



Iowa Testing Programs

Comparative Evaluation of Online and Paper & Pencil Forms for the Iowa Assessments
ITP Research Series

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ITP Research Series

2014.2

A Comparative Evaluation of Online and Paper & Pencil Forms for the *Iowa Assessments*

The proliferation of electronic devices is seen by many as the way of the future, the path to a technologically literate electorate, and a catalyst for change. There is no question that many *Iowa Assessments* examinees have significant experiences using and interacting with a broad array of technology and that access varies depending on many factors. More specifically, in aspects of learning and assessment in which technology is likely to play a key role in the future, there is interest in establishing that the medium itself does not introduce differences among examinees. This report addresses the impact of computer-based testing on the performance of *Iowa Assessments* items and forms.

Methodology

The *Iowa Assessments* measure student achievement in reading, written expression, mathematics, social studies, and science. They have been designed, developed, and researched to support a variety of important educational purposes, including providing measures of growth and relative standing compared to students in the nation. The meaning of scores should be directly comparable regardless of the mode of administration used to complete the assessment. This comparability of scores is necessary to ensure that the *Iowa Assessments* is fair for all students.

To help ensure that the assessments are valid for all students, test developers attempt to minimize construct-irrelevant variance as much as possible. In this report, documenting construct-irrelevant variance that may have been introduced through allowing various administration modes (paper and pencil or online) was the primary purpose. Various methodologies were used to help examine differences in test validity for the two different administration modes. Two analyses (item difficulty and DIF) provided information on how the individual items and the total tests performed in the two modes. Two additional analyses (correlations between modes and reliability) provided information on how similarly the tests across modes relate to each other and the internal consistency of the measures in the two modes (i.e., an indicator of the degree of homogeneity among the test items within mode). A third type of analysis (confirmatory factor analysis) investigated the similarity of the number and significance of the constructs within each test and compared these results across modes. The final type of analysis examined whether the tests were fair for examinees regardless of their economic status.

Data Collection

In Spring 2012, a study using the *Iowa Assessments* was conducted. All necessary software applications were developed to take the paper and pencil version of the *Iowa Assessments* and convert it to an online version. The data were collected through a counterbalanced design that required that the same examinees take both formats of the tests but in different orders to balance any practice effect. Examinees were randomly assigned (1) paper-and-pencil (P&P) version first and online version second or (2) the online version first and P&P version second.

Approximately 3,600 examinees from 20 different school districts participated in the study. Tables 1 and 2 describe the school districts that participated in the study. The poverty level data reported in Table 2 is drawn from the U.S. Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program, which provides annual estimates of income and poverty statistics for all states, counties, and

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school districts. It identifies districts and public schools by the percentage of examinees that come from families below the poverty line. The poverty line is determined by a formula based on family income and size.

A consideration in interpreting the results was that the examinees were nested within schools. To address school effects, hierarchical linear modeling was employed and intraclass correlations were computed on raw score mean differences across schools for each test. Small, medium, and large intraclass correlation coefficient values were defined as .01, .09, and .25, according to guidelines provided by Murnane and Willett (2011). Medium correlations were found for one form of the written expression, social studies, and science tests (.09, .09, and .13, respectively). Intraclass correlations were small or negligible for all remaining tests and forms. These results indicated that there were no systematic differences in comparability of online versus the P&P administration modes at the school level. Even analyses of the single written expression, social studies, and science forms produced no interpretable school effects.

Table 1: Geographic Representation of Participating School Districts

Geographic Region	Percent in Sample
South	35
West	30
Midwest	20
East	15

Table 2: Poverty Indicators of Participating School Districts

Poverty Indicator of Participating Schools	Percent in Sample
6.0 to 15.9%	35
16.0-30.9%	35
31.0% or greater	10
unclassified	20

Content Areas

Five different content areas were included in the study (reading, written expression, mathematics, social studies and science) for Grades 3 to 12. The number of items per grade is summarized in Table 3. The online version of the tests was the same as the P&P version in terms of item type and order. Directions and sample questions were self-paced in the online version and teacher-paced in the P&P version. Pencils and scratch papers were provided for both versions.

The item presentation introduced an important difference between modes. In the P&P mode, items were given in a test booklet and multiple items were presented on one page. In the online mode, items were presented on the computer screen one at a time.

Table 3: Number of Items per Test for each Grade

Grade	Reading	Written Expression	Mathematics	Social Studies	Science
3	41	35	50	30	30
4	42	38	55	34	34
5	43	40	60	37	37
6	44	43	65	39	39
7	45	45	70	41	41
8	46	48	75	43	43
9	40	54	40	50	48
10	40	54	40	50	48
11	40	54	40	50	48
12	40	54	40	50	48

Results

Descriptive Statistics. To compare the standard score equivalence of the tests, descriptive statistics were used to examine the performance of examinees across the two administration modes. Means and standard deviations of P&P and online forms were compared, and effect sizes were used to identify significant differences between formats. Tables 4 to 8 provide the mean standard score for both versions for the five different tests. In comparing performance of the online mode to the paper mode, the mean standard scores tended to be very similar. Table 9 provides the effect sizes (Cohen's *d*) in standard score units.

Table 4: Descriptive Statistics for the Online and the P&P Versions of the Iowa Assessments in Reading

Grade	P&P Mean Standard Score	Online Mean Standard Score	Mean Difference (Paper-Online)
3	182.32	180.28	2.04
4	194.99	194.06	0.93
5	207.44	206.12	1.32
6	220.65	216.69	3.96
7	240.27	236.93	3.34
8	243.99	239.90	4.09
9	263.61	261.81	1.80
10	266.88	267.85	-0.97
11	274.89	274.57	0.32
12	276.03	273.13	2.90

Table 5: Descriptive Statistics for the Online and the P&P Versions of the *Iowa Assessments* in Written Expression

Grade	P&P Mean Standard Score	Online Mean Standard Score	Mean Difference (Paper-Online)
3	185.04	183.34	1.70
4	201.82	199.90	1.92
5	211.00	208.78	2.22
6	227.51	225.26	2.25
7	239.25	237.92	1.33
8	243.75	241.01	2.74
9	265.94	272.98	-7.04
10	269.87	275.78	-5.91
11	276.44	279.78	-3.34
12	278.44	278.19	0.25

Table 6: Descriptive Statistics for the Online and the P&P Versions of the *Iowa Assessments* in Mathematics

Grade	P&P Mean Standard Score	Online Mean Standard Score	Mean Difference (Paper-Online)
3	183.36	184.57	-1.21
4	194.34	195.57	-1.23
5	209.28	209.57	-0.29
6	222.04	220.73	1.31
7	236.69	237.12	-0.43
8	246.54	244.34	2.20
9	258.82	257.23	1.59
10	267.10	262.70	4.40
11	279.94	278.31	1.63
12	278.18	274.03	4.15

Table 7: Descriptive Statistics for the Online and the P&P Versions of the *Iowa Assessments* in Social Studies

Grade	P&P Mean Standard Score	Online Mean Standard Score	Mean Difference (Paper-Online)
3	178.86	178.78	0.08
4	195.37	195.19	0.18
5	211.70	213.13	-1.43
6	216.79	218.26	-1.47
7	232.79	235.54	-2.75
8	241.20	241.68	-0.48
9	261.30	263.10	-1.80
10	265.85	266.07	-0.22
11	275.26	263.76	11.50
12	271.62	268.01	3.61

Table 8: Descriptive Statistics for the Online and the P&P Versions of the *Iowa Assessments* in Science

Grade	P&P Mean Standard Score	Online Mean Standard Score	Mean Difference (Paper-Online)
3	184.00	184.42	-0.42
4	198.42	199.72	-1.24
5	214.16	214.66	-0.50
6	227.23	226.94	0.29
7	237.91	236.62	1.29
8	244.07	242.29	1.78
9	262.84	261.35	1.49
10	263.52	262.90	0.62
11	273.36	271.41	1.95
12	267.58	269.89	-2.31

Table 9: Effect Sizes (Cohen's *d*) in Standard Scores

Grade	Reading	Written Expression	Mathematics	Social Studies	Science
3	0.31	0.17	-0.15	-0.01	-0.05
4	0.11	0.16	-0.16	0.05	-0.08
5	0.12	0.14	-0.05	-0.09	-0.02
6	0.31	0.12	0.10	-0.12	0.01
7	0.27	0.07	-0.04	-0.17	0.08
8	0.32	0.15	0.19	0.03	0.12
9	0.13	-0.21	0.18	-0.07	0.11
10	-0.03	-0.24	0.16	-0.05	0.09
11	0.02	-0.08	0.10	0.30	-0.06
12	0.18	0.08	0.26	0.14	-0.09

Item Difficulty. Item difficulty measures the proportion of examinees who correctly answer an item. Item difficulty is reported as p-values which can range from 0 to 1. A p-value of zero occurs when none of the examinees answer correctly; a p-value of one occurs when all answer correctly.

Item p-values for both P&P and online were computed for all items and are included in Appendix A. Items with the largest p-value differences were examined with respect to item position, graphical complexity, and visual presentation to better understand the source of the differences. Although there was a slight tendency for items to be marginally easier in the P&P mode, the small mean p-value differences (.01 to .07) would not affect scores on the *Iowa Assessments* reporting scale.

DIF. DIF was used to identify items that functioned differently for the P&P mode as compared to the online mode. The DIF analyses were based on the Mantel-Haenszel Odds Ratio procedure. Odds ratio values and confidence intervals were computed for all items and are included in Appendix B. Items with values not significantly different than one contain negligible DIF. Items that have values greater than one suggest that they were easier for the P&P mode and items that have values less than one suggest that they were easier for the online mode. The overall percentages of items flagged for DIF were small and generally balanced across the two modes.

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Correlations. Correlations of scores between P&P and online modes for each form were calculated to examine the differences in the rank orderings of examinees in the two administration modes. Table 10 summarizes the correlation coefficients between the two modes for each form. The correlations range from 0.686 to 0.893. The average correlation coefficient is 0.80. Except for the difference between administration modes, these correlations would be interpreted as alternate-forms reliability coefficients. Such coefficients are used to assess consistency over testing occasions and chance errors related to occasions and item sampling. Given the high correlations in Table 10 and the presence of variation due to these sources, variation due to administration mode can be considered small if not completely negligible. Indeed, the correlations in Table 10 compare favorably to the values of alternate-forms reliability coefficients for tests of similar length and content.

Table 10: Correlation between P&P and Online for each Test and Grade

Grade	Reading	Written Expression	Mathematics	Social Studies	Science
3	0.843	0.852	0.809	0.810	0.813
4	0.893	0.856	0.871	0.829	0.829
5	0.856	0.824	0.835	0.772	0.785
6	0.839	0.781	0.817	0.780	0.697
7	0.848	0.825	0.863	0.850	0.835
8	0.826	0.759	0.851	0.781	0.752
9	0.773	0.719	0.787	0.795	0.830
10	0.791	0.757	0.686	0.832	0.793
11	0.798	0.762	0.759	0.704	0.757
12	0.851	0.876	0.825	0.764	0.780

Reliability. To better evaluate the reliability of each mode, a reliability estimate (coefficient alpha) for each test is provided in Tables 11 to 15. Although some differences can be observed between modes, most are very similar. Tables 11 to 15 also provide the standard errors of measurement by mode.

Table 11: Reliability Estimates (Coefficient Alpha) and Standard Errors of Measurement (SEM) for P&P and Online Versions of the Iowa Assessments in Reading

Grade	P&P Coefficient Alpha (SEM)	Online Coefficient Alpha (SEM)
3	.90 (2.66)	.94 (2.06)
4	.91 (2.64)	.93 (2.45)
5	.89 (2.63)	.88 (2.73)
6	.89 (2.66)	.90 (2.58)
7	.92 (2.47)	.91 (2.63)
8	.91 (2.67)	.90 (2.81)
9	.91 (2.73)	.93 (2.44)
10	.93 (2.55)	.93 (2.55)
11	.94 (2.47)	.94 (2.49)
12	.94 (2.49)	.94 (2.55)

Table 12: Reliability Estimates (Coefficient Alpha) and Standard Errors of Measurement (SEM) for P&P and Online Versions of the *Iowa Assessments* in Written Expression

Grade	P&P Coefficient Alpha (SEM)	Online Coefficient Alpha (SEM)
3	.91 (2.46)	.91 (2.39)
4	.91 (2.54)	.92 (2.42)
5	.92 (2.45)	.91 (2.67)
6	.96 (1.73)	.96 (1.70)
7	.96 (1.83)	.96 (1.85)
8	.97 (1.78)	.97 (1.71)
9	.94 (3.03)	.95 (2.56)
10	.93 (3.15)	.95 (2.66)
11	.95 (2.91)	.95 (2.77)
12	.94 (3.17)	.96 (2.75)

Table 13: Reliability Estimates (Coefficient Alpha) and Standard Errors of Measurement (SEM) for P&P and Online Versions of the *Iowa Assessments* in Mathematics

Grade	P&P Coefficient Alpha (SEM)	Online Coefficient Alpha (SEM)
3	.88 (2.82)	.88 (2.78)
4	.89 (3.21)	.87 (3.22)
5	.90 (3.01)	.88 (3.04)
6	.89 (3.54)	.90 (3.25)
7	.93 (3.54)	.93 (3.59)
8	.93 (3.61)	.93 (3.46)
9	.91 (2.62)	.91 (2.57)
10	.90 (2.63)	.92 (2.39)
11	.90 (2.70)	.90 (2.48)
12	.92 (2.61)	.92 (2.53)

Table 14: Reliability Estimates (Coefficient Alpha) and Standard Errors of Measurement (SEM) for P&P and Online Versions of the *Iowa Assessments* in Social Studies

Grade	P&P Coefficient Alpha (SEM)	Online Coefficient Alpha (SEM)
3	.88 (2.22)	.88 (2.13)
4	.89 (2.38)	.86 (2.45)
5	.87 (2.56)	.87 (2.45)
6	.95 (1.82)	.95 (1.72)
7	.96 (1.78)	.96 (1.76)
8	.96 (1.90)	.96 (1.82)
9	.90 (3.13)	.90 (2.97)
10	.93 (2.72)	.93 (2.51)
11	.94 (2.59)	.92 (2.72)
12	.93 (2.82)	.93 (2.81)

Table 15: Reliability Estimates (Coefficient Alpha) and Standard Errors of Measurement (SEM) for P&P and Online Versions of the *Iowa Assessments* in Science

Grade	P&P Coefficient Alpha (SEM)	Online Coefficient Alpha (SEM)
3	.84 (2.27)	.83 (2.22)
4	.88 (2.35)	.86 (2.44)
5	.85 (2.42)	.87 (2.18)
6	.94 (1.67)	.94 (1.63)
7	.95 (1.82)	.95 (1.80)
8	.95 (1.84)	.95 (1.75)
9	.90 (1.13)	.93 (2.65)
10	.91 (2.84)	.93 (2.55)
11	.93 (2.57)	.90 (2.73)
12	.90 (3.05)	.90 (2.86)

Construct Equivalence. Confirmatory factor analysis (CFA) was used in the investigation of the stability and comparability of factors for the P&P and online assessments. CFA estimates the contribution to common, underlying constructs that are shared by the two administration modes. The equivalence of factor loadings would usually suggest that the two modes not only share similar factor structures, and implicitly, similar constructs, but also that the contributions of individual *Iowa Assessments* tests to these constructs are comparable.

Items in a specific test were divided into domains representing different skill areas, and this was done to be consistent with the specifications of the tests. For example, in Reading, five skill areas were identified as vocabulary, explicit meaning, implicit meaning, key ideas and author's craft. A five-factor CFA model was specified based on the 44 skill areas (22 for P&P and 22 for online). Specifically, the factors were Reading, Written Expression, Math, Social Studies and Science. Skill domains from these tests were set to load on the factor representing the corresponding test. For example, the Reading factor was based on skill domains in vocabulary, explicit meaning, implicit meaning, key ideas, and author's craft from both the P&P version and online version. The factors were allowed to correlate.

The resulting factor loadings are included in Appendix C. The nature and magnitude of the factor loadings of the skill areas suggested that a substantial amount of the common variance between the two modes can be explained by the factors. Although these skill areas themselves were not equivalent in the strength of their relationship to the underlying factors, factor loadings on their respective factors for P&P and online modes were similar in terms of magnitude and simple structure. Based on these results, it is reasonable to conclude that the two modes of the tests assess similar traits in terms of skill domains reflected in the assessments.

Investigating Group Differences. An additional consideration in examining comparability of P&P versus online modes include evaluating potential disadvantages related to the online administration for examinees with fewer economic resources, i.e., potentially less access to and familiarity with computers. In order to address this concern, two-way ANOVAs were conducted examining the relationship between examinees' raw scores on each test by mode of administration, and free and reduced lunch status. Specifically, interactions between mode and free and reduced lunch status were of interest.

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Two-way ANOVAs examining these interactions were completed for each form and none of the interactions was found to be significant. This result indicates that examinees eligible for free and reduced lunch did not score significantly different on the online and P&P version as compared to examinees who were not eligible. That is to say, examinees in low income households were not at a disadvantage when taking the test online. Due to the large number of comparisons, a Bonferroni correction was applied, requiring an observed significance level of .001 for a result to be interpretable as an interaction of administration mode with poverty level. Results of the two-way ANOVAs are summarized in Table 16.

Table 16: Two-way ANOVA Results

Grade	Reading		Written Expression		Mathematics		Social Studies		Science	
	F-value	p	F-value	p	F-value	p	F-value	p	F-value	p
3										
4	0.09	.76	5.24	.02	0.05	.82	1.13	.29	0.00	.97
5	0.07	.79	2.10	.15	1.39	.24	0.42	.52	0.81	.37
6	0.32	.57	0.04	.85	0.56	.46	0.02	.90	0.00	.98
7	0.49	.48	1.35	.25	0.01	.94	0.05	.83	4.98	.03
8	0.04	.85	0.03	.85	0.12	.73	0.90	.35	0.09	.77
9	0.37	.54	0.10	.75	0.56	.46	0.54	.46	5.26	.02
10	0.36	.55	1.92	.17	0.00	.96	1.03	.31	1.95	.16
11	0.00	.98	0.43	.51	0.36	.55	0.55	.46	0.29	.59
12	0.00	.98	0.43	.51	0.36	.55	0.55	.46	0.29	.59

Conclusions

Online assessments are a rapidly growing and increasingly attractive approach for examinees, particularly for the *Iowa Assessments* population. Ensuring that the *Iowa Assessments* is valid for all candidates, regardless of administration mode, is a complex undertaking and must be carefully examined and followed.

Just as it is critical to document and share a clear definition of the construct that is being assessed within the *Iowa Assessments* program, it is also critical to document and share evidence that this construct is not affected by presentation in a particular administration mode. As part of the *Iowa Assessments* research program, additional analyses of operational forms are being examined for comparability using a variety of psychometric criteria. This report summarizes characteristics of the *Iowa Assessments* item pool with respect to selected criteria. The analyses described in this report help to establish a strong validity argument that the *Iowa Assessments* construct is not affected by administration mode.

References

Murnane, R.J., & Willett, B.J. (2011). *Methods Matter*. New York: Oxford University Press.

