	0	
11	397	16		397	16		0	0	
12	403	16		403	16		0	0	
13	410	15		410	15		0	0	
14	416	15		416	15		0	0	
15	423	15		423	15		0	0	
16	429	15		429	15		0	0	
17	435	15		435	15		0	0	
18	441	15		441	15		0	0	
19	448	15		448	15		0	0	
20	455	16		455	16		0	0	
21	462	16		462	16		0	0	
22	469	17		469	17		0	0	
23	478	18		478	18		0	0	
24	487	19		487	19		0	0	
25	499	21		499	21		0	0	

Table H-15: Raw Score to Scale Score, Speaking, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	513	25		513	25		0	0	
27	533	31		534	31		-1	0	
28	568	43	Advanced	568	43	Advanced	0	0	Advanced
29	630	82		630	82		0	0	

Table H-16: Raw Score to Scale Score, Speaking, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	203		140	203		0	0	
1	273	41		273	41		0	0	
2	304	29		304	29		0	0	
3	323	24		323	24		0	0	
4	337	21		337	21		0	0	
5	348	19		348	19		0	0	
6	358	18		358	18		0	0	
7	367	17		367	17		0	0	
8	375	17		375	17		0	0	
9	383	16		383	16		0	0	
10	390	16		390	16		0	0	
11	397	16		397	16		0	0	
12	403	16		403	16		0	0	
13	410	15		410	15		0	0	
14	416	15		416	15		0	0	
15	423	15		423	15		0	0	
16	429	15		429	15		0	0	
17	435	15		435	15		0	0	
18	441	15		441	15		0	0	
19	448	15		448	15		0	0	
20	455	16		455	16		0	0	
21	462	16		462	16		0	0	
22	469	17		469	17		0	0	

Table H-16: Raw Score to Scale Score, Speaking, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
23	478	18		478	18		0	0	
24	487	19	Early	487	19	Early	0	0	
25	499	21	Advanced	499	21	Advanced	0	0	
26	513	25		513	25		0	0	Early Advanced
27	533	31		534	31		-1	0	
28	568	43		568	43		0	0	
29	630	82		630	82		0	0	

Table H-17: Raw Score to Scale Score, Speaking, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	147		200	147		0	0	
1	308	45		307	45		1	0	
2	341	31		341	31		0	0	
3	361	25		361	25		0	0	
4	376	22		376	22		0	0	
5	388	20		388	20		0	0	
6	398	19		398	19		0	0	
7	407	18		407	18		0	0	
8	416	17		416	17		0	0	
9	424	17		423	17		1	0	
10	431	17		431	17		0	0	
11	438	17		438	17		0	0	
12	446	16		446	16		0	0	
13	453	16		453	16		0	0	
14	460	16		460	16		0	0	
15	467	16		467	17		0	-1	
16	474	17		474	17		0	0	
17	481	17		481	17		0	0	
18	488	17		488	17		0	0	
19	496	17		496	17		0	0	
20	503	18		503	18		0	0	
21	512	18		512	18		0	0	
22	520	19		520	19		0	0	
23	530	20		530	20		0	0	

Table H-17: Raw Score to Scale Score, Speaking, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	540	21		540	21		0	0	
25	552	23		552	23		0	0	
26	566	25		566	25		0	0	
27	584	30	Advanced	585	30	Advanced	-1	0	Advanced
28	615	42		615	42		0	0	
29	720	149		720	149		0	0	

Table H-18: Raw Score to Scale Score, Speaking, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	147		200	147		0	0	
1	308	45		307	45		1	0	
2	341	31		341	31		0	0	
3	361	25		361	25		0	0	
4	376	22		376	22		0	0	
5	388	20		388	20		0	0	
6	398	19		398	19		0	0	
7	407	18		407	18		0	0	
8	416	17		416	17		0	0	
9	424	17		423	17		1	0	
10	431	17		431	17		0	0	
11	438	17		438	17		0	0	
12	446	16		446	16		0	0	
13	453	16		453	16		0	0	
14	460	16		460	16		0	0	
15	467	16		467	17		0	-1	
16	474	17		474	17		0	0	
17	481	17		481	17		0	0	
18	488	17		488	17		0	0	
19	496	17		496	17		0	0	
20	503	18		503	18		0	0	
21	512	18		512	18		0	0	
22	520	19		520	19		0	0	
23	530	20		530	20		0	0	

Table H-18: Raw Score to Scale Score, Speaking, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	540	21		540	21		0	0	
25	552	23		552	23		0	0	
26	566	25		566	25		0	0	
27	584	30		585	30		-1	0	
28	615	42		615	42		0	0	
29	720	149		720	149		0	0	

Table H-19: Raw Score to Scale Score, Speaking, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	147		200	147		0	0	
1	308	45		307	45		1	0	
2	341	31		341	31		0	0	
3	361	25		361	25		0	0	
4	376	22		376	22		0	0	
5	388	20		388	20		0	0	
6	398	19		398	19		0	0	
7	407	18		407	18		0	0	
8	416	17		416	17		0	0	
9	424	17		423	17		1	0	
10	431	17		431	17		0	0	
11	438	17		438	17		0	0	
12	446	16		446	16		0	0	
13	453	16		453	16		0	0	
14	460	16		460	16		0	0	
15	467	16		467	17		0	-1	
16	474	17		474	17		0	0	
17	481	17		481	17		0	0	
18	488	17		488	17		0	0	
19	496	17		496	17		0	0	
20	503	18		503	18		0	0	
21	512	18		512	18		0	0	
22	520	19		520	19		0	0	
23	530	20		530	20		0	0	
24	540	21		540	21		0	0	

Table H-19: Raw Score to Scale Score, Speaking, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	552	23		552	23		0	0	
26	566	25		566	25		0	0	
27	584	30		585	30		-1	0	
28	615	42		615	42		0	0	
29	720	149		720	149		0	0	

Table H-20: Raw Score to Scale Score, Speaking, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	108		225	108		0	0	
1	300	53		300	53		0	0	
2	340	37		339	37		1	0	
3	363	30		363	30		0	0	
4	380	26		380	26		0	0	
5	394	24		394	24		0	0	
6	405	22		405	22		0	0	
7	416	21		415	21		1	0	
8	425	20		425	20		0	0	
9	433	19		433	19		0	0	
10	442	19		442	19		0	0	
11	450	19		450	19		0	0	
12	457	19		457	19		0	0	
13	465	19		465	19		0	0	
14	473	19		473	19		0	0	
15	481	19		481	19		0	0	
16	489	19		489	19		0	0	
17	497	19		497	19		0	0	
18	505	20		505	20		0	0	
19	514	20		514	20		0	0	
20	523	21		523	21		0	0	
21	533	22		533	22		0	0	
22	545	24		545	24		0	0	
23	557	26		557	26		0	0	

Table H-20: Raw Score to Scale Score, Speaking, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	572	28		572	28		0	0	
25	590	31		590	31		0	0	
26	612	36	Advanced	612	36	Advanced	0	0	
27	641	43		641	43		0	0	
28	687	60		687	60		0	0	
29	720	78		720	78		0	0	Advanced

Table H-21: Raw Score to Scale Score, Speaking, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	108		225	108		0	0	
1	300	53		300	53		0	0	
2	340	37		339	37		1	0	
3	363	30		363	30		0	0	
4	380	26		380	26		0	0	
5	394	24		394	24		0	0	
6	405	22		405	22		0	0	
7	416	21		415	21		1	0	
8	425	20		425	20		0	0	
9	433	19		433	19		0	0	
10	442	19		442	19		0	0	
11	450	19		450	19		0	0	
12	457	19		457	19		0	0	
13	465	19		465	19		0	0	
14	473	19		473	19		0	0	
15	481	19		481	19		0	0	
16	489	19		489	19		0	0	
17	497	19		497	19		0	0	
18	505	20		505	20		0	0	
19	514	20		514	20		0	0	
20	523	21		523	21		0	0	
21	533	22		533	22		0	0	
22	545	24		545	24		0	0	
23	557	26		557	26		0	0	
24	572	28		572	28		0	0	

Table H-21: Raw Score to Scale Score, Speaking, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	590	31		590	31		0	0	
26	612	36		612	36		0	0	
27	641	43	Advanced	641	43	Advanced	0	0	Advanced
28	687	60		687	60		0	0	
29	720	78		720	78		0	0	

Table H-22: Raw Score to Scale Score, Speaking, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	108		225	108		0	0	
1	300	53		300	53		0	0	
2	340	37		339	37		1	0	
3	363	30		363	30		0	0	
4	380	26		380	26		0	0	
5	394	24		394	24		0	0	
6	405	22		405	22		0	0	
7	416	21		415	21		1	0	
8	425	20		425	20		0	0	
9	433	19		433	19		0	0	
10	442	19		442	19		0	0	
11	450	19		450	19		0	0	
12	457	19		457	19		0	0	
13	465	19		465	19		0	0	
14	473	19		473	19		0	0	
15	481	19		481	19		0	0	
16	489	19		489	19		0	0	
17	497	19		497	19		0	0	
18	505	20		505	20		0	0	
19	514	20		514	20		0	0	
20	523	21		523	21		0	0	
21	533	22		533	22		0	0	
22	545	24		545	24		0	0	
23	557	26		557	26		0	0	
24	572	28		572	28		0	0	
25	590	31		590	31		0	0	

Table H-22: Raw Score to Scale Score, Speaking, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	612	36		612	36		0	0	
27	641	43		641	43		0	0	
28	687	60	Advanced	687	60	Advanced	0	0	
29	720	78		720	78		0	0	Advanced

Table H-23: Raw Score to Scale Score, Speaking, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	124		235	123		0	1	
1	319	57		319	57		0	0	
2	361	39		361	39		0	0	
3	386	32		386	32		0	0	
4	404	28		404	28		0	0	
5	418	25		418	25		0	0	
6	431	23		431	23		0	0	
7	442	22		442	22		0	0	
8	452	21		452	21		0	0	
9	461	21		461	21		0	0	
10	470	20		470	20		0	0	
11	478	20		478	20		0	0	
12	486	19		486	19		0	0	
13	494	19		494	19		0	0	
14	502	19		502	19		0	0	
15	510	19		510	19		0	0	
16	518	20		518	20		0	0	
17	527	20		527	20		0	0	
18	535	21		535	21		0	0	
19	545	22		545	22		0	0	
20	555	23		555	23		0	0	
21	566	24		566	24		0	0	
22	578	26		578	26		0	0	
23	591	28		591	28		0	0	
24	607	30		607	30		0	0	

Table H-23: Raw Score to Scale Score, Speaking, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	626	34		626	34		0	0	
26	649	39		649	39		0	0	
27	680	47	Advanced	680	47	Advanced	0	0	Advanced
28	731	67		731	67		0	0	
29	740	72		740	72		0	0	

Table H-24: Raw Score to Scale Score, Speaking, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	124		235	123		0	1	
1	319	57		319	57		0	0	
2	361	39		361	39		0	0	
3	386	32		386	32		0	0	
4	404	28		404	28		0	0	
5	418	25		418	25		0	0	
6	431	23		431	23		0	0	
7	442	22		442	22		0	0	
8	452	21		452	21		0	0	
9	461	21		461	21		0	0	
10	470	20		470	20		0	0	
11	478	20		478	20		0	0	
12	486	19		486	19		0	0	
13	494	19		494	19		0	0	
14	502	19		502	19		0	0	
15	510	19		510	19		0	0	
16	518	20		518	20		0	0	
17	527	20		527	20		0	0	
18	535	21		535	21		0	0	
19	545	22		545	22		0	0	
20	555	23		555	23		0	0	
21	566	24		566	24		0	0	
22	578	26		578	26		0	0	
23	591	28		591	28		0	0	
24	607	30		607	30		0	0	

Table H-24: Raw Score to Scale Score, Speaking, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	626	34		626	34		0	0	
26	649	39		649	39		0	0	
27	680	47	Advanced	680	47	Advanced	0	0	Advanced
28	731	67		731	67		0	0	
29	740	72		740	72		0	0	

Table H-25: Raw Score to Scale Score, Speaking, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	124		235	123		0	1	
1	319	57		319	57		0	0	
2	361	39		361	39		0	0	
3	386	32		386	32		0	0	
4	404	28		404	28		0	0	
5	418	25		418	25		0	0	
6	431	23		431	23		0	0	
7	442	22		442	22		0	0	
8	452	21		452	21		0	0	
9	461	21		461	21		0	0	
10	470	20		470	20		0	0	
11	478	20		478	20		0	0	
12	486	19		486	19		0	0	
13	494	19		494	19		0	0	
14	502	19		502	19		0	0	
15	510	19		510	19		0	0	
16	518	20		518	20		0	0	
17	527	20		527	20		0	0	
18	535	21		535	21		0	0	
19	545	22		545	22		0	0	
20	555	23		555	23		0	0	
21	566	24		566	24		0	0	
22	578	26		578	26		0	0	
23	591	28		591	28		0	0	
24	607	30		607	30		0	0	

Table H-25: Raw Score to Scale Score, Speaking, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	626	34		626	34		0	0	
26	649	39		649	39		0	0	
27	680	47	Advanced	680	47	Advanced	0	0	Advanced
28	731	67		731	67		0	0	
29	740	72		740	72		0	0	

Table H-26: Raw Score to Scale Score, Speaking, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	124		235	123		0	1	
1	319	57		319	57		0	0	
2	361	39		361	39		0	0	
3	386	32		386	32		0	0	
4	404	28		404	28		0	0	
5	418	25		418	25		0	0	
6	431	23		431	23		0	0	
7	442	22		442	22		0	0	
8	452	21		452	21		0	0	
9	461	21		461	21		0	0	
10	470	20		470	20		0	0	
11	478	20		478	20		0	0	
12	486	19		486	19		0	0	
13	494	19		494	19		0	0	
14	502	19		502	19		0	0	
15	510	19		510	19		0	0	
16	518	20		518	20		0	0	
17	527	20		527	20		0	0	
18	535	21		535	21		0	0	
19	545	22		545	22		0	0	
20	555	23		555	23		0	0	
21	566	24		566	24		0	0	
22	578	26		578	26		0	0	
23	591	28		591	28		0	0	
24	607	30		607	30		0	0	

Table H-26: Raw Score to Scale Score, Speaking, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	626	34		626	34		0	0	
26	649	39		649	39		0	0	
27	680	47	Advanced	680	47	Advanced	0	0	Advanced
28	731	67		731	67		0	0	
29	740	72		740	72		0	0	

Table H-27: Raw Score to Scale Score, Reading, Grade K

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	32		220	32		0	0	
1	220	32		220	32		0	0	
2	220	32		220	32		0	0	
3	220	32		220	32		0	0	
4	220	32		220	32		0	0	
5	220	32		220	32		0	0	
6	233	25		233	25		0	0	
7	248	20		248	20		0	0	
8	259	19		259	19		0	0	
9	270	19		270	19		0	0	
10	280	20		280	20		0	0	
11	291	22		291	22		0	0	
12	304	24		304	24		0	0	
13	318	24		318	24		0	0	
14	331	24		331	24		0	0	
15	344	22		344	22		0	0	
16	356	22		356	22		0	0	
17	368	21		368	21		0	0	
18	381	22		381	22		0	0	
19	394	23		394	23		0	0	
20	409	25		409	25		0	0	
21	427	27		427	27		0	0	
22	450	33		450	33		0	0	
23	488	48		488	48		0	0	
24	570	117		570	117		0	0	

Table H-28: Raw Score to Scale Score, Reading, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	32		220	32		0	0	
1	220	32		220	32		0	0	
2	220	32		220	32		0	0	
3	220	32		220	32		0	0	
4	220	32		220	32		0	0	
5	220	32		220	32		0	0	
6	233	25		233	25		0	0	
7	248	20		248	20		0	0	
8	259	19		259	19		0	0	
9	270	19		270	19		0	0	
10	280	20		280	20		0	0	
11	291	22		291	22		0	0	
12	304	24		304	24		0	0	
13	318	24		318	24		0	0	
14	331	24		331	24		0	0	
15	344	22		344	22		0	0	
16	356	22		356	22		0	0	
17	368	21		368	21		0	0	
18	381	22		381	22		0	0	
19	394	23		394	23		0	0	
20	409	25		409	25		0	0	
21	427	27		427	27		0	0	
22	450	33		450	33		0	0	
23	488	48	Early Advanced	488	48	Early Advanced	0	0	Early Advanced
24	570	117	Advanced	570	117	Advanced	0	0	Advanced

Table H-29: Raw Score to Scale Score, Reading, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	300		280	300		0	0	
1	280	300		280	300		0	0	
2	280	300		280	300		0	0	
3	280	300		280	300		0	0	
4	280	300		280	300		0	0	
5	280	300		280	300		0	0	
6	280	300		280	300		0	0	
7	280	300		280	300		0	0	
8	321	154		321	154		0	0	
9	373	56		373	56		0	0	
10	395	34		395	34		0	0	
11	408	26		408	26		0	0	
12	419	21		418	21		1	0	
13	427	18		427	18		0	0	
14	434	17		434	17		0	0	
15	441	16		441	16		0	0	
16	447	15		447	15		0	0	
17	453	14		453	15		0	-1	
18	459	14		459	14		0	0	
19	464	14		464	14		0	0	

Table H-29: Raw Score to Scale Score, Reading, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
20	470	14		470	14		0	0	
21	476	14		476	14		0	0	
22	481	14		481	14		0	0	
23	487	14		487	14		0	0	
24	493	14		493	14		0	0	
25	498	14		498	14		0	0	
26	504	14		504	14		0	0	
27	511	14		511	14		0	0	
28	518	15		518	15		0	0	
29	525	16		525	16		0	0	
30	534	17		534	17		0	0	
31	543	18		543	18		0	0	
32	556	21		556	21		0	0	
33	573	26		573	26		0	0	
34	601	38		601	38		0	0	
35	650	74		650	74		0	0	

