

# **REPORT**

## **ALIGNMENT ANALYSIS OF**

### **NEBRASKA READING CONTENT STANDARDS AND INDICATORS AND THE NEBRASKA STATE ACCOUNTABILITY-READING (NeSA-R)**

#### **GRADES 3 – 8 AND 11**

**SEPTEMBER 21 – 23, 2009**

The findings in this study are those of the independent reviewing team and do **not** represent the opinion of the vendor Data Recognition Corporation or the State of Nebraska.

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## **Executive Summary**

The alignment study for the *Nebraska State Accountability-Reading* (NeSA-R) assessment was held in Lincoln, Nebraska, September 21 – 23, 2009. This report consists of a description of the four criteria used to judge the alignment for Nebraska Reading Grades 3 through 8 and 11 content standards and indicators and the test items found in the NeSA-R. This report also includes tables listing the results from the review process.

Eight reviewers participated in the study: four reading expert reviewers from the State of Nebraska and four national expert reviewers. A national expert facilitated the alignment process for reading. The four State of Nebraska reviewers have extensive teaching experience in the state and expertise in the field of reading. The national reviewers also have extensive expertise in the fields of reading standards, curriculum, and/or assessment design. The reading content standards and indicators were used to describe the expectations for what students are to know and do. The reviewers determined the alignment of test questions to the NeSA-R content standards. A list of reviewers is provided below. In addition, a brief summary of each national expert's professional qualifications is provided in Appendix A. The final results of this study indicate that there is alignment between the Nebraska Reading Grade 3 through 8 and 11 content standards and indicators and the NeSA Reading assessment.

### **National Facilitator**

Margaret Weldon, Ed.D.

### **State of Nebraska Reviewers**

Gigi Brignoni

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Paula Millinger

Tricia Parker

### **National Expert Reviewers**

Jacqueline Graham, Ph.D.

Carla Grasty, M.S.

Karin Hess, Ph.D.

Margaret Weldon, Ed.D.

### **National Report Reviewer**

James Augustin, Ph.D.

## Introduction

This alignment study is based on the work of Dr. Norman Webb from the Wisconsin Center for Educational Research, University of Wisconsin–Madison, who states that the alignment of the content standards for student learning with assessments for measuring students’ attainment of these expectations is an essential component for an effective standards-based education system. The study models Webb’s procedures, including the use of depth-of-knowledge (DOK) categories, as well as Webb’s definition of alignment (Webb 2002, p. 3). The definition is as follows:

**Alignment** is defined as the degree to which expectations and assessments are in agreement and serve in conjunction with one another to guide the system toward students learning what they are expected to know and do. As such, alignment is a quality of the relationship between expectations and assessments and not a specific attribute of either of these two system components. Alignment describes the match between expectations and assessment that can be legitimately improved by changing either student expectations or assessments. Seen as a relationship between two or more system components, alignment can be determined by using the multiple criteria described in detail in a National Institute of Science Education (NISE) research monograph, *Criteria for Alignment of Expectations and Assessments* (Webb 2002).

The *Nebraska State Accountability-Reading* (NeSA-R) is a statewide, mandated testing program. The tests are given in grades 3 through 8 and 11. They consist of multiple-choice tests in the core subject of reading. The NeSA-R allows teachers to measure student achievement based on Nebraska’s content standards and indicators. All questions are written and reviewed by Nebraska educators for content and sensitivity.

Intensive training was provided for all reviewers to understand Webb’s Alignment Model and Criteria by Dr. Margaret Weldon. They were first trained to identify the depth-of-knowledge (DOK) level for the content standards, indicators, and the test questions. This training included reviewing the definitions of the four DOK levels, as defined by Webb (2006). Training also included reviewing examples of test questions aligned to DOK and the alignment process to be followed.

# Alignment Process

The alignment process is outlined in the following chart.

## 2009 NeSA-R Alignment Process

### **Task 1: Determining the depth of knowledge (DOK) of each indicator**

Reviewers individually determined DOK for each indicator. They discussed their DOK ratings in order to reach a group consensus. (See Appendix C)

### **Task 2: Taking the test**

Reviewers took the test, recording their answers and comments about the test questions on an electronic template and/or in their test booklets.

### **Task 3: Determining what each test question measured and the DOK for each test question**

#### *Step 1*

Using the first three test questions, reviewers independently determined what each question measured by assigning it to a primary indicator and a secondary indicator, if applicable. A group discussion took place; however, reaching consensus on determining what each question measured was not required.

#### *Step 2*

Reviewers independently determined the DOK of the first three questions. Reviewers were instructed to code only **one** DOK (Level 1, 2, 3, or 4) for each of the three questions. Reviewers also independently noted any source of challenge for the first three questions. A group discussion took place; however, reaching consensus on the DOK of the first three questions was not required.

#### *Step 3*

Reviewers continued to independently determine the primary indicator and the secondary indicator, if applicable, for the remainder of the test questions.

#### *Step 4*

Reviewers independently determined the DOK for the remainder of the test questions. Again, the reviewers were instructed to code only **one** DOK for each of the remaining test questions.

Throughout the alignment process, reviewers independently noted any source of challenge for each test question, providing written comments as necessary.

### **Task 4: Summarizing alignment criteria of test questions**

Once reviewers determined the primary and/or secondary indicator for each test question and the DOK for each test question, they analyzed the entire test for:

- Depth-of-knowledge consistency
- Categorical concurrence
- Range-of-knowledge correspondence
- Balance of representation

### **Task 5: Debriefing Questionnaire**

Reviewers independently shared feedback about the process, the test questions, and the standards and indicators.

## Alignment Criteria

Reviewers independently assessed specific criteria related to the content agreement between the Nebraska Reading content standards and the test questions on the *Nebraska Standards Achievement Tests-Reading* (NeSA-R). The four criteria receiving major attention were: DOK consistency, categorical concurrence, range-of-knowledge correspondence, and balance of representation. For each alignment criterion, an acceptable level was defined by what would be required to assure that a student had met the content standards and indicators. (See Table 1.) Along with the defined requirements, reviewers also used their professional judgment and experience in the classroom to determine whether an acceptable level for each criterion was met.

### Depth-of-Knowledge Consistency

For the purpose of this study, Webb's definition of DOK consistency was used. According to Webb (2002), DOK consistency between content standards and test items indicates alignment if what is elicited from students on the test is as demanding cognitively as what students are expected to know and do as stated in the content standards. For consistency to exist between the assessment and the content standards, an item should be coded with the same DOK level as the content standards or one level above the DOK level of the content standard. Reviewers indicated "YES" if the DOK levels of the test question and content standard were the same or one level above that of the content standards. If these were not consistent, reviewers indicated "NO" and stated why. Interpreting and assigning DOK levels to content standards and test questions is an essential requirement of alignment analysis. (See Appendix D, Tables R3.1 – R11.1 for each grade level.)

The four depth-of-knowledge levels were defined for reading (See Appendix B.). Detailed descriptions (Webb 2006) help to clarify what the four different levels represent in reading.

### Categorical Concurrence

According to Webb (2002), an important aspect of alignment between each standard and the test is whether both address the same content categories. The categorical concurrence criterion provides a very general indication of alignment if the standards and the test incorporate the same content. For this alignment study, this criterion was judged by first allowing reviewers to make a determination as to whether the test as a whole included questions measuring content from each of the standards. The reviewers were told to use their professional opinions, as well as the Webb guiding principle to determine that at least six questions measuring content from each standard is a good indicator of categorical concurrence between the standard and the test (Webb, 2002, p. 7).

Using Webb's model, the number of questions, six, is based on estimating the number of questions that could produce a reasonably reliable subscale for estimating students' mastery of content on that subscale. Of course, many factors have to be considered in determining what a reasonable number is, including the reliability of the subscale, the mean score, and the cutoff score for determining mastery. Using a procedure developed by Subkoviak (1988), and assuming that the cutoff score is the mean and that the reliability of one item is 0.1, it was estimated that six questions would produce an agreement coefficient of at least 0.63. This indicates that about 63% of the group would be consistently classified as masters or non-masters if two equivalent test administrations were employed. The agreement coefficient would increase if the cutoff score was increased to one standard deviation from the mean to 0.77 and, with a cutoff score of 1.5 standard deviations from the mean, to 0.88.

Six questions were assumed as a minimum for an assessment measuring content knowledge related to a standard and as a basis for making some decisions about students' knowledge of that standard. If the mean for six questions is three and one standard deviation is one question, then a cutoff score set at four would produce an agreement coefficient of 0.77. Any fewer questions with a mean of one-half of the questions would require a cutoff that would only allow a student to miss one question. This would be a very stringent requirement, considering a reasonable standard error of measurement on the subscale. (See Appendix D, Tables R3.2 – R11.2 for each grade level.)

### **Range-of-Knowledge Correspondence**

For standards and the test questions to be aligned, the breadth of knowledge required on both must be comparable. The range-of-knowledge criterion is used to judge whether a comparable span of knowledge expected of students by a standard is the same as, or corresponds to, the span of knowledge that students need in order to correctly answer the test questions. For an acceptable range-of-knowledge, at least 50% of the indicators for a standard must have at least one related test question. (See Appendix D, Tables R3.3 – R11.3 for each grade level.)

### **Balance of Representation**

The balance of representation is met if the emphasis of content and performance supplied by the questions (primary, secondary, or both) corresponds to the standards for the test as a whole. Reviewers determined whether the test questions were distributed among the indicators of the standards that were assessed. (See Appendix D, Tables R3.4 – R11.4 for each grade level.)

The balance-of-representation criterion is used to indicate the degree to which one standard is given more emphasis on the assessment than another. An index is used to judge the distribution of the test questions. The index in this study is computed by considering the difference in the proportion of indicators and the proportion of hits (questions corresponding to standards) assigned to the standard. An index value of 1 signifies perfect balance and is obtained if the hits are equally distributed among the indicators. Index values that approach 0 signify that a large proportion of the hits are on only one or two of all of the indicators hit. Depending on the number of indicators and the number of hits, a unimodal distribution has an index value of less than 0.5. A bimodal distribution has an index value of around 0.55 or 0.6. Index values of 0.7 or higher indicate that questions/activities are distributed among all of the indicators at least to some degree.

A summary of Webb's alignment criteria can be found in Table 1 on page 9.

**Table 1: Alignment Levels for the Four Criteria**

<b>Alignment Level</b>	<b>Depth-of-Knowledge Consistency</b>	<b>Categorical Concurrence</b>	<b>Range-of-Knowledge Correspondence</b>	<b>Balance of Representation</b>
YES	50%	mean is 6 or more	50%	.70
YES*	40% - 49%	mean is 5 to 5.9	40% - 49%	.60 - .69
NO	less than 40%	mean is less than 5	less than 40%	less than .60

The results for each of the four criteria discussed in this section were calculated using Webb’s methodology and the reviewers’ averaged ratings, along with their comments. The results for depth-of-knowledge consistency, categorical concurrence, range-of-knowledge correspondence, and balance of representation are found in Appendix D, Tables R3.1 – R11.4 for each grade level.

### **Source-of-Challenge Criterion**

Reviewers noted source-of-challenge issues for the test questions. The sources of challenge may include such issues as questions containing misleading factual information, questions requiring prior knowledge, questions with possible clueing among distractors, and questions deemed by the reviewer as having two possible correct answers.

## Results of Alignment Analysis

### Depth-of-Knowledge Consensus

There are two standards in reading: Vocabulary and Comprehension. Table 2 is the consensus of the eight reviewers' coding the DOK levels to the indicators of the standards by grade. All grades have indicators at all 3 depth-of-knowledge levels of Level 1, 2, and 3. At least 50 % of the indicators are at DOK Level 2 for grades 3 through 8, while Grade 11 has 64% of the indicators at DOK Level 3.