Appendix A

Item-Level Statistics for Online and P&P Forms

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Reading									
Grade	3			4			5		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.79	0.90	-0.11	0.73	0.77	-0.04	0.90	0.91	-0.01
2	0.69	0.79	-0.09	0.75	0.77	-0.02	0.52	0.54	-0.01
3	0.75	0.87	-0.11	0.57	0.63	-0.06	0.65	0.69	-0.04
4	0.81	0.91	-0.09	0.56	0.63	-0.07	0.89	0.87	0.02
5	0.74	0.82	-0.09	0.86	0.84	0.02	0.61	0.64	-0.04
6	0.42	0.54	-0.11	0.72	0.80	-0.07	0.69	0.73	-0.04
7	0.68	0.81	-0.12	0.75	0.78	-0.03	0.90	0.93	-0.02
8	0.74	0.78	-0.04	0.80	0.82	-0.02	0.60	0.62	-0.02
9	0.74	0.85	-0.11	0.54	0.58	-0.04	0.76	0.76	-0.01
10	0.59	0.66	-0.08	0.68	0.76	-0.08	0.70	0.73	-0.04
11	0.37	0.48	-0.11	0.66	0.66	0.00	0.49	0.48	0.01
12	0.50	0.65	-0.15	0.41	0.36	0.05	0.69	0.62	0.06
13	0.44	0.57	-0.12	0.58	0.61	-0.03	0.57	0.64	-0.07
14	0.76	0.86	-0.10	0.78	0.76	0.03	0.81	0.78	0.02
15	0.39	0.42	-0.03	0.46	0.51	-0.04	0.50	0.50	0.00
16	0.30	0.31	-0.01	0.57	0.62	-0.05	0.77	0.78	-0.01
17	0.41	0.41	0.00	0.33	0.39	-0.06	0.64	0.63	0.00
18	0.41	0.49	-0.09	0.76	0.71	0.05	0.68	0.67	0.00
19	0.49	0.51	-0.02	0.64	0.65	-0.02	0.70	0.74	-0.04
20	0.64	0.69	-0.05	0.74	0.72	0.02	0.31	0.35	-0.04
21	0.57	0.63	-0.06	0.72	0.68	0.04	0.76	0.77	-0.01
22	0.60	0.73	-0.13	0.80	0.84	-0.04	0.51	0.52	-0.01
23	0.48	0.53	-0.05	0.33	0.37	-0.04	0.53	0.55	-0.02
24	0.46	0.54	-0.08	0.39	0.49	-0.10	0.75	0.76	-0.01
25	0.65	0.72	-0.07	0.81	0.76	0.04	0.76	0.76	0.00
26	0.53	0.65	-0.11	0.49	0.52	-0.03	0.48	0.43	0.05
27	0.67	0.74	-0.07	0.61	0.57	0.05	0.65	0.69	-0.03
28	0.60	0.77	-0.16	0.82	0.81	0.01	0.65	0.72	-0.07
29	0.40	0.45	-0.05	0.44	0.50	-0.06	0.62	0.65	-0.03
30	0.51	0.62	-0.11	0.53	0.63	-0.10	0.67	0.76	-0.08
31	0.52	0.57	-0.05	0.53	0.56	-0.02	0.25	0.17	0.07
32	0.35	0.36	-0.02	0.49	0.41	0.08	0.41	0.49	-0.09
33	0.46	0.55	-0.09	0.49	0.49	0.00	0.57	0.61	-0.04
34	0.57	0.55	0.02	0.47	0.53	-0.06	0.56	0.54	0.02
35	0.33	0.40	-0.07	0.68	0.69	-0.01	0.56	0.58	-0.02
36	0.45	0.51	-0.06	0.43	0.37	0.05	0.47	0.48	-0.01
37	0.23	0.31	-0.08	0.59	0.63	-0.04	0.30	0.25	0.04
38	0.50	0.58	-0.08	0.47	0.53	-0.06	0.69	0.67	0.03
39	0.43	0.45	-0.02	0.61	0.55	0.06	0.31	0.30	0.02
40	0.51	0.57	-0.06	0.57	0.61	-0.04	0.78	0.74	0.04
41	0.58	0.58	0.00	0.24	0.26	-0.02	0.51	0.53	-0.02
42				0.60	0.62	-0.02	0.65	0.65	0.00
43							0.72	0.69	0.03
Average	0.54	0.61	-0.07	0.60	0.61	-0.02	0.62	0.63	-0.01

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Reading									
Grade	6			7			8		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.63	0.70	-0.06	0.94	0.94	0.00	0.70	0.73	-0.04
2	0.60	0.69	-0.09	0.58	0.64	-0.06	0.54	0.58	-0.04
3	0.87	0.88	-0.01	0.87	0.88	-0.01	0.75	0.82	-0.07
4	0.88	0.90	-0.03	0.75	0.79	-0.03	0.62	0.62	-0.01
5	0.61	0.63	-0.02	0.70	0.71	-0.01	0.71	0.77	-0.06
6	0.74	0.75	-0.01	0.62	0.66	-0.04	0.91	0.91	0.01
7	0.84	0.87	-0.02	0.87	0.86	0.01	0.71	0.79	-0.08
8	0.74	0.74	0.00	0.77	0.79	-0.02	0.64	0.63	0.01
9	0.80	0.85	-0.06	0.85	0.87	-0.02	0.62	0.68	-0.06
10	0.24	0.26	-0.02	0.80	0.85	-0.05	0.70	0.74	-0.04
11	0.58	0.62	-0.04	0.80	0.84	-0.05	0.84	0.84	0.01
12	0.67	0.72	-0.05	0.82	0.84	-0.02	0.72	0.78	-0.06
13	0.68	0.69	-0.01	0.50	0.55	-0.05	0.68	0.71	-0.03
14	0.71	0.72	-0.01	0.71	0.79	-0.08	0.75	0.74	0.01
15	0.59	0.58	0.01	0.81	0.82	0.00	0.68	0.69	-0.01
16	0.41	0.36	0.05	0.56	0.56	-0.01	0.34	0.41	-0.07
17	0.78	0.80	-0.02	0.82	0.84	-0.02	0.48	0.46	0.02
18	0.40	0.43	-0.02	0.72	0.71	0.01	0.50	0.51	-0.01
19	0.87	0.84	0.02	0.56	0.58	-0.02	0.73	0.71	0.01
20	0.60	0.64	-0.04	0.78	0.75	0.03	0.82	0.77	0.04
21	0.76	0.76	0.00	0.40	0.41	-0.01	0.60	0.65	-0.05
22	0.82	0.81	0.01	0.52	0.51	0.02	0.63	0.65	-0.01
23	0.81	0.91	-0.10	0.66	0.69	-0.03	0.61	0.62	-0.01
24	0.46	0.54	-0.08	0.45	0.50	-0.05	0.70	0.72	-0.03
25	0.73	0.81	-0.07	0.72	0.72	-0.01	0.65	0.69	-0.04
26	0.69	0.79	-0.11	0.56	0.55	0.01	0.77	0.76	0.01
27	0.49	0.58	-0.09	0.68	0.66	0.02	0.77	0.79	-0.02
28	0.51	0.51	0.00	0.85	0.88	-0.03	0.86	0.87	-0.01
29	0.73	0.83	-0.10	0.68	0.71	-0.03	0.50	0.51	-0.02
30	0.57	0.73	-0.16	0.64	0.64	0.00	0.60	0.71	-0.11
31	0.66	0.77	-0.11	0.58	0.64	-0.06	0.67	0.69	-0.02
32	0.66	0.75	-0.09	0.63	0.66	-0.03	0.45	0.54	-0.10
33	0.68	0.76	-0.08	0.79	0.77	0.02	0.71	0.74	-0.03
34	0.64	0.78	-0.14	0.63	0.72	-0.08	0.67	0.67	0.00
35	0.29	0.35	-0.05	0.67	0.63	0.03	0.64	0.60	0.04
36	0.54	0.67	-0.13	0.75	0.72	0.03	0.50	0.52	-0.02
37	0.67	0.78	-0.10	0.75	0.69	0.06	0.60	0.58	0.02
38	0.43	0.46	-0.02	0.32	0.35	-0.03	0.54	0.61	-0.06
39	0.67	0.75	-0.08	0.42	0.43	-0.01	0.40	0.47	-0.07
40	0.61	0.69	-0.09	0.48	0.48	0.00	0.40	0.46	-0.05
41	0.40	0.46	-0.05	0.69	0.67	0.01	0.54	0.58	-0.04
42	0.70	0.76	-0.05	0.73	0.77	-0.04	0.54	0.54	0.00
43	0.26	0.26	0.01	0.61	0.57	0.04	0.49	0.54	-0.05
44	0.37	0.40	-0.03	0.58	0.59	-0.01	0.55	0.51	0.04
45				0.57	0.61	-0.04	0.41	0.45	-0.04
46							0.46	0.42	0.04
Average	0.62	0.67	-0.05	0.67	0.69	-0.01	0.62	0.65	-0.02

A COMPARATIVE EVALUATION

Reading												
Grade	9			10			11			12		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.62	0.71	-0.09	0.66	0.66	-0.01	0.76	0.81	-0.06	0.75	0.77	-0.02
2	0.68	0.75	-0.07	0.63	0.62	0.00	0.78	0.80	-0.02	0.78	0.81	-0.03
3	0.66	0.69	-0.03	0.74	0.76	-0.02	0.56	0.65	-0.09	0.59	0.61	-0.02
4	0.78	0.81	-0.03	0.68	0.63	0.05	0.75	0.83	-0.09	0.77	0.77	0.01
5	0.70	0.76	-0.06	0.61	0.68	-0.07	0.59	0.59	0.00	0.70	0.68	0.02
6	0.43	0.43	-0.01	0.77	0.78	0.00	0.66	0.69	-0.03	0.71	0.77	-0.07
7	0.67	0.72	-0.05	0.61	0.59	0.02	0.62	0.67	-0.05	0.66	0.62	0.03
8	0.64	0.74	-0.10	0.47	0.53	-0.06	0.68	0.71	-0.03	0.65	0.73	-0.09
9	0.60	0.66	-0.05	0.53	0.60	-0.07	0.66	0.69	-0.03	0.65	0.65	-0.01
10	0.59	0.63	-0.04	0.38	0.44	-0.05	0.63	0.67	-0.04	0.66	0.65	0.01
11	0.50	0.62	-0.12	0.54	0.55	-0.02	0.61	0.61	0.01	0.60	0.66	-0.06
12	0.71	0.75	-0.04	0.46	0.49	-0.03	0.68	0.74	-0.06	0.69	0.76	-0.07
13	0.73	0.74	-0.01	0.51	0.49	0.02	0.62	0.60	0.02	0.62	0.65	-0.02
14	0.51	0.55	-0.04	0.56	0.57	0.00	0.78	0.73	0.05	0.73	0.72	0.02
15	0.28	0.33	-0.05	0.48	0.48	0.00	0.68	0.64	0.05	0.63	0.62	0.01
16	0.49	0.58	-0.09	0.63	0.66	-0.03	0.55	0.56	-0.01	0.58	0.59	-0.01
17	0.74	0.74	0.00	0.55	0.63	-0.08	0.56	0.62	-0.06	0.62	0.66	-0.04
18	0.59	0.61	-0.02	0.63	0.70	-0.07	0.38	0.38	0.00	0.41	0.48	-0.07
19	0.60	0.60	0.00	0.61	0.60	0.01	0.53	0.54	-0.01	0.62	0.61	0.01
20	0.70	0.68	0.02	0.50	0.48	0.02	0.47	0.49	-0.03	0.52	0.47	0.05
21	0.60	0.58	0.02	0.55	0.51	0.04	0.52	0.49	0.04	0.54	0.57	-0.03
22	0.63	0.65	-0.01	0.53	0.57	-0.04	0.63	0.57	0.06	0.59	0.64	-0.05
23	0.68	0.70	-0.02	0.53	0.52	0.01	0.70	0.66	0.04	0.65	0.71	-0.06
24	0.57	0.62	-0.05	0.52	0.54	-0.02	0.45	0.50	-0.05	0.48	0.50	-0.02
25	0.43	0.50	-0.08	0.50	0.52	-0.02	0.76	0.73	0.03	0.73	0.73	0.01
26	0.48	0.43	0.06	0.54	0.57	-0.03	0.63	0.66	-0.03	0.57	0.60	-0.03
27	0.58	0.63	-0.05	0.56	0.53	0.03	0.58	0.54	0.04	0.56	0.57	-0.01
28	0.76	0.70	0.07	0.52	0.48	0.04	0.61	0.60	0.01	0.61	0.61	0.00
29	0.39	0.36	0.03	0.55	0.61	-0.06	0.62	0.61	0.02	0.63	0.59	0.04
30	0.64	0.66	-0.02	0.56	0.53	0.03	0.45	0.50	-0.05	0.54	0.55	-0.01
31	0.61	0.57	0.04	0.66	0.63	0.03	0.72	0.70	0.02	0.63	0.65	-0.02
32	0.45	0.45	0.01	0.56	0.54	0.02	0.53	0.60	-0.07	0.52	0.57	-0.05
33	0.50	0.51	-0.01	0.43	0.48	-0.04	0.67	0.62	0.05	0.60	0.60	0.01
34	0.63	0.60	0.03	0.49	0.48	0.01	0.57	0.56	0.01	0.50	0.57	-0.07
35	0.57	0.60	-0.02	0.55	0.53	0.02	0.41	0.36	0.05	0.47	0.42	0.05
36	0.42	0.45	-0.03	0.53	0.51	0.01	0.54	0.64	-0.10	0.57	0.63	-0.06
37	0.48	0.50	-0.01	0.52	0.51	0.01	0.49	0.46	0.03	0.37	0.43	-0.06
38	0.46	0.47	-0.01	0.56	0.48	0.08	0.60	0.62	-0.02	0.61	0.58	0.03
39	0.52	0.52	0.00	0.46	0.48	-0.01	0.65	0.61	0.04	0.64	0.62	0.02
40	0.54	0.58	-0.04	0.59	0.55	0.04	0.72	0.58	0.14	0.65	0.69	-0.04
Average	0.58	0.60	-0.03	0.56	0.56	-0.01	0.61	0.62	-0.01	0.61	0.63	-0.02

A COMPARATIVE EVALUATION

Written Expression									
Grade	3			4			5		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.74	0.73	0.00	0.88	0.92	-0.04	0.81	0.82	-0.01
2	0.67	0.73	-0.06	0.69	0.76	-0.07	0.69	0.72	-0.03
3	0.69	0.75	-0.06	0.76	0.76	0.00	0.75	0.77	-0.02
4	0.79	0.83	-0.03	0.67	0.69	-0.02	0.53	0.56	-0.03
5	0.50	0.51	-0.02	0.64	0.60	0.04	0.69	0.72	-0.02
6	0.54	0.58	-0.04	0.75	0.75	0.00	0.51	0.50	0.02
7	0.69	0.74	-0.06	0.69	0.65	0.04	0.80	0.79	0.01
8	0.49	0.47	0.02	0.35	0.35	0.01	0.58	0.65	-0.07
9	0.63	0.61	0.02	0.69	0.72	-0.03	0.69	0.68	0.01
10	0.76	0.76	0.00	0.82	0.78	0.04	0.76	0.78	-0.01
11	0.63	0.68	-0.05	0.66	0.69	-0.03	0.59	0.64	-0.04
12	0.67	0.66	0.01	0.63	0.69	-0.06	0.72	0.69	0.03
13	0.55	0.63	-0.08	0.54	0.48	0.06	0.77	0.75	0.02
14	0.56	0.55	0.01	0.63	0.67	-0.04	0.69	0.72	-0.04
15	0.72	0.74	-0.02	0.41	0.44	-0.03	0.65	0.67	-0.02
16	0.61	0.58	0.03	0.69	0.63	0.07	0.59	0.64	-0.05
17	0.27	0.25	0.02	0.40	0.34	0.06	0.49	0.46	0.03
18	0.60	0.62	-0.02	0.69	0.71	-0.02	0.71	0.66	0.05
19	0.70	0.68	0.02	0.44	0.46	-0.02	0.72	0.73	-0.01
20	0.56	0.58	-0.03	0.51	0.55	-0.04	0.57	0.60	-0.04
21	0.65	0.66	-0.01	0.70	0.68	0.02	0.65	0.69	-0.04
22	0.53	0.58	-0.05	0.46	0.47	0.00	0.58	0.54	0.04
23	0.34	0.34	0.00	0.53	0.55	-0.02	0.71	0.70	0.02
24	0.61	0.63	-0.02	0.66	0.66	0.00	0.64	0.65	-0.02
25	0.63	0.62	0.01	0.61	0.63	-0.02	0.52	0.59	-0.07
26	0.33	0.34	-0.02	0.69	0.70	0.00	0.54	0.50	0.04
27	0.53	0.57	-0.04	0.47	0.43	0.04	0.56	0.50	0.06
28	0.55	0.58	-0.02	0.65	0.67	-0.02	0.48	0.58	-0.09
29	0.69	0.66	0.03	0.51	0.54	-0.03	0.69	0.61	0.08
30	0.41	0.35	0.06	0.63	0.73	-0.10	0.57	0.58	-0.01
31	0.61	0.65	-0.04	0.67	0.70	-0.02	0.44	0.42	0.02
32	0.43	0.48	-0.05	0.63	0.70	-0.07	0.73	0.73	0.00
33	0.64	0.69	-0.06	0.45	0.52	-0.07	0.57	0.49	0.07
34	0.67	0.68	0.00	0.36	0.47	-0.11	0.74	0.70	0.04
35	0.60	0.61	-0.01	0.64	0.69	-0.05	0.34	0.31	0.03
36				0.54	0.57	-0.03	0.63	0.60	0.04
37				0.33	0.33	0.00	0.78	0.80	-0.03
38				0.68	0.72	-0.04	0.37	0.38	-0.01
39							0.61	0.65	-0.04
40							0.20	0.23	-0.04
Average	0.59	0.60	-0.02	0.60	0.62	-0.02	0.62	0.62	0.00

A COMPARATIVE EVALUATION

Written Expression									
Grade	6			7			8		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.60	0.60	0.01	0.66	0.65	0.02	0.54	0.58	-0.03
2	0.58	0.64	-0.06	0.43	0.49	-0.05	0.42	0.42	0.01
3	0.47	0.47	-0.01	0.58	0.60	-0.01	0.58	0.63	-0.05
4	0.61	0.60	0.01	0.63	0.67	-0.04	0.49	0.56	-0.07
5	0.69	0.70	-0.02	0.57	0.54	0.03	0.66	0.69	-0.04
6	0.53	0.54	-0.02	0.64	0.61	0.03	0.33	0.35	-0.01
7	0.64	0.67	-0.04	0.69	0.68	0.01	0.48	0.52	-0.04
8	0.47	0.51	-0.05	0.66	0.63	0.03	0.59	0.60	-0.01
9	0.64	0.64	0.00	0.50	0.55	-0.05	0.61	0.62	-0.01
10	0.66	0.69	-0.03	0.64	0.64	0.01	0.52	0.61	-0.10
11	0.55	0.59	-0.03	0.54	0.52	0.02	0.28	0.34	-0.07
12	0.51	0.49	0.03	0.57	0.54	0.03	0.28	0.35	-0.07
13	0.62	0.63	-0.01	0.54	0.58	-0.04	0.36	0.41	-0.05
14	0.38	0.41	-0.03	0.43	0.47	-0.03	0.59	0.56	0.02
15	0.51	0.55	-0.04	0.46	0.45	0.00	0.46	0.42	0.04
16	0.60	0.64	-0.05	0.55	0.57	-0.03	0.44	0.50	-0.06
17	0.56	0.55	0.01	0.53	0.59	-0.06	0.42	0.52	-0.10
18	0.63	0.58	0.05	0.38	0.38	0.00	0.59	0.64	-0.05
19	0.65	0.65	0.01	0.55	0.56	-0.01	0.41	0.45	-0.04
20	0.60	0.59	0.01	0.52	0.47	0.05	0.44	0.50	-0.06
21	0.52	0.52	0.00	0.63	0.58	0.05	0.41	0.44	-0.03
22	0.64	0.65	-0.01	0.32	0.31	0.01	0.34	0.37	-0.03
23	0.44	0.45	-0.01	0.45	0.45	0.00	0.47	0.51	-0.04
24	0.49	0.49	0.00	0.57	0.55	0.01	0.47	0.50	-0.02
25	0.56	0.57	-0.01	0.57	0.58	-0.01	0.43	0.44	0.00
26	0.43	0.40	0.03	0.56	0.57	-0.01	0.51	0.53	-0.02
27	0.44	0.44	0.00	0.25	0.28	-0.03	0.54	0.52	0.02
28	0.47	0.46	0.01	0.24	0.27	-0.03	0.42	0.49	-0.07
29	0.53	0.49	0.04	0.40	0.42	-0.02	0.47	0.49	-0.01
30	0.61	0.64	-0.02	0.59	0.56	0.04	0.53	0.56	-0.03
31	0.36	0.40	-0.04	0.44	0.45	-0.01	0.40	0.42	-0.02
32	0.50	0.47	0.03	0.45	0.46	-0.01	0.37	0.36	0.01
33	0.66	0.66	0.00	0.43	0.38	0.05	0.50	0.48	0.02
34	0.37	0.38	-0.01	0.63	0.60	0.02	0.46	0.50	-0.03
35	0.62	0.58	0.04	0.23	0.23	0.00	0.38	0.39	-0.01
36	0.25	0.31	-0.06	0.28	0.23	0.05	0.52	0.49	0.03
37	0.43	0.49	-0.06	0.45	0.39	0.06	0.39	0.42	-0.03
38	0.32	0.37	-0.05	0.47	0.50	-0.04	0.43	0.42	0.01
39	0.61	0.58	0.04	0.29	0.31	-0.02	0.37	0.37	0.00
40	0.25	0.23	0.02	0.57	0.58	-0.01	0.33	0.32	0.02
41	0.22	0.26	-0.03	0.50	0.48	0.02	0.44	0.42	0.03
42	0.50	0.48	0.02	0.40	0.38	0.02	0.44	0.46	-0.02
43	0.43	0.48	-0.05	0.55	0.52	0.03	0.18	0.18	0.00
44				0.37	0.37	0.00	0.49	0.56	-0.06
45				0.35	0.34	0.01	0.29	0.35	-0.06
46							0.54	0.55	-0.02
47							0.32	0.40	-0.08
48							0.19	0.18	0.01
Average	0.52	0.52	-0.01	0.49	0.49	0.00	0.44	0.47	-0.03