Table H-30: Raw Score to Scale Score, Reading, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	726		280	726		0	0	
1	280	726		280	726		0	0	
2	280	726		280	726		0	0	
3	280	726		280	726		0	0	
4	280	726		280	726		0	0	
5	280	726		280	726		0	0	
6	280	726		280	726		0	0	
7	370	116		370	116		0	0	
8	411	54		411	54		0	0	
9	431	38		431	38		0	0	
10	446	29		445	30		1	-1	
11	457	25		456	25		1	0	
12	466	22		466	22		0	0	
13	474	20		474	20		0	0	
14	481	18		481	18		0	0	
15	487	17		487	17		0	0	
16	493	16		493	16		0	0	
17	499	16		499	16		0	0	
18	504	15		504	15		0	0	
19	510	15		510	15		0	0	
20	515	15		515	15		0	0	
21	521	14		521	14		0	0	
22	526	14		526	14		0	0	
23	531	14		531	14		0	0	
24	537	15		537	15		0	0	

Table H-30: Raw Score to Scale Score, Reading, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	543	15		543	15		0	0	
26	549	15		549	15		0	0	
27	555	16	Early Advanced	556	16	Early Advanced	-1	0	
28	563	16		563	16		0	0	
29	570	17		570	17		0	0	Early Advanced
30	579	18		579	18		0	0	
31	589	20		589	20		0	0	
32	602	23		602	23		0	0	
33	620	28		620	28		0	0	
34	649	40		650	40		-1	0	
35	700	75		700	75		0	0	

Table H-31: Raw Score to Scale Score, Reading, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	726		280	726		0	0	
1	280	726		280	726		0	0	
2	280	726		280	726		0	0	
3	280	726		280	726		0	0	
4	280	726		280	726		0	0	
5	280	726		280	726		0	0	
6	280	726		280	726		0	0	
7	370	116		370	116		0	0	
8	411	54		411	54		0	0	
9	431	38		431	38		0	0	
10	446	29		445	30		1	-1	
11	457	25		456	25		1	0	
12	466	22		466	22		0	0	
13	474	20		474	20		0	0	
14	481	18		481	18		0	0	
15	487	17		487	17		0	0	
16	493	16		493	16		0	0	
17	499	16		499	16		0	0	
18	504	15		504	15		0	0	
19	510	15		510	15		0	0	
20	515	15		515	15		0	0	
21	521	14		521	14		0	0	
22	526	14		526	14		0	0	
23	531	14		531	14		0	0	
24	537	15		537	15		0	0	
25	543	15		543	15		0	0	
26	549	15		549	15		0	0	

Table H-31: Raw Score to Scale Score, Reading, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	555	16		556	16		-1	0	
28	563	16		563	16		0	0	
29	570	17		570	17		0	0	
30	579	18		579	18		0	0	
31	589	20		589	20		0	0	
32	602	23		602	23		0	0	
33	620	28		620	28		0	0	
34	649	40		650	40		-1	0	
35	700	75		700	75		0	0	

Table H-32: Raw Score to Scale Score, Reading, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	726		280	726		0	0	
1	280	726		280	726		0	0	
2	280	726		280	726		0	0	
3	280	726		280	726		0	0	
4	280	726		280	726		0	0	
5	280	726		280	726		0	0	
6	280	726		280	726		0	0	
7	370	116		370	116		0	0	
8	411	54		411	54		0	0	
9	431	38		431	38		0	0	
10	446	29		445	30		1	-1	
11	457	25		456	25		1	0	
12	466	22		466	22		0	0	
13	474	20		474	20		0	0	
14	481	18		481	18		0	0	
15	487	17		487	17		0	0	
16	493	16		493	16		0	0	
17	499	16		499	16		0	0	
18	504	15		504	15		0	0	
19	510	15		510	15		0	0	
20	515	15		515	15		0	0	
21	521	14		521	14		0	0	
22	526	14		526	14		0	0	
23	531	14		531	14		0	0	
24	537	15		537	15		0	0	
25	543	15		543	15		0	0	
26	549	15		549	15		0	0	

Table H-32: Raw Score to Scale Score, Reading, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	555	16		556	16		-1	0	
28	563	16		563	16		0	0	
29	570	17		570	17		0	0	
30	579	18		579	18		0	0	
31	589	20		589	20		0	0	
32	602	23		602	23		0	0	
33	620	28		620	28		0	0	
34	649	40		650	40		-1	0	
35	700	75		700	75		0	0	

Table H-33: Raw Score to Scale Score, Reading, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	428		320	426		0	2	
1	320	428		320	426		0	2	
2	320	428		320	426		0	2	
3	320	428		320	426		0	2	
4	320	428		320	426		0	2	
5	320	428		320	426		0	2	
6	320	428		320	426		0	2	
7	338	327		338	326		0	1	
8	428	69		428	69		0	0	
9	458	43		458	43		0	0	
10	477	33		477	33		0	0	
11	491	29		491	29		0	0	
12	503	26		503	26		0	0	
13	513	23		513	23		0	0	
14	522	22		522	22		0	0	
15	530	20		530	20		0	0	
16	537	19		537	19		0	0	
17	545	18		545	18		0	0	
18	551	18		551	18		0	0	
19	558	17		558	17		0	0	
20	565	17		565	17		0	0	

Table H-33: Raw Score to Scale Score, Reading, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
21	571	17		571	17		0	0	
22	577	16		577	16		0	0	
23	584	16	Early	584	16	Early	0	0	
24	590	17	Advanced	591	17	Advanced	-1	0	
25	597	17		597	17		0	0	
26	604	17		604	17		0	0	
27	612	17		612	17		0	0	
28	620	18		620	18		0	0	
29	629	19		629	19		0	0	
30	639	21		639	21		0	0	
31	651	23		651	23		0	0	
32	666	26		666	26		0	0	
33	686	32		686	32		0	0	
34	721	48		722	48		-1	0	
35	750	65		750	65		0	0	

Table H-34: Raw Score to Scale Score, Reading, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	428		320	426		0	2	
1	320	428		320	426		0	2	
2	320	428		320	426		0	2	
3	320	428		320	426		0	2	
4	320	428		320	426		0	2	
5	320	428		320	426		0	2	
6	320	428		320	426		0	2	
7	338	327		338	326		0	1	
8	428	69		428	69		0	0	
9	458	43		458	43		0	0	
10	477	33		477	33		0	0	
11	491	29		491	29		0	0	
12	503	26		503	26		0	0	
13	513	23		513	23		0	0	
14	522	22		522	22		0	0	
15	530	20		530	20		0	0	
16	537	19		537	19		0	0	
17	545	18		545	18		0	0	
18	551	18		551	18		0	0	
19	558	17		558	17		0	0	
20	565	17		565	17		0	0	
21	571	17		571	17		0	0	

Table H-34: Raw Score to Scale Score, Reading, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	577	16		577	16		0	0	
23	584	16		584	16		0	0	
24	590	17	Early	591	17	Early	-1	0	
25	597	17	Advanced	597	17	Advanced	0	0	
26	604	17		604	17		0	0	
27	612	17		612	17		0	0	
28	620	18		620	18		0	0	
29	629	19		629	19		0	0	
30	639	21		639	21		0	0	
31	651	23		651	23		0	0	
32	666	26		666	26		0	0	
33	686	32		686	32		0	0	
34	721	48		722	48		-1	0	
35	750	65		750	65		0	0	

Table H-35: Raw Score to Scale Score, Reading, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	428		320	426		0	2	
1	320	428		320	426		0	2	
2	320	428		320	426		0	2	
3	320	428		320	426		0	2	
4	320	428		320	426		0	2	
5	320	428		320	426		0	2	
6	320	428		320	426		0	2	
7	338	327		338	326		0	1	
8	428	69		428	69		0	0	
9	458	43		458	43		0	0	
10	477	33		477	33		0	0	
11	491	29		491	29		0	0	
12	503	26		503	26		0	0	
13	513	23		513	23		0	0	
14	522	22		522	22		0	0	
15	530	20		530	20		0	0	
16	537	19		537	19		0	0	
17	545	18		545	18		0	0	
18	551	18		551	18		0	0	
19	558	17		558	17		0	0	
20	565	17		565	17		0	0	
21	571	17		571	17		0	0	
22	577	16		577	16		0	0	
23	584	16		584	16		0	0	
24	590	17		591	17		-1	0	
25	597	17		597	17		0	0	
26	604	17		604	17		0	0	

Table H-35: Raw Score to Scale Score, Reading, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	612	17		612	17		0	0	
28	620	18		620	18		0	0	
29	629	19		629	19		0	0	
30	639	21		639	21		0	0	
31	651	23		651	23		0	0	
32	666	26		666	26		0	0	
33	686	32		686	32		0	0	
34	721	48		722	48		-1	0	
35	750	65		750	65		0	0	

Table H-36: Raw Score to Scale Score, Reading, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	334		320	333		0	1	
1	320	334		320	333		0	1	
2	320	334		320	333		0	1	
3	320	334		320	333		0	1	
4	320	334		320	333		0	1	
5	320	334		320	333		0	1	
6	320	334		320	333		0	1	
7	320	334		320	333		0	1	
8	398	118		398	118		0	0	
9	445	65		445	65		0	0	
10	472	47		472	47		0	0	
11	492	39		492	39		0	0	
12	508	34		508	34		0	0	
13	522	31		522	31		0	0	
14	535	29		535	29		0	0	
15	546	28		546	28		0	0	
16	557	26		557	26		0	0	
17	567	25		567	25		0	0	
18	577	24		577	24		0	0	
19	586	24		586	24		0	0	
20	595	23		595	23		0	0	
21	604	23		604	23		0	0	

Table H-36: Raw Score to Scale Score, Reading, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	612	22		612	22		0	0	
23	621	22		621	22		0	0	
24	629	21	Early Advanced	630	21	Early Advanced	-1	0	Early Advanced
25	638	21		638	21		0	0	
26	647	21		647	21		0	0	
27	656	22		657	22		-1	0	
28	666	22		666	22		0	0	
29	677	23		677	23		0	0	
30	689	25		689	25		0	0	
31	703	27		703	27		0	0	
32	721	31		721	31		0	0	
33	745	38		745	38		0	0	
34	770	48		770	48		0	0	
35	770	48		770	48		0	0	

Table H-37: Raw Score to Scale Score, Reading, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	334		320	333		0	1	
1	320	334		320	333		0	1	
2	320	334		320	333		0	1	
3	320	334		320	333		0	1	
4	320	334		320	333		0	1	
5	320	334		320	333		0	1	
6	320	334		320	333		0	1	
7	320	334		320	333		0	1	
8	398	118		398	118		0	0	
9	445	65		445	65		0	0	
10	472	47		472	47		0	0	
11	492	39		492	39		0	0	
12	508	34		508	34		0	0	
13	522	31		522	31		0	0	
14	535	29		535	29		0	0	
15	546	28		546	28		0	0	
16	557	26		557	26		0	0	
17	567	25		567	25		0	0	
18	577	24		577	24		0	0	
19	586	24		586	24		0	0	
20	595	23		595	23		0	0	
21	604	23		604	23		0	0	
22	612	22		612	22		0	0	

Table H-37: Raw Score to Scale Score, Reading, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
23	621	22	Early Advanced	621	22	Early Advanced	0	0	Early Advanced
24	629	21		630	21		-1	0	
25	638	21		638	21		0	0	
26	647	21		647	21		0	0	
27	656	22		657	22		-1	0	
28	666	22		666	22		0	0	
29	677	23		677	23		0	0	
30	689	25		689	25		0	0	
31	703	27		703	27		0	0	
32	721	31		721	31		0	0	
33	745	38		745	38		0	0	
34	770	48		770	48		0	0	
35	770	48		770	48		0	0	

Table H-38: Raw Score to Scale Score, Reading, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	334		320	333		0	1	
1	320	334		320	333		0	1	
2	320	334		320	333		0	1	
3	320	334		320	333		0	1	
4	320	334		320	333		0	1	
5	320	334		320	333		0	1	
6	320	334		320	333		0	1	
7	320	334		320	333		0	1	
8	398	118		398	118		0	0	
9	445	65		445	65		0	0	
10	472	47		472	47		0	0	
11	492	39		492	39		0	0	
12	508	34		508	34		0	0	
13	522	31		522	31		0	0	
14	535	29		535	29		0	0	
15	546	28		546	28		0	0	
16	557	26		557	26		0	0	
17	567	25		567	25		0	0	
18	577	24		577	24		0	0	
19	586	24		586	24		0	0	
20	595	23		595	23		0	0	
21	604	23		604	23		0	0	
22	612	22		612	22		0	0	

Table H-38: Raw Score to Scale Score, Reading, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
23	621	22	Early Advanced	621	22	Early Advanced	0	0	Early Advanced
24	629	21		630	21		-1	0	
25	638	21		638	21		0	0	
26	647	21		647	21		0	0	
27	656	22		657	22		-1	0	
28	666	22		666	22		0	0	
29	677	23		677	23		0	0	
30	689	25		689	25		0	0	
31	703	27		703	27		0	0	
32	721	31		721	31		0	0	
33	745	38		745	38		0	0	
34	770	48		770	48		0	0	
35	770	48		770	48		0	0	

Table H-39: Raw Score to Scale Score, Reading, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	334		320	333		0	1	
1	320	334		320	333		0	1	
2	320	334		320	333		0	1	
3	320	334		320	333		0	1	
4	320	334		320	333		0	1	
5	320	334		320	333		0	1	
6	320	334		320	333		0	1	
7	320	334		320	333		0	1	
8	398	118		398	118		0	0	
9	445	65		445	65		0	0	
10	472	47		472	47		0	0	
11	492	39		492	39		0	0	
12	508	34		508	34		0	0	
13	522	31		522	31		0	0	
14	535	29		535	29		0	0	
15	546	28		546	28		0	0	
16	557	26		557	26		0	0	
17	567	25		567	25		0	0	
18	577	24		577	24		0	0	
19	586	24		586	24		0	0	
20	595	23		595	23		0	0	
21	604	23		604	23		0	0	
22	612	22		612	22		0	0	

Table H-39: Raw Score to Scale Score, Reading, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
23	621	22	Early Advanced	621	22	Early Advanced	0	0	Early Advanced
24	629	21		630	21		-1	0	
25	638	21		638	21		0	0	
26	647	21		647	21		0	0	
27	656	22		657	22		-1	0	
28	666	22		666	22		0	0	
29	677	23		677	23		0	0	
30	689	25		689	25		0	0	
31	703	27		703	27		0	0	
32	721	31		721	31		0	0	
33	745	38		745	38		0	0	
34	770	48		770	48		0	0	
35	770	48		770	48		0	0	

Table H-40: Raw Score to Scale Score, Writing, Grade K

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	30		220	30		0	0	
1	220	30		220	30		0	0	
2	220	30		220	30		0	0	
3	220	30		220	30		0	0	
4	220	30		220	30		0	0	
5	220	30		220	30		0	0	
6	230	29		230	29		0	0	
7	247	26		247	26		0	0	
8	262	24		262	24		0	0	
9	275	22		275	22		0	0	
10	287	21		287	21		0	0	
11	299	20		299	20		0	0	
12	310	20		310	20		0	0	
13	320	20		320	20		0	0	
14	331	20		331	20		0	0	
15	342	20		342	20		0	0	
16	353	20		353	20		0	0	
17	363	20		363	20		0	0	
18	374	20		374	20		0	0	
19	385	20		385	20		0	0	
20	396	20		396	20		0	0	
21	407	21		407	21		0	0	
22	419	21		419	21		0	0	
23	431	22		431	22		0	0	
24	444	23		444	23		0	0	
25	460	25		460	25		0	0	
26	480	29		480	29		0	0	
27	511	40		512	41		-1	-1	
28	600	123		600	123		0	0	

Table H-41: Raw Score to Scale Score, Writing, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	30		220	30		0	0	
1	220	30		220	30		0	0	
2	220	30		220	30		0	0	
3	220	30		220	30		0	0	
4	220	30		220	30		0	0	
5	220	30		220	30		0	0	
6	230	29		230	29		0	0	
7	247	26		247	26		0	0	
8	262	24		262	24		0	0	
9	275	22		275	22		0	0	
10	287	21		287	21		0	0	
11	299	20		299	20		0	0	
12	310	20		310	20		0	0	
13	320	20		320	20		0	0	
14	331	20		331	20		0	0	
15	342	20		342	20		0	0	
16	353	20		353	20		0	0	
17	363	20		363	20		0	0	
18	374	20		374	20		0	0	
19	385	20		385	20		0	0	
20	396	20		396	20		0	0	
21	407	21		407	21		0	0	
22	419	21		419	21		0	0	
23	431	22		431	22		0	0	
24	444	23		444	23		0	0	
25	460	25		460	25		0	0	
26	480	29		480	29		0	0	
27	511	40		512	41		-1	-1	
28	600	123	Advanced	600	123	Advanced	0	0	Advanced

Table H-42: Raw Score to Scale Score, Writing, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	224		220	224		0	0	
1	220	224		220	224		0	0	
2	220	224		220	224		0	0	
3	220	224		220	224		0	0	
4	220	224		220	224		0	0	
5	220	224		220	224		0	0	
6	307	68		307	67		0	1	
7	356	36		356	36		0	0	
8	378	28		378	28		0	0	
9	393	25		393	25		0	0	
10	405	22		405	22		0	0	
11	415	20		415	20		0	0	
12	424	19		424	19		0	0	
13	431	17		431	17		0	0	
14	438	16		438	16		0	0	
15	444	15		444	15		0	0	
16	450	14		450	14		0	0	
17	456	14		456	14		0	0	
18	462	14		462	14		0	0	
19	468	14		468	14		0	0	

Table H-42: Raw Score to Scale Score, Writing, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
20	474	14	Intermediate	474	14	Intermediate	0	0	Intermediate
21	479	14		479	14		0	0	
22	485	14		485	14		0	0	
23	492	14		492	14		0	0	
24	499	14		499	14		0	0	
25	506	15		506	15		0	0	
26	514	16		514	16		0	0	
27	524	18		524	18		0	0	
28	535	20		535	20		0	0	
29	548	22		548	22		0	0	
30	564	25		564	25		0	0	
31	582	27		582	27		0	0	
32	603	30		603	30		0	0	
33	629	34		629	34		0	0	
34	666	44		666	44		0	0	
35	690	55		690	55		0	0	