**Table 2: Depth-of-Knowledge Consensus**

Grade	Number of Indicators	DOK Level	Indicators by DOK Level	
			<i>Number</i>	<i>Percent</i>
3	12	1	3	25
		2	7	58
		3	2	17
4	12	1	2	17
		2	8	67
		3	2	17
5	12	1	2	17
		2	8	67
		3	2	17
6	12	1	2	17
		2	6	50
		3	4	33
7	11	1	1	9
		2	6	55
		3	4	36
8	11	1	1	9
		2	6	55
		3	4	36
11	11	1	1	9
		2	3	27
		3	7	64

## Reliability among Reviewers

The intra-class correlation is based on the mean squares from the analysis of variance of a two-way random effects model reviewers crossed with items (Shrout and Fleiss 1979) as described in Appendix E. In general, an average correlation of over 0.70 is considered acceptable. However, increasing the number of reviewers may increase the reliability levels. Table 3 below provides a summary of the intra-class correlation for Reading Grades 3 through 8 and 11. In addition, the percentage of questions coded the same DOK by at least seven of the eight reviewers are also provided.

**Table 3: Summary of Reliability**

<b>Grades</b>	<b>Number of Questions</b>	<b>Intra-Class Correlation</b>	<b>Percentage of Questions Coded the Same DOK</b>
3	45	.91	18%
4	45	.90	18%
5	48	.89	4%
6	48	.85	17%
7	48	.81	10%
8	50	.81	6%
11	50	.87	6%

The intra-class-correlation range is between .81 and .91. All are above .70 and are in the acceptable range. (Refer to Appendix E for the calculation modes.)

## Summary of Results

The summary results of alignment analysis for Reading by grade and criteria are presented in Table 4. “YES” indicates meeting the acceptable alignment level for depth-of-knowledge consistency, categorical concurrence, range-of-knowledge correspondence, and balance of representation. “YES\*” indicates it is aligned but not as strongly as “YES”. (Table 1 gives all the Alignment Level criteria definitions.)

**Table 4: Summary of Alignment Results for Reading**

<b>Grade</b>	<b>Standard</b>	<b>Depth-of-Knowledge Consistency</b>	<b>Categorical Concurrence</b>	<b>Range-of-Knowledge Correspondence</b>	<b>Balance of Representation</b>
3	LA3.1.5 LA3.1.6	YES YES	YES YES	YES YES	YES YES*
4	LA4.1.5 LA4.1.6	YES YES*	YES YES	YES YES	YES YES*
5	LA5.1.5 LA5.1.6	YES YES	YES YES	YES YES	YES YES*
6	LA6.1.5 LA6.1.6	YES YES	YES YES	YES YES	YES YES*
7	LA7.1.5 LA7.1.6	YES YES*	YES YES	YES YES	YES YES*
8	LA8.1.5 LA8.1.6	YES YES*	YES YES	YES YES	YES YES
11	LA11.1.5 LA11.1.6	YES YES*	YES YES	YES YES	YES YES

## Conclusions

A panel of eight individuals reviewed the alignment of Nebraska's reading tests for grades 3 through 8 and 11. Reviewers' judgments were collected on Webb's four dimensions of alignment: Depth-of-Knowledge (DOK) Consistency, Categorical Concurrence, Range of Knowledge, and Balance of Representation. Judgments were made for the two standards that define the two reporting categories for reading at each grade: Vocabulary (standard 5) and Comprehension (standard 6).

Analyses of the reviewers' judgments and their written debriefing comments indicate that the reading test examined for each grade is aligned with Nebraska's content standards and grade-level indicators. While alignment of the reading test is adequate at each grade, the quantitative analyses revealed some areas that would benefit from improvement in the areas of DOK Consistency and Balance of Representation. Also, panelists, in their written comments concerning alignment, generally found alignment of the reading tests to be acceptable. In some cases, reviewers identified tests that could benefit from improvements, notably in the Depth-of-Knowledge Consistency of some Comprehension (standard 6) items and /or the Balance of Representation of the items measuring the Comprehension standard.

The following are conclusions drawn from specific results of the Nebraska reading test alignment study for each grade and the reviewers' written comments from the study's Task 5 questionnaires.

### Grade 3

An acceptable level of alignment was achieved for all four alignment criteria. However, reviewers' judgments indicated that the Balance of Representation was YES\* for the grade 3 form items that measure the reading Comprehension standard. This means that the items measuring reading Comprehension were not well distributed across the indicators falling under the standard. While two reviewers judged the grade 3 form to be "in need of slight improvement," their concern was more about the perceived insufficient number of items written at DOK Level 3. The full panel's judgments as a whole did indicate that DOK Consistency was adequate.

### Grade 4

As with grade 3, an acceptable level of alignment was achieved at grade 4 for all four alignment criteria. Analysis of the reviewers' judgments did find that DOK Consistency and Balance of Representation were YES\*, however, for the reading Comprehension standard, six reviewers did in fact judge the form as "in need of slight improvement." Their comments focused on the dual needs for improvement in Balance of Representation and the small quantity of DOK Level 3 items.

### Grade 5

An acceptable level of alignment was achieved at grade 5 for all four alignment criteria. Similar to the finding for grade 3, Balance of Representation for the reading Comprehension standard, although acceptable, was in the YES\* category. Four reviewers did judge the grade 5 form to be in need of slight improvement, with the desirability of a better distribution of items across indicators mentioned by some. A need for more cognitive complexity (DOK Level 3 items) was also cited for the Comprehension standard.

## Grade 6

Analysis of the reviewers' judgments indicated adequate alignment of the grade 6 form for all four alignment criteria for both standards. However, similar to the findings at grades 3, 4, and 5, Balance of Representation for reading Comprehension was YES\*. While three reviewers judged the form to be in need of slight improvement when completing their debriefing questionnaires, their concern was focused more on their preference for more items written at the DOK Level 3, to better align to the indicators they judged to be at Level 3.

## Grade 7

The grade 7 reading form was judged to be aligned, considering all four criteria. However, similar to grade 4, both DOK Consistency and Balance of Representation were judged to be YES\* for the reading Comprehension standard. Inspection of the reviewers' debriefing comments revealed that four individuals judged the grade 7 form to be in need of slight improvement. Reviewers' explanatory notes were focused on the need for more cognitively-complex items written at DOK Level 3.

## Grade 8

The form was judged to be aligned, considering all four criteria for both the Vocabulary and Comprehension standards. DOK Consistency was judged to be YES\*, however, for the Comprehension standard. Three reviewers cited the need for more DOK Level 3 items as an explanation for commenting that the forms were "in need of slight improvement."

## Grade 11

Like all the other test forms, the grade 11 form was judged to be aligned, considering all four criteria for both standards. Similar to grade 8, the DOK Consistency alignment was YES\*. Three reviewers noted the need for more DOK Level 3 items for the high school level to bring the form to a more appropriate level of rigor. They commented that items appeared to be at a lower cognitive-demand level than the wording of the indicators suggested to the panel. (More than half the grade 11 indicators were judged as DOK Level 3 by the panel.)

## Summary

The NeSA-R forms for all seven grades were judged by the panel of eight reviewers to be aligned, considering all four of Webb's criteria. The alignment of the items measuring the Vocabulary standard was found to be strong across all the grades. However, some areas of concern in alignment were revealed, as panelists' judgments were analyzed. These areas did fall into a pattern. In grades 3 through 7, Balance of Representation for reading Comprehension was found to be not as strong (i.e., YES\*) as desired according to Webb's statistical criterion. In addition, DOK Consistency was found to be YES\* for the Comprehension standard at grades 4, 7, 8, and 11. These 4 grades were deemed as having a larger percentage of Level 1 and 2 items that are aligned to indicators 4.1.6.j, 7.1.6.j, 8.1.6.j, and 11.1.6.j (*Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text.*). The review panel suggested developing more items at a DOK Level 3 for these indicators. Also the panel suggested writing more items aligned to indicators 4.1.6.e, 7.1.6.e,

8.1.6.e, and 11.1.6.e (*Retell and summarize the main idea from informational text using supporting details.*). This would also serve to improve the balance of items for the Comprehension standard.

The analysis of item judgments yielded results that seem compatible with comments made by judges in their debriefing questionnaires. When reviewers summarized alignment between the standards and assessment as “in need of slight improvement,” they most often supported this judgment with notes about the need for more cognitive complexity (DOK Level 3 items) and better Balance of Representation across Comprehension expectations.

Relatively small adjustments to future forms could reasonably be expected to strengthen DOK Consistency and Balance of Representation for the reading Comprehension standard and reporting category. Changes to a handful of items selected for each grade’s new form could yield the panelists’ recommended improvements.

## References

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## **Appendix A**

### **Biographies of the National Expert Reviewers**

### **Jacqueline Graham, Ph.D.**

Dr. Jacquelyn Graham has extensive experience in the field of English language arts education, including reading. Currently, she is a professional development coach consultant with the Association for Supervision and Curriculum Development (Virginia) and an adjunct professor of elementary education at St. Petersburg College (Florida). As a consultant, Dr. Graham helps administrators and teacher leaders build expertise in faculty members to improve teaching quality. As an adjunct professor, she teaches core education online courses for teacher education program candidates in both the undergraduate and alternative certification programs. Dr. Graham's English language arts experience includes 10 years as a classroom teacher at the elementary, middle school, and college levels. She has coordinated the reading/English language arts program in elementary education, assisted students with reading difficulties via small group instruction, taught a developmental writing course, and diagnosed students' reading difficulties at grades seven and eight.

In addition, Dr. Graham has served as a research analyst for the American Institutes of Research. Her responsibilities included directing research and policy analyses over a range of education, assessment, and evaluation programs for all aspects of research, including project management, research design, survey instrument development, statistical analysis, reports, and briefings.

Dr. Graham received a B.S. in elementary education and a M.Ed. in reading education from Indiana University of Pennsylvania, and a Ph.D. in English education with a specialty in composition from the University of Maryland. Her related professional work experience includes curriculum development and test development. As a curriculum developer, Dr. Graham helped to develop a plan for the implementation of reading portfolios for use in county middle schools. In addition, Dr. Graham has test development experience from the Maryland Department of Education, Measurement Incorporated, and Data Recognition Corporation. Among the states she has worked with closely in test development are Alaska, North Carolina, Louisiana, Minnesota, and Pennsylvania. In addition, she served as a consultant on a development team at the Maryland State Department of Education to create an integrated writing, language usage, and reading task for the Maryland School Performance Assessment Program (MSPAP) test.

### **Carla J. Grasty, M.S.**

Ms. Carla J. Grasty has worked as a school improvement consultant for the Heartland Area Education Agency (AEA11). Ms. Grasty has trained teachers in AEA11 schools in the 6 + 1 Traits of Writing program, which instructs students on how to assess writing using the rubric developed for the program. She participates with other representatives from AEA11 to plan, implement, and evaluate this service area as required by Iowa code. Ms. Grasty also trains teachers in Project CRISS, a model of student-owned learning using research-based strategies to develop comprehension in content areas. She has established building projects as a Phase III building coordinator that align with district goals and curriculum improvement plans, keeping detailed records of each project. Ms. Grasty also worked with Dynamic Indicators of Basic Early Learning Skills (DIBELS), which is a research-based early intervention for basic early literacy skills, and is trained in the standardized testing techniques for DIBELS. She has participated as a reading national expert for other state alignment studies based on Dr. Norman Webb's methodology. Ms. Grasty is currently an adjunct faculty member of the psychology and child development departments at Des Moines Area Community College. In the past she was an adjunct faculty member in the psychology department at Upper Iowa University and taught G.E.D. courses at Des Moines Area Community College for four years. Also, she was an elementary school teacher for 11 years in Stuart-Menlo Elementary School and was the director and

head teacher at See-Saw Preschool for 11 years. Ms. Grasty is an active member of her community; she was appointed by the governor's office to work with elected officials in the implementation of the Work Force Investment Act (2000–2005). The committee's task is to establish a new service model.

Ms. Grasty received a B.S. degree from Iowa State University, Ames, Iowa, in elementary education with an early childhood endorsement. She earned a M.S. degree from Iowa State University in elementary guidance counseling with a psychology emphasis.