A COMPARATIVE EVALUATION

Written Expression												
Grade	9			10			11			12		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.66	0.72	-0.06	0.45	0.49	-0.04	0.58	0.54	0.04	0.55	0.50	0.05
2	0.75	0.77	-0.02	0.61	0.66	-0.05	0.70	0.69	0.01	0.64	0.71	-0.07
3	0.41	0.47	-0.06	0.63	0.66	-0.03	0.62	0.67	-0.05	0.64	0.68	-0.04
4	0.63	0.62	0.01	0.60	0.61	-0.02	0.70	0.56	0.15	0.61	0.65	-0.04
5	0.64	0.65	-0.01	0.55	0.52	0.04	0.61	0.63	-0.02	0.64	0.66	-0.03
6	0.71	0.74	-0.03	0.63	0.67	-0.04	0.66	0.69	-0.03	0.65	0.71	-0.05
7	0.51	0.46	0.04	0.71	0.69	0.02	0.46	0.43	0.04	0.36	0.41	-0.05
8	0.51	0.51	0.00	0.61	0.62	-0.01	0.74	0.74	0.01	0.76	0.77	-0.01
9	0.56	0.48	0.08	0.66	0.70	-0.04	0.59	0.66	-0.07	0.58	0.61	-0.02
10	0.62	0.64	-0.02	0.60	0.55	0.05	0.47	0.50	-0.04	0.43	0.54	-0.12
11	0.70	0.65	0.04	0.62	0.55	0.07	0.59	0.65	-0.06	0.58	0.63	-0.05
12	0.68	0.68	0.00	0.60	0.61	-0.01	0.56	0.59	-0.03	0.53	0.55	-0.02
13	0.56	0.55	0.01	0.50	0.55	-0.05	0.75	0.72	0.03	0.72	0.72	0.00
14	0.46	0.50	-0.04	0.60	0.59	0.01	0.37	0.42	-0.06	0.49	0.49	-0.01
15	0.42	0.53	-0.11	0.51	0.55	-0.04	0.72	0.71	0.01	0.70	0.73	-0.03
16	0.61	0.60	0.01	0.56	0.61	-0.05	0.62	0.60	0.02	0.65	0.68	-0.02
17	0.43	0.44	-0.01	0.43	0.45	-0.01	0.49	0.59	-0.10	0.51	0.60	-0.09
18	0.67	0.60	0.07	0.71	0.68	0.03	0.55	0.58	-0.03	0.54	0.62	-0.08
19	0.57	0.60	-0.04	0.54	0.58	-0.04	0.60	0.54	0.06	0.51	0.63	-0.12
20	0.61	0.57	0.04	0.45	0.46	-0.01	0.68	0.64	0.05	0.70	0.61	0.09
21	0.50	0.54	-0.04	0.61	0.72	-0.11	0.59	0.69	-0.10	0.61	0.75	-0.14
22	0.62	0.67	-0.05	0.45	0.48	-0.03	0.57	0.63	-0.06	0.58	0.61	-0.02
23	0.62	0.60	0.02	0.44	0.51	-0.07	0.55	0.52	0.03	0.45	0.45	-0.01
24	0.60	0.57	0.03	0.71	0.66	0.05	0.61	0.53	0.08	0.62	0.58	0.05
25	0.65	0.65	0.00	0.38	0.40	-0.02	0.62	0.64	-0.02	0.66	0.62	0.05
26	0.58	0.52	0.05	0.63	0.63	0.00	0.64	0.64	-0.01	0.63	0.69	-0.06
27	0.68	0.73	-0.05	0.57	0.59	-0.02	0.61	0.62	-0.01	0.65	0.68	-0.03
28	0.58	0.53	0.05	0.44	0.48	-0.04	0.74	0.67	0.07	0.69	0.68	0.01
29	0.72	0.71	0.01	0.52	0.52	0.01	0.72	0.69	0.03	0.73	0.72	0.01
30	0.66	0.70	-0.04	0.54	0.55	-0.01	0.54	0.55	-0.01	0.51	0.59	-0.08
31	0.66	0.55	0.10	0.65	0.57	0.09	0.76	0.67	0.09	0.69	0.76	-0.07
32	0.47	0.50	-0.04	0.52	0.59	-0.07	0.67	0.68	-0.02	0.69	0.75	-0.06
33	0.59	0.58	0.01	0.60	0.54	0.05	0.47	0.58	-0.11	0.50	0.62	-0.12
34	0.18	0.24	-0.06	0.40	0.36	0.04	0.43	0.50	-0.07	0.52	0.51	0.01
35	0.57	0.47	0.11	0.50	0.44	0.05	0.50	0.51	-0.01	0.54	0.58	-0.04
36	0.54	0.47	0.07	0.60	0.55	0.05	0.44	0.44	0.00	0.53	0.54	-0.01
37	0.61	0.54	0.07	0.56	0.58	-0.02	0.53	0.50	0.04	0.49	0.45	0.04
38	0.31	0.38	-0.07	0.55	0.54	0.01	0.59	0.54	0.05	0.52	0.60	-0.08
39	0.48	0.54	-0.06	0.61	0.58	0.02	0.44	0.54	-0.11	0.49	0.60	-0.11
40	0.34	0.40	-0.06	0.47	0.42	0.05	0.59	0.57	0.02	0.62	0.59	0.03
41	0.51	0.54	-0.02	0.71	0.64	0.07	0.41	0.42	-0.01	0.55	0.50	0.05
42	0.59	0.63	-0.04	0.65	0.68	-0.03	0.41	0.42	-0.02	0.43	0.51	-0.08
43	0.44	0.45	0.00	0.64	0.57	0.07	0.59	0.48	0.11	0.54	0.50	0.05
44	0.62	0.61	0.01	0.45	0.48	-0.03	0.44	0.43	0.01	0.37	0.36	0.01
45	0.61	0.58	0.03	0.44	0.48	-0.04	0.57	0.51	0.06	0.54	0.57	-0.03
46	0.44	0.51	-0.08	0.59	0.49	0.10	0.60	0.52	0.08	0.54	0.57	-0.02
47	0.57	0.52	0.04	0.23	0.28	-0.05	0.50	0.46	0.04	0.46	0.45	0.01
48	0.55	0.52	0.02	0.54	0.46	0.08	0.53	0.58	-0.05	0.54	0.55	-0.02
49	0.65	0.64	0.01	0.49	0.43	0.06	0.58	0.58	-0.01	0.54	0.49	0.05
50	0.68	0.66	0.01	0.24	0.28	-0.04	0.66	0.60	0.06	0.63	0.51	0.12
51	0.70	0.69	0.01	0.60	0.55	0.05	0.42	0.49	-0.08	0.49	0.51	-0.02
52	0.51	0.50	0.01	0.26	0.34	-0.08	0.60	0.59	0.01	0.59	0.61	-0.02
53	0.63	0.59	0.04	0.49	0.50	0.00	0.63	0.58	0.06	0.60	0.54	0.05
54	0.50	0.41	0.09	0.33	0.39	-0.06	0.54	0.52	0.03	0.51	0.51	0.01
Average	0.57	0.57	0.00	0.54	0.54	0.00	0.58	0.57	0.00	0.57	0.59	-0.02

A COMPARATIVE EVALUATION

Grade	Mathematics								
	3			4			5		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.91	0.91	0.00	0.89	0.91	-0.02	0.75	0.82	-0.07
2	0.85	0.87	-0.02	0.43	0.42	0.01	0.89	0.90	-0.01
3	0.85	0.87	-0.02	0.69	0.69	0.00	0.89	0.89	0.00
4	0.31	0.33	-0.02	0.63	0.60	0.03	0.83	0.87	-0.04
5	0.84	0.81	0.02	0.55	0.59	-0.04	0.72	0.76	-0.04
6	0.66	0.68	-0.01	0.28	0.33	-0.05	0.82	0.83	-0.01
7	0.82	0.83	-0.01	0.76	0.73	0.03	0.74	0.75	0.00
8	0.68	0.55	0.14	0.84	0.79	0.05	0.46	0.47	0.00
9	0.92	0.91	0.01	0.50	0.49	0.01	0.83	0.80	0.03
10	0.33	0.32	0.01	0.74	0.79	-0.05	0.86	0.85	0.01
11	0.37	0.37	0.00	0.76	0.70	0.06	0.71	0.75	-0.04
12	0.87	0.85	0.01	0.57	0.57	-0.01	0.54	0.56	-0.02
13	0.94	0.89	0.06	0.72	0.71	0.00	0.60	0.61	-0.02
14	0.74	0.71	0.04	0.84	0.82	0.02	0.72	0.75	-0.03
15	0.58	0.64	-0.05	0.65	0.61	0.05	0.80	0.77	0.02
16	0.55	0.61	-0.06	0.73	0.69	0.03	0.73	0.69	0.05
17	0.68	0.62	0.06	0.52	0.53	0.00	0.43	0.44	-0.01
18	0.38	0.34	0.04	0.56	0.58	-0.02	0.44	0.43	0.01
19	0.26	0.28	-0.02	0.86	0.82	0.04	0.29	0.30	0.00
20	0.72	0.70	0.02	0.84	0.78	0.07	0.45	0.48	-0.03
21	0.67	0.66	0.01	0.21	0.26	-0.05	0.47	0.49	-0.02
22	0.52	0.57	-0.04	0.55	0.51	0.04	0.48	0.46	0.02
23	0.83	0.77	0.06	0.72	0.69	0.02	0.36	0.40	-0.04
24	0.60	0.56	0.04	0.28	0.29	0.00	0.73	0.80	-0.07
25	0.71	0.74	-0.04	0.42	0.37	0.05	0.42	0.47	-0.05
26	0.35	0.37	-0.02	0.46	0.45	0.01	0.33	0.39	-0.07
27	0.62	0.62	-0.01	0.76	0.71	0.05	0.60	0.58	0.02
28	0.53	0.48	0.05	0.88	0.83	0.05	0.67	0.64	0.03
29	0.43	0.44	-0.01	0.85	0.79	0.06	0.44	0.43	0.02
30	0.17	0.13	0.04	0.70	0.76	-0.06	0.69	0.71	-0.03
31	0.50	0.57	-0.06	0.66	0.67	-0.01	0.70	0.69	0.01
32	0.82	0.71	0.11	0.70	0.63	0.08	0.68	0.72	-0.04
33	0.43	0.40	0.03	0.61	0.63	-0.02	0.72	0.64	0.08
34	0.69	0.74	-0.05	0.40	0.33	0.06	0.55	0.57	-0.02
35	0.69	0.68	0.01	0.85	0.76	0.09	0.84	0.82	0.02
36	0.40	0.41	-0.01	0.79	0.80	0.00	0.48	0.44	0.04
37	0.53	0.49	0.04	0.68	0.65	0.03	0.35	0.33	0.02
38	0.72	0.75	-0.02	0.43	0.43	-0.01	0.26	0.26	0.00
39	0.44	0.43	0.00	0.60	0.58	0.02	0.32	0.36	-0.04
40	0.75	0.78	-0.03	0.73	0.75	-0.02	0.58	0.59	-0.01
41	0.40	0.43	-0.03	0.72	0.69	0.04	0.66	0.67	-0.01
42	0.63	0.55	0.08	0.57	0.55	0.02	0.52	0.47	0.05
43	0.73	0.70	0.03	0.53	0.55	-0.02	0.65	0.60	0.05
44	0.76	0.71	0.05	0.39	0.39	0.01	0.56	0.50	0.07
45	0.19	0.18	0.01	0.23	0.24	-0.01	0.53	0.50	0.04
46	0.43	0.44	-0.01	0.36	0.37	-0.01	0.46	0.52	-0.06
47	0.56	0.58	-0.02	0.35	0.39	-0.03	0.59	0.61	-0.02
48	0.31	0.26	0.05	0.37	0.38	-0.01	0.48	0.50	-0.02
49	0.38	0.28	0.10	0.27	0.28	-0.01	0.70	0.71	-0.01
50	0.34	0.34	0.00	0.65	0.58	0.07	0.76	0.74	0.02
51				0.37	0.43	-0.06	0.66	0.68	-0.02
52				0.39	0.27	0.12	0.67	0.64	0.03
53				0.49	0.46	0.03	0.56	0.51	0.05
54				0.52	0.49	0.02	0.52	0.44	0.09
55				0.37	0.37	0.01	0.28	0.27	0.01
56							0.49	0.48	0.01
57							0.59	0.51	0.08
58							0.48	0.40	0.08
59							0.62	0.59	0.02
60							0.27	0.22	0.04
Average	0.59	0.58	0.01	0.59	0.57	0.01	0.59	0.58	0.00

A COMPARATIVE EVALUATION

Mathematics									
Grade	6			7			8		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.78	0.80	-0.02	0.74	0.67	0.07	0.70	0.69	0.01
2	0.69	0.71	-0.02	0.66	0.68	-0.01	0.59	0.58	0.01
3	0.81	0.84	-0.04	0.74	0.75	-0.01	0.50	0.58	-0.08
4	0.70	0.67	0.02	0.60	0.64	-0.04	0.75	0.81	-0.06
5	0.64	0.70	-0.05	0.81	0.79	0.03	0.65	0.69	-0.04
6	0.88	0.85	0.03	0.63	0.63	0.00	0.81	0.84	-0.03
7	0.63	0.68	-0.05	0.74	0.68	0.07	0.62	0.71	-0.09
8	0.47	0.47	0.00	0.57	0.61	-0.05	0.73	0.80	-0.07
9	0.30	0.31	-0.01	0.78	0.77	0.02	0.81	0.88	-0.07
10	0.47	0.50	-0.02	0.41	0.39	0.01	0.61	0.72	-0.11
11	0.72	0.77	-0.05	0.71	0.71	0.00	0.60	0.73	-0.12
12	0.71	0.69	0.02	0.49	0.44	0.05	0.57	0.69	-0.11
13	0.60	0.57	0.02	0.81	0.84	-0.04	0.67	0.75	-0.08
14	0.70	0.69	0.01	0.44	0.50	-0.06	0.57	0.63	-0.06
15	0.86	0.83	0.03	0.59	0.59	0.00	0.66	0.67	-0.02
16	0.58	0.57	0.01	0.73	0.70	0.03	0.89	0.89	0.00
17	0.62	0.66	-0.04	0.52	0.57	-0.05	0.78	0.84	-0.06
18	0.72	0.69	0.03	0.50	0.56	-0.06	0.71	0.76	-0.05
19	0.53	0.61	-0.08	0.68	0.72	-0.04	0.76	0.78	-0.02
20	0.74	0.78	-0.03	0.48	0.47	0.01	0.59	0.63	-0.04
21	0.81	0.78	0.04	0.59	0.61	-0.02	0.68	0.66	0.03
22	0.84	0.84	0.00	0.62	0.66	-0.05	0.75	0.74	0.01
23	0.82	0.84	-0.02	0.51	0.50	0.01	0.35	0.35	-0.01
24	0.62	0.64	-0.02	0.70	0.72	-0.02	0.72	0.70	0.01
25	0.56	0.58	-0.02	0.52	0.58	-0.06	0.37	0.38	-0.01
26	0.40	0.38	0.02	0.52	0.49	0.02	0.26	0.31	-0.05
27	0.64	0.67	-0.03	0.64	0.67	-0.03	0.53	0.59	-0.06
28	0.65	0.60	0.05	0.62	0.70	-0.08	0.40	0.48	-0.07
29	0.53	0.56	-0.03	0.64	0.65	-0.01	0.42	0.50	-0.08
30	0.69	0.71	-0.02	0.44	0.49	-0.06	0.32	0.29	0.03
31	0.34	0.28	0.05	0.38	0.38	0.00	0.40	0.40	0.00
32	0.66	0.68	-0.02	0.39	0.40	-0.01	0.42	0.49	-0.07
33	0.53	0.54	-0.02	0.42	0.45	-0.02	0.61	0.70	-0.09
34	0.69	0.69	0.00	0.46	0.51	-0.05	0.65	0.68	-0.04
35	0.61	0.64	-0.03	0.66	0.72	-0.06	0.26	0.31	-0.05
36	0.68	0.65	0.04	0.60	0.59	0.01	0.79	0.78	0.01
37	0.50	0.57	-0.06	0.43	0.40	0.03	0.88	0.87	0.01
38	0.69	0.67	0.02	0.72	0.71	0.01	0.58	0.61	-0.03
39	0.52	0.57	-0.05	0.62	0.61	0.01	0.59	0.61	-0.03
40	0.64	0.64	-0.01	0.77	0.76	0.01	0.57	0.61	-0.04
41	0.30	0.26	0.04	0.54	0.56	-0.03	0.60	0.59	0.00
42	0.63	0.68	-0.05	0.70	0.71	-0.01	0.58	0.63	-0.05
43	0.29	0.34	-0.05	0.81	0.78	0.03	0.76	0.83	-0.06
44	0.74	0.79	-0.06	0.57	0.58	-0.01	0.63	0.68	-0.04
45	0.34	0.42	-0.09	0.61	0.67	-0.06	0.50	0.57	-0.07
46	0.53	0.52	0.01	0.63	0.62	0.02	0.63	0.66	-0.03
47	0.62	0.64	-0.02	0.62	0.65	-0.03	0.27	0.33	-0.06
48	0.44	0.51	-0.07	0.46	0.36	0.10	0.78	0.73	0.05
49	0.49	0.52	-0.02	0.50	0.50	0.00	0.37	0.45	-0.08
50	0.73	0.71	0.02	0.86	0.80	0.06	0.50	0.63	-0.13
51	0.35	0.38	-0.03	0.76	0.74	0.02	0.39	0.43	-0.04
52	0.49	0.55	-0.05	0.68	0.68	0.00	0.47	0.52	-0.04
53	0.59	0.59	0.00	0.71	0.72	-0.01	0.43	0.43	-0.01
54	0.38	0.37	0.01	0.58	0.58	0.01	0.48	0.48	0.00
55	0.64	0.68	-0.05	0.72	0.66	0.06	0.56	0.54	0.02
56	0.38	0.50	-0.12	0.67	0.60	0.08	0.50	0.48	0.01
57	0.43	0.42	0.00	0.28	0.26	0.02	0.45	0.39	0.06
58	0.54	0.50	0.05	0.69	0.65	0.04	0.32	0.34	-0.02
59	0.56	0.59	-0.04	0.35	0.31	0.03	0.42	0.38	0.04
60	0.59	0.57	0.02	0.26	0.27	-0.01	0.37	0.35	0.02

A COMPARATIVE EVALUATION

Mathematics									
Grade	6			7			8		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
61	0.33	0.40	-0.07	0.47	0.49	-0.02	0.56	0.54	0.02
62	0.33	0.35	-0.02	0.43	0.41	0.03	0.52	0.53	0.00
63	0.35	0.35	0.00	0.46	0.43	0.03	0.48	0.46	0.03
64	0.44	0.44	0.00	0.36	0.28	0.08	0.48	0.51	-0.03
65	0.36	0.37	0.00	0.35	0.34	0.01	0.46	0.43	0.03
66				0.37	0.36	0.01	0.57	0.57	0.00
67				0.58	0.62	-0.04	0.71	0.67	0.05
68				0.68	0.64	0.03	0.73	0.72	0.01
69				0.21	0.27	-0.06	0.35	0.39	-0.04
70				0.76	0.72	0.05	0.43	0.42	0.01
71							0.41	0.46	-0.05
72							0.22	0.25	-0.03
73							0.47	0.47	0.01
74							0.39	0.37	0.02
75							0.34	0.37	-0.03
Average	0.58	0.59	-0.01	0.58	0.58	0.00	0.55	0.58	-0.03

A COMPARATIVE EVALUATION

Mathematics												
Grade	9			10			11			12		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.76	0.79	-0.03	0.68	0.75	-0.07	0.57	0.57	0.00	0.51	0.63	-0.12
2	0.63	0.68	-0.06	0.45	0.51	-0.06	0.54	0.51	0.03	0.53	0.55	-0.02
3	0.53	0.62	-0.09	0.67	0.66	0.01	0.43	0.45	-0.02	0.40	0.40	-0.01
4	0.31	0.38	-0.07	0.26	0.35	-0.09	0.51	0.49	0.03	0.46	0.54	-0.09
5	0.67	0.72	-0.06	0.34	0.40	-0.06	0.22	0.26	-0.04	0.27	0.29	-0.02
6	0.50	0.57	-0.08	0.54	0.57	-0.02	0.34	0.36	-0.02	0.32	0.31	0.01
7	0.48	0.45	0.03	0.43	0.53	-0.10	0.34	0.39	-0.05	0.33	0.38	-0.05
8	0.23	0.30	-0.07	0.53	0.58	-0.04	0.36	0.45	-0.09	0.34	0.35	-0.01
9	0.42	0.37	0.05	0.63	0.69	-0.06	0.52	0.56	-0.04	0.49	0.61	-0.12
10	0.52	0.54	-0.02	0.50	0.56	-0.06	0.37	0.49	-0.13	0.48	0.42	0.06
11	0.43	0.45	-0.02	0.41	0.52	-0.12	0.44	0.47	-0.03	0.47	0.55	-0.09
12	0.28	0.30	-0.02	0.40	0.45	-0.05	0.37	0.45	-0.08	0.38	0.50	-0.12
13	0.30	0.39	-0.09	0.58	0.57	0.01	0.24	0.27	-0.04	0.27	0.28	-0.01
14	0.28	0.26	0.02	0.33	0.34	-0.01	0.41	0.41	0.01	0.40	0.35	0.05
15	0.18	0.21	-0.03	0.32	0.42	-0.10	0.30	0.35	-0.05	0.44	0.38	0.06
16	0.49	0.48	0.01	0.33	0.39	-0.06	0.49	0.50	-0.01	0.55	0.55	0.00
17	0.29	0.33	-0.04	0.50	0.56	-0.06	0.38	0.52	-0.14	0.42	0.51	-0.09
18	0.44	0.48	-0.04	0.42	0.48	-0.05	0.37	0.46	-0.09	0.27	0.35	-0.08
19	0.40	0.42	-0.02	0.50	0.51	-0.01	0.29	0.36	-0.07	0.31	0.37	-0.06
20	0.33	0.30	0.02	0.24	0.27	-0.03	0.24	0.27	-0.04	0.17	0.22	-0.05
21	0.62	0.63	-0.01	0.38	0.46	-0.08	0.45	0.44	0.01	0.42	0.49	-0.06
22	0.36	0.43	-0.07	0.47	0.45	0.02	0.43	0.47	-0.05	0.48	0.46	0.02
23	0.55	0.58	-0.04	0.31	0.38	-0.07	0.46	0.51	-0.05	0.47	0.49	-0.02
24	0.19	0.26	-0.07	0.39	0.30	0.08	0.62	0.55	0.07	0.54	0.54	0.00
25	0.39	0.30	0.09	0.22	0.17	0.04	0.59	0.53	0.06	0.53	0.48	0.05
26	0.43	0.49	-0.06	0.33	0.32	0.01	0.41	0.46	-0.06	0.35	0.49	-0.14
27	0.35	0.42	-0.07	0.32	0.30	0.02	0.19	0.26	-0.07	0.20	0.24	-0.04
28	0.50	0.49	0.01	0.27	0.33	-0.07	0.33	0.42	-0.09	0.31	0.42	-0.11
29	0.60	0.59	0.00	0.47	0.45	0.02	0.40	0.37	0.03	0.44	0.43	0.01
30	0.41	0.42	-0.01	0.30	0.36	-0.05	0.33	0.30	0.03	0.35	0.36	-0.01
31	0.43	0.38	0.05	0.34	0.39	-0.04	0.44	0.41	0.03	0.39	0.44	-0.05
32	0.32	0.35	-0.03	0.28	0.36	-0.08	0.41	0.42	-0.01	0.46	0.45	0.01
33	0.50	0.46	0.04	0.19	0.36	-0.17	0.25	0.34	-0.09	0.20	0.31	-0.11
34	0.27	0.27	0.00	0.35	0.33	0.03	0.37	0.39	-0.02	0.35	0.34	0.02
35	0.27	0.30	-0.04	0.27	0.34	-0.08	0.35	0.34	0.01	0.39	0.45	-0.06
36	0.30	0.33	-0.03	0.41	0.43	-0.02	0.38	0.43	-0.05	0.44	0.41	0.03
37	0.39	0.41	-0.02	0.30	0.28	0.02	0.31	0.28	0.04	0.35	0.30	0.05
38	0.30	0.31	-0.01	0.27	0.31	-0.04	0.27	0.38	-0.11	0.28	0.41	-0.13
39	0.49	0.42	0.06	0.20	0.25	-0.05	0.38	0.38	-0.01	0.37	0.36	0.01
40	0.21	0.28	-0.07	0.24	0.20	0.04	0.28	0.36	-0.09	0.29	0.38	-0.09
Average	0.41	0.43	-0.02	0.38	0.42	-0.04	0.38	0.42	-0.03	0.39	0.42	-0.03