Table H-43: Raw Score to Scale Score, Writing, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	157		220	157		0	0	
1	220	157		220	157		0	0	
2	220	157		220	157		0	0	
3	220	157		220	157		0	0	
4	220	157		220	157		0	0	
5	220	157		220	157		0	0	
6	297	57		297	57		0	0	
7	343	35		343	35		0	0	
8	367	29		367	29		0	0	
9	384	26		384	26		0	0	
10	398	24		398	24		0	0	
11	410	23		410	23		0	0	
12	420	22		420	22		0	0	
13	430	21		430	21		0	0	
14	438	20		438	20		0	0	
15	447	19		446	19		1	0	
16	454	18		454	18		0	0	
17	461	18		461	18		0	0	
18	469	17		469	17		0	0	
19	476	17		476	17		0	0	

Table H-43: Raw Score to Scale Score, Writing, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
20	483	17	Intermediate	483	17	Intermediate	0	0	Intermediate
21	490	17		490	17		0	0	
22	497	17		497	17		0	0	
23	504	17		504	17		0	0	
24	511	17		511	17		0	0	
25	519	17		519	17		0	0	
26	527	17		527	17		0	0	
27	536	18		536	18		0	0	
28	545	19		545	19		0	0	
29	556	20		556	20		0	0	
30	568	22		568	22		0	0	
31	582	24		582	24		0	0	
32	599	27		599	27		0	0	
33	623	33		623	33		0	0	
34	661	44		661	44		0	0	
35	740	100		740	100		0	0	

Table H-44: Raw Score to Scale Score, Writing, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	157		220	157		0	0	
1	220	157		220	157		0	0	
2	220	157		220	157		0	0	
3	220	157		220	157		0	0	
4	220	157		220	157		0	0	
5	220	157		220	157		0	0	
6	297	57		297	57		0	0	
7	343	35		343	35		0	0	
8	367	29		367	29		0	0	
9	384	26		384	26		0	0	
10	398	24		398	24		0	0	
11	410	23		410	23		0	0	
12	420	22		420	22		0	0	
13	430	21		430	21		0	0	
14	438	20		438	20		0	0	
15	447	19		446	19		1	0	
16	454	18		454	18		0	0	
17	461	18		461	18		0	0	
18	469	17		469	17		0	0	
19	476	17		476	17		0	0	
20	483	17		483	17		0	0	

Table H-44: Raw Score to Scale Score, Writing, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
21	490	17		490	17		0	0	
22	497	17		497	17		0	0	
23	504	17		504	17		0	0	
24	511	17	Intermediate	511	17	Intermediate	0	0	
25	519	17		519	17		0	0	Intermediate
26	527	17		527	17		0	0	
27	536	18		536	18		0	0	
28	545	19		545	19		0	0	
29	556	20		556	20		0	0	
30	568	22		568	22		0	0	
31	582	24		582	24		0	0	
32	599	27		599	27		0	0	
33	623	33		623	33		0	0	
34	661	44		661	44		0	0	
35	740	100		740	100		0	0	

Table H-45: Raw Score to Scale Score, Writing, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	157		220	157		0	0	
1	220	157		220	157		0	0	
2	220	157		220	157		0	0	
3	220	157		220	157		0	0	
4	220	157		220	157		0	0	
5	220	157		220	157		0	0	
6	297	57		297	57		0	0	
7	343	35		343	35		0	0	
8	367	29		367	29		0	0	
9	384	26		384	26		0	0	
10	398	24		398	24		0	0	
11	410	23		410	23		0	0	
12	420	22		420	22		0	0	
13	430	21		430	21		0	0	
14	438	20		438	20		0	0	
15	447	19		446	19		1	0	
16	454	18		454	18		0	0	
17	461	18		461	18		0	0	
18	469	17		469	17		0	0	
19	476	17		476	17		0	0	
20	483	17		483	17		0	0	
21	490	17		490	17		0	0	

Table H-45: Raw Score to Scale Score, Writing, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	497	17		497	17		0	0	
23	504	17		504	17		0	0	
24	511	17		511	17		0	0	
25	519	17	Intermediate	519	17	Intermediate	0	0	Intermediate
26	527	17		527	17		0	0	
27	536	18		536	18		0	0	
28	545	19		545	19		0	0	
29	556	20		556	20		0	0	
30	568	22		568	22		0	0	
31	582	24		582	24		0	0	
32	599	27		599	27		0	0	
33	623	33		623	33		0	0	
34	661	44		661	44		0	0	
35	740	100		740	100		0	0	

Table H-46: Raw Score to Scale Score, Writing, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	125		220	125		0	0	
1	220	125		220	125		0	0	
2	220	125		220	125		0	0	
3	220	125		220	125		0	0	
4	220	125		220	125		0	0	
5	220	125		220	125		0	0	
6	295	64		295	64		0	0	
7	342	43		342	43		0	0	
8	369	36		369	36		0	0	
9	388	32		388	32		0	0	
10	404	30		404	30		0	0	
11	418	28		418	28		0	0	
12	431	27		431	27		0	0	
13	442	26		442	26		0	0	
14	453	25		453	25		0	0	
15	462	24		462	24		0	0	
16	472	22		472	22		0	0	
17	480	21		480	21		0	0	
18	488	20		488	20		0	0	
19	496	19		496	19		0	0	

Table H-46: Raw Score to Scale Score, Writing, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
20	504	18		504	18		0	0	
21	511	18		511	18		0	0	
22	519	18		519	18		0	0	
23	526	18	Intermediate	526	18	Intermediate	0	0	Intermediate
24	534	18		534	18		0	0	
25	542	18		542	18		0	0	
26	551	19		551	19		0	0	
27	561	20		561	20		0	0	
28	572	21		572	21		0	0	
29	584	23		584	23		0	0	
30	599	26		599	26		0	0	
31	617	30		617	30		0	0	
32	642	36		642	36		0	0	
33	680	49		680	49		0	0	
34	764	82		764	82		0	0	
35	780	85		780	85		0	0	

Table H-47: Raw Score to Scale Score, Writing, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	125		220	125		0	0	
1	220	125		220	125		0	0	
2	220	125		220	125		0	0	
3	220	125		220	125		0	0	
4	220	125		220	125		0	0	
5	220	125		220	125		0	0	
6	295	64		295	64		0	0	
7	342	43		342	43		0	0	
8	369	36		369	36		0	0	
9	388	32		388	32		0	0	
10	404	30		404	30		0	0	
11	418	28		418	28		0	0	
12	431	27		431	27		0	0	
13	442	26		442	26		0	0	
14	453	25		453	25		0	0	
15	462	24		462	24		0	0	
16	472	22		472	22		0	0	
17	480	21		480	21		0	0	
18	488	20		488	20		0	0	
19	496	19		496	19		0	0	
20	504	18		504	18		0	0	

Table H-47: Raw Score to Scale Score, Writing, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
21	511	18		511	18		0	0	
22	519	18		519	18		0	0	
23	526	18	Intermediate	526	18	Intermediate	0	0	Intermediate
24	534	18		534	18		0	0	
25	542	18		542	18		0	0	
26	551	19		551	19		0	0	
27	561	20		561	20		0	0	
28	572	21		572	21		0	0	
29	584	23		584	23		0	0	
30	599	26		599	26		0	0	
31	617	30		617	30		0	0	
32	642	36		642	36		0	0	
33	680	49		680	49		0	0	
34	764	82		764	82		0	0	
35	780	85		780	85		0	0	

Table H-48: Raw Score to Scale Score, Writing, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	125		220	125		0	0	
1	220	125		220	125		0	0	
2	220	125		220	125		0	0	
3	220	125		220	125		0	0	
4	220	125		220	125		0	0	
5	220	125		220	125		0	0	
6	295	64		295	64		0	0	
7	342	43		342	43		0	0	
8	369	36		369	36		0	0	
9	388	32		388	32		0	0	
10	404	30		404	30		0	0	
11	418	28		418	28		0	0	
12	431	27		431	27		0	0	
13	442	26		442	26		0	0	
14	453	25		453	25		0	0	
15	462	24		462	24		0	0	
16	472	22		472	22		0	0	
17	480	21		480	21		0	0	
18	488	20		488	20		0	0	
19	496	19		496	19		0	0	
20	504	18		504	18		0	0	

Table H-48: Raw Score to Scale Score, Writing, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
21	511	18	Intermediate	511	18	Intermediate	0	0	Intermediate
22	519	18		519	18		0	0	
23	526	18		526	18		0	0	
24	534	18		534	18		0	0	
25	542	18		542	18		0	0	
26	551	19		551	19		0	0	
27	561	20		561	20		0	0	
28	572	21		572	21		0	0	
29	584	23		584	23		0	0	
30	599	26		599	26		0	0	
31	617	30		617	30		0	0	
32	642	36		642	36		0	0	
33	680	49		680	49		0	0	
34	764	82		764	82		0	0	
35	780	85		780	85		0	0	

Table H-49: Raw Score to Scale Score, Writing, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	97		220	97		0	0	
1	220	97		220	97		0	0	
2	220	97		220	97		0	0	
3	220	97		220	97		0	0	
4	220	97		220	97		0	0	
5	220	97		220	97		0	0	
6	263	75		263	75		0	0	
7	314	57		314	57		0	0	
8	346	48		346	48		0	0	
9	370	42		370	42		0	0	
10	389	38		389	38		0	0	
11	405	35		405	36		0	-1	
12	420	33		420	33		0	0	
13	432	31		432	31		0	0	
14	444	29		444	29		0	0	
15	455	28		455	28		0	0	
16	465	26		465	26		0	0	
17	475	24		475	24		0	0	
18	484	23		484	23		0	0	
19	493	22		493	22		0	0	
20	502	22		502	22		0	0	
21	511	22		511	22		0	0	

Table H-49: Raw Score to Scale Score, Writing, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	520	22		520	22		0	0	
23	530	22		530	22		0	0	
24	540	23	Intermediate	540	23	Intermediate	0	0	Intermediate
25	551	24		551	24		0	0	
26	562	25		562	25		0	0	
27	575	26		575	26		0	0	
28	588	28		588	28		0	0	
29	604	30		604	30		0	0	
30	623	34		623	34		0	0	
31	646	39		646	39		0	0	
32	678	47		678	47		0	0	
33	727	64		727	64		0	0	
34	810	86		810	86		0	0	
35	810	86		810	86		0	0	

Table H-50: Raw Score to Scale Score, Writing, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	97		220	97		0	0	
1	220	97		220	97		0	0	
2	220	97		220	97		0	0	
3	220	97		220	97		0	0	
4	220	97		220	97		0	0	
5	220	97		220	97		0	0	
6	263	75		263	75		0	0	
7	314	57		314	57		0	0	
8	346	48		346	48		0	0	
9	370	42		370	42		0	0	
10	389	38		389	38		0	0	
11	405	35		405	36		0	-1	
12	420	33		420	33		0	0	
13	432	31		432	31		0	0	
14	444	29		444	29		0	0	
15	455	28		455	28		0	0	
16	465	26		465	26		0	0	
17	475	24		475	24		0	0	
18	484	23		484	23		0	0	
19	493	22		493	22		0	0	
20	502	22		502	22		0	0	
21	511	22		511	22		0	0	

Table H-50: Raw Score to Scale Score, Writing, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	520	22		520	22		0	0	
23	530	22		530	22		0	0	
24	540	23	Intermediate	540	23	Intermediate	0	0	Intermediate
25	551	24		551	24		0	0	
26	562	25		562	25		0	0	
27	575	26		575	26		0	0	
28	588	28		588	28		0	0	
29	604	30		604	30		0	0	
30	623	34		623	34		0	0	
31	646	39		646	39		0	0	
32	678	47		678	47		0	0	
33	727	64		727	64		0	0	
34	810	86		810	86		0	0	
35	810	86		810	86		0	0	

Table H-51: Raw Score to Scale Score, Writing, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	97		220	97		0	0	
1	220	97		220	97		0	0	
2	220	97		220	97		0	0	
3	220	97		220	97		0	0	
4	220	97		220	97		0	0	
5	220	97		220	97		0	0	
6	263	75		263	75		0	0	
7	314	57		314	57		0	0	
8	346	48		346	48		0	0	
9	370	42		370	42		0	0	
10	389	38		389	38		0	0	
11	405	35		405	36		0	-1	
12	420	33		420	33		0	0	
13	432	31		432	31		0	0	
14	444	29		444	29		0	0	
15	455	28		455	28		0	0	
16	465	26		465	26		0	0	
17	475	24		475	24		0	0	
18	484	23		484	23		0	0	
19	493	22		493	22		0	0	
20	502	22		502	22		0	0	
21	511	22		511	22		0	0	

Table H-51: Raw Score to Scale Score, Writing, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	520	22		520	22		0	0	
23	530	22		530	22		0	0	
24	540	23	Intermediate	540	23	Intermediate	0	0	Intermediate
25	551	24		551	24		0	0	
26	562	25		562	25		0	0	
27	575	26		575	26		0	0	
28	588	28		588	28		0	0	
29	604	30		604	30		0	0	
30	623	34		623	34		0	0	
31	646	39		646	39		0	0	
32	678	47		678	47		0	0	
33	727	64		727	64		0	0	
34	810	86		810	86		0	0	
35	810	86		810	86		0	0	

Table H-52: Raw Score to Scale Score, Writing, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	97		220	97		0	0	
1	220	97		220	97		0	0	
2	220	97		220	97		0	0	
3	220	97		220	97		0	0	
4	220	97		220	97		0	0	
5	220	97		220	97		0	0	
6	263	75		263	75		0	0	
7	314	57		314	57		0	0	
8	346	48		346	48		0	0	
9	370	42		370	42		0	0	
10	389	38		389	38		0	0	
11	405	35		405	36		0	-1	
12	420	33		420	33		0	0	
13	432	31		432	31		0	0	
14	444	29		444	29		0	0	
15	455	28		455	28		0	0	
16	465	26		465	26		0	0	
17	475	24		475	24		0	0	
18	484	23		484	23		0	0	
19	493	22		493	22		0	0	
20	502	22		502	22		0	0	
21	511	22		511	22		0	0	

Table H-52: Raw Score to Scale Score, Writing, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
22	520	22		520	22		0	0	
23	530	22		530	22		0	0	
24	540	23	Intermediate	540	23	Intermediate	0	0	Intermediate
25	551	24		551	24		0	0	
26	562	25		562	25		0	0	
27	575	26		575	26		0	0	
28	588	28		588	28		0	0	
29	604	30		604	30		0	0	
30	623	34		623	34		0	0	
31	646	39		646	39		0	0	
32	678	47		678	47		0	0	
33	727	64		727	64		0	0	
34	810	86		810	86		0	0	
35	810	86		810	86		0	0	

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Appendix 3.4.2: Conversion Tables – Complete Replication (TR Appendix H)

Pink shading in a cell means that the Performance Level of the Scale Score is different between the ETS and EDS tables. Blue shading means the Performance Level is different and also does not meet the Advanced level as assigned in the ETS table.

Table H-1: Raw Score to Scale Score, Listening, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	140		220	140		0	0.0	
1	220	140		220	140		0	0.0	
2	220	140		220	140		0	0.0	
3	220	140		220	140		0	0.0	
4	309	42		309	42		0	0.0	
5	339	29		339	29		0	0.0	
6	358	24		358	24		0	0.0	
7	372	22		372	22		0	0.0	
8	385	21		385	21		0	0.0	
9	397	21		397	21		0	0.0	
10	409	21		409	21		0	0.0	
11	420	21		420	21		0	0.0	
12	431	21		431	21		0	0.0	
13	443	21		443	21		0	0.0	
14	454	21		454	21		0	0.0	
15	466	21		466	21		0	0.0	
16	479	22		479	22		0	0.0	
17	493	22		494	22		-1	0.1	
18	510	23		510	22		0	0.5	
19	534	30		534	30		0	0.2	
20	569	56		569	56		0	-0.7	

Table H-2: Raw Score to Scale Score, Listening, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	140		220	140		0	0.0	
1	220	140		220	140		0	0.0	
2	220	140		220	140		0	0.0	
3	220	140		220	140		0	0.0	
4	309	42		309	42		0	0.0	
5	339	29		339	29		0	0.0	
6	358	24		358	24		0	0.0	
7	372	22		372	22		0	0.0	
8	385	21		385	21		0	0.0	
9	397	21		397	21		0	0.0	
10	409	21		409	21		0	0.0	
11	420	21		420	21		0	0.0	
12	431	21		431	21		0	0.0	
13	443	21		443	21		0	0.0	
14	454	21		454	21		0	0.0	
15	466	21		466	21		0	0.0	
16	479	22		479	22		0	0.0	
17	493	22		494	22		-1	0.1	
18	510	23		510	22		0	0.5	
19	534	30		534	30		0	0.2	
20	569	56		569	56		0	-0.7	

Table H-3: Raw Score to Scale Score, Listening, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	140		220	140		0	0.0	
1	220	140		220	140		0	0.0	
2	220	140		220	140		0	0.0	
3	220	140		220	140		0	0.0	
4	309	42		309	42		0	0.0	
5	339	29		339	29		0	0.0	
6	358	24		358	24		0	0.0	
7	372	22		372	22		0	0.0	
8	385	21		385	21		0	0.0	
9	397	21		397	21		0	0.0	
10	409	21		409	21		0	0.0	
11	420	21		420	21		0	0.0	
12	431	21		431	21		0	0.0	
13	443	21		443	21		0	0.0	
14	454	21		454	21		0	0.0	
15	466	21		466	21		0	0.0	
16	479	22		479	22		0	0.0	
17	493	22		494	22		-1	0.1	
18	510	23		510	22		0	0.5	
19	534	30		534	30		0	0.2	
20	569	56		569	56		0	-0.7	