### **Karin Hess, Ed.D**

Dr. Karin Hess, Senior Associate, has been with the non-profit National Center for the Improvement of Educational Assessment/NCIEA since 2002. She brings to the Center's work over 30 years of deep experience at all levels of education—fifteen years as a classroom teacher, and later as school administrator, curriculum and Title I director, state agency specialist, and national consultant in curriculum, instruction, and assessment. Since 2002, she has assisted more than a dozen states in major development of grade level expectations, revisions to state content standards, and in creating detailed assessment specifications aligned to content standards that are both educationally and technically sound. Dr. Hess has worked with ELA (reading and writing), mathematics, science, social studies, health and physical education, career/vocational studies, and the fine arts helping state-level committees negotiate the difficult challenges inherent in specific disciplines with their diverse sub-domains, mixtures of content knowledge and skills (e.g., science inquiry; text complexity), and curricular variations across grades.

Prior to her work at the Center, Dr. Hess was a program specialist with the New Jersey Department of Education, first as the State Director for Gifted Education and then as a Professional Development Specialist teaching a variety of courses in instructional strategies, classroom assessment, mentoring, and school leadership. She has authored or co-authored numerous books and articles on instruction, assessment, school leadership, and has made multi-day presentations at the annual Vermont Literacy Institute.

Dr. Hess received her Ed. D. in Educational Leadership and Policy Studies from the University of Vermont. Her unpublished doctoral dissertation was nominated for several distinguished dissertation awards.

### **Margaret E. Weldon, Ed.D.**

Dr. Margaret E. Weldon has worked as an assessment specialist for the Alabama Department of Education. She has managed writing assessment program development and administration (grades 5, 7, and 11), developed writing prompts and conducted bias and content reviews. She led the development of the reading assessment (grades 3–8) for the Alabama Reading and Mathematics Test and the reading comprehension and language subject-area tests of the Alabama High School Graduation Exam (3rd ed.), as well as collaborating on the development of the Alabama Early Learning Assessment – K, 1, and 2 reading tests. Dr. Weldon has conducted statewide writing programs for teachers and administrators on composition, instructional strategies, holistic scoring, and reading instruction. She has participated in NAEP item reviews for reading and writing and in standard setting using Bookmark and Modified-Angoff methodologies. She has also participated as a reading national expert for state alignment studies directed by Dr. Norman Webb.

Dr. Weldon was a classroom teacher and administrator for 19 years in the Montgomery public schools; as a central office administrator, she directed the implementation of the state assessment program for a school system of 35,000 students. She was English department chairman when she taught secondary English. Also, Dr. Weldon was a Title I reading specialist.

She received a B.S. degree in secondary English education, a M.Ed. degree in secondary reading education, and an Ed.D. Degree in educational leadership, foundations, and technology from Auburn University, Auburn, Alabama.

**Appendix B**  
**Depth-of-Knowledge Levels**

## Depth of Knowledge — Reading

In language arts, four depth-of-knowledge levels were used to judge writing indicators and assessment tasks.

Level 1 requires the student to write or recite simple facts. The focus of this writing or recitation is not on complex synthesis or analysis, but on basic ideas. The students are asked to list ideas or words, as in a brainstorming activity, prior to written composition; are engaged in a simple spelling or vocabulary assessment; or are asked to write simple sentences. Students are expected to write, speak, and edit using the conventions of standard English. This includes using appropriate grammar, punctuation, capitalization, and spelling. Students demonstrate a basic understanding and appropriate use of such reference materials as a dictionary, thesaurus, or website. Some examples that represent but do not constitute all of Level 1 performance are:

- Use punctuation marks correctly.
- Identify Standard English grammatical structures, including the correct use of verb tenses.

Level 2 requires some mental processing. At this level, students are engaged in first-draft writing or brief extemporaneous speaking for a limited number of purposes and audiences. Students are expected to begin connecting ideas using a simple organizational structure. For example, students may be engaged in note-taking, outlining, or simple summaries. Text may be limited to one paragraph. Some examples that represent but do not constitute all of Level 2 performance are:

- Construct or edit compound or complex sentences, with attention to correct use of phrases and clauses.
- Use simple organizational strategies to structure written work.
- Write summaries that contain the main idea of the reading selection and pertinent details.

Level 3 requires some higher-level mental processing. Students are engaged in developing compositions that include multiple paragraphs. These compositions may include complex sentence structure and may demonstrate some synthesis and analysis. Students show awareness of their audience and purpose through focus, organization, and the use of appropriate compositional elements. The use of appropriate compositional elements includes such things as addressing chronological order in a narrative, or including supporting facts and details in an informational report. At this stage, students are engaged in editing and revising to improve the quality of the composition. Some examples that represent but do not constitute all of Level 3 performance are:

- Support ideas with details and examples.
- Use voice appropriate to the purpose and audience.
- Edit writing to produce a logical progression of ideas.

### **Depth-of-Knowledge – Reading (continued)**

Level 4 requires higher-level thinking. The standard at this level is a multi-paragraph composition that demonstrates the ability to synthesize and analyze complex ideas or themes. There is evidence of a deep awareness of purpose and audience. For example, informational papers include hypotheses and supporting evidence. Students are expected to create compositions that demonstrate a distinct voice and that stimulate the reader or listener to consider new perspectives on the addressed ideas and themes. An example that represents but does not constitute all of Level 4 performance is:

- Write an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both.

(Webb 2006)

## **Appendix C**

### **Depth-of-Knowledge Consensus**

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 3**

<b>Grade 3 Vocabulary</b>	<b>Consensus</b>
<b>3.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>3.1.5.a</b> <i>Apply word structure elements, known words, and word patterns to determine meanings (e.g., contractions, plurals, possessives, basic parts of speech, compounds, syllables)</i>	1
<b>3.1.5.c</b> <i>Apply context clues (e.g., word, phrase, and sentence clues, re-reading) and text features (e.g., table of contents, maps, charts, font/format styles) to help infer meaning of unknown word</i>	2
<b>3.1.5.d</b> <i>Identify semantic relationships (e.g., patterns and categories, synonyms, antonyms, homonyms, multiple meanings)</i>	1
<b>Grade 3 Comprehension</b>	
<b>3.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>3.1.6.a</b> <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) to support text comprehension</i>	3
<b>3.1.6.b</b> <i>Identify elements of narrative text (e.g., characters, setting, plot, point of view)</i>	1
<b>3.1.6.c</b> <i>Retell and summarize narrative text including characters, setting, and plot with supporting details</i>	2
<b>3.1.6.d</b> <i>Identify literary devices and explain the ways in which language is used (e.g., simile, alliteration, onomatopoeia, imagery, rhythm)</i>	2
<b>3.1.6.e</b> <i>Retell and summarize the main idea from informational text using supporting details</i>	2

Grade 3 Comprehension (continued)	Consensus
<p><b>3.1.6.f</b>  <i>Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast)</i></p>	2
<p><b>3.1.6.g</b>  <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., table of contents, maps, charts, illustrations, headings, captions, font/format styles)</i></p>	2
<p><b>3.1.6.h</b>  <i>Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)</i></p>	2
<p><b>3.1.6.j</b>  <i>Generate and/or answer literal, inferential, and critical questions, supporting answers using prior knowledge and literal and inferential information from the text</i></p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 4**

<b>Grade 4 Vocabulary</b>	<b>Consensus</b>
<b>4.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>4.1.5.a</b> <i>Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., parts of speech, plurals, possessives, suffixes, prefixes, base and root words)</i>	1
<b>4.1.5.c</b> <i>Apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions) to infer meaning of unknown words</i>	2
<b>4.1.5.d</b> <i>Identify semantic relationships (e.g., patterns and categories, homographs, homophones, synonyms, antonyms, multiple meanings)</i>	1
<b>Grade 4 Comprehension</b>	
<b>4.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>4.1.6.a</b> <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text</i>	3
<b>4.1.6.b</b> <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)</i>	2
<b>4.1.6.c</b> <i>Summarize narrative text including characters, setting, and plot with supporting details</i>	2
<b>4.1.6.d</b> <i>Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	2

Grade 4 Comprehension (continued)	Consensus
<p><b>4.1.6.e</b>  <i>Retell and summarize the main idea from informational text using supporting details</i></p>	2
<p><b>4.1.6.f</b>  <i>Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</i></p>	2
<p><b>4.1.6.g</b>  <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., glossary, maps, charts, tables, graphs, illustrations, headings, subheadings, captions, font/format styles)</i></p>	2
<p><b>4.1.6.h</b>  <i>Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)</i></p>	2
<p><b>4.1.6.j</b>  <i>Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text</i></p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 5**

<b>Grade 5 Vocabulary</b>	<b>Consensus</b>
<b>5.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>5.1.5.a</b> <i>Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., affixes, abbreviations, parts of speech, word origins)</i>	1
<b>5.1.5.c</b> <i>Select and apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions, maps) to determine meaning of unknown words in a variety of text structures</i>	2
<b>5.1.5.d</b> <i>Identify semantic relationships (e.g., multiple meanings, metaphors, similes, idioms, analogies)</i>	1
<b>Grade 5 Comprehension</b>	
<b>5.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>5.1.6.a</b> <i>Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text</i>	3
<b>5.1.6.b</b> <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)</i>	2
<b>5.1.6.c</b> <i>Summarize narrative text including characters, setting, plot, and theme with supporting details</i>	2
<b>5.1.6.d</b> <i>Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	2
<b>5.1.6.e</b> <i>Summarize and analyze the main idea from informational text using supporting details</i>	2

Grade 5 Comprehension (continued)	Consensus
<p><b>5.1.6.f</b>  <i>Understand and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</i></p>	2
<p><b>5.1.6.g</b>  <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)</i></p>	2
<p><b>5.1.6.h</b>  <i>Describe the defining characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)</i></p>	2
<p><b>5.1.6.k</b>  <i>Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources</i></p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 6**

<b>Grade 6 Vocabulary</b>	<b>Consensus</b>
<b>6.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>6.1.5.a</b> <i>Determine the meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1
<b>6.1.5.c</b> <i>Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, charts) to determine meaning of unknown words in a variety of text structures</i>	2
<b>6.1.5.d</b> <i>Identify semantic relationships (e.g., metaphors, similes, idioms, analogies, comparisons)</i>	1
<b>Grade 6 Comprehension</b>	
<b>6.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>6.1.6.a</b> <i>Explain how author’s purpose and perspective affect the meaning and reliability of the text</i>	3
<b>6.1.6.b</b> <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)</i>	2
<b>6.1.6.c</b> <i>Summarize narrative text using understanding of characters, setting, sequence of events, plot, and theme</i>	2
<b>6.1.6.d</b> <i>Interpret and explain the author's use of literary devices (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)</i>	3

Grade 6 Comprehension (continued)	Consensus
<p><b>6.1.6.e</b> Summarize, analyze, and synthesize informational text using main idea and supporting details</p>	3
<p><b>6.1.6.f</b> Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)</p>	2
<p><b>6.1.6.g</b> Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)</p>	2
<p><b>6.1.6.h</b> Distinguish between the defining characteristics of different narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, and essays)</p>	2
<p><b>6.1.6.k</b> Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources</p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 7**

Grade 7 Vocabulary	Consensus
<b>7.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>7.1.5.a</b> <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1
<b>7.1.5.c</b> <i>Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, graphs, charts) appropriate to a particular text to determine meaning of unknown words</i>	2
<b>7.1.5.d</b> <i>Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)</i>	2
Grade 7 Comprehension	
<b>7.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>7.1.6.a</b> <i>Analyze the meaning, reliability, and validity of the text considering author's purpose and perspective</i>	3
<b>7.1.6.b</b> <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)</i>	2
<b>7.1.6.c</b> <i>Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony)</i>	3
<b>7.1.6.d</b> <i>Summarize, analyze, and synthesize informational text using main idea and supporting details</i>	3