A COMPARATIVE EVALUATION

Grade	Social Studies								
	3			4			5		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.66	0.65	0.01	0.82	0.83	-0.01	0.75	0.85	-0.10
2	0.67	0.65	0.02	0.88	0.88	0.00	0.78	0.78	0.00
3	0.57	0.63	-0.06	0.73	0.71	0.02	0.83	0.82	0.01
4	0.70	0.67	0.03	0.65	0.71	-0.06	0.67	0.68	-0.01
5	0.81	0.81	0.00	0.48	0.53	-0.05	0.78	0.83	-0.05
6	0.53	0.62	-0.09	0.84	0.82	0.02	0.46	0.57	-0.11
7	0.75	0.72	0.02	0.34	0.35	0.00	0.75	0.71	0.04
8	0.70	0.66	0.04	0.71	0.74	-0.03	0.58	0.60	-0.02
9	0.70	0.68	0.02	0.77	0.78	0.00	0.34	0.43	-0.09
10	0.76	0.74	0.03	0.70	0.64	0.06	0.74	0.68	0.06
11	0.62	0.53	0.08	0.70	0.64	0.06	0.43	0.37	0.07
12	0.76	0.63	0.13	0.61	0.60	0.01	0.68	0.65	0.03
13	0.75	0.70	0.06	0.51	0.55	-0.04	0.72	0.69	0.03
14	0.68	0.71	-0.04	0.63	0.63	0.00	0.44	0.55	-0.11
15	0.72	0.73	-0.02	0.58	0.54	0.04	0.65	0.59	0.06
16	0.81	0.80	0.01	0.40	0.45	-0.05	0.56	0.59	-0.03
17	0.61	0.66	-0.05	0.69	0.71	-0.01	0.58	0.53	0.06
18	0.57	0.58	-0.02	0.67	0.64	0.04	0.48	0.51	-0.02
19	0.47	0.44	0.04	0.73	0.74	-0.02	0.78	0.80	-0.02
20	0.77	0.82	-0.05	0.56	0.53	0.03	0.85	0.76	0.09
21	0.26	0.26	0.00	0.68	0.69	-0.02	0.57	0.56	0.02
22	0.65	0.73	-0.08	0.40	0.41	-0.01	0.50	0.50	0.00
23	0.64	0.66	-0.02	0.67	0.58	0.09	0.61	0.59	0.02
24	0.36	0.38	-0.02	0.51	0.54	-0.04	0.45	0.39	0.06
25	0.61	0.60	0.01	0.35	0.29	0.05	0.56	0.61	-0.05
26	0.53	0.53	-0.01	0.64	0.56	0.08	0.69	0.67	0.02
27	0.42	0.48	-0.06	0.35	0.35	0.00	0.53	0.50	0.03
28	0.51	0.51	0.00	0.61	0.63	-0.02	0.59	0.55	0.04
29	0.41	0.48	-0.07	0.53	0.48	0.05	0.56	0.57	-0.02
30	0.25	0.29	-0.04	0.33	0.38	-0.05	0.58	0.58	0.00
31				0.55	0.52	0.03	0.53	0.50	0.03
32				0.45	0.48	-0.02	0.41	0.36	0.05
33				0.42	0.47	-0.04	0.56	0.48	0.08
34				0.33	0.33	0.01	0.57	0.49	0.07
35							0.27	0.27	0.00
36							0.49	0.45	0.04
37							0.44	0.43	0.01
Average	0.61	0.61	0.00	0.58	0.58	0.00	0.59	0.58	0.01

A COMPARATIVE EVALUATION

Grade	Social Studies								
	6			7			8		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.67	0.72	-0.05	0.39	0.42	-0.03	0.51	0.62	-0.11
2	0.68	0.70	-0.01	0.59	0.57	0.02	0.36	0.40	-0.05
3	0.42	0.48	-0.06	0.54	0.56	-0.02	0.49	0.54	-0.05
4	0.45	0.47	-0.02	0.43	0.47	-0.04	0.31	0.32	-0.01
5	0.52	0.53	-0.02	0.40	0.41	-0.02	0.33	0.40	-0.06
6	0.48	0.42	0.06	0.50	0.45	0.06	0.39	0.50	-0.11
7	0.51	0.56	-0.05	0.52	0.53	-0.01	0.35	0.39	-0.04
8	0.60	0.61	-0.02	0.42	0.42	0.01	0.32	0.34	-0.02
9	0.49	0.46	0.04	0.33	0.33	0.00	0.46	0.53	-0.07
10	0.47	0.50	-0.02	0.44	0.44	-0.01	0.53	0.62	-0.09
11	0.48	0.51	-0.03	0.43	0.43	0.01	0.50	0.60	-0.09
12	0.50	0.51	-0.02	0.52	0.50	0.02	0.42	0.50	-0.08
13	0.45	0.47	-0.02	0.57	0.52	0.05	0.44	0.46	-0.03
14	0.33	0.36	-0.03	0.49	0.44	0.05	0.53	0.49	0.03
15	0.46	0.43	0.03	0.41	0.37	0.04	0.42	0.46	-0.03
16	0.42	0.45	-0.03	0.49	0.46	0.03	0.56	0.60	-0.04
17	0.32	0.33	-0.01	0.40	0.42	-0.03	0.54	0.57	-0.03
18	0.36	0.33	0.02	0.54	0.52	0.02	0.48	0.51	-0.02
19	0.46	0.48	-0.03	0.56	0.53	0.03	0.40	0.44	-0.04
20	0.37	0.36	0.02	0.42	0.41	0.01	0.49	0.49	-0.01
21	0.49	0.47	0.02	0.52	0.54	-0.02	0.47	0.49	-0.02
22	0.51	0.51	0.00	0.34	0.31	0.03	0.47	0.52	-0.05
23	0.39	0.38	0.01	0.50	0.44	0.06	0.43	0.44	-0.01
24	0.31	0.33	-0.03	0.35	0.30	0.05	0.39	0.44	-0.05
25	0.42	0.39	0.02	0.32	0.35	-0.02	0.50	0.52	-0.02
26	0.44	0.43	0.01	0.41	0.47	-0.06	0.30	0.37	-0.07
27	0.39	0.40	-0.02	0.31	0.33	-0.02	0.28	0.32	-0.04
28	0.29	0.29	0.00	0.32	0.32	0.00	0.31	0.36	-0.05
29	0.36	0.40	-0.05	0.49	0.48	0.01	0.37	0.39	-0.02
30	0.39	0.35	0.04	0.60	0.57	0.03	0.32	0.36	-0.04
31	0.48	0.47	0.01	0.48	0.50	-0.03	0.33	0.36	-0.03
32	0.50	0.51	-0.01	0.44	0.42	0.02	0.25	0.28	-0.03
33	0.43	0.39	0.04	0.44	0.37	0.08	0.29	0.34	-0.05
34	0.33	0.35	-0.02	0.51	0.51	0.00	0.42	0.47	-0.05
35	0.42	0.40	0.02	0.45	0.51	-0.06	0.51	0.54	-0.03
36	0.34	0.33	0.01	0.58	0.59	-0.01	0.48	0.46	0.02
37	0.43	0.38	0.05	0.58	0.57	0.01	0.46	0.43	0.03
38	0.48	0.46	0.02	0.54	0.51	0.03	0.22	0.28	-0.06
39	0.37	0.37	0.01	0.40	0.34	0.07	0.38	0.35	0.03
40				0.48	0.45	0.04	0.47	0.45	0.02
41				0.45	0.42	0.03	0.32	0.32	0.00
42							0.37	0.33	0.04
43							0.31	0.34	-0.03
Average	0.44	0.44	0.00	0.46	0.45	0.01	0.41	0.44	-0.03

A COMPARATIVE EVALUATION

Social Studies												
Grade	9			10			11			12		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.44	0.57	-0.13	0.16	0.14	0.02	0.52	0.48	0.04	0.50	0.51	-0.01
2	0.49	0.52	-0.03	0.44	0.43	0.01	0.46	0.49	-0.03	0.47	0.57	-0.10
3	0.43	0.43	0.00	0.36	0.45	-0.09	0.17	0.12	0.06	0.18	0.19	-0.01
4	0.25	0.27	-0.02	0.44	0.39	0.05	0.42	0.36	0.07	0.43	0.40	0.03
5	0.48	0.49	-0.01	0.36	0.46	-0.09	0.53	0.43	0.11	0.45	0.46	-0.01
6	0.40	0.46	-0.06	0.36	0.44	-0.08	0.42	0.35	0.07	0.48	0.38	0.10
7	0.44	0.48	-0.04	0.34	0.34	0.00	0.34	0.46	-0.12	0.39	0.49	-0.10
8	0.38	0.37	0.00	0.33	0.39	-0.06	0.42	0.50	-0.09	0.42	0.53	-0.12
9	0.55	0.50	0.06	0.37	0.33	0.04	0.39	0.40	-0.01	0.40	0.40	-0.01
10	0.32	0.34	-0.03	0.69	0.62	0.07	0.64	0.60	0.04	0.64	0.62	0.02
11	0.39	0.45	-0.06	0.65	0.60	0.05	0.43	0.44	-0.01	0.47	0.47	-0.01
12	0.40	0.37	0.04	0.31	0.35	-0.04	0.43	0.45	-0.02	0.45	0.50	-0.05
13	0.44	0.36	0.09	0.31	0.30	0.01	0.47	0.57	-0.10	0.55	0.53	0.03
14	0.15	0.19	-0.04	0.15	0.22	-0.06	0.61	0.63	-0.02	0.60	0.61	-0.02
15	0.52	0.45	0.07	0.43	0.43	0.00	0.35	0.40	-0.06	0.39	0.42	-0.03
16	0.34	0.33	0.01	0.25	0.34	-0.10	0.56	0.51	0.05	0.53	0.54	-0.02
17	0.43	0.48	-0.05	0.39	0.39	0.00	0.42	0.53	-0.11	0.51	0.54	-0.02
18	0.33	0.39	-0.06	0.36	0.38	-0.03	0.38	0.45	-0.07	0.51	0.47	0.04
19	0.37	0.37	0.00	0.39	0.45	-0.06	0.44	0.52	-0.09	0.40	0.52	-0.12
20	0.59	0.55	0.04	0.50	0.48	0.02	0.52	0.56	-0.05	0.53	0.53	-0.01
21	0.50	0.55	-0.05	0.55	0.51	0.04	0.34	0.37	-0.03	0.39	0.42	-0.03
22	0.50	0.53	-0.02	0.36	0.36	0.00	0.32	0.37	-0.06	0.36	0.28	0.08
23	0.39	0.43	-0.04	0.56	0.51	0.05	0.25	0.42	-0.18	0.37	0.36	0.01
24	0.33	0.29	0.04	0.51	0.48	0.03	0.39	0.34	0.05	0.38	0.40	-0.02
25	0.26	0.28	-0.02	0.46	0.44	0.02	0.46	0.48	-0.02	0.55	0.47	0.08
26	0.23	0.25	-0.02	0.49	0.49	0.00	0.30	0.39	-0.09	0.28	0.41	-0.13
27	0.41	0.48	-0.07	0.30	0.37	-0.07	0.31	0.18	0.13	0.33	0.24	0.09
28	0.25	0.34	-0.09	0.27	0.27	0.00	0.30	0.31	-0.01	0.36	0.32	0.05
29	0.29	0.30	-0.01	0.26	0.24	0.02	0.23	0.23	0.01	0.27	0.23	0.04
30	0.70	0.62	0.08	0.33	0.34	-0.01	0.39	0.39	-0.01	0.42	0.40	0.02
31	0.64	0.55	0.09	0.42	0.40	0.02	0.52	0.51	0.01	0.54	0.57	-0.02
32	0.50	0.59	-0.09	0.48	0.54	-0.06	0.40	0.54	-0.14	0.45	0.57	-0.12
33	0.40	0.42	-0.02	0.40	0.41	-0.01	0.47	0.55	-0.09	0.54	0.57	-0.03
34	0.35	0.38	-0.03	0.25	0.28	-0.03	0.44	0.55	-0.12	0.49	0.53	-0.04
35	0.34	0.35	-0.01	0.32	0.30	0.02	0.47	0.58	-0.11	0.51	0.53	-0.01
36	0.52	0.52	0.00	0.42	0.43	-0.02	0.35	0.43	-0.08	0.36	0.49	-0.13
37	0.50	0.38	0.12	0.43	0.38	0.05	0.43	0.54	-0.11	0.49	0.56	-0.08
38	0.38	0.36	0.01	0.35	0.32	0.03	0.56	0.55	0.01	0.61	0.58	0.03
39	0.43	0.46	-0.03	0.41	0.40	0.01	0.28	0.29	-0.02	0.35	0.32	0.03
40	0.24	0.33	-0.09	0.23	0.25	-0.02	0.28	0.32	-0.04	0.33	0.28	0.05
41	0.51	0.48	0.04	0.36	0.42	-0.06	0.24	0.38	-0.14	0.33	0.25	0.08
42	0.40	0.36	0.04	0.36	0.32	0.03	0.37	0.36	0.01	0.38	0.39	-0.01
43	0.47	0.47	0.00	0.45	0.39	0.06	0.37	0.36	0.01	0.43	0.37	0.06
44	0.50	0.46	0.04	0.29	0.34	-0.05	0.24	0.37	-0.13	0.31	0.36	-0.06
45	0.43	0.38	0.05	0.26	0.29	-0.02	0.33	0.33	-0.01	0.34	0.36	-0.02
46	0.51	0.49	0.02	0.30	0.44	-0.14	0.27	0.47	-0.20	0.29	0.43	-0.13
47	0.38	0.38	0.00	0.26	0.29	-0.03	0.19	0.28	-0.09	0.27	0.27	0.00
48	0.41	0.41	0.01	0.40	0.36	0.04	0.42	0.42	-0.01	0.44	0.39	0.05
49	0.29	0.30	-0.01	0.26	0.30	-0.04	0.29	0.34	-0.05	0.38	0.28	0.09
50	0.23	0.31	-0.08	0.32	0.39	-0.07	0.34	0.37	-0.03	0.39	0.42	-0.02
Average	0.41	0.42	-0.01	0.37	0.38	-0.01	0.39	0.43	-0.04	0.42	0.43	-0.01

A COMPARATIVE EVALUATION

Grade	Science								
	3			4			5		
Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.84	0.87	-0.03	0.81	0.86	-0.05	0.77	0.81	-0.04
2	0.67	0.70	-0.03	0.60	0.61	-0.01	0.66	0.69	-0.03
3	0.59	0.61	-0.02	0.80	0.79	0.01	0.80	0.78	0.02
4	0.51	0.57	-0.07	0.50	0.48	0.02	0.88	0.87	0.01
5	0.27	0.35	-0.08	0.57	0.61	-0.04	0.69	0.72	-0.03
6	0.89	0.86	0.03	0.41	0.38	0.04	0.73	0.72	0.01
7	0.80	0.82	-0.02	0.85	0.86	-0.01	0.92	0.89	0.02
8	0.75	0.75	0.00	0.43	0.42	0.01	0.79	0.87	-0.08
9	0.84	0.76	0.08	0.48	0.46	0.02	0.83	0.85	-0.01
10	0.80	0.79	0.00	0.78	0.76	0.02	0.65	0.65	0.00
11	0.67	0.68	0.00	0.67	0.63	0.03	0.67	0.69	-0.02
12	0.57	0.55	0.02	0.70	0.67	0.03	0.50	0.50	-0.01
13	0.49	0.46	0.03	0.73	0.78	-0.05	0.45	0.39	0.06
14	0.34	0.31	0.04	0.63	0.57	0.06	0.69	0.69	0.00
15	0.75	0.75	-0.01	0.49	0.47	0.02	0.72	0.70	0.02
16	0.43	0.42	0.02	0.45	0.42	0.03	0.60	0.63	-0.03
17	0.74	0.70	0.04	0.78	0.69	0.08	0.39	0.40	-0.02
18	0.42	0.37	0.05	0.60	0.59	0.02	0.56	0.51	0.05
19	0.52	0.50	0.02	0.69	0.71	-0.02	0.76	0.77	-0.01
20	0.32	0.32	0.00	0.78	0.76	0.02	0.76	0.73	0.03
21	0.81	0.83	-0.01	0.55	0.52	0.03	0.65	0.67	-0.01
22	0.28	0.29	0.00	0.63	0.54	0.09	0.76	0.78	-0.02
23	0.36	0.37	-0.01	0.78	0.77	0.01	0.62	0.63	0.00
24	0.70	0.65	0.05	0.73	0.75	-0.02	0.61	0.61	0.00
25	0.77	0.66	0.11	0.78	0.73	0.05	0.36	0.35	0.00
26	0.60	0.64	-0.04	0.55	0.55	0.00	0.52	0.53	-0.02
27	0.51	0.57	-0.06	0.50	0.58	-0.08	0.52	0.50	0.02
28	0.53	0.54	-0.01	0.35	0.40	-0.06	0.62	0.53	0.09
29	0.36	0.37	-0.02	0.34	0.32	0.02	0.24	0.23	0.01
30	0.28	0.29	-0.02	0.60	0.56	0.04	0.31	0.37	-0.06
31				0.54	0.54	0.00	0.24	0.28	-0.04
32				0.43	0.35	0.08	0.34	0.32	0.02
33				0.33	0.31	0.02	0.18	0.24	-0.07
34				0.43	0.38	0.05	0.75	0.73	0.02
35							0.62	0.63	-0.01
36							0.39	0.40	-0.02
37							0.35	0.41	-0.07
Average	0.58	0.58	0.00	0.60	0.58	0.01	0.59	0.60	-0.01

A COMPARATIVE EVALUATION

Science

Grade	6			7			8		
	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff
1	0.67	0.66	0.01	0.52	0.53	-0.01	0.29	0.28	0.00
2	0.67	0.71	-0.04	0.37	0.42	-0.04	0.38	0.41	-0.04
3	0.60	0.62	-0.01	0.62	0.62	0.00	0.64	0.66	-0.02
4	0.64	0.67	-0.03	0.55	0.57	-0.03	0.69	0.71	-0.03
5	0.57	0.57	0.01	0.52	0.53	-0.01	0.55	0.61	-0.06
6	0.53	0.56	-0.02	0.45	0.40	0.05	0.58	0.60	-0.02
7	0.28	0.33	-0.04	0.38	0.42	-0.04	0.48	0.51	-0.03
8	0.58	0.63	-0.04	0.57	0.54	0.03	0.42	0.45	-0.02
9	0.58	0.66	-0.08	0.44	0.43	0.01	0.47	0.50	-0.03
10	0.56	0.54	0.02	0.46	0.44	0.02	0.34	0.38	-0.04
11	0.31	0.31	0.01	0.58	0.53	0.05	0.55	0.58	-0.04
12	0.33	0.40	-0.06	0.46	0.53	-0.07	0.53	0.56	-0.04
13	0.33	0.27	0.07	0.45	0.45	0.00	0.54	0.58	-0.04
14	0.34	0.38	-0.04	0.53	0.50	0.03	0.54	0.59	-0.04
15	0.24	0.24	0.00	0.34	0.38	-0.05	0.34	0.39	-0.05
16	0.67	0.65	0.02	0.52	0.51	0.01	0.36	0.35	0.01
17	0.60	0.65	-0.05	0.24	0.24	0.00	0.30	0.30	0.00
18	0.48	0.47	0.02	0.47	0.42	0.04	0.41	0.46	-0.05
19	0.37	0.37	0.00	0.49	0.52	-0.03	0.35	0.42	-0.07
20	0.45	0.48	-0.03	0.36	0.37	-0.01	0.39	0.40	-0.01
21	0.31	0.33	-0.02	0.19	0.25	-0.06	0.35	0.34	0.00
22	0.58	0.64	-0.06	0.30	0.29	0.01	0.35	0.49	-0.13
23	0.46	0.48	-0.02	0.59	0.56	0.03	0.35	0.37	-0.02
24	0.53	0.50	0.03	0.72	0.65	0.07	0.35	0.34	0.01
25	0.35	0.32	0.04	0.54	0.58	-0.05	0.21	0.20	0.00
26	0.23	0.31	-0.08	0.56	0.57	-0.01	0.42	0.46	-0.03
27	0.47	0.45	0.03	0.49	0.53	-0.04	0.55	0.53	0.03
28	0.41	0.43	-0.02	0.36	0.40	-0.04	0.49	0.48	0.01
29	0.43	0.45	-0.02	0.44	0.49	-0.05	0.42	0.43	-0.01
30	0.50	0.55	-0.05	0.36	0.35	0.01	0.28	0.36	-0.08
31	0.36	0.33	0.03	0.54	0.56	-0.03	0.27	0.34	-0.07
32	0.41	0.43	-0.02	0.52	0.53	-0.02	0.23	0.30	-0.08
33	0.43	0.42	0.01	0.53	0.47	0.07	0.31	0.33	-0.02
34	0.28	0.29	-0.01	0.55	0.57	-0.02	0.42	0.44	-0.02
35	0.46	0.51	-0.05	0.33	0.36	-0.03	0.39	0.45	-0.06
36	0.14	0.16	-0.01	0.43	0.40	0.03	0.16	0.20	-0.04
37	0.41	0.37	0.04	0.23	0.23	0.00	0.28	0.35	-0.06
38	0.37	0.38	-0.02	0.44	0.44	0.00	0.38	0.41	-0.03
39	0.33	0.31	0.02	0.36	0.39	-0.03	0.35	0.35	-0.01
40				0.37	0.37	0.00	0.31	0.30	0.00
41				0.31	0.33	-0.02	0.38	0.37	0.01
42							0.38	0.40	-0.02
43							0.17	0.20	-0.03
Average	0.44	0.46	-0.01	0.45	0.46	-0.01	0.39	0.42	-0.03