Table H-4: Raw Score to Scale Score, Listening, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	400		220	399		0	0.4	
1	220	400		220	399		0	0.4	
2	220	400		220	399		0	0.4	
3	220	400		220	399		0	0.4	
4	220	400		220	399		0	0.4	
5	220	400		220	399		0	0.4	
6	259	228		259	228		0	0.1	
7	337	77		337	77		0	0.0	
8	374	53		374	53		0	0.1	
9	401	44		400	44		1	-0.2	
10	423	40		423	40		0	0.0	
11	444	38		444	38		0	0.0	
12	464	36		464	36		0	0.0	
13	483	35		483	35		0	0.0	
14	502	34		502	34		0	0.0	
15	521	33		521	33		0	0.0	
16	541	33		541	33		0	0.0	
17	563	33		563	33		0	0.0	
18	590	38		590	38		0	0.0	
19	633	56		634	57		-1	-0.6	
20	639	59		639	59		0	0.0	

Table H-5: Raw Score to Scale Score, Listening, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	400		220	399		0	0.4	
1	220	400		220	399		0	0.4	
2	220	400		220	399		0	0.4	
3	220	400		220	399		0	0.4	
4	220	400		220	399		0	0.4	
5	220	400		220	399		0	0.4	
6	259	228		259	228		0	0.1	
7	337	77		337	77		0	0.0	
8	374	53		374	53		0	0.1	
9	401	44		400	44		1	-0.2	
10	423	40		423	40		0	0.0	
11	444	38		444	38		0	0.0	
12	464	36		464	36		0	0.0	
13	483	35		483	35		0	0.0	
14	502	34		502	34		0	0.0	
15	521	33		521	33		0	0.0	
16	541	33		541	33		0	0.0	
17	563	33		563	33		0	0.0	
18	590	38		590	38		0	0.0	
19	633	56		634	57		-1	-0.6	
20	639	59		639	59		0	0.0	

Table H-6: Raw Score to Scale Score, Listening, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	400		220	399		0	0.4	
1	220	400		220	399		0	0.4	
2	220	400		220	399		0	0.4	
3	220	400		220	399		0	0.4	
4	220	400		220	399		0	0.4	
5	220	400		220	399		0	0.4	
6	259	228		259	228		0	0.1	
7	337	77		337	77		0	0.0	
8	374	53		374	53		0	0.1	
9	401	44		400	44		1	-0.2	
10	423	40		423	40		0	0.0	
11	444	38		444	38		0	0.0	
12	464	36		464	36		0	0.0	
13	483	35		483	35		0	0.0	
14	502	34		502	34		0	0.0	
15	521	33		521	33		0	0.0	
16	541	33		541	33		0	0.0	
17	563	33		563	33		0	0.0	
18	590	38		590	38		0	0.0	
19	633	56		634	57		-1	-0.6	
20	639	59		639	59		0	0.0	

Table H-7: Raw Score to Scale Score, Listening, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	764		230	764		0	0.0	
1	230	764		230	764		0	0.0	
2	230	764		230	764		0	0.0	
3	230	764		230	764		0	0.0	
4	230	764		230	764		0	0.0	
5	230	764		230	764		0	0.0	
6	230	764		230	764		0	0.0	
7	355	162		355	162		0	0.0	
8	414	75		414	75		0	0.0	
9	447	54		447	54		0	0.0	
10	472	45		472	45		0	0.0	
11	494	40		494	40		0	0.0	
12	514	38		514	38		0	0.0	
13	534	37		534	37		0	0.0	
14	554	37		554	37		0	0.0	
15	575	38		575	38		0	0.0	
16	599	40		599	40		0	0.0	
17	627	43		626	43		1	0.2	
18	663	52		663	52		0	0.0	
19	714	74		714	74		0	0.0	
20	714	74		714	74		0	0.0	

Table H-8: Raw Score to Scale Score, Listening, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	764		230	764		0	0.0	
1	230	764		230	764		0	0.0	
2	230	764		230	764		0	0.0	
3	230	764		230	764		0	0.0	
4	230	764		230	764		0	0.0	
5	230	764		230	764		0	0.0	
6	230	764		230	764		0	0.0	
7	355	162		355	162		0	0.0	
8	414	75		414	75		0	0.0	
9	447	54		447	54		0	0.0	
10	472	45		472	45		0	0.0	
11	494	40		494	40		0	0.0	
12	514	38		514	38		0	0.0	
13	534	37		534	37		0	0.0	
14	554	37		554	37		0	0.0	
15	575	38		575	38		0	0.0	
16	599	40		599	40		0	0.0	
17	627	43		626	43		1	0.2	
18	663	52		663	52		0	0.0	
19	714	74		714	74		0	0.0	
20	714	74		714	74		0	0.0	

Table H-9: Raw Score to Scale Score, Listening, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	764		230	764		0	0.0	
1	230	764		230	764		0	0.0	
2	230	764		230	764		0	0.0	
3	230	764		230	764		0	0.0	
4	230	764		230	764		0	0.0	
5	230	764		230	764		0	0.0	
6	230	764		230	764		0	0.0	
7	355	162		355	162		0	0.0	
8	414	75		414	75		0	0.0	
9	447	54		447	54		0	0.0	
10	472	45		472	45		0	0.0	
11	494	40		494	40		0	0.0	
12	514	38		514	38		0	0.0	
13	534	37		534	37		0	0.0	
14	554	37		554	37		0	0.0	
15	575	38		575	38		0	0.0	
16	599	40		599	40		0	0.0	
17	627	43		626	43		1	0.2	
18	663	52		663	52		0	0.0	
19	714	74		714	74		0	0.0	
20	714	74		714	74		0	0.0	

Table H-10: Raw Score to Scale Score, Listening, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	731		230	731		0	-0.1	
1	230	731		230	731		0	-0.1	
2	230	731		230	731		0	-0.1	
3	230	731		230	731		0	-0.1	
4	230	731		230	731		0	-0.1	
5	230	731		230	731		0	-0.1	
6	230	731		230	731		0	-0.1	
7	365	131		365	131		0	0.0	
8	417	74		417	74		0	0.1	
9	451	56		451	56		0	0.1	
10	478	48		478	48		0	0.1	
11	502	44		502	44		0	0.0	
12	525	43		525	43		0	0.0	
13	548	43		548	43		0	0.0	
14	573	44		573	44		0	0.0	
15	600	47		600	47		0	0.0	
16	630	51		631	51		-1	-0.2	
17	667	56		667	56		0	0.1	
18	712	57		711	57		1	0.6	
19	724	58		724	58		0	0.6	
20	724	58		724	58		0	0.6	

Table H-11: Raw Score to Scale Score, Listening, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	731		230	731		0	-0.1	
1	230	731		230	731		0	-0.1	
2	230	731		230	731		0	-0.1	
3	230	731		230	731		0	-0.1	
4	230	731		230	731		0	-0.1	
5	230	731		230	731		0	-0.1	
6	230	731		230	731		0	-0.1	
7	365	131		365	131		0	0.0	
8	417	74		417	74		0	0.1	
9	451	56		451	56		0	0.1	
10	478	48		478	48		0	0.1	
11	502	44		502	44		0	0.0	
12	525	43		525	43		0	0.0	
13	548	43		548	43		0	0.0	
14	573	44		573	44		0	0.0	
15	600	47		600	47		0	0.0	
16	630	51		631	51		-1	-0.2	
17	667	56		667	56		0	0.1	
18	712	57		711	57		1	0.6	
19	724	58		724	58		0	0.6	
20	724	58		724	58		0	0.6	

Table H-12: Raw Score to Scale Score, Listening, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	731		230	731		0	-0.1	
1	230	731		230	731		0	-0.1	
2	230	731		230	731		0	-0.1	
3	230	731		230	731		0	-0.1	
4	230	731		230	731		0	-0.1	
5	230	731		230	731		0	-0.1	
6	230	731		230	731		0	-0.1	
7	365	131		365	131		0	0.0	
8	417	74		417	74		0	0.1	
9	451	56		451	56		0	0.1	
10	478	48		478	48		0	0.1	
11	502	44		502	44		0	0.0	
12	525	43		525	43		0	0.0	
13	548	43		548	43		0	0.0	
14	573	44		573	44		0	0.0	
15	600	47		600	47		0	0.0	
16	630	51		631	51		-1	-0.2	
17	667	56		667	56		0	0.1	
18	712	57		711	57		1	0.6	
19	724	58		724	58		0	0.6	
20	724	58		724	58		0	0.6	

Table H-13: Raw Score to Scale Score, Listening, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	230	731		230	731		0	-0.1	
1	230	731		230	731		0	-0.1	
2	230	731		230	731		0	-0.1	
3	230	731		230	731		0	-0.1	
4	230	731		230	731		0	-0.1	
5	230	731		230	731		0	-0.1	
6	230	731		230	731		0	-0.1	
7	365	131		365	131		0	0.0	
8	417	74		417	74		0	0.1	
9	451	56		451	56		0	0.1	
10	478	48		478	48		0	0.1	
11	502	44		502	44		0	0.0	
12	525	43		525	43		0	0.0	
13	548	43		548	43		0	0.0	
14	573	44		573	44		0	0.0	
15	600	47		600	47		0	0.0	
16	630	51		631	51		-1	-0.2	
17	667	56		667	56		0	0.1	
18	712	57		711	57		1	0.6	
19	724	58		724	58		0	0.6	
20	724	58		724	58		0	0.6	

Table H-14: Raw Score to Scale Score, Speaking, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	204		140	203		0	0.9	
1	270	38		269	38		1	-0.3	
2	298	28		298	28		0	0.1	
3	317	23		316	23		1	-0.1	
4	331	21		330	21		1	-0.1	
5	342	20		342	20		0	0.0	
6	353	19		352	19		1	0.0	
7	362	18		362	18		0	0.0	
8	371	17		370	17		1	0.0	
9	379	17		378	17		1	0.0	
10	386	16		386	16		0	0.0	
11	394	16		393	16		1	0.0	
12	401	16		400	16		1	0.0	
13	407	16		407	16		0	0.0	
14	414	15		414	15		0	0.0	
15	420	15		420	15		0	0.0	
16	427	15		426	15		1	0.0	
17	433	15		433	15		0	0.0	
18	440	15		439	15		1	0.0	
19	446	16		446	16		0	0.0	
20	453	16		452	16		1	0.0	
21	460	16		460	16		0	0.0	
22	468	17		467	17		1	0.1	
23	476	18		476	18		0	0.0	
24	486	20		485	20		1	0.1	
25	497	22		497	22		0	-0.1	

Table H-14: Raw Score to Scale Score, Speaking, Kindergarten

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	511	25		511	25		0	-0.1	
27	531	30	Advanced	531	31	Advanced	0	-0.1	
28	565	43		564	43		1	0.3	
29	629	86		629	86		0	-0.4	Advanced

Table H-15: Raw Score to Scale Score, Speaking, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	204		140	203		0	0.9	
1	270	38		269	38		1	-0.3	
2	298	28		298	28		0	0.1	
3	317	23		316	23		1	-0.1	
4	331	21		330	21		1	-0.1	
5	342	20		342	20		0	0.0	
6	353	19		352	19		1	0.0	
7	362	18		362	18		0	0.0	
8	371	17		370	17		1	0.0	
9	379	17		378	17		1	0.0	
10	386	16		386	16		0	0.0	
11	394	16		393	16		1	0.0	
12	401	16		400	16		1	0.0	
13	407	16		407	16		0	0.0	
14	414	15		414	15		0	0.0	
15	420	15		420	15		0	0.0	
16	427	15		426	15		1	0.0	
17	433	15		433	15		0	0.0	
18	440	15		439	15		1	0.0	
19	446	16		446	16		0	0.0	
20	453	16		452	16		1	0.0	
21	460	16		460	16		0	0.0	
22	468	17		467	17		1	0.1	
23	476	18		476	18		0	0.0	
24	486	20		485	20		1	0.1	
25	497	22		497	22		0	-0.1	

Table H-15: Raw Score to Scale Score, Speaking, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	511	25		511	25		0	-0.1	
27	531	30		531	31		0	-0.1	
28	565	43	Advanced	564	43	Advanced	1	0.3	
29	629	86		629	86		0	-0.4	Advanced

Table H-16: Raw Score to Scale Score, Speaking, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	140	204		140	203		0	0.9	
1	270	38		269	38		1	-0.3	
2	298	28		298	28		0	0.1	
3	317	23		316	23		1	-0.1	
4	331	21		330	21		1	-0.1	
5	342	20		342	20		0	0.0	
6	353	19		352	19		1	0.0	
7	362	18		362	18		0	0.0	
8	371	17		370	17		1	0.0	
9	379	17		378	17		1	0.0	
10	386	16		386	16		0	0.0	
11	394	16		393	16		1	0.0	
12	401	16		400	16		1	0.0	
13	407	16		407	16		0	0.0	
14	414	15		414	15		0	0.0	
15	420	15		420	15		0	0.0	
16	427	15		426	15		1	0.0	
17	433	15		433	15		0	0.0	
18	440	15		439	15		1	0.0	
19	446	16		446	16		0	0.0	
20	453	16		452	16		1	0.0	
21	460	16		460	16		0	0.0	
22	468	17		467	17		1	0.1	

Table H-16: Raw Score to Scale Score, Speaking, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
23	476	18		476	18		0	0.0	
24	486	20	Early	485	20	Early	1	0.1	
25	497	22	Advanced	497	22	Advanced	0	-0.1	Early Advanced
26	511	25		511	25		0	-0.1	
27	531	30		531	31		0	-0.1	
28	565	43		564	43		1	0.3	
29	629	86		629	86		0	-0.4	

Table H-17: Raw Score to Scale Score, Speaking, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	133		200	133		0	-0.5	
1	303	44		303	44		0	-0.1	
2	338	32		339	31		-1	0.2	
3	360	26		360	26		0	-0.1	
4	375	23		376	23		-1	0.1	
5	388	21		388	21		0	-0.1	
6	399	19		399	19		0	-0.1	
7	408	18		408	18		0	-0.1	
8	417	18		417	18		0	-0.1	
9	425	17		425	17		0	-0.1	
10	433	17		433	17		0	-0.1	
11	440	17		441	17		-1	0.0	
12	448	16		448	17		0	-0.1	
13	455	16		455	16		0	-0.1	
14	462	16		462	16		0	-0.1	
15	469	16		469	16		0	-0.1	
16	476	16		477	16		-1	-0.1	
17	483	16		484	16		-1	-0.1	
18	490	17		491	17		-1	-0.1	
19	497	17		498	17		-1	-0.1	
20	505	17		505	17		0	0.0	
21	512	17		513	17		-1	-0.1	
22	521	18		521	18		0	0.0	
23	529	19		530	19		-1	-0.1	

Table H-17: Raw Score to Scale Score, Speaking, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	539	20		540	20		-1	-0.1	
25	550	22		551	22		-1	-0.1	
26	563	24		564	24	Advanced	-1	-0.1	
27	581	29	Advanced	582	30	Advanced	-1	-0.1	
28	612	42		613	42		-1	-0.2	Advanced
29	719	148		719	146		0	2.0	

Table H-18: Raw Score to Scale Score, Speaking, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	133		200	133		0	-0.5	
1	303	44		303	44		0	-0.1	
2	338	32		339	31		-1	0.2	
3	360	26		360	26		0	-0.1	
4	375	23		376	23		-1	0.1	
5	388	21		388	21		0	-0.1	
6	399	19		399	19		0	-0.1	
7	408	18		408	18		0	-0.1	
8	417	18		417	18		0	-0.1	
9	425	17		425	17		0	-0.1	
10	433	17		433	17		0	-0.1	
11	440	17		441	17		-1	0.0	
12	448	16		448	17		0	-0.1	
13	455	16		455	16		0	-0.1	
14	462	16		462	16		0	-0.1	
15	469	16		469	16		0	-0.1	
16	476	16		477	16		-1	-0.1	
17	483	16		484	16		-1	-0.1	
18	490	17		491	17		-1	-0.1	
19	497	17		498	17		-1	-0.1	
20	505	17		505	17		0	0.0	
21	512	17		513	17		-1	-0.1	
22	521	18		521	18		0	0.0	
23	529	19		530	19		-1	-0.1	
24	539	20		540	20		-1	-0.1	

Table H-18: Raw Score to Scale Score, Speaking, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	550	22		551	22		-1	-0.1	
26	563	24		564	24		-1	-0.1	
27	581	29	Advanced	582	30	Advanced	-1	-0.1	Advanced
28	612	42		613	42		-1	-0.2	
29	719	148		719	146		0	2.0	

Table H-19: Raw Score to Scale Score, Speaking, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	200	133		200	133		0	-0.5	
1	303	44		303	44		0	-0.1	
2	338	32		339	31		-1	0.2	
3	360	26		360	26		0	-0.1	
4	375	23		376	23		-1	0.1	
5	388	21		388	21		0	-0.1	
6	399	19		399	19		0	-0.1	
7	408	18		408	18		0	-0.1	
8	417	18		417	18		0	-0.1	
9	425	17		425	17		0	-0.1	
10	433	17		433	17		0	-0.1	
11	440	17		441	17		-1	0.0	
12	448	16		448	17		0	-0.1	
13	455	16		455	16		0	-0.1	
14	462	16		462	16		0	-0.1	
15	469	16		469	16		0	-0.1	
16	476	16		477	16		-1	-0.1	
17	483	16		484	16		-1	-0.1	
18	490	17		491	17		-1	-0.1	
19	497	17		498	17		-1	-0.1	
20	505	17		505	17		0	0.0	
21	512	17		513	17		-1	-0.1	
22	521	18		521	18		0	0.0	
23	529	19		530	19		-1	-0.1	
24	539	20		540	20		-1	-0.1	
25	550	22		551	22		-1	-0.1	

Table H-19: Raw Score to Scale Score, Speaking, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	563	24		564	24		-1	-0.1	
27	581	29		582	30	Advanced	-1	-0.1	
28	612	42		613	42		-1	-0.2	
29	719	148	Advanced	719	146		0	2.0	Advanced