Grade 7 Comprehension (continued)	Consensus
<p><b>7.1.6.e</b>  <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support)</i></p>	2
<p><b>7.1.6.f</b>  <i>Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings)</i></p>	2
<p><b>7.1.6.g</b>  <i>Explain and make inferences based on the characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)</i></p>	2
<p><b>7.1.6.j</b>  <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing prior knowledge, information from the text and additional sources, to support answers</i></p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 8**

Grade 8 Vocabulary	Consensus
<b>8.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>8.1.5.a</b> <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1
<b>8.1.5.c</b> <i>Select a context clue strategy to determine meaning of unknown word appropriate to text (e.g., restatement, example, gloss, annotations, sidebar)</i>	2
<b>8.1.5.d</b> <i>Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)</i>	2
Grade 8 Comprehension	
<b>8.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>8.1.6.a</b> <i>Analyze the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources</i>	3
<b>8.1.6.b</b> <i>Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, inferred and recurring themes)</i>	2
<b>8.1.6.c</b> <i>Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony, transitional devices)</i>	3
<b>8.1.6.d</b> <i>Summarize, analyze, and synthesize informational text using main idea and supporting details</i>	3

Grade 8 Comprehension (continued)	Consensus
<p><b>8.1.6.e</b>  <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare / contrast, fact / opinion, proposition / support)</i></p>	2
<p><b>8.1.6.f</b>  <i>Analyze and evaluate information from text features (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings, lists)</i></p>	2
<p><b>8.1.6.g</b>  <i>Analyze and make inferences based on the characteristics of narrative and informational genres</i></p>	2
<p><b>8.1.6.j</b>  <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing and synthesizing prior knowledge, information from the text and additional sources, to support answers</i></p>	3

**Depth-of-Knowledge Consensus**  
**Reading**  
**Grade 11**

<b>Grade 12 Vocabulary</b>	<b>Consensus</b>
<b>12.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.</b>	
<b>12.1.5.a</b> <i>Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies</i>	1
<b>12.1.5.c</b> <i>Independently apply appropriate strategy to determine meanings of unknown words in text</i>	2
<b>12.1.5.d</b> <i>Use semantic relationships to evaluate, defend, and make judgments</i>	3
<b>Grade 12 Comprehension</b>	
<b>12.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.</b>	
<b>12.1.6.a</b> <i>Evaluate the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources</i>	3
<b>12.1.6.b</b> <i>Analyze and evaluate elements of narrative text (e.g., characterization, setting, plot development, internal and external conflict, inferred and recurring themes, point of view, tone, mood)</i>	3
<b>12.1.6.c</b> <i>Analyze the function and critique the effects of the author's use of stylistic and literary devices (e.g., allusion, symbolism, irony, foreshadowing, flashback, metaphor, personification, epiphany, oxymoron, dialect, tone, mood, transitional devices)</i>	3

Grade 12 Comprehension (continued)	Consensus
<p><b>12.1.6.d</b>  <i>Summarize, analyze, synthesize, and evaluate informational text</i></p>	3
<p><b>12.1.6.e</b>  <i>Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support, concept definition, question/answer)</i></p>	2
<p><b>12.1.6.f</b>  <i>Analyze and evaluate information from text features (e.g., index, annotations, photographs, charts, tables, graphs, headings, subheadings, lists)</i></p>	2
<p><b>12.1.6.g</b>  <i>Analyze and evaluate inferences based on the characteristics of narrative and informational genres and provide evidence from the text to support understanding</i></p>	3
<p><b>12.1.6.j</b>  <i>Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing, synthesizing, and evaluating prior knowledge, information from the text and additional sources, to support answers</i></p>	3

## **Appendix D**

### **Results of the Alignment Analysis**

*Brief Explanation of Data in Alignment Tables (Modified from Webb 2004)*

Table Number (Add Grade to.1-.6)	Explanation
.1	<p>Standard The Standard that was assessed</p> <p>Hits The mean number and standard deviation of items that reviewers coded to a particular Standard</p> <p>Level The depth-of-knowledge level coded by the reviewers for each Indicator</p> <p>Depth-of-Knowledge Level of Items Within Standards Mean percent and standard deviation of items coded as “under” the depth-of-knowledge level of the corresponding Indicator, as “at” (the same) the depth-of-knowledge level of the corresponding Indicator, and as “above” the depth-of- knowledge level of the corresponding Indicator</p> <p>Depth-of-Knowledge Consistency “Yes” indicates that 50% or more of the items were rated as “at” or “above” the depth-of-knowledge level of the corresponding Indicator. “Yes*” indicates that 40% to 50% of the items were rated as “at” or “above” the depth-of-knowledge level of corresponding Indicators. “No” indicates that less than 40% of the items were rated as “at” or “above” the depth-of-knowledge level of the corresponding Indicator.</p>
.2	<p>Note: Several columns repeat from Table .1</p> <p>Categorical Concurrence “Yes” if the mean hits are greater than or equal to six. “Yes*” if the mean hits are less than six but greater than or equal to five. “No” if the mean hits are less than five.</p>
.3	<p>Note: Several columns repeat from Table .1</p> <p>Percent of Indicators Hit Average number and standard deviation of the Indictors hit coded by reviewers</p> <p>Percent of Total Average percent and standard deviation of the total Indicators that had at least one item coded</p> <p>Range-of-Knowledge Correspondence “Yes” indicates that 50% or more of the Indicators had at least one coded Item. “Yes*” indicates that 40% to 50% of the Indicators had at least one coded Item. “No” indicates that 40% or less of the Indicators had at least one coded Item.</p>

*Brief Explanation of Data in Alignment Tables (Modified from Webb 2004) (continued)*

.4	<p>Note: Several columns repeat from Table .1</p> <p>Percent of Total Hits Average percent and standard deviation of the percent of hits coded to each goal</p> <p>Index Average and standard deviation of the Balance Index</p> <p>Note: <math>BALANCE\ INDEX = 1 - (\sum  1/O - I_{(k)} / H ) / 2</math> k=1</p> <p>Where O = Total number of Indicators hit for the Standard  <math>I_{(k)}</math> = Numbers of items hit corresponding to Indicator (k)  H = Total number of items hit for the Standard</p> <p>Balance of Representation Acceptance  “Yes” indicates that the Balance Index was 0.7 or above (items evenly distributed among Indicators). “Yes*” indicates that the Balance Index was 0.6 or 0.7 (a high percentage of items coded as corresponding to two or three Indicators). “No” indicates that the Balance Index was 0.6 or less (a high percentage of items coded as corresponding to one Indicator).</p>
.5	<p>DOK Level by Reviewers The DOK value for each assessment item given by each reviewer.</p>
.6	<p>The DOK level and Indicator assigned by each reviewer for each item.</p>

**Grade 3**

**Table R3.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	15.75	1.75	8.19	9.32	84.77	10.05	7.05	3.95	Yes
Comprehension	9	33	2.73	38.64	15.22	56.84	16.61	4.53	3.89	Yes
Total	12	24.37	12.2	23.41	21.53	70.80	19.75	5.79	1.78	

**Table R3.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	2	66.67%	15.75	1.75	Yes
		2	1	33.33%			
		3	0	0%			
Comprehension	9	1	1	11.11%	33	2.73	Yes
		2	6	66.67%			
		3	2	22.22%			
Total	12	1	3	25%	24.37	12.2	
		2	7	58.33%			
		3	2	16.67%			

**Grade 3 (continued)**

**Table R3.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	15.75	1.75	3	0.00	100.0%	0	Yes
Comprehension	9	33	2.73	8.125	0.35	90.3%	.04	Yes
Total	12	24.37	12.2	5.56	3.62	95.1%	0.07	

**Table R3.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	32.34%	0.03	0.88	0.03	Yes
Comprehension	9	67.66%	0.03	0.68	0.06	Yes*
Total	12	50%	0.25	0.78	0.14	

**Grade 4**

**Table R 4.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	16.63	2.39	4.74	7.30	89.12	10.89	6.14	6.54	Yes
Comprehension	9	34.38	7.54	50.26	12.90	44.49	13.53	5.25	7.07	Yes*
Total	12	25.5	12.6	27.50	32.19	66.80	31.56	5.70	0.63	

**Table R4.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	2	66.67%	16.63	2.39	Yes
		2	1	33.33%			
		3	0	0%			
Comprehension	9	1	0	0%	34.38	7.54	Yes
		2	7	77.78%			
		3	2	22.22%			
Total	12	1	2	16.67%	25.5	12.6	
		2	8	66.67%			
		3	2	16.67%			

**Grade 4 (continued)**

**Table R4.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	16.63	2.39	3	0	100%	0	Yes
Comprehension	9	34.38	7.54	7.75	0.89	86.11%	.10	Yes
Total	12	25.5	12.6	5.38	3.36	93%	.10	

**Table R4.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	33.03%	0.05	0.92	0.03	Yes
Comprehension	9	66.97%	0.05	0.60	0.08	Yes*
Total	12	50%	0.24	0.76	0.22	

**Grade 5**

**Table R5.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	15.5	1.31	4.50	7.81	83.68	15.83	11.82	14.08	Yes
Comprehension	9	42.38	7.56	46.58	15.61	48.35	13.18	5.07	6.37	Yes
Total	12	28.94	19.00	25.54	29.75	66.01	24.98	8.44	4.77	

**Table R5.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	2	66.67%	15.5	1.31	Yes
		2	1	33.33%			
		3	0	0%			
Comprehension	9	1	0	0%	42.38	7.56	Yes
		2	7	77.78%			
		3	2	22.22%			
Total	12	1	2	16.67%	28.94	19.00	
		2	8	66.67%			
		3	2	16.67%			

**Grade 5 (continued)**

**Table R5.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	15.5	1.31	3	0	100%	0	Yes
Comprehension	9	42.38	7.56	7.88	0.64	87.50%	.07	Yes
Total	12	28.94	19.00	5.44	3.45	0.94	.09	

**Table R5.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	27.09%	0.03	0.77	0.05	Yes
Comprehension	9	72.91%	0.03	0.68	0.07	Yes*
Total	12	0.50	0.32	0.72	0.06	

**Grade 6**

**Table R6.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	12.38	1.77	2.77	3.85	87.73	8.38	9.50	7.93	Yes
Comprehension	9	44.63	5.21	45.83	19.43	50.00	18.02	4.17	4.28	Yes
Total	12	28.50	22.80	24.30	30.45	68.87	26.68	6.84	3.77	

**Table R6.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	2	66.67%	12.38	1.77	Yes
		2	1	33.33%			
		3	0	0%			
Comprehension	9	1	0	0%	44.63	5.21	Yes
		2	5	55.56%			
		3	4	44.44%			
Total	12	1	2	16.67%	28.50	22.80	
		2	6	50%			
		3	4	33.33%			

**Grade 6 (continued)**

**Table R6.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	12.38	1.77	3	0	100%	0	Yes
Comprehension	9	44.63	5.21	8.13	0.64	90.28%	.07	Yes
Total	12	28.50	22.80	5.56	3.62	95%	.07	

**Table R6.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	21.74%	0.02	0.81	0.06	Yes
Comprehension	9	78.26%	0.02	0.67	0.08	Yes*
Total	12	50%	0.40	0.74	0.10	

**Grade 7**

**Table R7.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	13.88	2.03	12.10	10.69	81.52	9.06	6.38	6.47	Yes
Comprehension	8	41.5	6.80	55.42	12.93	39.74	9.95	4.84	5.89	Yes*
Total	11	27.69	19.53	33.76	30.63	60.63	29.54	5.61	1.09	

**Table R7.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	1	33.33%	13.88	2.03	Yes
		2	2	66.67%			
		3	0	0%			
Comprehension	8	1	0	0%	41.5	6.80	Yes
		2	4	50%			
		3	4	50%			
Total	11	1	1	9.09%	27.69	19.53	
		2	6	54.55%			
		3	4	36.36%			