A COMPARATIVE EVALUATION

Science

Grade	9			10			11			12		
	Item	Online	P&P	p diff	Online	P&P	p diff	Online	P&P	p diff	Online	P&P
1	0.56	0.57	-0.01	0.42	0.46	-0.04	0.48	0.40	0.08	0.39	0.46	-0.07
2	0.46	0.49	-0.03	0.42	0.47	-0.05	0.53	0.53	0.01	0.48	0.56	-0.08
3	0.46	0.52	-0.06	0.45	0.44	0.00	0.32	0.36	-0.04	0.35	0.39	-0.03
4	0.43	0.50	-0.07	0.41	0.57	-0.16	0.39	0.38	0.02	0.36	0.40	-0.04
5	0.56	0.57	-0.01	0.36	0.39	-0.03	0.51	0.48	0.03	0.46	0.41	0.05
6	0.39	0.49	-0.09	0.38	0.44	-0.06	0.31	0.37	-0.07	0.32	0.38	-0.06
7	0.51	0.59	-0.09	0.54	0.58	-0.04	0.43	0.58	-0.15	0.46	0.47	-0.02
8	0.49	0.51	-0.03	0.37	0.36	0.01	0.60	0.49	0.11	0.60	0.54	0.06
9	0.46	0.50	-0.03	0.55	0.59	-0.04	0.46	0.51	-0.05	0.52	0.51	0.01
10	0.42	0.42	0.00	0.60	0.61	-0.01	0.62	0.60	0.03	0.63	0.58	0.05
11	0.47	0.52	-0.05	0.37	0.42	-0.06	0.40	0.37	0.03	0.45	0.47	-0.02
12	0.38	0.38	0.01	0.58	0.60	-0.02	0.65	0.57	0.08	0.63	0.58	0.05
13	0.36	0.41	-0.05	0.52	0.60	-0.08	0.66	0.55	0.11	0.57	0.55	0.02
14	0.47	0.46	0.00	0.40	0.42	-0.02	0.32	0.35	-0.03	0.34	0.38	-0.05
15	0.65	0.67	-0.03	0.42	0.42	0.00	0.27	0.30	-0.03	0.29	0.34	-0.05
16	0.37	0.49	-0.12	0.32	0.36	-0.05	0.51	0.45	0.06	0.43	0.42	0.01
17	0.57	0.53	0.04	0.40	0.38	0.02	0.43	0.42	0.02	0.44	0.40	0.04
18	0.37	0.44	-0.07	0.41	0.46	-0.05	0.41	0.44	-0.03	0.45	0.45	0.01
19	0.42	0.47	-0.05	0.44	0.39	0.05	0.39	0.47	-0.08	0.45	0.44	0.01
20	0.39	0.46	-0.07	0.49	0.51	-0.02	0.65	0.60	0.05	0.62	0.59	0.03
21	0.44	0.47	-0.03	0.57	0.59	-0.02	0.58	0.59	-0.02	0.66	0.65	0.01
22	0.45	0.45	0.00	0.46	0.50	-0.04	0.39	0.39	-0.01	0.39	0.36	0.03
23	0.54	0.45	0.09	0.46	0.47	0.00	0.14	0.25	-0.12	0.20	0.21	-0.01
24	0.23	0.30	-0.07	0.47	0.40	0.07	0.66	0.58	0.09	0.64	0.61	0.03
25	0.58	0.59	-0.01	0.26	0.39	-0.13	0.51	0.47	0.05	0.50	0.48	0.02
26	0.43	0.43	0.00	0.27	0.31	-0.03	0.60	0.56	0.05	0.52	0.55	-0.03
27	0.35	0.40	-0.06	0.27	0.39	-0.12	0.54	0.42	0.12	0.45	0.37	0.08
28	0.42	0.47	-0.05	0.26	0.28	-0.02	0.51	0.45	0.06	0.53	0.57	-0.04
29	0.51	0.54	-0.02	0.33	0.39	-0.07	0.35	0.35	-0.01	0.38	0.36	0.01
30	0.51	0.56	-0.05	0.20	0.26	-0.07	0.45	0.39	0.06	0.32	0.37	-0.05
31	0.53	0.64	-0.11	0.32	0.38	-0.05	0.47	0.46	0.01	0.43	0.45	-0.02
32	0.51	0.47	0.04	0.31	0.36	-0.05	0.43	0.35	0.08	0.38	0.40	-0.02
33	0.46	0.52	-0.06	0.21	0.25	-0.04	0.50	0.54	-0.04	0.56	0.52	0.04
34	0.28	0.33	-0.05	0.48	0.53	-0.05	0.30	0.36	-0.06	0.39	0.42	-0.02
35	0.35	0.44	-0.10	0.39	0.42	-0.03	0.28	0.30	-0.02	0.32	0.40	-0.08
36	0.34	0.36	-0.02	0.36	0.37	-0.01	0.24	0.26	-0.02	0.16	0.29	-0.13
37	0.35	0.41	-0.06	0.35	0.37	-0.02	0.35	0.36	-0.01	0.45	0.44	0.01
38	0.17	0.24	-0.07	0.52	0.46	0.06	0.39	0.30	0.09	0.40	0.31	0.09
39	0.34	0.48	-0.14	0.33	0.33	-0.01	0.40	0.40	0.01	0.42	0.34	0.08
40	0.44	0.35	0.09	0.21	0.30	-0.09	0.24	0.29	-0.05	0.31	0.32	-0.01
41	0.34	0.48	-0.13	0.32	0.42	-0.10	0.27	0.36	-0.09	0.31	0.46	-0.14
42	0.39	0.41	-0.02	0.36	0.34	0.02	0.25	0.27	-0.03	0.25	0.24	0.01
43	0.34	0.35	-0.01	0.31	0.34	-0.02	0.35	0.33	0.02	0.28	0.24	0.04
44	0.38	0.34	0.04	0.35	0.41	-0.07	0.29	0.30	-0.01	0.33	0.34	-0.01
45	0.43	0.44	-0.01	0.34	0.34	0.00	0.26	0.33	-0.07	0.31	0.40	-0.10
46	0.34	0.31	0.03	0.30	0.32	-0.02	0.35	0.27	0.08	0.30	0.35	-0.05
47	0.40	0.45	-0.04	0.41	0.45	-0.04	0.33	0.40	-0.07	0.28	0.28	0.01
48	0.35	0.36	-0.01	0.36	0.36	0.00	0.35	0.40	-0.06	0.40	0.37	0.03
Average	0.42	0.46	-0.04	0.39	0.42	-0.03	0.42	0.42	0.00	0.42	0.43	-0.01

Appendix B

Item-Level DIF Results for Online and P&P Forms

A COMPARATIVE EVALUATION

Grade	Reading								
	3			4			5		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.61	0.80	3.24	1.05	0.62	1.77	1.00	0.52	1.92
2	1.08	0.64	1.82	0.98	0.56	1.72	0.99	0.67	1.47
3	1.26	0.71	2.24	1.22	0.83	1.80	1.16	0.76	1.78
4	1.19	0.57	2.50	1.41	0.88	2.26	0.71	0.38	1.33
5	1.07	0.60	1.91	0.66	0.36	1.21	1.05	0.70	1.60
6	1.34	0.89	2.01	1.35	0.78	2.35	1.15	0.75	1.77
7	1.29	0.78	2.15	1.16	0.67	2.00	1.98	0.79	4.98
8	0.69	0.40	1.17	0.87	0.51	1.50	1.06	0.72	1.56
9	1.13	0.60	2.14	1.15	0.76	1.73	0.97	0.60	1.58
10	1.00	0.64	1.56	1.75	1.03	2.96	1.01	0.63	1.64
11	1.07	0.70	1.65	0.86	0.54	1.35	0.90	0.62	1.32
12	1.50	0.99	2.28	0.80	0.54	1.19	0.61	0.39	0.95
13	1.31	0.88	1.97	1.04	0.66	1.65	1.38	0.90	2.11
14	1.24	0.68	2.26	0.75	0.45	1.27	0.78	0.48	1.28
15	0.86	0.57	1.30	1.11	0.71	1.74	0.89	0.60	1.32
16	0.82	0.53	1.27	1.27	0.83	1.93	0.87	0.51	1.48
17	0.74	0.49	1.11	1.30	0.86	1.96	0.95	0.62	1.44
18	1.14	0.77	1.70	0.60	0.36	1.00	0.90	0.58	1.40
19	0.77	0.51	1.16	0.96	0.59	1.54	1.14	0.71	1.83
20	0.72	0.45	1.17	0.60	0.35	1.02	1.14	0.76	1.72
21	0.86	0.54	1.37	0.66	0.42	1.04	1.00	0.63	1.59
22	1.62	0.94	2.80	1.38	0.75	2.53	1.01	0.67	1.51
23	0.96	0.65	1.41	1.24	0.81	1.90	1.13	0.75	1.70
24	1.05	0.65	1.71	1.48	0.98	2.23	1.05	0.65	1.72
25	0.91	0.56	1.46	0.73	0.46	1.17	0.93	0.56	1.52
26	1.29	0.78	2.14	1.13	0.74	1.73	0.73	0.49	1.08
27	0.98	0.60	1.62	0.67	0.43	1.05	1.21	0.80	1.81
28	1.77	1.09	2.89	0.59	0.31	1.16	1.46	0.92	2.31
29	0.90	0.60	1.35	1.21	0.82	1.80	1.17	0.75	1.82
30	1.18	0.75	1.86	1.58	1.00	2.50	1.55	0.97	2.48
31	0.96	0.63	1.44	0.99	0.66	1.49	0.63	0.40	0.99
32	0.85	0.57	1.28	0.68	0.46	1.01	1.45	0.98	2.14
33	1.11	0.71	1.73	1.00	0.66	1.52	1.20	0.77	1.85
34	0.52	0.32	0.84	1.14	0.74	1.74	0.91	0.62	1.34
35	1.11	0.70	1.74	0.87	0.54	1.41	1.08	0.72	1.61
36	0.93	0.60	1.44	0.69	0.45	1.04	1.07	0.72	1.60
37	1.33	0.83	2.12	1.08	0.68	1.72	0.70	0.45	1.07
38	1.04	0.67	1.62	1.24	0.82	1.86	0.85	0.54	1.33
39	0.68	0.42	1.09	0.70	0.46	1.06	0.93	0.62	1.38
40	0.79	0.50	1.25	1.28	0.81	2.03	0.90	0.57	1.40
41	0.64	0.42	0.99	1.09	0.71	1.67	1.00	0.68	1.47
42				0.91	0.58	1.44	0.99	0.66	1.49
43							0.89	0.58	1.37

A COMPARATIVE EVALUATION

Grade	Reading								
	6			7			8		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.36	0.93	2.01	1.15	0.47	2.79	0.98	0.65	1.47
2	1.35	0.92	2.00	1.30	0.91	1.87	1.20	0.84	1.71
3	0.83	0.45	1.50	1.04	0.58	1.86	1.43	0.92	2.21
4	1.17	0.62	2.21	1.16	0.75	1.79	0.84	0.57	1.23
5	0.97	0.66	1.40	0.98	0.64	1.51	1.40	0.93	2.12
6	1.06	0.71	1.57	1.05	0.71	1.56	0.65	0.32	1.32
7	1.15	0.68	1.95	0.67	0.37	1.19	1.38	0.90	2.12
8	0.81	0.52	1.26	1.09	0.70	1.70	0.86	0.58	1.28
9	1.49	0.88	2.53	1.10	0.65	1.86	1.18	0.82	1.70
10	0.94	0.62	1.42	1.32	0.81	2.17	1.13	0.75	1.69
11	1.11	0.76	1.62	1.42	0.86	2.32	0.76	0.46	1.26
12	1.15	0.76	1.74	1.23	0.74	2.05	1.14	0.72	1.78
13	1.10	0.75	1.64	1.21	0.83	1.75	0.99	0.66	1.48
14	0.90	0.60	1.36	1.79	1.15	2.79	0.81	0.53	1.23
15	0.87	0.60	1.25	0.85	0.51	1.42	0.98	0.66	1.45
16	0.71	0.49	1.04	0.96	0.66	1.39	1.39	0.97	1.98
17	0.91	0.57	1.44	1.19	0.71	2.00	0.77	0.54	1.10
18	1.07	0.75	1.52	0.90	0.61	1.33	0.97	0.68	1.38
19	0.81	0.49	1.34	0.92	0.62	1.38	0.88	0.59	1.31
20	0.98	0.68	1.41	0.74	0.47	1.17	0.56	0.34	0.91
21	0.83	0.54	1.26	0.89	0.62	1.28	1.20	0.82	1.77
22	0.93	0.57	1.53	0.79	0.54	1.14	0.79	0.53	1.19
23	1.18	0.61	2.26	1.11	0.76	1.62	0.97	0.66	1.42
24	1.03	0.72	1.47	1.18	0.83	1.68	1.00	0.68	1.48
25	0.79	0.48	1.32	0.98	0.65	1.48	1.18	0.80	1.76
26	1.29	0.82	2.03	0.77	0.51	1.15	0.92	0.61	1.39
27	1.11	0.74	1.66	0.78	0.52	1.19	0.78	0.48	1.27
28	0.70	0.48	1.01	1.27	0.71	2.27	0.99	0.57	1.72
29	0.98	0.57	1.66	1.11	0.73	1.67	0.91	0.62	1.32
30	1.52	1.01	2.27	0.88	0.59	1.30	1.71	1.15	2.54
31	1.22	0.80	1.88	1.21	0.83	1.76	0.89	0.60	1.31
32	1.07	0.69	1.64	1.08	0.74	1.57	1.46	1.02	2.08
33	0.93	0.61	1.43	0.78	0.51	1.21	0.97	0.62	1.53
34	1.24	0.81	1.90	1.49	0.97	2.29	0.93	0.63	1.37
35	0.91	0.61	1.35	0.73	0.49	1.09	0.72	0.48	1.07
36	1.30	0.88	1.91	0.81	0.54	1.23	0.94	0.65	1.37
37	1.12	0.72	1.74	0.63	0.41	0.98	0.85	0.60	1.21
38	0.78	0.54	1.12	1.05	0.72	1.51	1.21	0.83	1.76
39	0.95	0.62	1.47	1.05	0.74	1.49	1.16	0.77	1.74
40	1.10	0.75	1.60	0.89	0.62	1.28	1.17	0.82	1.69
41	0.89	0.61	1.31	0.92	0.62	1.35	1.00	0.68	1.46
42	0.77	0.50	1.21	1.28	0.82	1.99	0.93	0.65	1.34
43	0.95	0.64	1.40	0.71	0.48	1.04	1.06	0.74	1.52
44	0.76	0.52	1.11	0.88	0.59	1.33	0.73	0.50	1.06
45				1.14	0.78	1.68	1.04	0.70	1.53
46							0.78	0.55	1.10

A COMPARATIVE EVALUATION

		Reading											
Grade		9			10			11			12		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		
1	1.51	0.97	2.35	1.02	0.68	1.52	1.32	0.69	2.51	0.99	0.51	1.89	
2	1.35	0.88	2.05	0.99	0.67	1.46	1.02	0.55	1.89	1.13	0.59	2.16	
3	1.04	0.70	1.56	1.09	0.70	1.70	1.27	0.81	2.00	0.98	0.60	1.60	
4	1.01	0.61	1.67	0.72	0.48	1.08	2.29	1.14	4.58	0.75	0.37	1.54	
5	1.23	0.79	1.91	1.42	0.96	2.10	0.88	0.54	1.44	0.90	0.53	1.53	
6	0.95	0.65	1.39	0.93	0.58	1.51	1.16	0.61	2.19	1.37	0.73	2.58	
7	1.24	0.79	1.94	0.97	0.68	1.38	1.39	0.82	2.34	0.74	0.44	1.24	
8	1.60	1.03	2.47	1.30	0.90	1.88	1.17	0.68	2.02	1.67	0.87	3.20	
9	1.15	0.75	1.76	1.45	0.97	2.16	1.22	0.73	2.04	0.91	0.54	1.53	
10	1.17	0.80	1.70	1.28	0.88	1.86	1.15	0.68	1.92	0.88	0.50	1.52	
11	1.77	1.18	2.65	1.07	0.71	1.61	0.92	0.55	1.54	1.48	0.85	2.59	
12	1.06	0.68	1.66	1.15	0.77	1.72	1.52	0.88	2.63	1.52	0.84	2.75	
13	0.91	0.57	1.45	0.93	0.65	1.35	0.81	0.48	1.36	0.99	0.59	1.68	
14	1.15	0.79	1.67	0.97	0.65	1.45	0.55	0.29	1.03	0.80	0.43	1.51	
15	1.24	0.83	1.87	1.02	0.71	1.48	0.69	0.41	1.16	0.80	0.47	1.39	
16	1.40	0.95	2.07	1.16	0.79	1.69	0.95	0.58	1.58	0.97	0.52	1.78	
17	0.82	0.51	1.31	1.55	1.04	2.32	1.31	0.78	2.21	1.11	0.64	1.94	
18	0.93	0.61	1.41	1.46	0.93	2.30	0.83	0.51	1.37	1.39	0.84	2.29	
19	0.88	0.59	1.29	0.81	0.51	1.27	1.12	0.64	1.95	0.64	0.35	1.19	
20	0.68	0.43	1.06	0.88	0.61	1.25	1.33	0.79	2.25	0.75	0.44	1.29	
21	0.80	0.53	1.19	0.64	0.43	0.97	0.86	0.52	1.42	1.15	0.68	1.97	
22	0.88	0.59	1.30	1.15	0.78	1.70	0.71	0.40	1.25	1.34	0.73	2.47	
23	0.93	0.59	1.46	0.99	0.67	1.47	0.76	0.42	1.40	1.32	0.65	2.68	
24	1.21	0.82	1.80	1.04	0.69	1.58	1.14	0.72	1.80	1.07	0.67	1.72	
25	1.30	0.89	1.91	1.12	0.73	1.72	0.94	0.50	1.77	0.62	0.28	1.35	
26	0.68	0.47	0.99	1.11	0.74	1.64	1.11	0.68	1.82	1.11	0.61	2.00	
27	1.15	0.77	1.71	0.78	0.53	1.14	0.95	0.61	1.48	0.99	0.61	1.62	
28	0.49	0.31	0.77	0.72	0.49	1.08	0.77	0.45	1.32	0.86	0.50	1.48	
29	0.88	0.60	1.28	1.38	0.92	2.07	0.83	0.48	1.43	0.76	0.42	1.40	
30	1.02	0.68	1.54	0.90	0.62	1.31	1.53	0.90	2.61	0.94	0.55	1.59	
31	0.70	0.47	1.05	0.79	0.52	1.20	0.87	0.47	1.59	1.19	0.67	2.09	
32	0.82	0.56	1.20	0.94	0.65	1.37	1.83	0.99	3.37	1.15	0.67	1.97	
33	0.92	0.62	1.36	1.20	0.80	1.80	0.71	0.42	1.20	0.77	0.45	1.30	
34	0.72	0.46	1.11	0.88	0.59	1.31	1.03	0.62	1.70	1.51	0.87	2.62	
35	0.93	0.60	1.44	0.84	0.56	1.26	0.64	0.40	1.04	0.77	0.47	1.25	
36	1.01	0.70	1.45	0.93	0.62	1.39	2.31	1.28	4.18	1.31	0.76	2.26	
37	0.93	0.63	1.38	0.86	0.55	1.36	0.83	0.52	1.31	1.32	0.78	2.22	
38	0.88	0.60	1.29	0.61	0.40	0.92	1.18	0.66	2.10	0.64	0.36	1.15	
39	0.87	0.59	1.29	1.06	0.71	1.59	0.82	0.47	1.45	0.69	0.39	1.22	
40	1.02	0.68	1.53	0.80	0.53	1.20	0.27	0.14	0.53	1.09	0.57	2.06	

A COMPARATIVE EVALUATION

Grade	Written Expression								
	3			4			5		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	0.91	0.59	1.42	2.00	0.91	4.37	0.99	0.59	1.67
2	1.47	0.90	2.38	1.40	0.85	2.32	1.10	0.70	1.72
3	1.48	0.91	2.41	0.92	0.55	1.54	1.07	0.65	1.77
4	1.15	0.64	2.05	1.03	0.64	1.66	1.08	0.73	1.61
5	0.95	0.64	1.40	0.73	0.47	1.14	1.16	0.75	1.81
6	1.14	0.75	1.75	0.79	0.47	1.34	0.94	0.65	1.37
7	1.27	0.79	2.03	0.66	0.42	1.04	0.87	0.50	1.50
8	0.87	0.58	1.29	0.84	0.56	1.27	1.37	0.89	2.10
9	0.84	0.55	1.28	0.94	0.56	1.57	0.91	0.59	1.41
10	0.89	0.53	1.49	0.57	0.35	0.94	1.08	0.62	1.88
11	1.14	0.74	1.76	0.95	0.62	1.47	1.26	0.83	1.90
12	0.77	0.48	1.23	1.39	0.89	2.17	0.79	0.49	1.29
13	1.42	0.92	2.18	0.83	0.55	1.26	0.89	0.52	1.51
14	0.85	0.57	1.28	1.18	0.75	1.86	1.29	0.80	2.07
15	1.10	0.69	1.76	1.01	0.67	1.52	1.10	0.71	1.71
16	0.79	0.52	1.19	0.63	0.40	0.98	1.33	0.88	2.02
17	0.83	0.54	1.27	0.70	0.47	1.03	0.80	0.54	1.20
18	0.96	0.62	1.49	0.96	0.59	1.57	0.68	0.42	1.09
19	0.89	0.58	1.36	1.00	0.64	1.57	0.98	0.58	1.63
20	1.00	0.67	1.49	1.13	0.74	1.73	1.26	0.83	1.92
21	0.93	0.58	1.50	0.80	0.50	1.28	1.24	0.77	1.99
22	1.18	0.75	1.87	0.91	0.60	1.39	0.84	0.57	1.25
23	1.00	0.66	1.51	0.96	0.64	1.45	0.91	0.55	1.50
24	1.05	0.66	1.66	0.95	0.58	1.55	1.03	0.64	1.65
25	0.88	0.56	1.39	0.99	0.60	1.62	1.30	0.86	1.97
26	1.02	0.67	1.54	1.02	0.64	1.62	0.83	0.56	1.23
27	1.24	0.78	1.98	0.77	0.51	1.16	0.75	0.49	1.13
28	1.06	0.70	1.61	1.06	0.69	1.61	1.49	1.00	2.21
29	0.73	0.44	1.21	1.14	0.75	1.73	0.59	0.38	0.91
30	0.67	0.45	1.00	2.38	1.38	4.10	1.04	0.69	1.56
31	1.18	0.74	1.87	1.19	0.74	1.92	0.84	0.57	1.23
32	1.17	0.78	1.76	1.35	0.84	2.15	1.20	0.69	2.08
33	1.34	0.83	2.18	1.22	0.82	1.80	0.69	0.45	1.07
34	0.92	0.57	1.48	1.55	1.04	2.31	0.87	0.52	1.44
35	0.91	0.57	1.46	1.30	0.84	2.02	0.79	0.52	1.20
36				1.03	0.69	1.55	0.84	0.56	1.25
37				1.01	0.65	1.55	1.44	0.82	2.51
38				1.10	0.66	1.85	0.96	0.64	1.43
39							1.29	0.85	1.97
40							1.26	0.79	2.01