Table H-20: Raw Score to Scale Score, Speaking, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	95		225	97		0	-1.1	
1	290	53		292	53		-2	0.6	
2	330	38		332	38		-2	0.5	
3	355	32		356	32		-1	0.2	
4	373	28		374	28		-1	0.2	
5	388	25		389	25		-1	0.2	
6	400	24		401	23		-1	0.2	
7	411	22		412	22		-1	0.2	
8	421	21		422	21		-1	0.1	
9	430	21		431	20		-1	0.1	
10	439	20		439	20		0	0.1	
11	447	20		448	20		-1	0.1	
12	455	20		456	19		-1	0.1	
13	463	19		464	19		-1	0.1	
14	471	19		472	19		-1	0.1	
15	479	20		480	19		-1	0.1	
16	487	20		488	20		-1	0.1	
17	495	20		496	20		-1	0.1	
18	504	21		504	20		0	0.1	
19	513	21		513	21		0	0.1	
20	523	22		523	22		0	0.1	
21	533	23		533	23		0	0.1	
22	544	24		544	24		0	0.2	
23	557	26		557	26		0	0.2	

Table H-20: Raw Score to Scale Score, Speaking, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	572	28		572	28		0	0.2	
25	589	31		589	31		0	0.2	
26	610	35	Advanced	610	35	Advanced	0	0.2	
27	638	42		638	41		0	0.2	
28	682	57		681	56		1	0.5	
29	719	76		719	76		0	-0.1	

Table H-21: Raw Score to Scale Score, Speaking, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	95		225	97		0	-1.1	
1	290	53		292	53		-2	0.6	
2	330	38		332	38		-2	0.5	
3	355	32		356	32		-1	0.2	
4	373	28		374	28		-1	0.2	
5	388	25		389	25		-1	0.2	
6	400	24		401	23		-1	0.2	
7	411	22		412	22		-1	0.2	
8	421	21		422	21		-1	0.1	
9	430	21		431	20		-1	0.1	
10	439	20		439	20		0	0.1	
11	447	20		448	20		-1	0.1	
12	455	20		456	19		-1	0.1	
13	463	19		464	19		-1	0.1	
14	471	19		472	19		-1	0.1	
15	479	20		480	19		-1	0.1	
16	487	20		488	20		-1	0.1	
17	495	20		496	20		-1	0.1	
18	504	21		504	20		0	0.1	
19	513	21		513	21		0	0.1	
20	523	22		523	22		0	0.1	
21	533	23		533	23		0	0.1	
22	544	24		544	24		0	0.2	
23	557	26		557	26		0	0.2	

Table H-21: Raw Score to Scale Score, Speaking, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	572	28		572	28		0	0.2	
25	589	31		589	31		0	0.2	
26	610	35		610	35		0	0.2	
27	638	42		638	41		0	0.2	
28	682	57		681	56		1	0.5	
29	719	76		719	76		0	-0.1	

Table H-22: Raw Score to Scale Score, Speaking, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	225	95		225	97		0	-1.1	
1	290	53		292	53		-2	0.6	
2	330	38		332	38		-2	0.5	
3	355	32		356	32		-1	0.2	
4	373	28		374	28		-1	0.2	
5	388	25		389	25		-1	0.2	
6	400	24		401	23		-1	0.2	
7	411	22		412	22		-1	0.2	
8	421	21		422	21		-1	0.1	
9	430	21		431	20		-1	0.1	
10	439	20		439	20		0	0.1	
11	447	20		448	20		-1	0.1	
12	455	20		456	19		-1	0.1	
13	463	19		464	19		-1	0.1	
14	471	19		472	19		-1	0.1	
15	479	20		480	19		-1	0.1	
16	487	20		488	20		-1	0.1	
17	495	20		496	20		-1	0.1	
18	504	21		504	20		0	0.1	
19	513	21		513	21		0	0.1	
20	523	22		523	22		0	0.1	
21	533	23		533	23		0	0.1	
22	544	24		544	24		0	0.2	
23	557	26		557	26		0	0.2	
24	572	28		572	28		0	0.2	
25	589	31		589	31		0	0.2	

Table H-22: Raw Score to Scale Score, Speaking, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	610	35		610	35		0	0.2	
27	638	42		638	41		0	0.2	
28	682	57	Advanced	681	56	Advanced	1	0.5	
29	719	76		719	76		0	-0.1	Advanced

Table H-23: Raw Score to Scale Score, Speaking, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	127		235	126		0	0.4	
1	325	55		324	55		1	-0.3	
2	364	38		364	38		0	0.1	
3	388	31		387	32		1	-0.1	
4	405	28		405	28		0	0.1	
5	419	25		419	25		0	0.1	
6	431	24		431	24		0	0.0	
7	442	22		442	22		0	0.0	
8	452	22		452	22		0	0.0	
9	461	21		461	21		0	0.0	
10	470	20		470	20		0	0.0	
11	479	20		478	20		1	0.0	
12	487	20		486	20		1	0.0	
13	495	20		495	20		0	0.0	
14	503	20		503	20		0	0.0	
15	511	20		511	20		0	0.0	
16	520	20		519	20		1	0.0	
17	528	21		528	21		0	0.0	
18	537	21		537	21		0	0.0	
19	547	22		546	22		1	0.0	
20	557	23		556	23		1	0.1	
21	568	24		567	24		1	0.1	
22	579	25		579	25		0	0.0	
23	592	27		592	27		0	0.0	
24	607	29		607	29		0	-0.1	

Table H-23: Raw Score to Scale Score, Speaking, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	625	32		624	32		1	0.1	
26	646	37		646	37		0	-0.1	
27	675	45	Advanced	675	45	Advanced	0	-0.1	Advanced
28	722	63		722	63		0	-0.1	
29	739	71		739	72		0	-0.1	

Table H-24: Raw Score to Scale Score, Speaking, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	127		235	126		0	0.4	
1	325	55		324	55		1	-0.3	
2	364	38		364	38		0	0.1	
3	388	31		387	32		1	-0.1	
4	405	28		405	28		0	0.1	
5	419	25		419	25		0	0.1	
6	431	24		431	24		0	0.0	
7	442	22		442	22		0	0.0	
8	452	22		452	22		0	0.0	
9	461	21		461	21		0	0.0	
10	470	20		470	20		0	0.0	
11	479	20		478	20		1	0.0	
12	487	20		486	20		1	0.0	
13	495	20		495	20		0	0.0	
14	503	20		503	20		0	0.0	
15	511	20		511	20		0	0.0	
16	520	20		519	20		1	0.0	
17	528	21		528	21		0	0.0	
18	537	21		537	21		0	0.0	
19	547	22		546	22		1	0.0	
20	557	23		556	23		1	0.1	
21	568	24		567	24		1	0.1	
22	579	25		579	25		0	0.0	
23	592	27		592	27		0	0.0	
24	607	29		607	29		0	-0.1	

Table H-24: Raw Score to Scale Score, Speaking, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	625	32		624	32		1	0.1	
26	646	37		646	37		0	-0.1	
27	675	45	Advanced	675	45	Advanced	0	-0.1	Advanced
28	722	63		722	63		0	-0.1	
29	739	71		739	72		0	-0.1	

Table H-25: Raw Score to Scale Score, Speaking, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	127		235	126		0	0.4	
1	325	55		324	55		1	-0.3	
2	364	38		364	38		0	0.1	
3	388	31		387	32		1	-0.1	
4	405	28		405	28		0	0.1	
5	419	25		419	25		0	0.1	
6	431	24		431	24		0	0.0	
7	442	22		442	22		0	0.0	
8	452	22		452	22		0	0.0	
9	461	21		461	21		0	0.0	
10	470	20		470	20		0	0.0	
11	479	20		478	20		1	0.0	
12	487	20		486	20		1	0.0	
13	495	20		495	20		0	0.0	
14	503	20		503	20		0	0.0	
15	511	20		511	20		0	0.0	
16	520	20		519	20		1	0.0	
17	528	21		528	21		0	0.0	
18	537	21		537	21		0	0.0	
19	547	22		546	22		1	0.0	
20	557	23		556	23		1	0.1	
21	568	24		567	24		1	0.1	
22	579	25		579	25		0	0.0	
23	592	27		592	27		0	0.0	
24	607	29		607	29		0	-0.1	

Table H-25: Raw Score to Scale Score, Speaking, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	625	32		624	32		1	0.1	
26	646	37		646	37		0	-0.1	
27	675	45	Advanced	675	45	Advanced	0	-0.1	Advanced
28	722	63		722	63		0	-0.1	
29	739	71		739	72		0	-0.1	

Table H-26: Raw Score to Scale Score, Speaking, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	235	127		235	126		0	0.4	
1	325	55		324	55		1	-0.3	
2	364	38		364	38		0	0.1	
3	388	31		387	32		1	-0.1	
4	405	28		405	28		0	0.1	
5	419	25		419	25		0	0.1	
6	431	24		431	24		0	0.0	
7	442	22		442	22		0	0.0	
8	452	22		452	22		0	0.0	
9	461	21		461	21		0	0.0	
10	470	20		470	20		0	0.0	
11	479	20		478	20		1	0.0	
12	487	20		486	20		1	0.0	
13	495	20		495	20		0	0.0	
14	503	20		503	20		0	0.0	
15	511	20		511	20		0	0.0	
16	520	20		519	20		1	0.0	
17	528	21		528	21		0	0.0	
18	537	21		537	21		0	0.0	
19	547	22		546	22		1	0.0	
20	557	23		556	23		1	0.1	
21	568	24		567	24		1	0.1	
22	579	25		579	25		0	0.0	
23	592	27		592	27		0	0.0	
24	607	29		607	29		0	-0.1	

Table H-26: Raw Score to Scale Score, Speaking, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	625	32		624	32		1	0.1	
26	646	37		646	37		0	-0.1	
27	675	45	Advanced	675	45	Advanced	0	-0.1	Advanced
28	722	63		722	63		0	-0.1	
29	739	71		739	72		0	-0.1	

Table H-27: Raw Score to Scale Score, Reading, Grade K

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	31		220	31		0	0.2	
1	220	31		220	31		0	0.2	
2	220	31		220	31		0	0.2	
3	220	31		220	31		0	0.2	
4	220	31		220	31		0	0.2	
5	220	31		220	31		0	0.2	
6	239	21		239	20		0	0.1	
7	252	16		252	16		0	0.1	
8	262	15		262	15		0	0.1	
9	271	15		271	15		0	0.1	
10	281	16		281	16		0	0.1	
11	292	19		292	19		0	0.0	
12	306	23		306	23		0	0.0	
13	321	26		321	26		0	-0.1	
14	336	24		337	24		-1	0.1	
15	349	21		350	21		-1	0.3	
16	361	20		361	19		0	0.2	
17	372	19		372	19		0	0.2	
18	383	19		383	19		0	0.2	
19	395	20		395	20		0	0.2	
20	409	22		409	22		0	0.2	
21	424	24		424	24		0	0.2	
22	445	29		444	29		1	0.4	
23	479	43		479	44		0	-0.1	
24	569	126		569	127		0	-1.1	

Table H-28: Raw Score to Scale Score, Reading, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	31		220	31		0	0.2	
1	220	31		220	31		0	0.2	
2	220	31		220	31		0	0.2	
3	220	31		220	31		0	0.2	
4	220	31		220	31		0	0.2	
5	220	31		220	31		0	0.2	
6	239	21		239	20		0	0.1	
7	252	16		252	16		0	0.1	
8	262	15		262	15		0	0.1	
9	271	15		271	15		0	0.1	
10	281	16		281	16		0	0.1	
11	292	19		292	19		0	0.0	
12	306	23		306	23		0	0.0	
13	321	26		321	26		0	-0.1	
14	336	24		337	24		-1	0.1	
15	349	21		350	21		-1	0.3	
16	361	20		361	19		0	0.2	
17	372	19		372	19		0	0.2	
18	383	19		383	19		0	0.2	
19	395	20		395	20		0	0.2	
20	409	22		409	22		0	0.2	
21	424	24		424	24		0	0.2	
22	445	29		444	29		1	0.4	
23	479	43	Early Advanced	479	44	Early Advanced	0	-0.1	Early Advanced
24	569	126	Advanced	569	127	Advanced	0	-1.1	Advanced

Table H-29: Raw Score to Scale Score, Reading, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	365		280	361		0	4.2	
1	280	365		280	361		0	4.2	
2	280	365		280	361		0	4.2	
3	280	365		280	361		0	4.2	
4	280	365		280	361		0	4.2	
5	280	365		280	361		0	4.2	
6	280	365		280	361		0	4.2	
7	280	365		280	361		0	4.2	
8	344	95		344	94		0	0.8	
9	378	46		378	46		0	0.2	
10	396	32		396	32		0	0.1	
11	409	25		409	25		0	0.0	
12	419	21		419	21		0	0.0	
13	427	18		427	18		0	0.0	
14	434	17		434	17		0	0.0	
15	441	16		441	16		0	0.0	
16	447	15		447	15		0	0.0	
17	453	15		453	15		0	0.0	
18	459	14		459	14		0	0.0	
19	464	14		464	14		0	0.0	
20	470	14		470	14		0	0.0	
21	475	14		475	14		0	0.0	
22	481	14		481	14		0	0.0	
23	487	14		487	14		0	0.0	
24	493	14		493	14		0	0.0	
25	498	14		498	14		0	0.0	

Table H-29: Raw Score to Scale Score, Reading, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	505	14		505	14		0	0.1	
27	511	15		511	15		0	0.1	
28	518	15		518	15		0	0.1	
29	526	16		526	16		0	0.1	
30	534	17		534	17		0	0.1	
31	544	18		544	18		0	0.1	
32	556	21		556	20		0	0.1	
33	573	25		572	25		1	0.4	
34	599	36		599	36		0	-0.1	
35	649	73		649	73		0	-0.6	

Table H-30: Raw Score to Scale Score, Reading, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	633		280	577		0	55.4	
1	280	633		280	577		0	55.4	
2	280	633		280	577		0	55.4	
3	280	633		280	577		0	55.4	
4	280	633		280	577		0	55.4	
5	280	633		280	577		0	55.4	
6	283	594		299	391		-16	203.5	
7	388	72		389	68		-1	3.4	
8	417	44		417	43		0	0.7	
9	434	33		434	33		0	0.3	
10	447	27		447	27		0	0.1	
11	457	23		457	23		0	0.1	
12	466	21		466	21		0	0.0	
13	473	19		473	19		0	0.0	
14	480	18		480	18		0	0.0	
15	487	16		487	16		0	0.0	
16	493	16		493	16		0	0.0	
17	498	15		498	15		0	0.0	
18	504	15		504	15		0	0.0	
19	509	15		509	15		0	0.0	
20	515	15		515	15		0	0.0	
21	520	15		520	15		0	0.0	
22	526	15		526	15		0	0.0	
23	531	15		531	15		0	0.0	
24	537	15		537	15		0	0.0	

Table H-30: Raw Score to Scale Score, Reading, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	543	15		543	15		0	0.0	
26	549	15		549	15		0	0.0	
27	556	16	Early Advanced	556	16	Early Advanced	0	0.0	
28	563	17		563	17		0	0.0	
29	571	18		571	18		0	0.0	Early Advanced
30	580	19		580	19		0	0.0	
31	591	21		591	21		0	0.0	
32	604	24		605	24		-1	-0.3	
33	623	30		623	30		0	0.0	
34	655	43		656	44		-1	-0.5	
35	699	73		699	73		0	0.0	

Table H-31: Raw Score to Scale Score, Reading, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	633		280	577		0	55.4	
1	280	633		280	577		0	55.4	
2	280	633		280	577		0	55.4	
3	280	633		280	577		0	55.4	
4	280	633		280	577		0	55.4	
5	280	633		280	577		0	55.4	
6	283	594		299	391		-16	203.5	
7	388	72		389	68		-1	3.4	
8	417	44		417	43		0	0.7	
9	434	33		434	33		0	0.3	
10	447	27		447	27		0	0.1	
11	457	23		457	23		0	0.1	
12	466	21		466	21		0	0.0	
13	473	19		473	19		0	0.0	
14	480	18		480	18		0	0.0	
15	487	16		487	16		0	0.0	
16	493	16		493	16		0	0.0	
17	498	15		498	15		0	0.0	
18	504	15		504	15		0	0.0	
19	509	15		509	15		0	0.0	
20	515	15		515	15		0	0.0	
21	520	15		520	15		0	0.0	
22	526	15		526	15		0	0.0	
23	531	15		531	15		0	0.0	
24	537	15		537	15		0	0.0	
25	543	15		543	15		0	0.0	
26	549	15		549	15		0	0.0	

Table H-31: Raw Score to Scale Score, Reading, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	556	16		556	16		0	0.0	
28	563	17		563	17		0	0.0	
29	571	18		571	18		0	0.0	
30	580	19		580	19		0	0.0	
31	591	21		591	21		0	0.0	
32	604	24		605	24		-1	-0.3	
33	623	30		623	30		0	0.0	
34	655	43		656	44		-1	-0.5	
35	699	73		699	73		0	0.0	

Table H-32: Raw Score to Scale Score, Reading, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	280	633		280	577		0	55.4	
1	280	633		280	577		0	55.4	
2	280	633		280	577		0	55.4	
3	280	633		280	577		0	55.4	
4	280	633		280	577		0	55.4	
5	280	633		280	577		0	55.4	
6	283	594		299	391		-16	203.5	
7	388	72		389	68		-1	3.4	
8	417	44		417	43		0	0.7	
9	434	33		434	33		0	0.3	
10	447	27		447	27		0	0.1	
11	457	23		457	23		0	0.1	
12	466	21		466	21		0	0.0	
13	473	19		473	19		0	0.0	
14	480	18		480	18		0	0.0	
15	487	16		487	16		0	0.0	
16	493	16		493	16		0	0.0	
17	498	15		498	15		0	0.0	
18	504	15		504	15		0	0.0	
19	509	15		509	15		0	0.0	
20	515	15		515	15		0	0.0	
21	520	15		520	15		0	0.0	
22	526	15		526	15		0	0.0	
23	531	15		531	15		0	0.0	
24	537	15		537	15		0	0.0	
25	543	15		543	15		0	0.0	
26	549	15		549	15		0	0.0	
27	556	16		556	16		0	0.0	

Table H-32: Raw Score to Scale Score, Reading, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
28	563	17		563	17		0	0.0	
29	571	18		571	18		0	0.0	
30	580	19		580	19		0	0.0	
31	591	21		591	21		0	0.0	
32	604	24		605	24		-1	-0.3	
33	623	30		623	30		0	0.0	
34	655	43		656	44		-1	-0.5	
35	699	73		699	73		0	0.0	