**Grade 7 (continued)**

**Table R7.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	13.88	2.03	3	0	100%	0	YES
Comprehension	8	41.5	6.80	7.63	0.52	95.31%	.06	YES
Total	11	27.69	19.53	5.31	3.27	97.66%	.03	

**Table R7.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	25.34%	0.04	0.82	0.05	Yes
Comprehension	8	74.66%	0.04	0.65	0.05	Yes*
Total	11	50%	0.35	0.74	0.11	

**Grade 8**

**Table R8.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	13.88	3.14	7.25	12.97	83.66	17.35	9.09	8.51	Yes
Comprehension	8	42.38	5.53	52.50	18.65	44.59	17.01	2.91	4.52	Yes*
Total	11	28.13	20.15	29.88	32.00	64.12	27.63	6.00	4.37	

**Table R8.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	1	33.33%	13.88	3.14	Yes
		2	2	66.67%			
		3	0	0%			
Comprehension	8	1	0	0%	42.38	5.53	Yes
		2	4	50%			
		3	4	50%			
Total	11	1	1	9.09%	28.13	20.15	
		2	6	54.55%			
		3	4	36.36%			

**Grade 8 (continued)**

**Table R8.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	13.88	3.14	3	0	100%	0	YES
Comprehension	8	42.38	5.53	7.88	0.35	98.44%	.04	YES
Total	11	28.13	20.15	5.44	3.45	99.22%	.01	

**Table R8.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	24.62%	0.04	0.91	0.06	Yes
Comprehension	8	75.38%	0.04	0.71	0.08	Yes
Total	11	50%	0.36	0.81	0.14	

**Grade 11**

**Table R11.1: Summary of Depth-of-Knowledge Consistency**

Standard	Indicators	Hits		Percent of Questions at DOK Level						DOK Consistency
		Mean	SD	Under		At		Above		
				Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	10.75	1.16	12.68	9.39	80.27	12.61	7.05	9.48	Yes
Comprehension	8	47.88	9.75	56.01	19.44	42.77	17.37	1.22	3.45	Yes*
Total	11	29.31	26.25	34.35	30.64	61.52	26.52	4.13	4.12	

**Table R11.2: Summary of Categorical Concurrence**

Standard	Indicators	Level of Indicators			Hits		Categorical Concurrence
		Level	Number of Indicators	Percentage of Indicators	Mean	SD	
Vocabulary	3	1	1	33.33%	10.75	1.16	Yes
		2	1	33.33%			
		3	1	33.33%			
Comprehension	8	1	0	0%	47.88	9.75	Yes
		2	2	25%			
		3	6	75%			
Total	11	1	1	9.09%	29.31	26.25	
		2	3	27.27%			
		3	7	63.64%			

**Grade 11 (continued)**

**Table R11.3: Summary of Range-of-Knowledge Correspondence**

Standard	Indicators	Hits		Range of Indicators				Range of Knowledge
				# of Indicators Hit		% of Total		
		Mean	SD	Mean	SD	Mean	SD	
Vocabulary	3	10.75	1.16	2.88	0.35	95.83%	0.12	Yes
Comprehension	8	47.88	9.75	7.88	0.35	98.44%	0.04	Yes
Total	11	29.31	26.25	5.38	3.54	97.14%	0.02	

**Table R11.4: Summary of Balance of Representation**

Standard	Indicators	Percentage of Total Hits		Index		Balance of Representation
		Mean	SD	Mean	SD	
Vocabulary	3	18.76%	0.04	0.85	0.09	Yes
Comprehension	8	81.24%	0.04	0.70	0.07	Yes
Total	11	50%	0.44	0.78	0.10	

## **Appendix E**

**DOK Levels by Item and Reviewers and**

**Results of Intra-Class Correlation**

**Table R3.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 3**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	1	2	1	1	1	1	1	2
2	1	1	1	1	1	2	1	1
3	2	2	2	2	1	2	2	2
4	2	2	2	1	2	2	2	2
5	1	2	1	1	2	2	1	2
6	2	2	1	2	2	2	1	2
7	2	2	2	2	3	3	2	2
8	1	1	1	1	1	1	1	1
9	2	1	2	1	1	2	2	2
10	1	2	1	1	1	1	2	2
11	1	1	1	1	1	1	1	1
12	2	2	2	2	2	2	2	1
13	2	2	2	2	1	2	2	2
14	3	3	3	3	1	3	3	2
15	2	2	2	2	2	2	2	2
16	1	1	1	1	1	1	1	1
17	2	2	2	2	3	2	2	2
18	2	2	3	3	3	3	2	3
19	2	2	2	2	3	2	1	2
20	3	3	2	3	3	3	3	3
21	3	2	2	2	3	3	3	2
22	2	2	2	1	2	1	2	2
23	1	2	1	1	1	1	2	2
24	2	2	1	2	2	2	2	2
25	1	1	1	1	1	1	1	1
26	1	2	1	1	1	2	1	2
27	2	2	1	2	3	2	2	2
28	3	3	2	3	1	3	3	2
29	2	3	1	3	2	2	1	2
30	1	2	1	1	2	1	1	2
31	1	1	1	1	1	1	1	2
32	1	1	2	1	2	1	1	1
33	2	2	1	2	1	2	1	2
34	1	1	1	2	1	1	1	1
35	2	2	1	1	2	2	2	2
36	1	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1	1
38	1	1	1	1	1	1	1	1
39	1	2	1	1	1	1	1	1
40	2	2	1	2	1	1	2	2
41	1	1	1	2	1	1	1	2
42	1	1	1	2	1	1	1	1
43	3	2	2	2	2	2	2	2
44	3	2	2	3	1	3	3	2
45	2	2	2	2	1	2	2	2

**Table R4.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 4**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	1	1	1	1	1	1	1	2
2	1	1	1	1	1	1	1	2
3	2	2	2	2	3	3	2	2
4	1	1	1	1	1	1	1	2
5	1	1	1	1	1	1	1	2
6	1	3	2	2	2	3	2	2
7	2	2	2	2	2	1	2	2
8	1	1	1	1	1	1	1	1
9	1	1	1	1	3	1	1	2
10	2	2	2	1	1	1	1	2
11	2	3	2	2	3	3	2	2
12	2	2	2	1	2	1	2	2
13	1	2	1	1	2	1	1	1
14	1	1	2	1	1	1	1	1
15	2	3	2	1	1	3	2	2
16	2	3	2	2	3	3	2	2
17	2	3	2	3	2	1	2	2
18	2	2	2	2	2	2	2	2
19	2	2	2	2	3	3	2	2
20	1	1	1	2	2	2	1	1
21	2	2	2	2	1	2	1	2
22	3	2	2	2	3	2	2	2
23	2	3	1	2	1	3	1	2
24	2	2	2	2	1	2	2	2
25	2	3	2	2	3	3	2	2
26	1	2	1	2	1	1	1	2
27	3	3	2	3	3	2	3	2
28	1	2	1	2	1	1	1	2
29	1	1	1	1	1	1	1	1
30	1	2	1	2	1	1	1	1
31	1	1	1	2	1	2	1	1
32	3	2	3	3	3	3	2	1
33	1	1	1	1	1	1	1	1
34	2	2	2	2	3	2	2	2
35	2	2	2	2	2	2	1	2
36	2	2	3	2	2	3	2	2
37	2	2	2	2	2	2	2	2
38	1	1	1	1	2	1	1	1
39	1	1	1	1	1	1	1	1
40	1	2	1	2	1	1	1	2
41	1	2	1	2	1	1	1	2
42	2	2	3	3	2	3	2	2
43	1	1	1	1	1	1	1	1
44	2	2	2	2	1	2	1	2
45	1	1	1	1	1	1	1	1

**Table R5.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 5**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	2	1	1	1	1	1	1	2
2	1	1	1	1	2	1	1	2
3	3	3	3	2	3	2	3	3
4	2	2	2	2	3	2	2	2
5	3	2	2	2	2	3	2	2
6	1	1	1	1	1	1	1	2
7	1	1	1	1	1	1	1	1
8	1	2	1	1	2	1	1	2
9	1	2	2	1	2	3	1	2
10	1	1	1	1	1	1	1	2
11	1	1	1	1	1	1	1	2
12	2	2	2	1	2	2	2	2
13	3	2	3	2	3	3	2	2
14	2	2	2	2	2	2	2	2
15	3	2	2	2	3	3	2	3
16	2	2	1	1	3	2	1	2
17	2	2	2	1	2	2	2	1
18	1	1	1	1	1	1	1	2
19	1	1	1	1	1	1	1	2
20	2	2	2	2	2	2	1	2
21	3	2	2	2	2	3	3	2
22	1	1	1	1	1	1	1	2
23	2	2	3	2	2	2	2	2
24	1	2	2	1	2	1	1	2
25	2	2	2	1	2	3	2	2
26	1	1	1	1	1	2	1	1
27	2	2	2	2	1	2	2	2
28	1	3	2	2	2	1	1	2
29	2	3	3	2	2	2	2	2
30	3	2	3	3	2	3	3	2
31	3	2	2	3	3	3	2	2
32	2	2	2	2	2	3	2	2
33	2	1	1	2	2	2	2	2
34	2	2	1	2	2	2	1	2
35	1	1	1	1	1	1	1	2
36	3	1	3	2	3	3	3	2
37	3	2	2	2	3	3	3	2
38	1	2	2	2	1	2	2	1
39	1	2	2	2	1	2	2	2
40	1	1	2	1	1	1	1	2
41	2	2	2	1	2	3	2	2
42	2	2	2	1	1	3	2	2
43	2	2	2	2	2	3	2	2
44	2	2	2	2	1	2	2	2
45	2	3	2	2	3	3	2	2

**Table R5.5 (continued)**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
46	2	2	3	1	2	3	2	2
47	2	2	1	1	1	1	1	2
48	3	2	2	2	3	3	3	2

**Table R6.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 6**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	2	2	2	2	2	2	1	2
2	2	2	1	2	3	2	1	1
3	2	3	2	2	3	3	1	3
4	1	2	2	2	3	2	2	2
5	1	2	1	2	2	2	2	1
6	3	3	2	3	2	3	3	2
7	2	2	2	3	3	2	2	2
8	1	1	1	1	1	1	1	1
9	2	2	2	2	3	3	1	2
10	1	2	1	2	1	3	1	1
11	2	2	2	2	2	2	2	2
12	2	3	2	2	3	2	2	2
13	2	2	1	2	1	1	1	2
14	2	2	1	2	2	2	2	2
15	3	3	2	3	3	3	3	2
16	1	1	1	1	1	1	1	1
17	1	3	3	3	3	3	1	3
18	2	2	2	2	1	2	2	2
19	2	2	2	2	2	3	2	2
20	2	2	3	3	2	3	3	2
21	2	2	2	2	2	2	2	2
22	1	1	1	1	1	1	1	1
23	2	2	2	2	1	3	2	1
24	2	3	2	2	2	3	2	2
25	2	3	2	2	3	3	2	2
26	1	1	1	1	1	1	1	1
27	2	3	2	2	3	3	1	2
28	1	2	2	2	2	2	1	2
29	2	2	1	2	1	2	1	2
30	3	3	2	3	2	3	3	2
31	2	3	2	2	2	3	2	3
32	1	1	1	2	2	2	2	2
33	1	1	2	1	3	1	1	3
34	3	3	2	2	3	3	2	2
35	2	3	2	2	2	3	2	3
36	3	2	1	2	1	2	1	2
37	2	2	2	3	2	2	1	2
38	2	2	2	2	1	2	2	2
39	2	2	3	2	3	1	1	2
40	2	3	3	2	3	3	2	3
41	2	2	1	2	2	2	1	2
42	3	3	2	3	1	3	3	2
43	1	2	2	2	1	1	1	2
44	1	1	1	1	1	1	1	1
45	2	2	2	2	2	2	2	2

**Table R6.5 (continued)**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
46	1	2	2	2	3	3	2	2
47	2	2	2	2	2	2	2	3
48	2	2	1	1	1	2	1	1