A COMPARATIVE EVALUATION

		Written Expression							
Grade	6			7			8		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.02	0.64	1.62	0.76	0.45	1.28	1.18	0.74	1.87
2	1.58	0.99	2.52	1.30	0.88	1.91	0.76	0.50	1.14
3	1.00	0.68	1.47	1.06	0.64	1.75	1.20	0.71	2.00
4	0.96	0.60	1.54	1.35	0.80	2.28	1.38	0.90	2.10
5	1.55	0.76	3.20	0.82	0.54	1.25	1.38	0.73	2.62
6	1.17	0.77	1.77	0.78	0.48	1.27	0.80	0.50	1.29
7	1.50	0.89	2.52	0.84	0.43	1.63	1.18	0.77	1.80
8	1.22	0.81	1.83	0.89	0.56	1.44	0.82	0.49	1.36
9	0.81	0.45	1.44	1.39	0.90	2.14	0.81	0.48	1.36
10	1.38	0.72	2.64	0.91	0.53	1.57	1.71	1.03	2.82
11	1.35	0.85	2.15	0.88	0.58	1.35	1.28	0.82	1.99
12	0.78	0.53	1.13	0.84	0.54	1.32	1.39	0.94	2.06
13	1.05	0.65	1.68	1.54	0.92	2.56	1.23	0.82	1.84
14	1.06	0.72	1.54	1.18	0.79	1.75	0.58	0.35	0.97
15	1.25	0.81	1.92	0.96	0.65	1.42	0.72	0.48	1.09
16	1.61	0.96	2.70	1.30	0.82	2.08	1.29	0.85	1.97
17	0.92	0.62	1.35	1.50	0.94	2.39	1.81	1.17	2.80
18	0.63	0.40	0.97	1.04	0.70	1.52	1.12	0.65	1.90
19	0.92	0.54	1.58	1.15	0.68	1.93	1.00	0.65	1.55
20	0.90	0.58	1.40	0.70	0.45	1.09	1.32	0.84	2.06
21	1.01	0.68	1.51	0.54	0.30	0.99	1.06	0.67	1.68
22	0.91	0.56	1.49	0.95	0.62	1.45	1.14	0.76	1.72
23	0.88	0.59	1.30	0.93	0.61	1.41	1.04	0.63	1.70
24	0.96	0.65	1.42	0.86	0.55	1.34	1.03	0.68	1.57
25	0.95	0.62	1.44	1.21	0.75	1.94	0.79	0.52	1.20
26	0.74	0.51	1.08	1.34	0.77	2.33	0.79	0.47	1.30
27	1.02	0.70	1.47	1.33	0.87	2.03	0.65	0.40	1.07
28	0.94	0.63	1.39	1.35	0.87	2.12	1.33	0.88	2.01
29	0.61	0.38	0.97	1.10	0.75	1.62	0.86	0.54	1.36
30	1.17	0.72	1.91	0.74	0.47	1.18	1.01	0.63	1.62
31	1.21	0.82	1.77	1.02	0.68	1.51	0.93	0.61	1.42
32	0.85	0.58	1.24	1.14	0.75	1.74	0.91	0.62	1.32
33	0.95	0.56	1.60	0.72	0.47	1.10	0.74	0.48	1.15
34	1.08	0.72	1.60	0.77	0.47	1.26	1.00	0.64	1.56
35	0.68	0.44	1.07	1.05	0.68	1.61	0.93	0.63	1.38
36	1.18	0.80	1.74	0.83	0.54	1.25	0.65	0.43	1.00
37	1.37	0.91	2.06	0.72	0.48	1.07	1.06	0.71	1.58
38	1.25	0.86	1.83	1.46	0.94	2.29	0.88	0.60	1.31
39	0.76	0.49	1.20	1.08	0.72	1.60	0.80	0.53	1.21
40	0.77	0.51	1.14	1.19	0.75	1.90	0.76	0.51	1.13
41	1.03	0.69	1.54	0.87	0.56	1.35	0.72	0.48	1.08
42	0.80	0.54	1.17	0.91	0.62	1.34	0.92	0.59	1.42
43	1.17	0.78	1.75	0.89	0.59	1.36	0.96	0.62	1.48
44				0.98	0.66	1.45	1.26	0.80	1.99
45				0.93	0.63	1.38	1.26	0.85	1.87
46							0.86	0.56	1.34
47							1.61	1.04	2.48
48							0.83	0.54	1.30

A COMPARATIVE EVALUATION

Written Expression												
Grade	9			10			11			12		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.57	1.00	2.49	1.20	0.83	1.73	0.84	0.53	1.32	0.90	0.55	1.46
2	1.16	0.72	1.86	1.33	0.87	2.01	0.90	0.52	1.57	1.87	1.00	3.51
3	1.38	0.94	2.03	1.10	0.73	1.64	1.31	0.80	2.13	1.08	0.61	1.89
4	0.95	0.63	1.42	0.99	0.67	1.47	0.45	0.27	0.77	1.22	0.72	2.09
5	1.13	0.75	1.69	0.84	0.58	1.22	1.24	0.74	2.11	0.81	0.42	1.54
6	1.49	0.89	2.50	1.38	0.89	2.15	1.21	0.70	2.06	1.07	0.61	1.89
7	0.80	0.55	1.18	0.87	0.56	1.34	0.86	0.54	1.37	1.29	0.77	2.16
8	0.98	0.68	1.42	1.02	0.66	1.58	1.02	0.56	1.89	0.73	0.36	1.48
9	0.70	0.48	1.00	1.47	0.92	2.35	1.73	1.02	2.94	0.91	0.53	1.55
10	1.14	0.76	1.73	0.77	0.53	1.11	1.13	0.71	1.79	1.48	0.91	2.40
11	0.77	0.50	1.19	0.68	0.46	0.99	1.35	0.83	2.17	1.24	0.75	2.06
12	1.01	0.65	1.57	1.06	0.68	1.64	1.46	0.85	2.50	0.96	0.57	1.63
13	1.05	0.72	1.54	1.24	0.85	1.81	0.87	0.45	1.68	0.71	0.36	1.40
14	1.30	0.89	1.89	0.95	0.64	1.42	1.35	0.84	2.17	1.11	0.67	1.84
15	1.83	1.22	2.73	1.38	0.92	2.07	0.88	0.50	1.56	0.79	0.42	1.49
16	0.94	0.61	1.44	1.35	0.91	2.00	1.03	0.56	1.89	0.70	0.38	1.31
17	1.01	0.70	1.47	1.07	0.73	1.57	1.90	1.17	3.07	1.84	1.07	3.16
18	0.63	0.41	0.95	0.77	0.48	1.24	1.11	0.69	1.78	1.11	0.65	1.89
19	1.18	0.78	1.78	1.27	0.86	1.88	0.85	0.52	1.39	1.49	0.90	2.45
20	0.84	0.56	1.26	1.14	0.78	1.66	0.82	0.50	1.35	0.54	0.32	0.90
21	1.22	0.84	1.76	2.40	1.49	3.87	2.19	1.24	3.87	1.93	1.06	3.49
22	1.52	0.94	2.45	1.18	0.80	1.75	1.30	0.81	2.09	0.92	0.53	1.57
23	0.88	0.57	1.35	1.55	1.02	2.35	0.87	0.54	1.38	0.98	0.60	1.59
24	0.87	0.58	1.30	0.65	0.41	1.03	0.70	0.42	1.15	0.68	0.39	1.18
25	1.02	0.65	1.61	1.07	0.74	1.56	1.06	0.63	1.77	0.51	0.28	0.92
26	0.74	0.50	1.09	1.01	0.65	1.57	0.96	0.56	1.65	1.18	0.67	2.07
27	1.56	0.95	2.55	1.21	0.78	1.88	1.10	0.64	1.87	0.98	0.54	1.80
28	0.83	0.56	1.22	1.31	0.88	1.96	0.66	0.38	1.14	0.66	0.34	1.29
29	0.93	0.56	1.56	0.99	0.68	1.45	0.70	0.36	1.40	0.61	0.32	1.18
30	1.42	0.90	2.26	1.05	0.71	1.57	1.05	0.63	1.74	1.29	0.73	2.29
31	0.56	0.36	0.86	0.56	0.37	0.84	0.45	0.23	0.89	1.51	0.68	3.33
32	1.16	0.79	1.70	1.94	1.24	3.02	1.37	0.76	2.44	1.09	0.60	1.99
33	0.88	0.60	1.29	0.69	0.46	1.04	1.95	1.17	3.27	1.48	0.86	2.53
34	1.42	0.90	2.25	0.84	0.58	1.21	1.34	0.79	2.28	0.92	0.51	1.64
35	0.59	0.40	0.88	0.77	0.53	1.11	1.01	0.55	1.83	1.15	0.58	2.27
36	0.67	0.47	0.97	0.74	0.50	1.09	0.83	0.52	1.32	0.99	0.58	1.71
37	0.68	0.45	1.04	1.03	0.68	1.55	0.93	0.58	1.49	0.95	0.57	1.58
38	1.35	0.92	1.97	0.80	0.53	1.21	0.82	0.50	1.33	1.57	0.94	2.63
39	1.40	0.94	2.07	0.85	0.56	1.28	1.84	1.11	3.05	1.62	0.96	2.71
40	1.43	0.96	2.11	0.80	0.55	1.15	0.86	0.52	1.42	0.65	0.36	1.17
41	1.21	0.81	1.80	0.55	0.34	0.88	0.84	0.50	1.41	0.66	0.35	1.22
42	1.38	0.90	2.11	1.15	0.73	1.80	0.98	0.59	1.65	1.47	0.88	2.46
43	1.02	0.69	1.49	0.62	0.41	0.93	0.43	0.24	0.77	0.71	0.41	1.23
44	0.95	0.63	1.42	1.30	0.87	1.96	1.09	0.69	1.71	0.99	0.59	1.64
45	0.79	0.52	1.20	1.18	0.81	1.72	0.67	0.35	1.25	1.12	0.61	2.05
46	1.50	1.02	2.22	0.65	0.44	0.95	0.64	0.38	1.06	1.01	0.59	1.75
47	0.72	0.45	1.16	1.50	0.97	2.34	0.75	0.48	1.17	0.90	0.52	1.56
48	0.94	0.63	1.40	0.58	0.39	0.87	1.13	0.67	1.92	1.07	0.64	1.80
49	0.85	0.53	1.35	0.74	0.51	1.07	1.11	0.68	1.82	0.76	0.46	1.27
50	1.03	0.64	1.65	1.09	0.73	1.64	0.65	0.39	1.10	0.41	0.22	0.78
51	0.91	0.59	1.39	0.73	0.49	1.10	1.24	0.77	1.99	1.00	0.64	1.57
52	0.90	0.61	1.32	1.74	1.12	2.70	1.00	0.61	1.62	0.96	0.55	1.66
53	0.82	0.54	1.24	0.90	0.60	1.35	0.73	0.43	1.23	0.62	0.32	1.19
54	0.62	0.42	0.93	1.46	0.97	2.21	0.98	0.59	1.63	0.89	0.53	1.50

A COMPARATIVE EVALUATION

Grade	Mathematics								
	3			4			5		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.05	0.52	2.13	1.40	0.71	2.75	1.96	1.13	3.38
2	1.34	0.76	2.39	0.97	0.66	1.42	1.26	0.63	2.54
3	1.33	0.73	2.41	1.03	0.65	1.62	1.05	0.54	2.02
4	1.17	0.77	1.76	0.92	0.61	1.40	1.86	0.94	3.68
5	0.81	0.49	1.33	1.67	1.01	2.76	1.38	0.86	2.20
6	1.17	0.78	1.77	1.50	0.88	2.54	1.27	0.67	2.41
7	1.11	0.65	1.90	0.92	0.57	1.48	1.10	0.69	1.77
8	0.52	0.34	0.79	0.80	0.49	1.30	1.05	0.73	1.51
9	1.31	0.59	2.91	1.01	0.69	1.48	0.87	0.53	1.42
10	1.01	0.68	1.51	1.80	1.10	2.97	0.95	0.50	1.80
11	1.12	0.76	1.64	0.84	0.54	1.30	1.17	0.75	1.82
12	0.98	0.55	1.76	1.10	0.72	1.68	1.14	0.77	1.67
13	0.45	0.20	1.05	1.24	0.79	1.95	1.16	0.76	1.75
14	0.83	0.50	1.35	1.26	0.69	2.28	1.28	0.84	1.95
15	1.37	0.89	2.10	0.83	0.52	1.31	0.95	0.59	1.54
16	1.51	0.98	2.31	0.91	0.60	1.39	0.88	0.57	1.35
17	0.74	0.48	1.14	1.15	0.78	1.69	1.04	0.72	1.51
18	0.87	0.59	1.28	1.19	0.81	1.74	1.00	0.68	1.45
19	1.27	0.83	1.93	1.00	0.55	1.81	0.98	0.65	1.46
20	0.95	0.59	1.53	0.69	0.39	1.23	1.13	0.77	1.66
21	1.01	0.65	1.57	1.36	0.82	2.27	1.15	0.76	1.76
22	1.35	0.89	2.03	0.82	0.55	1.22	0.94	0.64	1.39
23	0.65	0.38	1.13	0.97	0.59	1.60	1.21	0.80	1.81
24	0.82	0.54	1.25	1.05	0.70	1.58	1.71	1.01	2.89
25	1.36	0.86	2.16	0.77	0.53	1.14	1.37	0.91	2.07
26	1.10	0.73	1.67	0.91	0.60	1.38	1.31	0.84	2.04
27	1.10	0.75	1.64	0.85	0.53	1.36	0.86	0.58	1.27
28	0.81	0.55	1.19	0.74	0.41	1.34	1.00	0.65	1.52
29	1.12	0.72	1.76	0.80	0.48	1.31	0.91	0.61	1.35
30	0.76	0.41	1.42	2.24	1.29	3.91	1.18	0.76	1.81
31	1.33	0.87	2.02	1.17	0.73	1.88	0.92	0.61	1.39
32	0.62	0.40	0.98	0.68	0.43	1.08	1.32	0.86	2.01
33	0.90	0.61	1.33	1.17	0.77	1.78	0.59	0.38	0.92
34	1.45	0.91	2.30	0.70	0.47	1.05	1.10	0.72	1.67
35	0.97	0.62	1.53	0.56	0.33	0.93	0.88	0.52	1.51
36	1.17	0.78	1.75	1.23	0.74	2.05	0.78	0.53	1.16
37	0.91	0.62	1.34	0.83	0.55	1.26	0.83	0.54	1.27
38	1.36	0.81	2.29	0.92	0.61	1.37	0.93	0.61	1.42
39	1.12	0.74	1.69	1.04	0.69	1.56	1.21	0.82	1.81
40	1.32	0.82	2.12	1.28	0.82	1.98	1.12	0.74	1.70
41	1.28	0.87	1.89	0.90	0.58	1.40	1.12	0.74	1.71
42	0.72	0.49	1.06	1.04	0.72	1.52	0.82	0.56	1.20
43	0.94	0.60	1.46	1.10	0.76	1.62	0.73	0.49	1.08
44	0.70	0.42	1.16	0.93	0.64	1.35	0.70	0.47	1.05
45	0.91	0.57	1.47	1.20	0.77	1.88	0.83	0.56	1.23
46	1.13	0.77	1.66	1.09	0.72	1.63	1.31	0.89	1.93
47	1.18	0.77	1.81	1.23	0.80	1.91	1.19	0.81	1.75
48	0.80	0.53	1.21	0.99	0.67	1.46	1.12	0.76	1.64
49	0.62	0.42	0.93	1.08	0.68	1.73	1.01	0.66	1.55
50	1.07	0.73	1.58	0.77	0.49	1.21	0.99	0.63	1.55
51				1.37	0.90	2.08	1.26	0.79	2.02
52				0.51	0.33	0.80	0.87	0.56	1.36
53				0.97	0.66	1.44	0.84	0.57	1.24
54				1.00	0.68	1.48	0.67	0.45	0.98
55				1.07	0.72	1.60	0.96	0.63	1.45
56							0.95	0.63	1.44
57							0.68	0.46	1.02
58							0.66	0.45	0.97
59							0.94	0.60	1.47
60							0.76	0.49	1.16

A COMPARATIVE EVALUATION

Grade	Mathematics								
	6			7			8		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	0.97	0.64	1.46	0.71	0.47	1.06	0.76	0.51	1.14
2	1.00	0.69	1.44	1.00	0.67	1.51	0.82	0.58	1.18
3	1.27	0.79	2.04	1.36	0.88	2.11	1.22	0.88	1.71
4	0.85	0.59	1.21	1.20	0.82	1.77	1.29	0.81	2.05
5	1.27	0.88	1.83	0.90	0.58	1.40	1.00	0.66	1.52
6	0.58	0.34	0.98	0.96	0.64	1.43	1.04	0.63	1.70
7	1.26	0.87	1.81	0.68	0.45	1.03	1.38	0.95	2.02
8	0.86	0.60	1.23	1.36	0.94	1.96	1.16	0.75	1.80
9	1.04	0.72	1.50	0.87	0.54	1.38	1.36	0.80	2.32
10	1.13	0.80	1.58	0.95	0.66	1.38	1.66	1.11	2.48
11	1.22	0.80	1.88	1.08	0.72	1.63	1.78	1.20	2.66
12	0.88	0.61	1.26	0.73	0.51	1.05	1.55	1.05	2.30
13	0.83	0.59	1.16	1.69	0.98	2.92	1.34	0.87	2.05
14	0.88	0.60	1.28	1.30	0.91	1.86	1.12	0.77	1.63
15	0.77	0.46	1.27	1.04	0.71	1.53	0.98	0.68	1.42
16	0.83	0.57	1.20	0.85	0.56	1.29	0.53	0.27	1.05
17	1.15	0.81	1.64	1.36	0.92	2.00	1.47	0.85	2.53
18	0.84	0.58	1.23	1.49	1.05	2.13	1.13	0.73	1.74
19	1.32	0.93	1.88	1.36	0.86	2.16	0.84	0.54	1.32
20	1.15	0.77	1.73	0.88	0.59	1.31	1.10	0.76	1.60
21	0.65	0.42	1.01	1.11	0.76	1.64	0.69	0.46	1.04
22	0.85	0.51	1.40	1.32	0.87	2.02	0.72	0.46	1.11
23	1.27	0.76	2.13	1.01	0.70	1.44	0.93	0.64	1.34
24	1.08	0.74	1.59	1.16	0.75	1.80	0.83	0.55	1.25
25	0.98	0.70	1.37	1.11	0.75	1.64	0.84	0.57	1.22
26	0.89	0.63	1.25	0.92	0.64	1.31	1.23	0.83	1.83
27	1.13	0.76	1.67	1.36	0.89	2.07	1.09	0.73	1.62
28	0.74	0.52	1.06	1.64	1.05	2.57	1.28	0.88	1.85
29	1.07	0.76	1.51	1.20	0.81	1.77	1.31	0.92	1.87
30	1.09	0.72	1.65	1.44	0.99	2.09	0.81	0.56	1.18
31	0.77	0.54	1.10	1.01	0.69	1.49	0.80	0.56	1.16
32	1.03	0.71	1.50	1.02	0.72	1.45	1.16	0.81	1.66
33	1.00	0.72	1.39	1.17	0.81	1.69	1.39	0.93	2.08
34	0.88	0.60	1.30	1.21	0.82	1.79	0.94	0.63	1.43
35	1.08	0.75	1.54	1.39	0.91	2.13	1.23	0.81	1.87
36	0.72	0.50	1.05	0.87	0.60	1.27	0.65	0.41	1.03
37	1.22	0.86	1.73	0.87	0.61	1.23	0.79	0.46	1.38
38	0.78	0.54	1.14	0.83	0.54	1.27	1.06	0.74	1.52
39	1.22	0.86	1.72	0.95	0.62	1.47	1.04	0.71	1.54
40	1.03	0.70	1.50	0.94	0.60	1.47	1.03	0.70	1.52
41	0.73	0.49	1.06	1.17	0.81	1.70	0.88	0.61	1.26
42	1.18	0.82	1.71	1.09	0.70	1.67	1.30	0.89	1.90
43	1.27	0.90	1.80	0.71	0.43	1.18	1.41	0.87	2.28
44	1.31	0.85	2.03	1.13	0.76	1.66	1.06	0.71	1.60
45	1.54	1.08	2.18	1.39	0.93	2.07	1.20	0.83	1.71
46	0.84	0.60	1.18	0.87	0.58	1.32	0.92	0.62	1.39
47	1.00	0.71	1.42	1.12	0.76	1.65	1.23	0.84	1.79
48	1.35	0.95	1.94	0.60	0.42	0.86	0.57	0.37	0.89
49	0.98	0.70	1.36	1.09	0.76	1.55	1.36	0.94	1.98
50	0.77	0.51	1.17	0.59	0.34	1.01	1.87	1.25	2.79
51	1.05	0.73	1.51	0.84	0.52	1.38	1.17	0.82	1.67
52	1.20	0.85	1.71	1.08	0.71	1.62	1.02	0.71	1.48
53	0.93	0.66	1.32	0.96	0.61	1.52	0.86	0.60	1.25
54	0.91	0.64	1.29	0.92	0.62	1.35	0.85	0.59	1.23
55	1.22	0.82	1.80	0.69	0.45	1.04	0.79	0.56	1.12
56	1.71	1.19	2.46	0.71	0.48	1.06	0.90	0.64	1.25
57	0.97	0.69	1.35	0.84	0.56	1.25	0.66	0.47	0.93
58	0.74	0.51	1.06	0.74	0.49	1.12	1.03	0.72	1.46
59	1.03	0.71	1.51	0.89	0.59	1.34	0.85	0.61	1.20
60	0.80	0.56	1.13	1.04	0.70	1.54	0.76	0.52	1.10