Table H-33: Raw Score to Scale Score, Reading, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	361		320	350		0	11.8	
1	320	361		320	350		0	11.8	
2	320	361		320	350		0	11.8	
3	320	361		320	350		0	11.8	
4	320	361		320	350		0	11.8	
5	320	361		320	350		0	11.8	
6	320	361		320	350		0	11.8	
7	347	258		349	233		-2	25.1	
8	428	70		428	66		0	3.8	
9	458	44		458	43		0	1.0	
10	477	35		477	34		0	0.3	
11	491	30		491	30		0	0.1	
12	503	26		503	26		0	0.0	
13	513	24		513	24		0	0.0	
14	522	22		522	22		0	0.0	
15	530	20		530	20		0	0.0	
16	538	19		538	19		0	0.0	
17	545	18		545	18		0	0.0	
18	551	17		551	17		0	0.0	
19	558	17		558	17		0	0.0	
20	564	17		564	17		0	0.0	
21	571	16		571	16		0	0.0	
22	577	16		577	16		0	0.0	
23	584	16		584	16		0	0.0	
24	590	16		590	16		0	0.0	
25	597	17		597	17		0	0.0	
26	604	17		604	17		0	0.0	

Table H-33: Raw Score to Scale Score, Reading, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	612	18		612	18		0	0.0	
28	620	19		620	19		0	0.0	
29	630	20		630	20		0	0.0	
30	640	21		640	21		0	0.0	
31	653	24	Advanced	653	24	Advanced	0	0.0	Advanced
32	668	27		668	27		0	0.0	
33	690	34		690	34		0	0.0	
34	727	50		727	50		0	0.0	
35	749	63		749	63		0	-0.1	

Table H-34: Raw Score to Scale Score, Reading, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	361		320	350		0	11.8	
1	320	361		320	350		0	11.8	
2	320	361		320	350		0	11.8	
3	320	361		320	350		0	11.8	
4	320	361		320	350		0	11.8	
5	320	361		320	350		0	11.8	
6	320	361		320	350		0	11.8	
7	347	258		349	233		-2	25.1	
8	428	70		428	66		0	3.8	
9	458	44		458	43		0	1.0	
10	477	35		477	34		0	0.3	
11	491	30		491	30		0	0.1	
12	503	26		503	26		0	0.0	
13	513	24		513	24		0	0.0	
14	522	22		522	22		0	0.0	
15	530	20		530	20		0	0.0	
16	538	19		538	19		0	0.0	
17	545	18		545	18		0	0.0	
18	551	17		551	17		0	0.0	
19	558	17		558	17		0	0.0	
20	564	17		564	17		0	0.0	
21	571	16		571	16		0	0.0	
22	577	16		577	16		0	0.0	
23	584	16		584	16		0	0.0	
24	590	16		590	16		0	0.0	
25	597	17		597	17		0	0.0	

Table H-34: Raw Score to Scale Score, Reading, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	604	17		604	17		0	0.0	
27	612	18		612	18		0	0.0	
28	620	19		620	19		0	0.0	
29	630	20		630	20		0	0.0	
30	640	21		640	21		0	0.0	
31	653	24		653	24		0	0.0	
32	668	27		668	27		0	0.0	
33	690	34		690	34		0	0.0	
34	727	50		727	50		0	0.0	
35	749	63		749	63		0	-0.1	

Table H-35: Raw Score to Scale Score, Reading, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	361		320	350		0	11.8	
1	320	361		320	350		0	11.8	
2	320	361		320	350		0	11.8	
3	320	361		320	350		0	11.8	
4	320	361		320	350		0	11.8	
5	320	361		320	350		0	11.8	
6	320	361		320	350		0	11.8	
7	347	258		349	233		-2	25.1	
8	428	70		428	66		0	3.8	
9	458	44		458	43		0	1.0	
10	477	35		477	34		0	0.3	
11	491	30		491	30		0	0.1	
12	503	26		503	26		0	0.0	
13	513	24		513	24		0	0.0	
14	522	22		522	22		0	0.0	
15	530	20		530	20		0	0.0	
16	538	19		538	19		0	0.0	
17	545	18		545	18		0	0.0	
18	551	17		551	17		0	0.0	
19	558	17		558	17		0	0.0	
20	564	17		564	17		0	0.0	
21	571	16		571	16		0	0.0	
22	577	16		577	16		0	0.0	
23	584	16		584	16		0	0.0	
24	590	16		590	16		0	0.0	
25	597	17		597	17		0	0.0	
26	604	17		604	17		0	0.0	

Table H-35: Raw Score to Scale Score, Reading, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	612	18		612	18		0	0.0	
28	620	19		620	19		0	0.0	
29	630	20		630	20		0	0.0	
30	640	21		640	21		0	0.0	
31	653	24		653	24		0	0.0	
32	668	27		668	27		0	0.0	
33	690	34		690	34		0	0.0	
34	727	50		727	50		0	0.0	
35	749	63		749	63		0	-0.1	

Table H-36: Raw Score to Scale Score, Reading, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	381		320	382		0	-0.7	
1	320	381		320	382		0	-0.7	
2	320	381		320	382		0	-0.7	
3	320	381		320	382		0	-0.7	
4	320	381		320	382		0	-0.7	
5	320	381		320	382		0	-0.7	
6	320	381		320	382		0	-0.7	
7	320	381		320	382		0	-0.7	
8	383	181		381	186		2	-5.3	
9	443	76		442	77		1	-1.2	
10	472	50		472	50		0	0.0	
11	493	39		493	39		0	0.0	
12	509	34		509	34		0	0.0	
13	523	31		523	31		0	0.0	
14	535	29		535	29		0	0.0	
15	546	27		546	27		0	0.0	
16	557	26		557	26		0	0.0	
17	567	25		567	25		0	0.0	
18	576	24		576	24		0	0.0	
19	585	23		585	23		0	0.0	
20	594	23		594	23		0	0.0	
21	603	22		603	22		0	0.0	
22	612	22		612	22		0	0.0	
23	620	22		620	22		0	0.0	
24	629	22		629	22		0	0.0	
25	638	22		638	22		0	0.0	

Table H-36: Raw Score to Scale Score, Reading, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	647	22		647	22		0	0.1	
27	657	22		657	22		0	0.1	
28	667	23		667	23		0	0.1	
29	679	24		678	24		1	0.2	
30	691	26		691	26		0	0.1	
31	706	28		706	28		0	0.1	
32	725	33		725	33		0	0.0	
33	751	40		750	40		1	0.3	
34	769	47		769	47		0	0.0	
35	769	47		769	47		0	0.0	

Table H-37: Raw Score to Scale Score, Reading, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	381		320	382		0	-0.7	
1	320	381		320	382		0	-0.7	
2	320	381		320	382		0	-0.7	
3	320	381		320	382		0	-0.7	
4	320	381		320	382		0	-0.7	
5	320	381		320	382		0	-0.7	
6	320	381		320	382		0	-0.7	
7	320	381		320	382		0	-0.7	
8	383	181		381	186		2	-5.3	
9	443	76		442	77		1	-1.2	
10	472	50		472	50		0	0.0	
11	493	39		493	39		0	0.0	
12	509	34		509	34		0	0.0	
13	523	31		523	31		0	0.0	
14	535	29		535	29		0	0.0	
15	546	27		546	27		0	0.0	
16	557	26		557	26		0	0.0	
17	567	25		567	25		0	0.0	
18	576	24		576	24		0	0.0	
19	585	23		585	23		0	0.0	
20	594	23		594	23		0	0.0	
21	603	22		603	22		0	0.0	
22	612	22		612	22		0	0.0	
23	620	22		620	22		0	0.0	

Table H-37: Raw Score to Scale Score, Reading, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
.	629	22		629	22		0	0.0	
25	638	22	Early	638	22	Early	0	0.0	
26	647	22	Advanced	647	22	Advanced	0	0.1	
27	657	22		657	22		0	0.1	Early Advanced
28	667	23		667	23		0	0.1	
29	679	24		678	24		1	0.2	
30	691	26		691	26		0	0.1	
31	706	28		706	28		0	0.1	
32	725	33		725	33		0	0.0	
33	751	40		750	40		1	0.3	
34	769	47		769	47		0	0.0	
35	769	47		769	47		0	0.0	

Table H-38: Raw Score to Scale Score, Reading, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	381		320	382		0	-0.7	
1	320	381		320	382		0	-0.7	
2	320	381		320	382		0	-0.7	
3	320	381		320	382		0	-0.7	
4	320	381		320	382		0	-0.7	
5	320	381		320	382		0	-0.7	
6	320	381		320	382		0	-0.7	
7	320	381		320	382		0	-0.7	
8	383	181		381	186		2	-5.3	
9	443	76		442	77		1	-1.2	
10	472	50		472	50		0	0.0	
11	493	39		493	39		0	0.0	
12	509	34		509	34		0	0.0	
13	523	31		523	31		0	0.0	
14	535	29		535	29		0	0.0	
15	546	27		546	27		0	0.0	
16	557	26		557	26		0	0.0	
17	567	25		567	25		0	0.0	
18	576	24		576	24		0	0.0	
19	585	23		585	23		0	0.0	
20	594	23		594	23		0	0.0	
21	603	22		603	22		0	0.0	
22	612	22		612	22		0	0.0	
23	620	22		620	22		0	0.0	

Table H-38: Raw Score to Scale Score, Reading, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	629	22		629	22		0	0.0	
25	638	22	Early	638	22	Early	0	0.0	
26	647	22	Advanced	647	22	Advanced	0	0.1	
27	657	22		657	22		0	0.1	Early Advanced
28	667	23		667	23		0	0.1	
29	679	24		678	24		1	0.2	
30	691	26		691	26		0	0.1	
31	706	28		706	28		0	0.1	
32	725	33		725	33		0	0.0	
33	751	40		750	40		1	0.3	
34	769	47		769	47		0	0.0	
35	769	47		769	47		0	0.0	

Table H-39: Raw Score to Scale Score, Reading, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	320	381		320	382		0	-0.7	
1	320	381		320	382		0	-0.7	
2	320	381		320	382		0	-0.7	
3	320	381		320	382		0	-0.7	
4	320	381		320	382		0	-0.7	
5	320	381		320	382		0	-0.7	
6	320	381		320	382		0	-0.7	
7	320	381		320	382		0	-0.7	
8	383	181		381	186		2	-5.3	
9	443	76		442	77		1	-1.2	
10	472	50		472	50		0	0.0	
11	493	39		493	39		0	0.0	
12	509	34		509	34		0	0.0	
13	523	31		523	31		0	0.0	
14	535	29		535	29		0	0.0	
15	546	27		546	27		0	0.0	
16	557	26		557	26		0	0.0	
17	567	25		567	25		0	0.0	
18	576	24		576	24		0	0.0	
19	585	23		585	23		0	0.0	
20	594	23		594	23		0	0.0	
21	603	22		603	22		0	0.0	
22	612	22		612	22		0	0.0	
23	620	22		620	22		0	0.0	

Table H-39: Raw Score to Scale Score, Reading, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
24	629	22		629	22		0	0.0	
25	638	22	Early	638	22	Early	0	0.0	
26	647	22	Advanced	647	22	Advanced	0	0.1	
27	657	22		657	22		0	0.1	Early Advanced
28	667	23		667	23		0	0.1	
29	679	24		678	24		1	0.2	
30	691	26		691	26		0	0.1	
31	706	28		706	28		0	0.1	
32	725	33		725	33		0	0.0	
33	751	40		750	40		1	0.3	
34	769	47		769	47		0	0.0	
35	769	47		769	47		0	0.0	

Table H-40: Raw Score to Scale Score, Writing, Grade K

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	38		220	38		0	0.0	
1	220	38		220	38		0	0.0	
2	220	38		220	38		0	0.0	
3	220	38		220	38		0	0.0	
4	238	33		239	32		-1	0.3	
5	261	26		261	26		0	0.0	
6	278	23		279	23		-1	0.2	
7	293	21		293	21		0	0.1	
8	306	20		306	20		0	0.1	
9	318	20		319	20		-1	0.1	
10	331	20		331	20		0	0.1	
11	343	20		343	20		0	0.1	
12	356	20		356	20		0	0.1	
13	368	20		368	20		0	0.1	
14	380	19		380	19		0	0.1	
15	391	19		391	19		0	0.1	
16	402	18		402	18		0	0.1	
17	412	17		412	17		0	0.2	
18	422	17		422	17		0	0.2	
19	432	17		432	17		0	0.2	
20	443	18		443	18		0	0.2	
21	456	20		455	20		1	0.3	
22	472	23		472	23		0	0.1	
23	498	33		497	33		1	0.4	
24	599	151		599	153		0	-2.2	
25	599	151		599	153		0	-2.2	
26	599	151		599	153		0	-2.2	
27	599	151		599	153		0	-2.2	
28	599	151		599	153		0	-2.2	

Table H-41: Raw Score to Scale Score, Writing, Grade 1

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	38		220	38		0	0.0	
1	220	38		220	38		0	0.0	
2	220	38		220	38		0	0.0	
3	220	38		220	38		0	0.0	
4	238	33		239	32		-1	0.3	
5	261	26		261	26		0	0.0	
6	278	23		279	23		-1	0.2	
7	293	21		293	21		0	0.1	
8	306	20		306	20		0	0.1	
9	318	20		319	20		-1	0.1	
10	331	20		331	20		0	0.1	
11	343	20		343	20		0	0.1	
12	356	20		356	20		0	0.1	
13	368	20		368	20		0	0.1	
14	380	19		380	19		0	0.1	
15	391	19		391	19		0	0.1	
16	402	18		402	18		0	0.1	
17	412	17		412	17		0	0.2	
18	422	17		422	17		0	0.2	
19	432	17		432	17		0	0.2	
20	443	18		443	18		0	0.2	
21	456	20		455	20		1	0.3	
22	472	23		472	23		0	0.1	
23	498	33		497	33		1	0.4	
24	599	151		599	153		0	-2.2	
25	599	151		599	153		0	-2.2	
26	599	151		599	153		0	-2.2	
27	599	151		599	153		0	-2.2	
28	599	151		599	153		0	-2.2	

Table H-42: Raw Score to Scale Score, Writing, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	151		220	151		0	0.0	
1	220	151		220	151		0	0.0	
2	220	151		220	151		0	0.0	
3	220	151		220	151		0	0.0	
4	220	151		220	151		0	0.0	
5	220	151		220	151		0	0.0	
6	270	76		270	77		0	-0.1	
7	330	37		330	37		0	0.0	
8	356	29		356	29		0	0.0	
9	374	26		374	26		0	0.0	
10	388	24		388	24		0	0.0	
11	401	22		401	22		0	0.0	
12	412	21		412	21		0	-0.1	
13	421	20		422	20		-1	0.1	
14	430	18		430	18		0	-0.1	
15	438	17		438	16		0	0.1	
16	445	15		445	15		0	0.3	
17	452	14		452	14		0	0.4	
18	458	14		458	14		0	0.3	
19	464	14		464	14		0	0.2	
20	471	14		471	14		0	0.1	
21	477	14		477	14		0	0.0	
22	483	14		483	14		0	0.0	
23	490	14		490	14		0	0.0	
24	497	14		497	14		0	0.0	
25	504	15		504	15		0	0.0	
26	513	16		513	16		0	0.0	

Table H-42: Raw Score to Scale Score, Writing, Grade 2

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	522	18	Early	523	18	Early	-1	-0.2	Early
28	534	20	Advanced	534	20	Advanced	0	0.0	Advanced
29	547	22		547	22		0	0.0	
30	562	24		562	24		0	0.0	
31	579	25		579	25		0	0.0	
32	598	28		599	28		-1	-0.1	
33	623	32		623	32		0	0.1	
34	659	43		659	43		0	0.1	
35	689	57		689	56		0	0.2	

Table H-43: Raw Score to Scale Score, Writing, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	111		220	111		0	-0.1	
1	220	111		220	111		0	-0.1	
2	220	111		220	111		0	-0.1	
3	220	111		220	111		0	-0.1	
4	220	111		220	111		0	-0.1	
5	220	111		220	111		0	-0.1	
6	280	60		281	60		-1	0.6	
7	329	40		329	40		0	0.0	
8	355	33		355	33		0	0.0	
9	374	29		375	29		-1	0.2	
10	390	27		390	27		0	0.0	
11	403	25		403	25		0	0.0	
12	415	24		415	24		0	0.0	
13	425	23		425	23		0	0.0	
14	435	21		435	21		0	0.0	
15	444	20		444	20		0	0.0	
16	452	19		452	19		0	0.0	
17	460	18		460	18		0	0.0	
18	467	18		467	18		0	0.0	
19	475	17		474	17		1	0.0	
20	482	17		482	17		0	0.0	
21	489	17		489	17		0	0.0	
22	496	17		496	17		0	0.0	
23	503	17		503	17		0	0.0	
24	511	17		511	17		0	0.0	
25	518	17		518	17		0	0.0	
26	526	18		526	18		0	0.0	

Table H-43: Raw Score to Scale Score, Writing, Grade 3

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	535	18		535	18		0	0.0	
28	545	19		545	19		0	0.0	
29	555	21		555	21		0	0.0	
30	568	23		568	23		0	0.0	
31	583	26		583	26		0	0.0	
32	603	31		603	31		0	0.0	
33	631	38		631	38		0	0.0	
34	679	53		679	53		0	0.0	
35	739	78		739	77		0	0.1	