**Table R7.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 7**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	2	3	2	2	3	2	2	3
2	2	2	1	2	2	3	2	1
3	1	2	2	2	2	3	2	2
4	2	2	2	2	3	3	2	3
5	1	1	1	1	1	1	1	1
6	2	1	2	2	1	2	2	2
7	2	2	1	2	2	2	2	2
8	2	2	3	2	2	3	2	2
9	2	2	2	2	2	1	2	2
10	1	2	1	2	1	1	1	2
11	1	1	1	2	1	1	1	2
12	1	1	1	2	1	1	1	2
13	2	2	2	2	1	2	2	2
14	1	2	2	2	1	2	2	1
15	2	2	1	2	2	3	2	2
16	1	1	1	1	1	1	1	1
17	2	1	2	2	3	3	2	3
18	1	1	1	1	1	2	1	1
19	1	1	1	2	1	3	1	3
20	2	1	1	2	1	1	1	1
21	1	1	2	2	1	3	1	3
22	2	1	2	2	2	1	2	2
23	3	2	3	2	3	3	2	2
24	2	2	3	2	2	2	2	2
25	2	2	2	2	2	2	1	2
26	2	3	2	2	2	2	2	2
27	1	1	2	2	3	3	1	1
28	2	2	2	2	1	1	2	2
29	2	3	2	3	2	2	2	2
30	1	2	1	2	3	3	1	2
31	1	1	2	3	2	1	1	2
32	2	2	2	2	2	2	2	2
33	1	1	1	2	2	1	1	2
34	3	1	2	2	3	1	1	2
35	2	3	1	2	3	1	2	2
36	1	2	1	2	1	2	2	1
37	1	2	2	2	2	3	1	1
38	2	3	2	2	3	3	2	2
39	3	2	2	3	3	3	2	3
40	2	2	2	2	2	2	2	2
41	3	3	2	3	2	3	3	2
42	2	1	3	2	3	2	1	2
43	2	2	2	2	2	2	2	2
44	3	3	2	2	3	3	3	3
45	2	3	2	2	2	3	2	2

**Table R7.5 (continued)**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
46	1	3	1	1	3	1	1	2
47	1	2	1	1	3	1	1	2
48	3	3	3	3	3	3	2	3

**Table R8.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 8**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	1	2	1	2	1	2	1	1
2	2	2	2	2	2	3	2	2
3	1	3	1	2	2	3	1	2
4	2	2	1	2	1	1	1	1
5	2	2	2	2	1	2	2	3
6	2	3	2	2	2	3	2	3
7	1	3	1	1	1	1	1	2
8	1	2	1	1	1	1	1	1
9	1	2	1	1	2	1	1	1
10	1	3	1	2	1	1	1	2
11	1	2	2	2	2	1	1	2
12	1	1	1	1	1	1	1	1
13	2	2	2	2	2	3	2	3
14	2	2	2	2	1	2	2	2
15	3	3	3	3	1	3	3	2
16	2	2	1	2	1	1	2	2
17	2	2	1	2	1	1	2	1
18	2	2	2	2	1	1	2	3
19	1	2	1	2	2	2	2	2
20	3	3	3	3	2	3	3	2
21	1	1	1	2	2	2	2	2
22	2	2	2	2	1	2	2	1
23	2	2	2	2	1	2	2	2
24	1	1	1	1	2	2	1	1
25	2	2	3	2	1	2	2	2
26	2	2	3	2	2	3	2	2
27	2	2	2	2	3	3	2	2
28	2	2	2	2	1	2	2	2
29	1	2	1	2	1	1	1	1
30	2	2	2	2	1	2	2	2
31	2	2	2	2	2	3	2	2
32	1	2	2	2	2	2	2	2
33	3	1	3	2	1	2	3	2
34	2	2	2	2	2	2	2	3
35	1	1	1	1	1	1	1	1
36	2	2	3	2	2	2	2	3
37	1	3	2	2	2	2	1	3
38	2	3	2	3	2	2	1	2
39	2	2	2	2	1	2	2	2
40	3	3	2	2	2	3	2	3
41	1	2	1	2	1	2	2	2
42	2	2	2	2	2	2	2	2
43	1	2	1	2	1	1	1	2
44	2	2	3	2	2	3	2	2
45	2	2	1	2	1	2	2	2

**Table R8.5 (continued)**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
46	2	3	2	1	2	3	3	3
47	1	3	1	2	2	3	1	3
48	3	3	2	2	3	3	2	3
49	1	2	1	2	2	2	2	1
50	2	2	2	2	2	2	2	1

**Table R11.5**  
**DOK Levels by Item and Reviewers**  
**NeSA Reading Grade 11**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
1	2	2	1	2	1	2	2	1
2	1	1	2	1	2	1	1	1
3	1	2	1	1	1	1	1	2
4	2	2	3	2	3	3	2	2
5	2	2	2	2	1	2	2	1
6	3	3	2	3	2	3	3	2
7	2	2	3	3	3	3	2	3
8	2	2	1	2	1	2	1	1
9	3	2	2	3	3	3	1	3
10	1	1	1	1	1	1	1	1
11	2	3	3	3	3	3	2	3
12	2	3	2	3	2	3	2	2
13	2	3	3	3	2	3	2	2
14	3	3	2	3	3	3	2	3
15	3	3	3	2	3	3	3	3
16	3	2	2	2	2	3	3	3
17	2	2	2	2	2	2	2	2
18	1	2	2	2	2	3	1	2
19	1	1	1	1	1	1	1	1
20	2	2	1	2	2	3	2	3
21	1	1	2	1	1	1	1	1
22	1	2	2	1	2	3	1	2
23	2	2	2	3	3	3	2	2
24	2	1	2	2	1	2	2	2
25	1	2	1	2	1	3	1	2
26	2	3	2	2	2	3	2	2
27	3	3	2	2	3	3	1	2
28	3	3	3	3	3	3	3	2
29	2	3	2	3	2	2	2	3
30	2	3	2	3	3	3	2	2
31	2	2	2	3	2	3	2	1
32	1	2	2	2	1	1	2	2
33	3	3	2	3	2	3	3	3
34	2	2	2	2	2	1	2	1
35	2	3	2	2	1	3	2	3
36	1	3	1	2	1	1	1	2
37	2	2	1	2	3	2	2	2
38	2	1	2	2	1	2	2	2
39	1	2	1	2	1	1	1	1
40	2	3	3	3	2	1	1	3
41	2	3	3	3	3	3	2	3
42	1	2	1	3	2	3	2	2
43	2	3	2	3	2	3	2	2
44	2	2	2	2	1	2	2	2
45	2	2	2	3	2	3	2	3

**Table R11.5 (continued)**

Item No.	R1	R2	R3	R4	R5	R6	R7	R8
46	2	3	3	2	2	3	2	2
47	2	3	2	2	3	3	2	2
48	3	3	3	3	2	3	2	2
49	2	3	3	3	2	3	2	3
50	2	2	2	3	3	3	2	3

**Table R3.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 3

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	1	3.1.6.b		2	3.1.6.c		1	3.1.6.c		1	3.1.6.c	
2	1	3.1.6.b		1	3.1.6.b		1	3.1.6.b		1	3.1.6.b	
3	2	3.1.6.c		2	3.1.6.e		2	3.1.6.b		2	3.1.6.j	
4	2	3.1.5.c		2	3.1.5.c		2	3.1.5.c		1	3.1.5.d	3.1.5.c
5	1	3.1.6.b		2	3.1.5.c		1	3.1.6.b		1	3.1.6.b	
6	2	3.1.6.j		2	3.1.5.d		1	3.1.5.c		2	3.1.6.c	
7	2	3.1.6.c		2	3.1.6.f		2	3.1.6.f		2	3.1.6.j	
8	1	3.1.5.d		1	3.1.5.d		1	3.1.5.d		1	3.1.5.d	
9	2	3.1.5.c		1	3.1.5.d		2	3.1.5.c		1	3.1.5.d	
10	1	3.1.6.b	3.1.6.j	2	3.1.5.c		1	3.1.5.c		1	3.1.5.a	3.1.6.e
11	1	3.1.6.b	3.1.6.j	1	3.1.6.e		1	3.1.6.c		1	3.1.6.e	
12	2	3.1.6.c	3.1.6.j	2	3.1.6.f		2	3.1.6.f		2	3.1.6.j	3.1.6.e
13	2	3.1.6.c		2	3.1.6.e		2	3.1.6.e	3.1.6.a	2	3.1.5.c	
14	3	3.1.6.a		3	3.1.6.a		3	3.1.6.a		3	3.1.6.a	
15	2	3.1.6.j		2	3.1.6.d		2	3.1.6.j		2	3.1.6.d	
16	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
17	2	3.1.6.d	3.1.6.j	2	3.1.6.d		2	3.1.6.d		2	3.1.6.d	
18	2	3.1.6.j		2	3.1.6.f		3	3.1.6.j		3	3.1.6.d	3.1.6.j
19	2	3.1.6.j	3.1.6.c	2	3.1.6.f		2	3.1.6.j		2	3.1.6.j	
20	3	3.1.6.j		3	3.1.6.a		2	3.1.6.a		3	3.1.6.h	3.1.5.a
21	3	3.1.6.j		2	3.1.6.e		2	3.1.6.a		2	3.1.6.j	
22	2	3.1.5.c		2	3.1.5.c		2	3.1.5.c		1	3.1.5.d	
23	1	3.1.6.j		2	3.1.6.f		1	3.1.6.e		1	3.1.6.f	
24	2	3.1.5.c	3.1.6.j	2	3.1.6.e		1	3.1.6.j		2	3.1.6.f	
25	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.c	3.1.5.a
26	1	3.1.6.j		2	3.1.6.e		1	3.1.6.e		1	3.1.6.e	
27	2	3.1.6.g		2	3.1.6.g		1	3.1.6.g		2	3.1.6.j	
28	3	3.1.6.a		3	3.1.6.a		2	3.1.6.a		3	3.1.6.a	
29	2	3.1.6.c		3	3.1.6.j		1	3.1.6.f		3	3.1.6.f	
30	1	3.1.6.b		2	3.1.6.j		1	3.1.6.j		1	3.1.6.b	
31	1	3.1.6.b		1	3.1.6.c		1	3.1.6.j		1	3.1.6.b	
32	1	3.1.5.d		1	3.1.6.d		2	3.1.5.d		1	3.1.5.d	
33	2	3.1.6.j		2	3.1.6.f		1	3.1.6.f		2	3.1.6.f	
34	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		2	3.1.5.a	

**Table R3.6 (continued)**

35	2	3.1.5.c		2	3.1.5.c		1	3.1.5.c		1	3.1.5.d	
36	1	3.1.5.a										
37	1	3.1.5.a										
38	1	3.1.5.a										
39	1	3.1.5.d		2	3.1.5.c		1	3.1.5.d		1	3.1.5.d	
40	2	3.1.6.f		2	3.1.6.f		1	3.1.6.e		2	3.1.6.f	
41	1	3.1.6.j		1	3.1.6.e		1	3.1.6.j		2	3.1.6.e	
42	1	3.1.6.j		1	3.1.6.e		1	3.1.6.j		2	3.1.6.e	
43	3	3.1.6.j		2	3.1.6.e		2	3.1.6.g		2	3.1.6.g	
44	3	3.1.6.a		2	3.1.6.a		2	3.1.6.a		3	3.1.6.a	
45	2	3.1.6.e										