A COMPARATIVE EVALUATION

		Mathematics								
Grade	6			7			8			
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		
61	1.26	0.89	1.79	1.09	0.74	1.60	0.78	0.54	1.14	
62	0.95	0.67	1.35	0.82	0.56	1.20	0.94	0.66	1.34	
63	0.93	0.67	1.31	0.83	0.58	1.18	0.79	0.54	1.17	
64	0.96	0.68	1.35	0.67	0.47	0.97	1.05	0.73	1.51	
65	0.90	0.61	1.31	0.84	0.56	1.25	0.75	0.53	1.06	
66				0.93	0.62	1.40	0.85	0.57	1.25	
67				1.23	0.82	1.85	0.67	0.45	1.00	
68				0.70	0.45	1.09	0.88	0.59	1.33	
69				1.45	0.94	2.23	1.09	0.76	1.56	
70				0.67	0.42	1.05	0.78	0.55	1.11	
71							1.19	0.83	1.71	
72							1.05	0.68	1.62	
73							0.93	0.65	1.33	
74							0.86	0.61	1.22	
75							0.97	0.65	1.44	

A COMPARATIVE EVALUATION

Mathematics												
Grade	9			10			11			12		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.05	0.66	1.68	1.08	0.68	1.73	0.85	0.53	1.36	1.75	1.05	2.89
2	1.11	0.72	1.71	1.03	0.67	1.57	0.90	0.54	1.47	0.94	0.56	1.58
3	1.41	0.95	2.10	0.65	0.42	1.00	0.95	0.60	1.51	0.81	0.49	1.33
4	1.30	0.85	2.01	1.43	0.97	2.12	0.78	0.50	1.23	1.31	0.79	2.16
5	1.23	0.77	1.95	1.17	0.79	1.74	1.16	0.69	1.96	0.85	0.48	1.49
6	1.35	0.91	2.01	0.79	0.51	1.23	1.02	0.60	1.74	0.86	0.49	1.49
7	0.68	0.45	1.01	1.38	0.94	2.01	1.20	0.73	1.99	1.13	0.68	1.87
8	1.37	0.93	2.02	0.91	0.58	1.43	1.35	0.80	2.26	0.89	0.53	1.50
9	0.68	0.46	1.00	1.02	0.64	1.61	0.99	0.60	1.63	1.48	0.87	2.54
10	1.03	0.68	1.56	1.08	0.69	1.70	1.44	0.88	2.34	0.54	0.32	0.92
11	0.96	0.66	1.40	1.53	1.06	2.23	1.13	0.68	1.87	1.25	0.73	2.16
12	1.04	0.69	1.56	1.07	0.74	1.56	1.30	0.82	2.07	1.59	0.94	2.66
13	1.61	1.06	2.44	0.62	0.40	0.96	1.21	0.70	2.08	0.98	0.56	1.73
14	0.89	0.60	1.33	0.88	0.61	1.28	0.85	0.52	1.40	0.69	0.41	1.16
15	1.16	0.73	1.85	1.46	0.96	2.23	0.93	0.56	1.55	0.56	0.32	0.99
16	0.80	0.52	1.23	1.18	0.79	1.75	0.88	0.55	1.40	0.87	0.52	1.44
17	1.12	0.74	1.70	1.07	0.73	1.56	1.69	1.05	2.75	1.32	0.81	2.16
18	1.03	0.70	1.50	1.07	0.70	1.63	1.18	0.72	1.93	1.40	0.83	2.37
19	0.98	0.67	1.44	0.85	0.59	1.24	1.10	0.67	1.80	1.24	0.73	2.10
20	0.80	0.53	1.20	1.04	0.69	1.57	1.01	0.61	1.67	1.00	0.53	1.89
21	0.81	0.50	1.29	1.21	0.82	1.80	0.84	0.52	1.36	1.15	0.69	1.92
22	1.49	0.93	2.39	0.70	0.47	1.05	1.22	0.71	2.08	0.62	0.34	1.12
23	1.00	0.65	1.53	1.22	0.83	1.81	0.88	0.52	1.50	0.87	0.49	1.54
24	1.44	0.95	2.19	0.55	0.37	0.80	0.46	0.27	0.78	0.81	0.47	1.37
25	0.57	0.38	0.84	0.58	0.37	0.92	0.60	0.37	0.98	0.62	0.36	1.07
26	1.36	0.86	2.14	0.69	0.46	1.05	1.15	0.70	1.91	2.03	1.16	3.54
27	1.34	0.89	2.01	0.79	0.53	1.18	1.32	0.76	2.31	1.08	0.58	1.99
28	0.87	0.57	1.34	1.30	0.87	1.94	1.49	0.93	2.40	1.75	1.02	3.01
29	0.76	0.48	1.21	0.70	0.47	1.03	0.74	0.46	1.19	0.71	0.42	1.20
30	0.99	0.61	1.59	1.14	0.78	1.67	0.64	0.39	1.03	0.80	0.48	1.34
31	0.69	0.47	1.01	1.07	0.72	1.59	0.78	0.49	1.25	0.92	0.55	1.54
32	1.10	0.75	1.62	1.32	0.90	1.93	0.96	0.61	1.53	0.84	0.51	1.37
33	0.58	0.37	0.93	2.57	1.69	3.91	1.51	0.91	2.48	1.77	0.97	3.24
34	0.94	0.63	1.40	0.73	0.50	1.07	0.91	0.56	1.47	0.78	0.48	1.28
35	1.18	0.78	1.78	1.30	0.87	1.94	0.79	0.48	1.30	1.10	0.65	1.86
36	1.00	0.67	1.50	0.87	0.59	1.29	0.90	0.53	1.51	0.70	0.41	1.21
37	0.93	0.63	1.38	0.68	0.45	1.03	0.66	0.41	1.09	0.64	0.38	1.06
38	1.00	0.64	1.56	1.11	0.75	1.64	1.71	1.06	2.76	1.51	0.92	2.51
39	0.66	0.46	0.95	1.19	0.77	1.83	0.90	0.53	1.52	0.81	0.45	1.46
40	1.42	0.91	2.21	0.70	0.47	1.06	1.29	0.76	2.18	1.43	0.80	2.54

A COMPARATIVE EVALUATION

Grade	Social Studies								
	3			4			5		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	0.85	0.55	1.30	1.32	0.71	2.47	2.73	1.58	4.70
2	0.87	0.57	1.33	1.31	0.69	2.47	1.04	0.64	1.71
3	1.37	0.91	2.07	0.88	0.54	1.44	0.94	0.55	1.62
4	0.81	0.53	1.25	1.49	0.89	2.51	1.16	0.75	1.78
5	0.93	0.53	1.63	1.28	0.86	1.89	2.05	1.16	3.63
6	1.63	1.07	2.50	1.07	0.58	1.99	1.79	1.21	2.65
7	0.82	0.51	1.32	1.04	0.70	1.53	0.82	0.52	1.30
8	0.74	0.47	1.17	1.23	0.78	1.94	1.11	0.75	1.64
9	0.84	0.52	1.37	1.11	0.63	1.94	1.45	1.00	2.12
10	0.72	0.42	1.24	0.79	0.51	1.22	0.72	0.45	1.14
11	0.56	0.37	0.85	0.76	0.49	1.18	0.75	0.51	1.10
12	0.36	0.22	0.58	0.96	0.64	1.42	0.86	0.57	1.30
13	0.73	0.44	1.19	1.27	0.84	1.91	0.87	0.56	1.35
14	1.40	0.87	2.26	0.99	0.64	1.53	1.90	1.26	2.89
15	1.18	0.70	2.01	0.67	0.44	1.04	0.79	0.53	1.16
16	0.80	0.46	1.38	1.31	0.88	1.94	1.28	0.85	1.93
17	1.39	0.89	2.16	1.05	0.65	1.71	0.74	0.49	1.12
18	1.11	0.71	1.72	0.75	0.47	1.17	1.27	0.86	1.87
19	0.82	0.55	1.21	1.15	0.69	1.92	1.50	0.85	2.65
20	1.47	0.83	2.59	0.96	0.63	1.46	0.50	0.28	0.89
21	0.99	0.65	1.52	1.30	0.80	2.11	0.96	0.65	1.43
22	1.57	1.02	2.41	1.06	0.70	1.62	1.11	0.75	1.63
23	1.01	0.65	1.56	0.71	0.46	1.10	0.91	0.60	1.39
24	1.04	0.68	1.57	1.24	0.84	1.85	0.76	0.51	1.14
25	1.02	0.67	1.54	0.75	0.51	1.12	1.42	0.92	2.20
26	1.07	0.73	1.58	0.63	0.40	0.97	0.99	0.63	1.56
27	1.42	0.95	2.12	0.95	0.62	1.44	0.80	0.54	1.18
28	0.99	0.66	1.50	1.13	0.74	1.71	0.83	0.56	1.24
29	1.41	0.94	2.11	0.82	0.54	1.23	1.12	0.77	1.63
30	1.20	0.77	1.86	1.22	0.79	1.88	0.94	0.63	1.41
31				0.75	0.50	1.13	0.94	0.62	1.40
32				1.09	0.72	1.64	0.80	0.54	1.17
33				1.22	0.82	1.83	0.71	0.49	1.02
34				1.04	0.67	1.59	0.68	0.45	1.01
35							1.02	0.67	1.53
36							0.87	0.59	1.28
37							0.94	0.65	1.38

A COMPARATIVE EVALUATION

Grade	Social Studies								
	6			7			8		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.85	1.00	3.41	1.20	0.80	1.79	1.70	1.09	2.66
2	1.19	0.67	2.11	0.84	0.53	1.35	1.14	0.77	1.69
3	1.36	0.94	1.97	1.16	0.73	1.84	1.09	0.71	1.67
4	1.25	0.84	1.86	1.50	1.00	2.25	0.81	0.54	1.21
5	1.08	0.71	1.63	1.22	0.83	1.82	1.27	0.81	1.97
6	0.63	0.42	0.95	0.77	0.52	1.13	1.52	0.98	2.35
7	1.41	0.90	2.21	1.12	0.71	1.76	1.04	0.68	1.60
8	1.30	0.79	2.12	0.97	0.66	1.43	1.14	0.74	1.75
9	0.80	0.53	1.20	1.14	0.76	1.71	1.19	0.78	1.81
10	1.12	0.76	1.66	1.14	0.76	1.70	1.61	0.95	2.76
11	1.17	0.79	1.75	1.12	0.73	1.72	1.59	0.96	2.63
12	1.18	0.77	1.80	0.88	0.56	1.38	1.29	0.82	2.03
13	1.15	0.75	1.75	0.65	0.40	1.05	1.00	0.67	1.50
14	1.15	0.79	1.67	0.77	0.51	1.17	0.57	0.35	0.91
15	0.93	0.64	1.34	0.75	0.49	1.15	0.92	0.56	1.49
16	1.38	0.85	2.25	0.89	0.58	1.36	1.17	0.71	1.91
17	1.06	0.71	1.58	1.27	0.85	1.89	0.92	0.57	1.46
18	0.81	0.55	1.20	0.91	0.57	1.45	0.90	0.57	1.40
19	1.09	0.74	1.60	0.91	0.58	1.45	1.09	0.72	1.66
20	0.90	0.62	1.31	1.01	0.68	1.50	0.75	0.48	1.16
21	0.84	0.56	1.25	1.18	0.79	1.78	0.73	0.44	1.20
22	0.95	0.62	1.44	0.87	0.58	1.31	1.04	0.61	1.75
23	1.02	0.69	1.52	0.76	0.51	1.14	0.84	0.54	1.30
24	1.05	0.70	1.57	0.78	0.52	1.16	1.06	0.70	1.61
25	0.84	0.57	1.24	1.17	0.77	1.79	0.89	0.56	1.42
26	0.95	0.64	1.39	1.69	1.07	2.65	1.29	0.87	1.92
27	1.06	0.74	1.53	1.19	0.78	1.82	1.13	0.73	1.77
28	0.99	0.68	1.44	1.10	0.72	1.68	1.33	0.88	2.00
29	1.21	0.82	1.79	0.97	0.64	1.48	0.90	0.57	1.41
30	0.76	0.50	1.15	0.87	0.54	1.41	1.14	0.76	1.69
31	0.97	0.65	1.45	1.35	0.88	2.10	0.94	0.62	1.44
32	1.02	0.67	1.54	0.96	0.62	1.48	1.02	0.67	1.53
33	0.72	0.48	1.07	0.67	0.44	1.01	1.23	0.80	1.88
34	1.08	0.73	1.61	1.12	0.73	1.74	1.04	0.67	1.61
35	0.85	0.58	1.25	1.61	1.00	2.58	0.97	0.60	1.58
36	0.95	0.65	1.40	1.08	0.69	1.70	0.62	0.39	0.96
37	0.71	0.47	1.07	0.99	0.62	1.56	0.67	0.44	1.02
38	0.89	0.60	1.32	0.93	0.60	1.44	1.20	0.78	1.83
39	0.91	0.63	1.32	0.70	0.47	1.05	0.67	0.45	1.01
40				0.87	0.59	1.30	0.71	0.46	1.08
41				0.98	0.65	1.50	0.95	0.64	1.41
42							0.62	0.40	0.96
43							0.91	0.60	1.39

A COMPARATIVE EVALUATION

Social Studies												
Grade	9			10			11			12		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.73	1.21	2.47	0.90	0.54	1.49	0.80	0.51	1.28	1.03	0.64	1.67
2	1.12	0.74	1.72	1.01	0.69	1.47	0.89	0.50	1.56	1.43	0.82	2.47
3	1.02	0.69	1.49	1.52	1.04	2.23	0.74	0.40	1.34	1.01	0.56	1.81
4	1.16	0.79	1.71	0.76	0.52	1.11	0.66	0.41	1.06	0.74	0.45	1.21
5	0.99	0.69	1.43	1.89	1.18	3.04	0.54	0.33	0.87	1.02	0.62	1.69
6	1.31	0.88	1.97	1.53	0.99	2.36	0.71	0.44	1.15	0.53	0.32	0.89
7	1.12	0.74	1.68	0.93	0.63	1.37	1.59	0.90	2.80	1.44	0.81	2.54
8	0.87	0.60	1.26	1.26	0.84	1.89	1.30	0.79	2.16	1.70	0.99	2.93
9	0.77	0.53	1.12	0.80	0.55	1.16	0.95	0.59	1.51	0.98	0.59	1.63
10	1.12	0.75	1.67	0.62	0.40	0.98	0.63	0.36	1.12	0.97	0.55	1.73
11	1.21	0.84	1.73	0.69	0.44	1.09	0.92	0.56	1.50	0.84	0.49	1.43
12	0.86	0.59	1.26	1.22	0.83	1.78	0.97	0.59	1.60	1.30	0.78	2.17
13	0.67	0.46	0.96	0.79	0.53	1.18	1.32	0.80	2.17	0.77	0.46	1.28
14	1.21	0.74	1.97	1.64	1.03	2.62	0.79	0.43	1.47	0.99	0.54	1.83
15	0.70	0.48	1.02	0.99	0.67	1.46	1.00	0.61	1.65	1.20	0.73	1.98
16	0.90	0.60	1.34	1.53	0.99	2.37	0.44	0.24	0.78	0.91	0.52	1.61
17	1.16	0.80	1.66	0.97	0.64	1.48	1.68	0.95	2.99	0.90	0.50	1.59
18	1.40	0.93	2.12	0.94	0.62	1.43	1.09	0.65	1.82	0.70	0.41	1.18
19	0.92	0.63	1.36	1.27	0.86	1.88	1.23	0.73	2.10	1.70	1.00	2.88
20	0.75	0.50	1.14	0.87	0.60	1.28	1.01	0.62	1.64	1.02	0.62	1.68
21	1.25	0.81	1.93	0.71	0.47	1.08	0.95	0.57	1.58	1.14	0.64	2.02
22	1.09	0.73	1.65	0.92	0.62	1.37	0.94	0.56	1.58	0.60	0.35	1.04
23	1.19	0.81	1.75	0.62	0.40	0.97	2.17	1.29	3.65	1.05	0.62	1.80
24	0.82	0.56	1.20	0.68	0.43	1.08	0.69	0.42	1.15	1.06	0.66	1.70
25	1.13	0.76	1.67	0.78	0.50	1.22	0.93	0.56	1.54	0.55	0.32	0.94
26	1.08	0.73	1.61	1.02	0.69	1.51	1.29	0.78	2.11	1.96	1.18	3.27
27	1.40	0.96	2.06	1.44	0.97	2.15	0.54	0.33	0.90	0.67	0.40	1.11
28	1.68	1.10	2.55	0.92	0.60	1.42	0.95	0.57	1.56	0.74	0.45	1.24
29	0.95	0.64	1.42	0.72	0.46	1.13	0.89	0.53	1.49	0.77	0.45	1.33
30	0.58	0.37	0.89	0.97	0.66	1.43	0.84	0.52	1.36	0.91	0.55	1.50
31	0.55	0.36	0.84	0.80	0.54	1.19	0.56	0.31	1.01	0.99	0.58	1.71
32	1.62	1.08	2.41	1.32	0.87	2.00	2.18	1.14	4.17	2.50	1.32	4.72
33	1.11	0.76	1.61	0.90	0.59	1.36	1.25	0.69	2.26	1.08	0.58	2.01
34	1.14	0.78	1.66	1.25	0.83	1.89	1.52	0.90	2.59	1.07	0.64	1.79
35	0.99	0.69	1.42	0.85	0.56	1.29	1.69	0.95	3.02	0.98	0.55	1.74
36	0.99	0.66	1.48	1.05	0.69	1.59	1.24	0.74	2.10	1.91	1.12	3.26
37	0.54	0.37	0.79	0.78	0.53	1.14	1.44	0.85	2.44	1.86	1.04	3.31
38	0.88	0.60	1.31	0.80	0.53	1.20	0.70	0.41	1.18	0.79	0.46	1.36
39	1.06	0.73	1.56	0.86	0.58	1.27	0.84	0.50	1.39	0.91	0.55	1.52
40	1.76	1.12	2.74	1.06	0.67	1.68	1.04	0.65	1.66	0.94	0.57	1.54
41	0.83	0.57	1.20	1.46	0.97	2.18	1.61	0.99	2.61	0.71	0.42	1.20
42	0.78	0.53	1.15	0.82	0.55	1.23	0.75	0.45	1.23	0.94	0.56	1.58
43	0.97	0.66	1.43	0.68	0.45	1.02	0.79	0.49	1.27	0.80	0.50	1.30
44	0.76	0.52	1.10	1.26	0.81	1.95	1.58	0.91	2.76	1.35	0.74	2.46
45	0.77	0.53	1.12	1.03	0.67	1.60	0.87	0.54	1.42	1.09	0.66	1.80
46	0.81	0.55	1.22	1.94	1.31	2.87	2.48	1.54	4.01	1.93	1.16	3.22
47	1.02	0.66	1.56	1.17	0.76	1.78	1.50	0.86	2.63	0.89	0.49	1.58
48	0.93	0.63	1.36	0.71	0.48	1.06	0.80	0.49	1.31	0.71	0.42	1.20
49	1.04	0.70	1.54	1.21	0.80	1.80	1.17	0.71	1.93	0.60	0.36	1.01
50	1.45	0.96	2.18	1.32	0.87	1.99	0.91	0.56	1.46	1.13	0.67	1.91

A COMPARATIVE EVALUATION

Grade	Science								
	3			4			5		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	1.43	0.78	2.64	2.20	1.23	3.95	1.16	0.69	1.95
2	1.30	0.83	2.04	1.11	0.75	1.65	1.20	0.77	1.87
3	1.07	0.72	1.60	1.06	0.62	1.79	0.85	0.50	1.44
4	1.58	1.04	2.38	0.98	0.65	1.46	0.76	0.40	1.43
5	1.38	0.91	2.10	1.25	0.84	1.85	1.23	0.78	1.94
6	0.93	0.48	1.80	0.93	0.64	1.34	0.92	0.59	1.44
7	1.44	0.84	2.47	1.48	0.77	2.85	0.46	0.19	1.08
8	1.03	0.62	1.71	0.97	0.65	1.46	2.41	1.32	4.41
9	0.54	0.32	0.92	0.95	0.64	1.41	1.13	0.60	2.15
10	0.99	0.61	1.61	0.95	0.56	1.64	1.01	0.67	1.52
11	1.08	0.68	1.71	0.95	0.63	1.43	1.12	0.72	1.74
12	0.93	0.63	1.37	0.90	0.56	1.45	0.98	0.66	1.44
13	0.94	0.64	1.37	1.53	0.95	2.45	0.74	0.50	1.09
14	0.72	0.47	1.08	0.82	0.56	1.21	0.93	0.62	1.40
15	0.97	0.60	1.59	0.91	0.60	1.39	0.91	0.58	1.43
16	0.91	0.62	1.36	0.94	0.62	1.43	1.07	0.72	1.60
17	0.76	0.46	1.24	0.66	0.42	1.05	1.07	0.69	1.63
18	0.75	0.49	1.13	0.99	0.63	1.54	0.74	0.50	1.11
19	0.94	0.64	1.38	1.41	0.83	2.42	0.99	0.61	1.62
20	1.03	0.70	1.53	0.98	0.58	1.65	0.74	0.45	1.22
21	1.16	0.66	2.06	0.94	0.62	1.43	1.04	0.65	1.65
22	0.99	0.66	1.49	0.66	0.43	1.00	1.12	0.70	1.79
23	1.10	0.74	1.64	1.03	0.59	1.79	0.98	0.65	1.47
24	0.65	0.39	1.09	1.46	0.87	2.46	0.94	0.62	1.42
25	0.58	0.37	0.92	0.76	0.45	1.27	0.81	0.54	1.22
26	1.32	0.85	2.07	1.09	0.73	1.61	1.01	0.68	1.52
27	1.28	0.85	1.92	1.72	1.13	2.61	0.97	0.64	1.47
28	1.01	0.69	1.48	1.33	0.87	2.03	0.68	0.46	1.00
29	1.04	0.68	1.59	1.01	0.68	1.52	0.92	0.60	1.42
30	1.01	0.67	1.54	0.81	0.55	1.19	1.31	0.90	1.91
31				0.97	0.65	1.45	1.12	0.74	1.71
32				0.66	0.43	1.00	0.82	0.54	1.25
33				0.92	0.60	1.42	1.64	1.02	2.64
34				0.85	0.56	1.27	0.95	0.59	1.55
35							1.11	0.73	1.67
36							1.08	0.73	1.60
37							1.32	0.90	1.93