Table H-44: Raw Score to Scale Score, Writing, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	111		220	111		0	-0.1	
1	220	111		220	111		0	-0.1	
2	220	111		220	111		0	-0.1	
3	220	111		220	111		0	-0.1	
4	220	111		220	111		0	-0.1	
5	220	111		220	111		0	-0.1	
6	280	60		281	60		-1	0.6	
7	329	40		329	40		0	0.0	
8	355	33		355	33		0	0.0	
9	374	29		375	29		-1	0.2	
10	390	27		390	27		0	0.0	
11	403	25		403	25		0	0.0	
12	415	24		415	24		0	0.0	
13	425	23		425	23		0	0.0	
14	435	21		435	21		0	0.0	
15	444	20		444	20		0	0.0	
16	452	19		452	19		0	0.0	
17	460	18		460	18		0	0.0	
18	467	18		467	18		0	0.0	
19	475	17		474	17		1	0.0	
20	482	17		482	17		0	0.0	
21	489	17		489	17		0	0.0	
22	496	17		496	17		0	0.0	
23	503	17		503	17		0	0.0	
24	511	17		511	17		0	0.0	
25	518	17		518	17		0	0.0	
26	526	18		526	18		0	0.0	

Table H-44: Raw Score to Scale Score, Writing, Grade 4

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	535	18		535	18		0	0.0	
28	545	19		545	19		0	0.0	
29	555	21		555	21		0	0.0	
30	568	23		568	23		0	0.0	
31	583	26		583	26		0	0.0	
32	603	31		603	31		0	0.0	
33	631	38		631	38		0	0.0	
34	679	53		679	53		0	0.0	
35	739	78		739	77		0	0.1	

Table H-45: Raw Score to Scale Score, Writing, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	111		220	111		0	-0.1	
1	220	111		220	111		0	-0.1	
2	220	111		220	111		0	-0.1	
3	220	111		220	111		0	-0.1	
4	220	111		220	111		0	-0.1	
5	220	111		220	111		0	-0.1	
6	280	60		281	60		-1	0.6	
7	329	40		329	40		0	0.0	
8	355	33		355	33		0	0.0	
9	374	29		375	29		-1	0.2	
10	390	27		390	27		0	0.0	
11	403	25		403	25		0	0.0	
12	415	24		415	24		0	0.0	
13	425	23		425	23		0	0.0	
14	435	21		435	21		0	0.0	
15	444	20		444	20		0	0.0	
16	452	19		452	19		0	0.0	
17	460	18		460	18		0	0.0	
18	467	18		467	18		0	0.0	
19	475	17		474	17		1	0.0	
20	482	17		482	17		0	0.0	
21	489	17		489	17		0	0.0	
22	496	17		496	17		0	0.0	
23	503	17		503	17		0	0.0	
24	511	17		511	17		0	0.0	
25	518	17		518	17		0	0.0	
26	526	18		526	18		0	0.0	

Table H-45: Raw Score to Scale Score, Writing, Grade 5

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	535	18		535	18		0	0.0	
28	545	19		545	19		0	0.0	
29	555	21		555	21		0	0.0	
30	568	23		568	23		0	0.0	
31	583	26		583	26		0	0.0	
32	603	31		603	31		0	0.0	
33	631	38		631	38		0	0.0	
34	679	53		679	53		0	0.0	
35	739	78		739	77		0	0.1	

Table H-46: Raw Score to Scale Score, Writing, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	114		220	114		0	0.3	
1	220	114		220	114		0	0.3	
2	220	114		220	114		0	0.3	
3	220	114		220	114		0	0.3	
4	220	114		220	114		0	0.3	
5	220	114		220	114		0	0.3	
6	288	60		289	59		-1	0.6	
7	332	41		332	41		0	0.0	
8	357	34		357	34		0	0.0	
9	377	31		376	31		1	-0.2	
10	393	29		392	29		1	-0.1	
11	407	28		407	28		0	0.0	
12	420	28		420	28		0	0.0	
13	433	28		433	28		0	0.0	
14	445	27		445	27		0	0.0	
15	456	26		456	26		0	0.0	
16	467	24		467	24		0	0.0	
17	477	23		477	23		0	0.0	
18	486	21		486	21		0	0.0	
19	495	20		494	20		1	-0.1	
20	503	19		503	19		0	0.0	
21	511	19		511	19		0	0.0	
22	519	18		519	18		0	-0.1	
23	527	18		526	18		1	-0.1	
24	535	18		535	18		0	-0.1	
25	543	18		543	18		0	-0.1	
26	552	19		552	19		0	-0.1	

Table H-46: Raw Score to Scale Score, Writing, Grade 6

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	561	19	Early	561	19	Early	0	-0.1	Early
28	571	20	Advanced	571	20	Advanced	0	-0.1	Advanced
29	583	22		583	22		0	-0.1	
30	597	24		597	25		0	-0.1	
31	614	28		614	28		0	-0.1	
32	637	34		637	35		0	0.0	
33	672	46		672	46		0	0.0	
34	740	68		741	68		-1	-0.2	
35	779	77		779	77		0	0.1	

Table H-47: Raw Score to Scale Score, Writing, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	114		220	114		0	0.3	
1	220	114		220	114		0	0.3	
2	220	114		220	114		0	0.3	
3	220	114		220	114		0	0.3	
4	220	114		220	114		0	0.3	
5	220	114		220	114		0	0.3	
6	288	60		289	59		-1	0.6	
7	332	41		332	41		0	0.0	
8	357	34		357	34		0	0.0	
9	377	31		376	31		1	-0.2	
10	393	29		392	29		1	-0.1	
11	407	28		407	28		0	0.0	
12	420	28		420	28		0	0.0	
13	433	28		433	28		0	0.0	
14	445	27		445	27		0	0.0	
15	456	26		456	26		0	0.0	
16	467	24		467	24		0	0.0	
17	477	23		477	23		0	0.0	
18	486	21		486	21		0	0.0	
19	495	20		494	20		1	-0.1	
20	503	19		503	19		0	0.0	
21	511	19		511	19		0	0.0	
22	519	18		519	18		0	-0.1	
23	527	18		526	18		1	-0.1	
24	535	18		535	18		0	-0.1	
25	543	18		543	18		0	-0.1	
26	552	19		552	19		0	-0.1	

Table H-47: Raw Score to Scale Score, Writing, Grade 7

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	561	19		561	19		0	-0.1	
28	571	20	Early	571	20	Early	0	-0.1	
29	583	22	Advanced	583	22	Advanced	0	-0.1	
30	597	24		597	25		0	-0.1	
31	614	28		614	28		0	-0.1	
32	637	34		637	35		0	0.0	
33	672	46		672	46		0	0.0	
34	740	68		741	68		-1	-0.2	
35	779	77		779	77		0	0.1	

Table H-48: Raw Score to Scale Score, Writing, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	114		220	114		0	0.3	
1	220	114		220	114		0	0.3	
2	220	114		220	114		0	0.3	
3	220	114		220	114		0	0.3	
4	220	114		220	114		0	0.3	
5	220	114		220	114		0	0.3	
6	288	60		289	59		-1	0.6	
7	332	41		332	41		0	0.0	
8	357	34		357	34		0	0.0	
9	377	31		376	31		1	-0.2	
10	393	29		392	29		1	-0.1	
11	407	28		407	28		0	0.0	
12	420	28		420	28		0	0.0	
13	433	28		433	28		0	0.0	
14	445	27		445	27		0	0.0	
15	456	26		456	26		0	0.0	
16	467	24		467	24		0	0.0	
17	477	23		477	23		0	0.0	
18	486	21		486	21		0	0.0	
19	495	20		494	20		1	-0.1	
20	503	19		503	19		0	0.0	
21	511	19		511	19		0	0.0	
22	519	18		519	18		0	-0.1	
23	527	18		526	18		1	-0.1	
24	535	18		535	18		0	-0.1	
25	543	18		543	18		0	-0.1	
26	552	19		552	19		0	-0.1	

Table H-48: Raw Score to Scale Score, Writing, Grade 8

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	561	19		561	19		0	-0.1	
28	571	20	Early	571	20	Early	0	-0.1	
29	583	22	Advanced	583	22	Advanced	0	-0.1	
30	597	24		597	25		0	-0.1	
31	614	28		614	28		0	-0.1	
32	637	34		637	35		0	0.0	
33	672	46		672	46		0	0.0	
34	740	68		741	68		-1	-0.2	
35	779	77		779	77		0	0.1	

Table H-49: Raw Score to Scale Score, Writing, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	82		220	83		0	-1.1	
1	220	82		220	83		0	-1.1	
2	220	82		220	83		0	-1.1	
3	220	82		220	83		0	-1.1	
4	220	82		220	83		0	-1.1	
5	220	82		220	83		0	-1.1	
6	222	81		228	79		-6	1.7	
7	279	60		284	59		-5	1.1	
8	316	50		319	50		-3	0.6	
9	343	45		346	44		-3	0.6	
10	366	41		368	40		-2	0.4	
11	385	38		387	38		-2	0.4	
12	402	36		404	35		-2	0.4	
13	417	34		419	34		-2	0.4	
14	431	33		433	32		-2	0.4	
15	444	32		446	31		-2	0.5	
16	456	30		458	30		-2	0.5	
17	468	28		469	28		-1	0.4	
18	479	27		480	27		-1	0.3	
19	490	26		491	25		-1	0.3	
20	500	25		501	24		-1	0.3	
21	510	24		510	24		0	0.2	
22	520	24		520	23		0	0.2	
23	530	23		530	23		0	0.3	
24	540	24		540	23		0	0.3	

Table H-49: Raw Score to Scale Score, Writing, Grade 9

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
25	551	24		551	24		0	0.3	
26	562	25		562	25		0	0.3	
27	575	26		575	26		0	0.3	
28	588	28		588	27		0	0.3	
29	603	30		603	29		0	0.3	
30	621	32		620	32		1	0.4	
31	642	37		641	36		1	0.4	
32	671	44		670	44		1	0.5	
33	714	57		712	57		2	0.8	
34	786	74		784	74		2	0.7	
35	809	80		809	80		0	0.1	

Table H-50: Raw Score to Scale Score, Writing, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	82		220	83		0	-1.1	
1	220	82		220	83		0	-1.1	
2	220	82		220	83		0	-1.1	
3	220	82		220	83		0	-1.1	
4	220	82		220	83		0	-1.1	
5	220	82		220	83		0	-1.1	
6	222	81		228	79		-6	1.7	
7	279	60		284	59		-5	1.1	
8	316	50		319	50		-3	0.6	
9	343	45		346	44		-3	0.6	
10	366	41		368	40		-2	0.4	
11	385	38		387	38		-2	0.4	
12	402	36		404	35		-2	0.4	
13	417	34		419	34		-2	0.4	
14	431	33		433	32		-2	0.4	
15	444	32		446	31		-2	0.5	
16	456	30		458	30		-2	0.5	
17	468	28		469	28		-1	0.4	
18	479	27		480	27		-1	0.3	
19	490	26		491	25		-1	0.3	
20	500	25		501	24		-1	0.3	
21	510	24		510	24		0	0.2	
22	520	24		520	23		0	0.2	
23	530	23		530	23		0	0.3	
24	540	24		540	23		0	0.3	
25	551	24		551	24		0	0.3	

Table H-50: Raw Score to Scale Score, Writing, Grade 10

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
26	562	25		562	25		0	0.3	
27	575	26		575	26		0	0.3	
28	588	28		588	27		0	0.3	
29	603	30		603	29		0	0.3	
30	621	32		620	32		1	0.4	
31	642	37		641	36		1	0.4	
32	671	44		670	44		1	0.5	
33	714	57		712	57		2	0.8	
34	786	74		784	74		2	0.7	
35	809	80		809	80		0	0.1	

Table H-51: Raw Score to Scale Score, Writing, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	82		220	83		0	-1.1	
1	220	82		220	83		0	-1.1	
2	220	82		220	83		0	-1.1	
3	220	82		220	83		0	-1.1	
4	220	82		220	83		0	-1.1	
5	220	82		220	83		0	-1.1	
6	222	81		228	79		-6	1.7	
7	279	60		284	59		-5	1.1	
8	316	50		319	50		-3	0.6	
9	343	45		346	44		-3	0.6	
10	366	41		368	40		-2	0.4	
11	385	38		387	38		-2	0.4	
12	402	36		404	35		-2	0.4	
13	417	34		419	34		-2	0.4	
14	431	33		433	32		-2	0.4	
15	444	32		446	31		-2	0.5	
16	456	30		458	30		-2	0.5	
17	468	28		469	28		-1	0.4	
18	479	27		480	27		-1	0.3	
19	490	26		491	25		-1	0.3	
20	500	25		501	24		-1	0.3	
21	510	24		510	24		0	0.2	
22	520	24		520	23		0	0.2	
23	530	23		530	23		0	0.3	
24	540	24		540	23		0	0.3	
25	551	24		551	24		0	0.3	
26	562	25		562	25		0	0.3	

Table H-51: Raw Score to Scale Score, Writing, Grade 11

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	575	26	Early	575	26	Early	0	0.3	Early
28	588	28	Advanced	588	27	Advanced	0	0.3	Advanced
29	603	30		603	29		0	0.3	
30	621	32		620	32		1	0.4	
31	642	37		641	36		1	0.4	
32	671	44		670	44		1	0.5	
33	714	57		712	57		2	0.8	
34	786	74		784	74		2	0.7	
35	809	80		809	80		0	0.1	

Table H-52: Raw Score to Scale Score, Writing, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
0	220	82		220	83		0	-1.1	
1	220	82		220	83		0	-1.1	
2	220	82		220	83		0	-1.1	
3	220	82		220	83		0	-1.1	
4	220	82		220	83		0	-1.1	
5	220	82		220	83		0	-1.1	
6	222	81		228	79		-6	1.7	
7	279	60		284	59		-5	1.1	
8	316	50		319	50		-3	0.6	
9	343	45		346	44		-3	0.6	
10	366	41		368	40		-2	0.4	
11	385	38		387	38		-2	0.4	
12	402	36		404	35		-2	0.4	
13	417	34		419	34		-2	0.4	
14	431	33		433	32		-2	0.4	
15	444	32		446	31		-2	0.5	
16	456	30		458	30		-2	0.5	
17	468	28		469	28		-1	0.4	
18	479	27		480	27		-1	0.3	
19	490	26		491	25		-1	0.3	
20	500	25		501	24		-1	0.3	
21	510	24		510	24		0	0.2	
22	520	24		520	23		0	0.2	
23	530	23		530	23		0	0.3	
24	540	24		540	23		0	0.3	
25	551	24		551	24		0	0.3	
26	562	25		562	25		0	0.3	

Table H-52: Raw Score to Scale Score, Writing, Grade 12

ETS Conversion Tables				EDS Replication			Difference		
Raw Score	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level	Scale Score	Standard Error	Performance Level
27	575	26	Early	575	26	Early	0	0.3	Early
28	588	28	Advanced	588	27	Advanced	0	0.3	Advanced
29	603	30		603	29		0	0.3	
30	621	32		620	32		1	0.4	
31	642	37		641	36		1	0.4	
32	671	44		670	44		1	0.5	
33	714	57		712	57		2	0.8	
34	786	74		784	74		2	0.7	
35	809	80		809	80		0	0.1	

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Appendix 3.5: Classification Consistency and Accuracy (TR Appendix G)

Table G-1: Classification Consistency and Accuracy, Listening

ETS Appendix G				EDS Replication				Difference			
Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa
K	0.624	0.508	0.345	K	0.680	0.568	0.580	K	-0.056	-0.060	-0.235
1	0.612	0.496	0.34	1	0.671	0.558	0.572	1	-0.059	-0.062	-0.232
2	0.636	0.528	0.357	2	0.677	0.562	0.560	2	-0.041	-0.034	-0.203
3	0.533	0.423	0.238	3	0.570	0.455	0.441	3	-0.037	-0.032	-0.203
4	0.545	0.438	0.236	4	0.593	0.473	0.458	4	-0.048	-0.035	-0.222
5	0.59	0.479	0.276	5	0.613	0.486	0.469	5	-0.023	-0.007	-0.193
6	0.576	0.462	0.261	6	0.614	0.490	0.472	6	-0.038	-0.028	-0.211
7	0.566	0.457	0.275	7	0.616	0.492	0.482	7	-0.050	-0.035	-0.207
8	0.606	0.492	0.295	8	0.616	0.497	0.470	8	-0.010	-0.005	-0.175
9	0.57	0.455	0.248	9	0.585	0.460	0.437	9	-0.015	-0.005	-0.189
10	0.585	0.469	0.281	10	0.574	0.460	0.428	10	0.011	0.009	-0.147
11	0.584	0.469	0.283	11	0.570	0.458	0.422	11	0.014	0.011	-0.139
12	0.6	0.49	0.321	12	0.568	0.457	0.424	12	0.032	0.033	-0.103

Table G-2: Classification Consistency and Accuracy, Speaking

ETS Appendix G				EDS Replication				Difference			
Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa
K	0.728	0.626	0.5	K	0.763	0.664	0.680	K	-0.035	-0.038	-0.180
1	0.724	0.626	0.499	1	0.757	0.657	0.670	1	-0.033	-0.031	-0.171
2	0.716	0.627	0.484	2	0.735	0.629	0.629	2	-0.019	-0.002	-0.145
3	0.718	0.619	0.463	3	0.743	0.644	0.638	3	-0.025	-0.025	-0.175
4	0.712	0.619	0.462	4	0.731	0.628	0.619	4	-0.019	-0.009	-0.157
5	0.721	0.631	0.466	5	0.731	0.623	0.610	5	-0.010	0.008	-0.144
6	0.678	0.584	0.438	6	0.703	0.594	0.594	6	-0.025	-0.010	-0.156
7	0.694	0.605	0.463	7	0.710	0.600	0.600	7	-0.016	0.005	-0.137
8	0.711	0.624	0.489	8	0.716	0.610	0.608	8	-0.005	0.014	-0.119
9	0.712	0.621	0.477	9	0.734	0.632	0.629	9	-0.022	-0.011	-0.152
10	0.715	0.631	0.505	10	0.740	0.639	0.644	10	-0.025	-0.008	-0.139
11	0.723	0.641	0.513	11	0.741	0.641	0.645	11	-0.018	0.000	-0.132
12	0.733	0.655	0.532	12	0.745	0.647	0.652	12	-0.012	0.008	-0.120