**Table R3.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	1	3.1.6.c		1	3.1.6.b		1	3.1.6.c		2	3.1.6.c	
2	1	3.1.6.b		2	3.1.6.b		1	3.1.6.b		1	3.1.6.b	
3	1	3.1.6.c		2	3.1.6.c		2	3.1.6.c		2	3.1.6.c	
4	2	3.1.5.c		2	3.1.5.c		2	3.1.5.c		2	3.1.5.c	
5	2	3.1.6.j		2	3.1.6.j		1	3.1.6.c		2	3.1.6.c	
6	2	3.1.6.d		2	3.1.6.j		1	3.1.6.c		2	3.1.6.c	
7	3	3.1.6.j		3	3.1.6.c		2	3.1.6.c	3.1.6.j	2	3.1.6.c	
8	1	3.1.5.d		1	3.1.5.d		1	3.1.5.d		1	3.1.5.d	
9	1	3.1.5.d		2	3.1.5.c		2	3.1.6.e	3.1.5.a	2	3.1.5.d	
10	1	3.1.5.c		1	3.1.6.e	3.1.5.c	2	3.1.5.c		2	3.1.5.c	
11	1	3.1.5.c		1	3.1.6.e		1	3.1.6.e		1	3.1.6.e	
12	2	3.1.6.f		2	3.1.6.e		2	3.1.6.e	3.1.6.j	1	3.1.5.d	
13	1	3.1.6.e		2	3.1.6.e		2	3.1.6.e		2	3.1.6.e	
14	1	3.1.6.a		3	3.1.6.a		3	3.1.6.a		2	3.1.6.a	
15	2	3.1.6.d		2	3.1.6.d		2	3.1.6.d		2	3.1.6.d	
16	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
17	3	3.1.6.d	3.1.6.j	2	3.1.6.d		2	3.1.6.d		2	3.1.6.d	
18	3	3.1.6.j		3	3.1.6.j		2	3.1.6.c		3	3.1.6.j	
19	3	3.1.6.j		2	3.1.6.j		1	3.1.6.c		2	3.1.6.c	
20	3	3.1.6.a	3.1.6.j	3	3.1.6.j		3	3.1.6.j	3.1.6.d	3	3.1.6.j	
21	3	3.1.6.j		3	3.1.6.j		3	3.1.6.j	3.1.5.c	2	3.1.6.c	
22	2	3.1.5.c		1	3.1.5.c	3.1.5.d	2	3.1.5.c		2	3.1.5.c	
23	1	3.1.6.f		1	3.1.6.f	3.1.6.e	2	3.1.6.f		2	3.1.6.f	
24	2	3.1.6.j		2	3.1.6.e	3.1.5.c	2	3.1.6.e		2	3.1.6.e	
25	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
26	1	3.1.6.f		2	3.1.6.a		1	3.1.6.e		2	3.1.6.e	
27	3	3.1.6.f	3.1.6.g	2	3.1.6.e		2	3.1.6.g		2	3.1.6.g	
28	1	3.1.6.a		3	3.1.5.a		3	3.1.6.a		2	3.1.6.a	
29	2	3.1.6.f		2	3.1.6.b		1	3.1.6.c		2	3.1.6.e	
30	2	3.1.6.c	3.1.6.j	1	3.1.6.c		1	3.1.6.c		2	3.1.6.c	
31	1	3.1.6.c	3.1.6.j	1	3.1.6.c		1	3.1.6.c		2	3.1.6.b	
32	2	3.1.5.d		1	3.1.5.d	3.1.5.c	1	3.1.5.d		1	3.1.5.d	
33	1	3.1.6.c	3.1.6.j	2	3.1.6.c		1	3.1.6.c		2	3.1.6.e	
34	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
35	2	3.1.5.c		2	3.1.5.c		2	3.1.5.c		2	3.1.5.c	

**Table R3.6 (continued)**

36	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
37	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
38	1	3.1.5.a		1	3.1.5.a		1	3.1.5.a		1	3.1.5.a	
39	1	3.1.5.d		1	3.1.5.d	3.1.5.c	1	3.1.5.d		1	3.1.5.d	
40	1	3.1.6.f		1	3.1.6.f		2	3.1.6.e		2	3.1.6.f	
41	1	3.1.6.j		1	3.1.6.e		1	3.1.6.e		2	3.1.6.e	
42	1	3.1.6.j		1	3.1.6.e		1	3.1.6.e		1	3.1.6.e	
43	2	3.1.6.g		2	3.1.6.g		2	3.1.6.g		2	3.1.6.e	
44	1	3.1.6.a		3	3.1.6.a		3	3.1.6.a		2	3.1.6.a	
45	1	3.1.6.e		2	3.1.6.e		2	3.1.6.e		2	3.1.6.e	

**Table R4.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 4

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	1	4.1.6.j		1	4.1.6.j		1	4.1.6.b		1	4.1.6.b	
2	1	4.1.6.j		1	4.1.6.j		1	4.1.6.c	4.1.6.j	1	4.1.6.b	
3	2	4.1.6.j		2	4.1.6.g		2	4.1.6.g		2	4.1.6.j	
4	1	4.1.6.j		1	4.1.6.j		1	4.1.6.j		1	4.1.6.b	
5	1	4.1.6.j		1	4.1.6.j		1	4.1.6.c		1	4.1.6.b	
6	1	4.1.6.j		3	4.1.6.j		2	4.1.6.a		2	4.1.6.j	4.1.6.b
7	2	4.1.5.c		2	4.1.5.c		2	4.1.5.c		2	4.1.5.c	4.1.5.d
8	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	
9	1	4.1.6.j		1	4.1.6.j		1	4.1.6.c		1	4.1.6.c	4.1.6.b
10	2	4.1.5.c		2	4.1.5.c		2	4.1.5.c		1	4.1.5.d	
11	2	4.1.6.b		3	4.1.6.j		2	4.1.6.b	4.1.6.j	2	4.1.6.c	4.1.6.a
12	2	4.1.6.b		2	4.1.6.j		2	4.1.6.j	4.1.6.b	1	4.1.6.b	
13	1	4.1.5.d		2	4.1.6.d		1	4.1.5.d		1	4.1.5.d	
14	1	4.1.6.j		1	4.1.6.j		2	4.1.6.b	4.1.6.j	1	4.1.6.b	
15	2	4.1.6.j		3	4.1.6.j		2	4.1.6.j	4.1.6.b	1	4.1.6.b	
16	2	4.1.6.j		3	4.1.6.j		2	4.1.6.b		2	4.1.5.c	4.1.6.b
17	2	4.1.6.h		3	4.1.6.h		2	4.1.6.h		3	4.1.6.j	
18	2	4.1.5.c		2	4.1.5.c		2	4.1.5.c		2	4.1.5.c	4.1.5.d
19	2	4.1.6.e		2	4.1.6.g		2	4.1.6.g		2	4.1.6.j	
20	1	4.1.5.d		1	4.1.5.d		1	4.1.5.d		2	4.1.5.c	4.1.5.d
21	2	4.1.6.j		2	4.1.6.f		2	4.1.6.f		2	4.1.6.f	
22	3	4.1.6.j		2	4.1.6.e		2	4.1.6.j		2	4.1.6.e	
23	2	4.1.6.j		3	4.1.6.j		1	4.1.6.j		2	4.1.6.e	
24	2	4.1.5.c		2	4.1.5.c		2	4.1.5.c		2	4.1.5.c	
25	2	4.1.6.j		3	4.1.6.j		2	4.1.6.j		2	4.1.6.f	4.1.6.e
26	1	4.1.6.j		2	4.1.5.c		1	4.1.6.j		2	4.1.6.e	
27	3	4.1.6.a		3	4.1.5.a		2	4.1.6.a		3	4.1.6.a	
28	1	4.1.6.j		2	4.1.6.f		1	4.1.6.j		2	4.1.6.f	4.1.6.e
29	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	
30	1	4.1.6.f		2	4.1.6.f		1	4.1.6.c		2	4.1.6.f	4.1.6.e
31	1	4.1.5.d		1	4.1.5.d		1	4.1.5.d		2	4.1.5.c	4.1.5.d
32	3	4.1.6.j		2	4.1.6.e		3	4.1.6.c		3	4.1.6.j	
33	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	

**Table R4.6 (continued)**

34	2	4.1.6.j		2	4.1.5.c		2	4.1.6.d		2	4.1.6.d	
35	2	4.1.5.c										
36	2	4.1.6.b		2	4.1.6.c		3	4.1.6.b		2	4.1.6.c	4.1.6.j
37	2	4.1.6.f										
38	1	4.1.6.d		1	4.1.5.d		1	4.1.5.d		1	4.1.5.d	
39	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	4.1.5.d
40	1	4.1.6.j		2	4.1.6.c		1	4.1.6.c		2	4.1.6.f	4.1.6.e
41	1	4.1.6.j		2	4.1.6.j		1	4.1.6.j		2	4.1.6.e	
42	2	4.1.6.d		2	4.1.6.d		3	4.1.6.d		3	4.1.6.j	
43	1	4.1.5.d										
44	2	4.1.5.c										
45	1	4.1.5.a										

**Table R4.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.e	
2	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
3	3	4.1.6.j		3	4.1.6.j		2	4.1.6.g		2	4.1.6.g	
4	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
5	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
6	2	4.1.6.a		3	4.1.6.j		2	4.1.6.g	4.1.6.a	2	4.1.6.j	
7	2	4.1.5.c		1	4.1.5.d		2	4.1.5.c		2	4.1.5.c	
8	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	
9	3	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
10	1	4.1.5.d		1	4.1.5.c		1	4.1.5.d		2	4.1.5.d	
11	3	4.1.6.c	4.1.6.j	3	4.1.6.j		2	4.1.6.b	4.1.6.j	2	4.1.6.b	
12	2	4.1.6.j		1	4.1.6.b		2	4.1.6.j	4.1.6.c	2	4.1.6.b	
13	2	4.1.5.c		1	4.1.5.c		1	4.1.5.d		1	4.1.5.d	
14	1	4.1.6.b		1	4.1.6.c	4.1.6.j	1	4.1.6.j	4.1.6.c	1	4.1.6.c	
15	1	4.1.6.j		3	4.1.6.b	4.1.6.j	2	4.1.6.j	4.1.6.b	2	4.1.6.c	
16	3	4.1.6.j		3	4.1.6.b		2	4.1.6.j	4.1.6.b	2	4.1.6.b	
17	2	4.1.6.h		1	4.1.6.h		2	4.1.6.c		2	4.1.6.h	
18	2	4.1.5.c		2	4.1.5.c		2	4.1.5.c		2	4.1.5.c	
19	3	4.1.6.f		3	4.1.6.e	4.1.6.g	2	4.1.6.g		2	4.1.6.g	
20	2	4.1.5.d		2	4.1.5.c		1	4.1.5.d		1	4.1.5.d	
21	1	4.1.6.f		2	4.1.6.f		1	4.1.6.j		2	4.1.6.f	
22	3	4.1.6.j		2	4.1.6.e		2	4.1.6.e	4.1.6.g	2	4.1.6.e	
23	1	4.1.6.j		3	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
24	1	4.1.5.c		2	4.1.5.c		2	4.1.5.c	4.1.6.e	2	4.1.5.c	
25	3	4.1.6.j		3	4.1.6.j		2	4.1.6.j	4.1.6.e	2	4.1.6.j	
26	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
27	3	4.1.6.a		2	4.1.6.a		3	4.1.6.a		2	4.1.6.a	
28	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.e	2	4.1.6.j	
29	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.6.a	
30	1	4.1.6.b		1	4.1.6.f		1	4.1.6.j	4.1.6.c	1	4.1.6.b	
31	1	4.1.5.c		2	4.1.5.d	4.1.5.c	1	4.1.5.d		1	4.1.5.d	
32	3	4.1.6.j		3	4.1.6.j	4.1.6.d	2	4.1.6.c	4.1.6.j	1	4.1.6.e	
33	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	
34	3	4.1.6.d		2	4.1.6.d	4.1.6.j	2	4.1.6.d		2	4.1.6.d	
35	2	4.1.5.c		2	4.1.6.c		1	4.1.6.d		2	4.1.5.c	
36	2	4.1.6.b		3	4.1.6.j		2	4.1.6.b		2	4.1.6.b	