A COMPARATIVE EVALUATION

Science									
Grade	6			7			8		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	0.73	0.44	1.23	1.09	0.70	1.68	0.75	0.48	1.15
2	1.34	0.78	2.29	1.19	0.81	1.74	0.97	0.65	1.44
3	0.89	0.56	1.43	0.98	0.57	1.68	0.90	0.51	1.57
4	1.13	0.69	1.84	1.20	0.76	1.88	0.87	0.43	1.79
5	0.93	0.61	1.41	1.03	0.69	1.53	1.30	0.80	2.10
6	1.02	0.67	1.55	0.73	0.49	1.09	0.85	0.52	1.39
7	1.28	0.86	1.89	1.25	0.83	1.89	0.86	0.56	1.30
8	1.24	0.80	1.94	0.80	0.53	1.22	0.95	0.63	1.44
9	1.71	1.06	2.76	0.92	0.60	1.41	1.12	0.75	1.68
10	0.77	0.52	1.15	0.89	0.61	1.31	1.06	0.72	1.56
11	0.91	0.62	1.35	0.61	0.38	0.98	0.98	0.62	1.54
12	1.27	0.89	1.81	1.56	1.03	2.35	1.15	0.72	1.83
13	0.65	0.44	0.94	1.03	0.69	1.55	1.04	0.64	1.70
14	1.22	0.83	1.79	0.82	0.55	1.25	1.25	0.76	2.05
15	0.90	0.60	1.36	1.27	0.86	1.89	1.08	0.74	1.56
16	0.70	0.41	1.18	0.88	0.55	1.42	0.78	0.53	1.16
17	1.23	0.76	2.00	0.86	0.57	1.31	0.79	0.53	1.19
18	0.81	0.55	1.19	0.74	0.50	1.11	1.08	0.69	1.69
19	0.96	0.68	1.37	1.33	0.84	2.09	1.20	0.80	1.79
20	1.11	0.76	1.61	0.99	0.67	1.47	0.85	0.56	1.29
21	1.02	0.71	1.48	1.39	0.88	2.20	0.75	0.50	1.13
22	1.45	0.87	2.42	0.95	0.64	1.41	1.82	1.18	2.82
23	1.08	0.73	1.60	0.81	0.51	1.28	1.00	0.67	1.50
24	0.85	0.58	1.25	0.31	0.16	0.63	0.82	0.55	1.23
25	0.72	0.49	1.06	1.45	0.89	2.34	0.97	0.63	1.49
26	1.54	1.03	2.32	1.07	0.68	1.68	1.06	0.69	1.62
27	0.82	0.57	1.18	1.22	0.79	1.88	0.66	0.43	1.00
28	1.03	0.70	1.52	1.23	0.82	1.86	0.76	0.50	1.15
29	0.98	0.68	1.41	1.28	0.87	1.90	0.89	0.58	1.36
30	1.22	0.82	1.82	0.97	0.66	1.42	1.45	0.97	2.18
31	0.79	0.55	1.14	1.12	0.71	1.77	1.38	0.93	2.07
32	1.12	0.76	1.65	1.07	0.67	1.70	1.42	0.91	2.21
33	0.86	0.59	1.24	0.55	0.34	0.89	0.91	0.62	1.34
34	1.06	0.72	1.55	1.12	0.68	1.84	1.05	0.70	1.57
35	1.34	0.90	2.00	1.16	0.81	1.67	1.15	0.76	1.76
36	1.22	0.77	1.93	0.80	0.54	1.18	1.20	0.76	1.87
37	0.73	0.51	1.06	1.00	0.66	1.51	1.18	0.76	1.83
38	1.05	0.71	1.55	0.89	0.57	1.38	1.04	0.69	1.55
39	0.89	0.62	1.29	1.09	0.72	1.66	0.94	0.64	1.39
40				1.03	0.69	1.54	0.83	0.54	1.26
41				1.00	0.67	1.50	0.94	0.65	1.38
42							0.89	0.58	1.36
43							1.09	0.70	1.70

A COMPARATIVE EVALUATION

Science												
Grade	9			10			11			12		
Item	MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits		MH	95% Conf. Limits	
1	0.82	0.56	1.19	0.97	0.67	1.41	0.62	0.39	0.98	1.13	0.68	1.87
2	1.00	0.69	1.44	1.07	0.74	1.54	0.99	0.57	1.71	1.62	0.89	2.93
3	1.22	0.81	1.84	0.81	0.56	1.17	1.25	0.78	2.01	1.02	0.62	1.67
4	1.35	0.88	2.07	2.18	1.41	3.39	0.88	0.54	1.43	1.25	0.73	2.12
5	0.87	0.59	1.28	0.99	0.68	1.43	1.09	0.64	1.88	0.88	0.53	1.48
6	1.36	0.89	2.07	1.23	0.82	1.84	1.41	0.83	2.39	1.43	0.84	2.44
7	1.29	0.86	1.93	0.95	0.61	1.47	2.17	1.28	3.66	1.14	0.67	1.92
8	0.97	0.63	1.49	0.80	0.55	1.16	0.62	0.36	1.06	0.64	0.36	1.13
9	0.96	0.67	1.36	0.91	0.60	1.38	1.32	0.79	2.20	0.80	0.47	1.35
10	0.87	0.60	1.26	0.84	0.56	1.27	1.31	0.67	2.56	0.80	0.46	1.40
11	1.09	0.72	1.67	1.12	0.76	1.65	0.92	0.58	1.45	1.06	0.65	1.72
12	0.88	0.59	1.30	0.91	0.58	1.43	0.66	0.37	1.17	0.82	0.47	1.43
13	1.09	0.73	1.63	1.28	0.83	1.97	0.54	0.31	0.92	0.97	0.53	1.80
14	0.73	0.48	1.11	0.95	0.65	1.40	1.28	0.78	2.09	1.20	0.72	2.00
15	0.69	0.43	1.10	0.85	0.57	1.28	1.13	0.69	1.84	1.33	0.78	2.28
16	1.66	1.08	2.53	1.20	0.81	1.79	0.63	0.38	1.07	1.02	0.62	1.68
17	0.63	0.44	0.91	0.78	0.53	1.14	0.97	0.61	1.55	0.88	0.54	1.44
18	1.27	0.86	1.87	1.11	0.71	1.74	0.98	0.60	1.59	0.91	0.55	1.51
19	1.17	0.80	1.72	0.66	0.46	0.96	1.64	0.97	2.79	0.86	0.51	1.44
20	1.30	0.87	1.96	0.96	0.63	1.47	1.00	0.56	1.79	0.86	0.49	1.52
21	1.02	0.71	1.49	0.79	0.51	1.21	1.66	0.88	3.13	1.08	0.60	1.92
22	0.78	0.53	1.15	1.00	0.67	1.50	1.00	0.61	1.62	0.88	0.54	1.45
23	0.56	0.39	0.81	0.88	0.58	1.34	2.21	1.26	3.87	0.93	0.50	1.73
24	1.26	0.83	1.92	0.62	0.42	0.90	0.58	0.32	1.04	0.87	0.50	1.52
25	0.79	0.50	1.24	1.64	1.11	2.44	1.06	0.66	1.70	0.88	0.53	1.47
26	0.89	0.59	1.34	0.95	0.63	1.43	0.77	0.45	1.32	1.12	0.63	1.97
27	1.14	0.77	1.67	1.61	1.06	2.44	0.57	0.36	0.91	0.73	0.45	1.21
28	1.11	0.73	1.69	0.96	0.64	1.44	0.77	0.46	1.29	1.11	0.65	1.90
29	0.84	0.55	1.29	1.26	0.84	1.90	1.07	0.66	1.73	0.84	0.48	1.45
30	0.98	0.66	1.45	1.47	0.96	2.23	0.81	0.51	1.29	1.15	0.70	1.89
31	1.43	0.92	2.21	1.08	0.72	1.61	0.92	0.54	1.58	1.02	0.59	1.75
32	0.76	0.51	1.14	1.27	0.83	1.94	0.55	0.33	0.94	0.98	0.60	1.62
33	1.19	0.81	1.77	1.14	0.72	1.80	1.40	0.81	2.42	0.88	0.52	1.51
34	1.10	0.73	1.66	1.04	0.67	1.60	1.32	0.82	2.15	0.99	0.59	1.66
35	1.46	0.97	2.19	1.09	0.74	1.61	1.17	0.72	1.88	1.30	0.79	2.13
36	0.95	0.65	1.37	0.94	0.65	1.37	1.15	0.69	1.90	2.34	1.27	4.31
37	1.11	0.75	1.64	0.95	0.64	1.43	0.89	0.55	1.46	0.86	0.52	1.42
38	1.45	0.92	2.28	0.46	0.29	0.74	0.63	0.39	1.02	0.75	0.46	1.23
39	1.84	1.22	2.80	0.81	0.54	1.22	0.87	0.55	1.37	0.69	0.42	1.13
40	0.55	0.37	0.81	1.49	0.95	2.32	1.61	0.98	2.66	1.08	0.65	1.81
41	1.85	1.22	2.80	1.32	0.91	1.92	1.36	0.85	2.17	1.64	0.97	2.79
42	0.95	0.65	1.38	0.73	0.49	1.09	1.01	0.61	1.67	0.96	0.55	1.67
43	0.87	0.58	1.32	0.98	0.65	1.46	0.75	0.45	1.25	0.71	0.39	1.29
44	0.70	0.48	1.02	1.13	0.77	1.68	0.97	0.59	1.60	0.96	0.59	1.59
45	0.92	0.62	1.37	0.88	0.59	1.31	1.47	0.91	2.38	1.45	0.88	2.41
46	0.74	0.49	1.12	1.03	0.66	1.60	0.70	0.42	1.16	1.24	0.72	2.12
47	1.05	0.72	1.54	1.01	0.69	1.49	1.34	0.82	2.19	0.98	0.56	1.72
48	0.90	0.61	1.32	0.84	0.56	1.27	1.30	0.80	2.13	0.75	0.45	1.26

Appendix C

CFA Results for Online and P&P Forms

Reading**Vocabulary**

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.66	0.04	0.76	0.03	-0.10
4	0.77	0.03	0.77	0.03	0.00
5	0.63	0.04	0.49	0.05	0.15
6	0.56	0.04	0.53	0.04	0.04
7	0.77	0.03	0.75	0.03	0.02
8	0.65	0.03	0.62	0.04	0.03
9	0.61	0.04	0.69	0.03	-0.08
10	0.71	0.03	0.76	0.03	-0.06
11	0.71	0.04	0.77	0.03	-0.06
12	0.72	0.04	0.75	0.04	-0.04

Explicit Meaning

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.82	0.02	0.84	0.02	-0.02
4	0.86	0.02	0.87	0.02	-0.01
5	0.84	0.02	0.81	0.02	0.03
6	0.77	0.03	0.77	0.03	0.00
7	0.80	0.02	0.76	0.03	0.05
8	0.77	0.03	0.77	0.03	0.00
9	0.80	0.02	0.78	0.03	0.02
10	0.72	0.03	0.78	0.03	-0.06
11	0.85	0.02	0.86	0.02	-0.02
12	0.76	0.03	0.86	0.02	-0.10

Implicit Meaning

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.75	0.03	0.79	0.03	-0.04
4	0.83	0.02	0.85	0.02	-0.02
5	0.83	0.02	0.80	0.03	0.03
6	0.79	0.02	0.79	0.02	-0.01
7	0.80	0.02	0.80	0.02	0.01
8	0.84	0.02	0.80	0.02	0.04
9	0.81	0.02	0.83	0.02	-0.02
10	0.82	0.02	0.84	0.02	-0.03
11	0.81	0.03	0.83	0.02	-0.02
12	0.83	0.03	0.85	0.02	-0.02

A COMPARATIVE EVALUATION

Key Ideas

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.74	0.03	0.81	0.02	-0.06
4	0.79	0.03	0.77	0.03	0.02
5	0.71	0.03	0.72	0.03	-0.01
6	0.77	0.02	0.76	0.03	0.02
7	0.83	0.02	0.80	0.02	0.02
8	0.79	0.02	0.77	0.03	0.03
9	0.72	0.03	0.80	0.02	-0.08
10	0.71	0.03	0.76	0.03	-0.05
11	0.87	0.02	0.84	0.02	0.04
12	0.84	0.03	0.86	0.02	-0.03

Author's Craft

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.64	0.04	0.78	0.03	-0.15
4	0.72	0.03	0.70	0.03	0.01
5	0.75	0.03	0.73	0.03	0.03
6	0.75	0.03	0.76	0.03	0.00
7	0.82	0.02	0.78	0.02	0.04
8	0.83	0.02	0.80	0.02	0.03
9	0.79	0.02	0.80	0.02	-0.01
10	0.81	0.02	0.81	0.02	0.00
11	0.80	0.03	0.83	0.02	-0.03
12	0.81	0.03	0.88	0.02	-0.07

Written Expression**Usage & Grammar**

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.80	0.03	0.78	0.03	0.01
4	0.75	0.03	0.75	0.03	-0.01
5	0.78	0.03	0.79	0.03	-0.01
6	0.89	0.01	0.90	0.01	-0.01
7	0.87	0.01	0.89	0.01	-0.01
8	0.85	0.02	0.83	0.02	0.02
9	0.69	0.03	0.78	0.03	-0.09
10	0.67	0.03	0.78	0.03	-0.10
11	0.85	0.02	0.81	0.03	0.03
12	0.85	0.02	0.90	0.02	-0.06

Sentence Structure

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.84	0.02	0.83	0.02	0.01
4	0.87	0.02	0.89	0.02	-0.02
5	0.81	0.02	0.80	0.02	0.01
6	0.89	0.01	0.89	0.01	0.00
7	0.94	0.01	0.91	0.01	0.02
8	0.90	0.01	0.88	0.01	0.01
9	0.75	0.03	0.86	0.02	-0.11
10	0.76	0.03	0.86	0.02	-0.10
11	0.83	0.02	0.81	0.03	0.02
12	0.82	0.03	0.90	0.02	-0.08

Planning & Organization

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.75	0.03	0.78	0.03	-0.03
4	0.87	0.02	0.86	0.02	0.00
5	0.87	0.02	0.83	0.02	0.04
6	0.93	0.01	0.92	0.01	0.01
7	0.95	0.01	0.92	0.01	0.02
8	0.93	0.01	0.90	0.01	0.02
9	0.77	0.03	0.87	0.02	-0.10
10	0.71	0.03	0.86	0.02	-0.15
11	0.85	0.02	0.82	0.03	0.03
12	0.81	0.03	0.89	0.02	-0.08

A COMPARATIVE EVALUATION

Appropriate Expression

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.73	0.03	0.69	0.04	0.04
4	0.64	0.04	0.70	0.03	-0.06
5	0.69	0.04	0.66	0.04	0.03
6	0.89	0.01	0.87	0.01	0.02
7	0.90	0.01	0.92	0.01	-0.02
8	0.91	0.01	0.88	0.01	0.03
9	0.74	0.03	0.83	0.02	-0.10
10	0.65	0.04	0.79	0.02	-0.14
11	0.86	0.02	0.80	0.03	0.06
12	0.78	0.03	0.88	0.02	-0.09

Mechanics*

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	0.72	0.03	0.76	0.03	-0.04
10	0.68	0.03	0.79	0.02	-0.11
11	0.74	0.03	0.73	0.04	0.01
12	0.73	0.04	0.82	0.03	-0.09

*Mechanics does not exist for Grades 3-8.

Mathematics**Number Sense & Operations**

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.80	0.03	0.77	0.03	0.03
4	0.89	0.02	0.85	0.02	0.04
5	0.84	0.02	0.73	0.03	0.11
6	0.81	0.02	0.80	0.02	0.01
7	0.87	0.02	0.87	0.02	0.01
8	0.83	0.02	0.84	0.02	-0.01
9	0.84	0.02	0.87	0.02	-0.03
10	0.74	0.03	0.78	0.03	-0.04
11	0.83	0.03	0.78	0.03	0.04
12	0.78	0.03	0.78	0.03	0.00

Algebraic Patterns & Connections

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.62	0.04	0.56	0.05	0.06
4	0.84	0.02	0.75	0.03	0.10
5	0.81	0.02	0.80	0.03	0.02
6	0.71	0.03	0.77	0.02	-0.07
7	0.80	0.02	0.79	0.02	0.02
8	0.77	0.03	0.77	0.02	-0.01
9	0.76	0.03	0.71	0.03	0.04
10	0.68	0.03	0.77	0.03	-0.09
11	0.83	0.03	0.79	0.03	0.04
12	0.80	0.03	0.75	0.04	0.05

Data Analysis, Probability, & Statistics

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.75	0.03	0.74	0.03	0.01
4	0.69	0.04	0.65	0.04	0.04
5	0.55	0.05	0.48	0.05	0.08
6	0.71	0.03	0.73	0.03	-0.02
7	0.83	0.02	0.84	0.02	-0.01
8	0.77	0.03	0.75	0.03	0.02
9	0.75	0.03	0.82	0.02	-0.06
10	0.68	0.03	0.72	0.03	-0.03
11	0.72	0.04	0.72	0.04	-0.01
12	0.73	0.04	0.75	0.04	-0.02

A COMPARATIVE EVALUATION

Geometry

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.70	0.03	0.62	0.04	0.09
4	0.67	0.04	0.62	0.04	0.05
5	0.73	0.03	0.67	0.04	0.07
6	0.74	0.03	0.71	0.03	0.03
7	0.77	0.02	0.78	0.02	-0.01
8	0.75	0.03	0.78	0.02	-0.03
9	0.68	0.03	0.74	0.03	-0.05
10	0.66	0.04	0.66	0.04	0.01
11	0.67	0.04	0.67	0.04	0.00
12	0.76	0.04	0.79	0.03	-0.03

Measurement

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.68	0.04	0.70	0.03	-0.03
4	0.71	0.03	0.70	0.03	0.00
5	0.66	0.04	0.65	0.04	0.01
6	0.70	0.03	0.70	0.03	0.00
7	0.85	0.02	0.82	0.02	0.04
8	0.81	0.02	0.81	0.02	0.00
9	0.75	0.03	0.78	0.03	-0.04
10	0.70	0.03	0.77	0.03	-0.07
11	0.69	0.04	0.69	0.04	-0.01
12	0.74	0.04	0.78	0.03	-0.05

Social Studies

History

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.76	0.03	0.75	0.03	0.01
4	0.76	0.03	0.74	0.03	0.02
5	0.82	0.02	0.80	0.03	0.02
6	0.91	0.01	0.89	0.01	0.02
7	0.91	0.01	0.90	0.01	0.01
8	0.91	0.01	0.86	0.02	0.05
9	0.80	0.02	0.77	0.03	0.04
10	0.84	0.02	0.83	0.02	0.02
11	0.89	0.02	0.76	0.03	0.13
12	0.80	0.03	0.79	0.03	0.01

Geography

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.78	0.03	0.72	0.03	0.06
4	0.81	0.02	0.73	0.03	0.08
5	0.74	0.03	0.67	0.04	0.07
6	0.87	0.01	0.86	0.02	0.01
7	0.90	0.01	0.91	0.01	-0.01
8	0.90	0.01	0.86	0.02	0.04
9	0.70	0.03	0.75	0.03	-0.06
10	0.79	0.02	0.76	0.03	0.03
11	0.80	0.03	0.60	0.05	0.20
12	0.72	0.04	0.74	0.04	-0.03

Economics

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.79	0.03	0.73	0.03	0.06
4	0.77	0.03	0.75	0.03	0.02
5	0.61	0.04	0.64	0.04	-0.03
6	0.83	0.02	0.83	0.02	0.00
7	0.88	0.01	0.89	0.01	-0.01
8	0.89	0.01	0.88	0.01	0.02
9	0.78	0.03	0.78	0.03	0.01
10	0.79	0.02	0.79	0.02	0.00
11	0.87	0.02	0.73	0.04	0.14
12	0.82	0.03	0.79	0.03	0.02

A COMPARATIVE EVALUATION

Civics & Government

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.78	0.03	0.70	0.03	0.08
4	0.74	0.03	0.72	0.03	0.02
5	0.80	0.03	0.72	0.03	0.08
6	0.90	0.01	0.88	0.01	0.02
7	0.91	0.01	0.89	0.01	0.03
8	0.90	0.01	0.88	0.01	0.02
9	0.83	0.02	0.86	0.02	-0.02
10	0.87	0.02	0.88	0.02	-0.01
11	0.85	0.02	0.69	0.04	0.16
12	0.84	0.03	0.78	0.03	0.06

Science**Life Science**

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.79	0.03	0.78	0.03	0.01
4	0.85	0.02	0.81	0.02	0.04
5	0.80	0.03	0.78	0.03	0.02
6	0.88	0.01	0.88	0.01	0.01
7	0.93	0.01	0.92	0.01	0.01
8	0.90	0.01	0.87	0.02	0.03
9	0.83	0.02	0.87	0.02	-0.04
10	0.79	0.02	0.90	0.01	-0.11
11	0.90	0.02	0.72	0.04	0.17
12	0.79	0.03	0.80	0.03	-0.01

Earth & Space Science

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.80	0.03	0.76	0.03	0.03
4	0.78	0.03	0.82	0.02	-0.04
5	0.72	0.03	0.79	0.03	-0.07
6	0.91	0.01	0.89	0.01	0.02
7	0.93	0.01	0.92	0.01	0.01
8	0.90	0.01	0.86	0.02	0.04
9	0.72	0.03	0.76	0.03	-0.04
10	0.70	0.03	0.80	0.02	-0.11
11	0.82	0.03	0.60	0.05	0.22
12	0.74	0.04	0.74	0.04	0.00

Physical Science

Grade	Paper		Online		Estimate Difference
	Estimate	S.E.	Estimate	S.E.	
3	0.79	0.03	0.75	0.03	0.04
4	0.71	0.03	0.77	0.03	-0.07
5	0.75	0.03	0.76	0.03	-0.02
6	0.88	0.01	0.87	0.01	0.01
7	0.89	0.01	0.90	0.01	-0.01
8	0.91	0.01	0.87	0.02	0.03
9	0.82	0.02	0.81	0.02	0.02
10	0.76	0.03	0.88	0.02	-0.12
11	0.90	0.02	0.71	0.04	0.19
12	0.77	0.03	0.85	0.02	-0.08