Table G-3: Classification Consistency and Accuracy, Reading

ETS Appendix G				EDS Replication				Difference			
Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa
K	0.688	0.581	0.382	K	0.760	0.667	0.644	K	-0.072	-0.086	-0.262
1	0.67	0.581	0.406	1	0.713	0.615	0.599	1	-0.043	-0.034	-0.193
2	0.744	0.649	0.514	2	0.742	0.636	0.645	2	0.002	0.013	-0.131
3	0.709	0.622	0.474	3	0.684	0.576	0.568	3	0.025	0.046	-0.094
4	0.737	0.655	0.484	4	0.740	0.654	0.611	4	-0.003	0.001	-0.127
5	0.728	0.638	0.474	5	0.729	0.632	0.613	5	-0.001	0.006	-0.139
6	0.645	0.54	0.394	6	0.667	0.551	0.564	6	-0.022	-0.011	-0.170
7	0.665	0.558	0.424	7	0.672	0.557	0.577	7	-0.007	0.001	-0.153
8	0.666	0.558	0.431	8	0.689	0.573	0.600	8	-0.023	-0.015	-0.169
9	0.619	0.512	0.358	9	0.630	0.512	0.523	9	-0.011	0.000	-0.165
10	0.627	0.515	0.381	10	0.654	0.538	0.558	10	-0.027	-0.023	-0.177
11	0.627	0.515	0.383	11	0.657	0.543	0.564	11	-0.030	-0.028	-0.181
12	0.633	0.524	0.396	12	0.661	0.547	0.570	12	-0.028	-0.023	-0.174

Table G-4: Classification Consistency and Accuracy, Writing

ETS Appendix G				EDS Replication				Difference			
Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa	Grade	Accuracy	Consis-tency	Kappa
K	0.65	0.552	0.347	K	0.732	0.625	0.608	K	-0.082	-0.073	-0.261
1	0.605	0.511	0.335	1	0.667	0.571	0.544	1	-0.062	-0.060	-0.209
2	0.698	0.594	0.456	2	0.744	0.645	0.657	2	-0.046	-0.051	-0.201
3	0.691	0.589	0.417	3	0.723	0.625	0.614	3	-0.032	-0.036	-0.197
4	0.696	0.599	0.428	4	0.720	0.621	0.598	4	-0.024	-0.022	-0.170
5	0.678	0.574	0.419	5	0.693	0.589	0.577	5	-0.015	-0.015	-0.158
6	0.671	0.566	0.401	6	0.688	0.576	0.573	6	-0.017	-0.010	-0.172
7	0.672	0.563	0.413	7	0.680	0.571	0.569	7	-0.008	-0.008	-0.156
8	0.678	0.573	0.433	8	0.679	0.569	0.569	8	-0.001	0.004	-0.136
9	0.624	0.52	0.378	9	0.639	0.531	0.528	9	-0.015	-0.011	-0.150
10	0.643	0.543	0.411	10	0.648	0.538	0.541	10	-0.005	0.005	-0.130
11	0.649	0.552	0.419	11	0.651	0.542	0.543	11	-0.002	0.010	-0.124
12	0.663	0.571	0.447	12	0.660	0.552	0.556	12	0.003	0.019	-0.109

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Table G-5: Classification Accuracy at Each Performance Cut Score, Listening

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.91	0.855	0.893	0.957	K	0.925	0.884	0.904	0.957	K	-0.015	-0.029	-0.011	0.000
1	0.953	0.887	0.859	0.905	1	0.959	0.909	0.878	0.919	1	-0.006	-0.022	-0.019	-0.014
2	0.978	0.926	0.852	0.866	2	0.984	0.939	0.868	0.877	2	-0.006	-0.013	-0.016	-0.011
3	0.936	0.875	0.814	0.873	3	0.929	0.868	0.837	0.891	3	0.007	0.007	-0.023	-0.018
4	0.955	0.908	0.825	0.828	4	0.954	0.893	0.833	0.883	4	0.001	0.015	-0.008	-0.055
5	0.97	0.915	0.824	0.866	5	0.971	0.921	0.834	0.865	5	-0.001	-0.006	-0.010	0.001
6	0.938	0.887	0.813	0.908	6	0.946	0.888	0.826	0.897	6	-0.008	-0.001	-0.013	0.011
7	0.954	0.892	0.819	0.877	7	0.958	0.901	0.825	0.883	7	-0.004	-0.009	-0.006	-0.006
8	0.96	0.906	0.815	0.904	8	0.962	0.904	0.822	0.886	8	-0.002	0.002	-0.007	0.018
9	0.948	0.863	0.822	0.913	9	0.944	0.865	0.830	0.903	9	0.004	-0.002	-0.008	0.010
10	0.955	0.867	0.814	0.929	10	0.946	0.874	0.830	0.884	10	0.009	-0.007	-0.016	0.045
11	0.96	0.879	0.811	0.912	11	0.954	0.886	0.829	0.863	11	0.006	-0.007	-0.018	0.049
12	0.959	0.889	0.822	0.905	12	0.951	0.893	0.830	0.848	12	0.008	-0.004	-0.008	0.057

Table G-6: Classification Accuracy at Each Performance Cut Score, Speaking

	ETS Appendix G					EDS Replication					Difference			
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.952	0.907	0.9	0.957	K	0.965	0.921	0.909	0.960	K	-0.013	-0.014	-0.009	-0.003
1	0.967	0.932	0.88	0.927	1	0.982	0.947	0.894	0.928	1	-0.015	-0.015	-0.014	-0.001
2	0.979	0.957	0.873	0.889	2	0.992	0.968	0.886	0.882	2	-0.013	-0.011	-0.013	0.007
3	0.984	0.952	0.877	0.895	3	0.991	0.958	0.896	0.896	3	-0.007	-0.006	-0.019	-0.001
4	0.981	0.958	0.879	0.879	4	0.992	0.964	0.895	0.874	4	-0.011	-0.006	-0.016	0.005
5	0.98	0.966	0.885	0.871	5	0.993	0.971	0.899	0.858	5	-0.013	-0.005	-0.014	0.013
6	0.97	0.936	0.856	0.893	6	0.988	0.951	0.868	0.892	6	-0.018	-0.015	-0.012	0.001
7	0.969	0.946	0.862	0.887	7	0.990	0.960	0.876	0.880	7	-0.021	-0.014	-0.014	0.007
8	0.968	0.953	0.865	0.895	8	0.990	0.964	0.879	0.878	8	-0.022	-0.011	-0.014	0.017
9	0.959	0.945	0.86	0.913	9	0.989	0.962	0.876	0.906	9	-0.030	-0.017	-0.016	0.007
10	0.957	0.945	0.868	0.909	10	0.989	0.966	0.880	0.902	10	-0.032	-0.021	-0.012	0.007
11	0.961	0.951	0.875	0.903	11	0.990	0.969	0.886	0.893	11	-0.029	-0.018	-0.011	0.010
12	0.961	0.953	0.883	0.904	12	0.990	0.970	0.893	0.889	12	-0.029	-0.017	-0.010	0.015

Table G-7: Classification Accuracy at Each Performance Cut Score, Reading

	ETS Appendix G					EDS Replication					Difference			
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.955	0.85	0.893	0.977	K	0.950	0.889	0.934	0.986	K	0.005	-0.039	-0.041	-0.009
1	0.88	0.865	0.923	0.963	1	0.896	0.880	0.936	0.975	1	-0.016	-0.015	-0.013	-0.012
2	0.898	0.905	0.953	0.979	2	0.878	0.898	0.941	0.966	2	0.020	0.007	0.012	0.013
3	0.879	0.875	0.938	0.971	3	0.849	0.842	0.921	0.952	3	0.030	0.033	0.017	0.019
4	0.906	0.897	0.934	0.973	4	0.890	0.886	0.923	0.965	4	0.016	0.011	0.011	0.008
5	0.936	0.919	0.902	0.953	5	0.932	0.918	0.894	0.948	5	0.004	0.001	0.008	0.005
6	0.897	0.874	0.896	0.954	6	0.895	0.868	0.887	0.941	6	0.002	0.006	0.009	0.013
7	0.929	0.895	0.888	0.939	7	0.921	0.889	0.886	0.927	7	0.008	0.006	0.002	0.012
8	0.938	0.905	0.888	0.923	8	0.932	0.904	0.891	0.924	8	0.006	0.001	-0.003	-0.001
9	0.894	0.863	0.884	0.952	9	0.899	0.867	0.882	0.940	9	-0.005	-0.004	0.002	0.012
10	0.922	0.881	0.88	0.935	10	0.916	0.887	0.885	0.939	10	0.006	-0.006	-0.005	-0.004
11	0.937	0.894	0.877	0.91	11	0.929	0.899	0.880	0.924	11	0.008	-0.005	-0.003	-0.014
12	0.944	0.903	0.882	0.894	12	0.929	0.903	0.880	0.919	12	0.015	0.000	0.002	-0.025

Table G-8: Classification Accuracy at Each Performance Cut Score, Writing

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.956	0.834	0.855	0.969	K	0.969	0.886	0.900	0.976	K	-0.013	-0.052	-0.045	-0.007
1	0.867	0.833	0.88	0.991	1	0.868	0.869	0.928	0.988	1	-0.001	-0.036	-0.048	0.003
2	0.941	0.896	0.899	0.958	2	0.936	0.907	0.921	0.971	2	0.005	-0.011	-0.022	-0.013
3	0.946	0.89	0.893	0.948	3	0.944	0.903	0.916	0.956	3	0.002	-0.013	-0.023	-0.008
4	0.948	0.894	0.892	0.946	4	0.956	0.914	0.899	0.941	4	-0.008	-0.020	-0.007	0.005
5	0.961	0.914	0.855	0.93	5	0.971	0.928	0.872	0.916	5	-0.010	-0.014	-0.017	0.014
6	0.957	0.899	0.867	0.935	6	0.962	0.913	0.876	0.932	6	-0.005	-0.014	-0.009	0.003
7	0.967	0.909	0.846	0.93	7	0.968	0.926	0.871	0.913	7	-0.001	-0.017	-0.025	0.017
8	0.965	0.925	0.846	0.914	8	0.973	0.937	0.870	0.896	8	-0.008	-0.012	-0.024	0.018
9	0.955	0.898	0.831	0.903	9	0.968	0.921	0.856	0.883	9	-0.013	-0.023	-0.025	0.020
10	0.958	0.906	0.845	0.903	10	0.969	0.928	0.861	0.879	10	-0.011	-0.022	-0.016	0.024
11	0.963	0.912	0.846	0.896	11	0.971	0.933	0.864	0.871	11	-0.008	-0.021	-0.018	0.025
12	0.96	0.908	0.853	0.904	12	0.970	0.933	0.871	0.873	12	-0.010	-0.025	-0.018	0.031

Table G-9: Classification Consistency at Each Performance Cut Score, Listening

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.873	0.799	0.85	0.937	K	0.894	0.833	0.866	0.936	K	-0.021	-0.034	-0.016	0.001
1	0.932	0.842	0.805	0.866	1	0.942	0.868	0.832	0.882	1	-0.010	-0.026	-0.027	-0.016
2	0.968	0.898	0.802	0.816	2	0.976	0.911	0.813	0.834	2	-0.008	-0.013	-0.011	-0.018
3	0.905	0.825	0.747	0.822	3	0.899	0.817	0.772	0.841	3	0.006	0.008	-0.025	-0.019
4	0.933	0.871	0.761	0.773	4	0.934	0.850	0.770	0.830	4	-0.001	0.021	-0.009	-0.057
5	0.954	0.876	0.77	0.817	5	0.957	0.885	0.765	0.807	5	-0.003	-0.009	0.005	0.010
6	0.909	0.843	0.751	0.867	6	0.929	0.841	0.756	0.851	6	-0.020	0.002	-0.005	0.016
7	0.931	0.848	0.762	0.83	7	0.945	0.861	0.755	0.833	7	-0.014	-0.013	0.007	-0.003
8	0.94	0.869	0.763	0.866	8	0.948	0.863	0.753	0.841	8	-0.008	0.006	0.010	0.025
9	0.921	0.815	0.763	0.868	9	0.923	0.808	0.763	0.861	9	-0.002	0.007	0.000	0.007
10	0.932	0.818	0.76	0.895	10	0.926	0.818	0.763	0.852	10	0.006	0.000	-0.003	0.043
11	0.94	0.833	0.758	0.874	11	0.936	0.834	0.760	0.827	11	0.004	-0.001	-0.002	0.047
12	0.94	0.852	0.776	0.865	12	0.934	0.843	0.761	0.810	12	0.006	0.009	0.015	0.055

Table G-10: Classification Consistency at Each Performance Cut Score, Speaking

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.932	0.871	0.867	0.938	K	0.948	0.886	0.870	0.943	K	-0.016	-0.015	-0.003	-0.005
1	0.959	0.902	0.844	0.897	1	0.973	0.924	0.849	0.898	1	-0.014	-0.022	-0.005	-0.001
2	0.979	0.935	0.838	0.852	2	0.988	0.952	0.836	0.831	2	-0.009	-0.017	0.002	0.021
3	0.983	0.929	0.836	0.856	3	0.987	0.940	0.853	0.854	3	-0.004	-0.011	-0.017	0.002
4	0.981	0.937	0.843	0.839	4	0.988	0.947	0.851	0.821	4	-0.007	-0.010	-0.008	0.018
5	0.981	0.948	0.851	0.828	5	0.990	0.957	0.852	0.798	5	-0.009	-0.009	-0.001	0.030
6	0.969	0.904	0.819	0.858	6	0.982	0.929	0.813	0.848	6	-0.013	-0.025	0.006	0.010
7	0.97	0.918	0.83	0.852	7	0.985	0.941	0.823	0.829	7	-0.015	-0.023	0.007	0.023
8	0.969	0.927	0.833	0.86	8	0.986	0.948	0.826	0.828	8	-0.017	-0.021	0.007	0.032
9	0.96	0.918	0.822	0.881	9	0.983	0.944	0.825	0.868	9	-0.023	-0.026	-0.003	0.013
10	0.959	0.918	0.837	0.879	10	0.983	0.949	0.831	0.864	10	-0.024	-0.031	0.006	0.015
11	0.962	0.925	0.845	0.872	11	0.984	0.954	0.838	0.852	11	-0.022	-0.029	0.007	0.020
12	0.962	0.928	0.855	0.874	12	0.984	0.956	0.848	0.846	12	-0.022	-0.028	0.007	0.028

Table G-11: Classification Consistency at Each Performance Cut Score, Reading

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.933	0.8	0.851	0.976	K	0.934	0.845	0.905	0.979	K	-0.001	-0.045	-0.054	-0.003
1	0.833	0.815	0.892	0.943	1	0.854	0.833	0.907	0.972	1	-0.021	-0.018	-0.015	-0.029
2	0.859	0.867	0.934	0.969	2	0.831	0.850	0.913	0.949	2	0.028	0.017	0.021	0.020
3	0.844	0.835	0.914	0.964	3	0.802	0.778	0.890	0.934	3	0.042	0.057	0.024	0.030
4	0.87	0.857	0.907	0.961	4	0.849	0.837	0.892	0.952	4	0.021	0.020	0.015	0.009
5	0.913	0.888	0.863	0.933	5	0.904	0.884	0.853	0.927	5	0.009	0.004	0.010	0.006
6	0.856	0.825	0.855	0.936	6	0.857	0.813	0.838	0.914	6	-0.001	0.012	0.017	0.022
7	0.901	0.854	0.845	0.915	7	0.892	0.844	0.838	0.895	7	0.009	0.010	0.007	0.020
8	0.914	0.868	0.845	0.892	8	0.906	0.863	0.845	0.892	8	0.008	0.005	0.000	0.000
9	0.852	0.81	0.838	0.931	9	0.860	0.813	0.834	0.913	9	-0.008	-0.003	0.004	0.018
10	0.89	0.834	0.833	0.907	10	0.881	0.837	0.838	0.912	10	0.009	-0.003	-0.005	-0.005
11	0.911	0.851	0.829	0.874	11	0.899	0.854	0.832	0.892	11	0.012	-0.003	-0.003	-0.018
12	0.92	0.868	0.837	0.854	12	0.900	0.859	0.831	0.885	12	0.020	0.009	0.006	-0.031

Table G-12: Classification Consistency at Each Performance Cut Score, Writing

	ETS Appendix G				EDS Replication				Difference					
	Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced		Beginning/ Early Intermediate	Early Intermediate/ Intermediate	Intermediate/ Early Advanced	Early Advanced/ Advanced
K	0.948	0.805	0.814	0.956	K	0.955	0.837	0.860	0.964	K	-0.007	-0.032	-0.046	-0.008
1	0.823	0.776	0.834	0.99	1	0.817	0.819	0.900	0.983	1	0.006	-0.043	-0.066	0.007
2	0.917	0.855	0.86	0.94	2	0.908	0.867	0.891	0.958	2	0.009	-0.012	-0.031	-0.018
3	0.923	0.851	0.851	0.927	3	0.921	0.861	0.882	0.938	3	0.002	-0.010	-0.031	-0.011
4	0.924	0.853	0.855	0.919	4	0.938	0.878	0.856	0.917	4	-0.014	-0.025	-0.001	0.002
5	0.942	0.878	0.815	0.9	5	0.958	0.898	0.818	0.883	5	-0.016	-0.020	-0.003	0.017
6	0.937	0.857	0.827	0.908	6	0.945	0.876	0.826	0.903	6	-0.008	-0.019	0.001	0.005
7	0.951	0.872	0.806	0.901	7	0.955	0.893	0.816	0.882	7	-0.004	-0.021	-0.010	0.019
8	0.951	0.894	0.809	0.884	8	0.961	0.909	0.814	0.856	8	-0.010	-0.015	-0.005	0.028
9	0.934	0.864	0.796	0.868	9	0.954	0.885	0.800	0.840	9	-0.020	-0.021	-0.004	0.028
10	0.939	0.87	0.81	0.868	10	0.955	0.895	0.807	0.830	10	-0.016	-0.025	0.003	0.038
11	0.945	0.878	0.812	0.862	11	0.959	0.903	0.810	0.820	11	-0.014	-0.025	0.002	0.042
12	0.942	0.878	0.822	0.872	12	0.957	0.902	0.819	0.823	12	-0.015	-0.024	0.003	0.049