**Table R4.6 (continued)**

37	2	4.1.6.b		2	4.1.6.f		2	4.1.6.f		2	4.1.6.f	
38	2	4.1.5.d		1	4.1.5.d		1	4.1.5.d		1	4.1.5.d	
39	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	
40	1	4.1.6.j		1	4.1.6.c		1	4.1.6.j	4.1.6.c	2	4.1.6.c	
41	1	4.1.6.j		1	4.1.6.e		1	4.1.6.j	4.1.6.c	2	4.1.6.j	
42	2	4.1.6.d		3	4.1.6.d	4.1.6.j	2	4.1.6.d		2	4.1.6.d	
43	1	4.1.5.d		1	4.1.5.d		1	4.1.5.d		1	4.1.5.d	
44	1	4.1.5.c		2	4.1.5.c		1	4.1.5.c		2	4.1.5.c	
45	1	4.1.5.a		1	4.1.5.a		1	4.1.5.a		1	4.1.5.a	

**Table R5.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 5

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	2	5.1.6.g		1	5.1.6.g		1	5.1.6.k	5.1.6.g	1	5.1.6.g	
2	1	5.1.6.k		1	5.1.6.k		1	5.1.6.k	5.1.6.e	1	5.1.6.k	5.1.6.g
3	3	5.1.5.a		3	5.1.6.a		3	5.1.6.a		2	5.1.6.a	5.1.6.k
4	2	5.1.6.e										
5	3	5.1.6.k		2	5.1.6.g		2	5.1.6.k		2	5.1.6.k	5.1.6.e
6	1	5.1.5.a		1	5.1.5.d		1	5.1.5.a		1	5.1.5.a	
7	1	5.1.5.a										
8	1	5.1.6.b		2	5.1.6.k		1	5.1.6.k	5.1.6.c	1	5.1.6.c	
9	1	5.1.6.b		2	5.1.6.k		2	5.1.6.k	5.1.6.b	1	5.1.6.b	5.1.6.k
10	1	5.1.6.b		1	5.1.6.k		1	5.1.6.k		1	5.1.6.k	5.1.6.f
11	1	5.1.6.b		1	5.1.6.k		1	5.1.6.k		1	5.1.6.k	5.1.6.a
12	2	5.1.5.c		2	5.1.5.c		2	5.1.5.c		1	5.1.5.c	
13	3	5.1.6.k		2	5.1.6.k		3	5.1.6.k		2	5.1.6.k	5.1.6.a
14	2	5.1.5.c										
15	3	5.1.6.k		2	5.1.6.e	5.1.6.k	2	5.1.6.k	5.1.6.b	2	5.1.6.c	5.1.6.k
16	2	5.1.6.k		2	5.1.6.g		1	5.1.6.k	5.1.6.e	1	5.1.6.k	5.1.6.g
17	2	5.1.5.c		2	5.1.5.c		2	5.1.5.c		1	5.1.5.c	
18	1	5.1.6.k		1	5.1.6.e	5.1.6.k	1	5.1.6.k	5.1.6.c	1	5.1.6.c	5.1.6.k
19	1	5.1.6.k		1	5.1.6.e	5.1.6.k	1	5.1.6.k	5.1.6.c	1	5.1.6.k	5.1.6.b
20	2	5.1.5.c										
21	3	5.1.6.a		2	5.1.6.a		2	5.1.6.a		2	5.1.6.a	5.1.6.k
22	1	5.1.5.a										
23	2	5.1.6.d	5.1.5.d	2	5.1.6.d		3	5.1.5.d		2	5.1.6.d	
24	1	5.1.6.k		2	5.1.6.e	5.1.6.k	2	5.1.6.k	5.1.6.c	1	5.1.6.e	5.1.6.k
25	2	5.1.6.e		2	5.1.6.e		2	5.1.6.k		1	5.1.6.e	
26	1	5.1.5.d		1	5.1.5.d		1	5.1.5.a		1	5.1.5.d	
27	2	5.1.5.c		2	5.1.6.f		2	5.1.5.c		2	5.1.5.c	
28	1	5.1.6.k		3	5.1.6.a		2	5.1.6.f		2	5.1.6.k	5.1.6.e
29	2	5.1.6.a	5.1.6.f	3	5.1.6.a		3	5.1.6.a		2	5.1.6.k	5.1.6.a
30	3	5.1.6.a		2	5.1.6.e		3	5.1.6.a		3	5.1.6.a	
31	3	5.1.6.k		2	5.1.5.c		2	5.1.6.b		3	5.1.6.k	5.1.6.e
32	2	5.1.6.k		2	5.1.5.c		2	5.1.6.k		2	5.1.6.d	5.1.5.c
33	2	5.1.5.c		1	5.1.5.d		1	5.1.5.a		2	5.1.5.c	

**Table R5.6 (continued)**

34	2	5.1.6.d		2	5.1.6.d		1	5.1.5.d		2	5.1.6.d	5.1.5.c
35	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		1	5.1.5.a	5.1.5.c
36	3	5.1.6.a		1	5.1.6.a		3	5.1.6.a		2	5.1.6.a	5.1.6.k
37	3	5.1.6.a		2	5.1.6.a		2	5.1.6.a		2	5.1.6.a	5.1.6.k
38	1	5.1.6.k		2	5.1.5.c		2	5.1.5.c		2	5.1.5.c	
39	1	5.1.6.k		2	5.1.6.f		2	5.1.6.f		2	5.1.6.f	
40	1	5.1.5.a		1	5.1.5.a		2	5.1.5.a		1	5.1.5.a	5.1.5.c
41	2	5.1.6.k		2	5.1.6.f		2	5.1.6.f		1	5.1.6.f	
42	2	5.1.6.f		2	5.1.6.f		2	5.1.6.f	5.1.6.e	1	5.1.6.f	5.1.6.k
43	2	5.1.6.e										
44	2	5.1.5.c										
45	2	5.1.6.k	5.1.6.b	3	5.1.6.k		2	5.1.6.k	5.1.6.b	2	5.1.6.k	
46	2	5.1.6.b		2	5.1.5.c		3	5.1.6.b	5.1.6.k	1	5.1.6.b	
47	2	5.1.6.f		2	5.1.6.b	5.1.6.f	1	5.1.6.c	5.1.6.k	1	5.1.6.b	
48	3	5.1.6.k	5.1.6.c	2	5.1.6.b		2	5.1.6.d	5.1.6.k	2	5.1.6.c	

**Table R5.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	1	5.1.6.g		1	5.1.6.g		1	5.1.6.k	5.1.6.e	2	5.1.6.e	
2	2	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.k	
3	3	5.1.6.a		2	5.1.6.e		3	5.1.6.a	5.1.6.k	3	5.1.6.a	
4	3	5.1.6.e		2	5.1.6.e		2	5.1.6.e		2	5.1.6.e	
5	2	5.1.6.d		3	5.1.6.k		2	5.1.6.g	5.1.6.k	2	5.1.6.e	
6	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		2	5.1.5.a	
7	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		1	5.1.6.a	
8	2	5.1.6.c		1	5.1.6.e		1	5.1.6.k	5.1.6.c	2	5.1.6.b	
9	2	5.1.6.b		3	5.1.6.k	5.1.6.e	1	5.1.6.k	5.1.6.c	2	5.1.6.b	
10	1	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.c	2	5.1.6.b	
11	1	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.c	2	5.1.6.b	
12	2	5.1.5.c										
13	3	5.1.6.k		3	5.1.6.k		2	5.1.6.d	5.1.6.b	2	5.1.6.c	
14	2	5.1.5.c		2	5.1.5.c		2	5.1.5.c		2	5.1.6.c	
15	3	5.1.6.e		3	5.1.6.k		2	5.1.6.c	5.1.6.b	3	5.1.6.b	
16	3	5.1.6.e		2	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.e	
17	2	5.1.6.e		2	5.1.5.c		2	5.1.5.c		1	5.1.5.c	
18	1	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.k	
19	1	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.k	
20	2	5.1.5.c		2	5.1.5.c		1	5.1.5.a		2	5.1.5.c	
21	2	5.1.6.a		3	5.1.6.a	5.1.6.k	3	5.1.6.a		2	5.1.6.a	
22	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		2	5.1.5.a	
23	2	5.1.5.d		2	5.1.6.d		2	5.1.6.d		2	5.1.5.d	
24	2	5.1.6.f		1	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.e	
25	2	5.1.6.f		3	5.1.6.k		2	5.1.6.e		2	5.1.6.e	
26	1	5.1.5.a		2	5.1.5.c		1	5.1.6.d		1	5.1.5.a	
27	1	5.1.5.a		2	5.1.5.c		2	5.1.5.c		2	5.1.5.c	
28	2	5.1.6.k		1	5.1.6.e		1	5.1.6.k	5.1.6.e	2	5.1.6.e	
29	2	5.1.6.f		2	5.1.6.e	5.1.6.h	2	5.1.6.f		2	5.1.6.f	
30	2	5.1.6.a		3	5.1.6.a		3	5.1.6.a		2	5.1.6.a	
31	3	5.1.6.e		3	5.1.6.e	5.1.6.k	2	5.1.6.e	5.1.6.k	2	5.1.6.e	
32	2	5.1.5.d	5.1.6.k	3	5.1.6.d		2	5.1.6.d		2	5.1.6.d	5.1.5.d
33	2	5.1.5.c										
34	2	5.1.6.d		2	5.1.5.d		1	5.1.5.d		2	5.1.5.d	
35	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		2	5.1.5.c	

**Table R5.6 (continued)**

36	3	5.1.6.k	5.1.6.a	3	5.1.6.a		3	5.1.6.a	5.1.6.k	2	5.1.6.a	5.1.6.c
37	3	5.1.6.a	5.1.6.k	3	5.1.6.a		3	5.1.6.a		2	5.1.6.a	
38	1	5.1.5.a		2	5.1.5.c		2	5.1.5.c		1	5.1.6.c	
39	1	5.1.6.f		2	5.1.6.f		2	5.1.6.k		2	5.1.6.k	
40	1	5.1.5.a		1	5.1.5.a		1	5.1.5.a		2	5.1.5.a	
41	2	5.1.6.f	5.1.6.k	3	5.1.6.f	5.1.6.k	2	5.1.6.k		2	5.1.6.k	
42	1	5.1.6.f		3	5.1.5.a		2	5.1.6.f		2	5.1.6.f	
43	2	5.1.6.e	5.1.6.k	3	5.1.6.e		2	5.1.6.e		2	5.1.6.e	
44	1	5.1.5.c		2	5.1.5.c		2	5.1.5.c		2	5.1.5.c	
45	3	5.1.6.k		3	5.1.6.b		2	5.1.6.k	5.1.6.b	2	5.1.6.b	
46	2	5.1.6.c	5.1.6.k	3	5.1.6.c		2	5.1.6.b		2	5.1.6.b	
47	1	5.1.6.f		1	5.1.6.f		1	5.1.6.k	5.1.6.c	2	5.1.6.b	
48	3	5.1.6.k		3	5.1.6.k		3	5.1.6.b	5.1.6.k	2	5.1.6.c	

**Table R6.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 6

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	2	6.1.5.c										
2	2	6.1.5.c		2	6.1.6.f		1	6.1.6.g	6.1.5.a	2	6.1.6.k	6.1.6.g
3	2	6.1.6.k		3	6.1.6.k		2	6.1.6.e	6.1.6.k	2	6.1.6.e	
4	1	6.1.6.k	6.1.5.c	2	6.1.5.c		2	6.1.5.c		2	6.1.5.c	
5	1	6.1.6.g		2	6.1.6.g		1	6.1.6.g		2	6.1.6.g	6.1.6.k
6	3	6.1.6.a		3	6.1.6.a		2	6.1.6.a		3	6.1.5.a	
7	2	6.1.6.k		2	6.1.6.b	6.1.6.k	2	6.1.6.b	6.1.6.k	3	6.1.6.k	6.1.6.c
8	1	6.1.6.k		1	6.1.6.k		1	6.1.6.k		1	6.1.6.k	6.1.5.c
9	2	6.1.6.k	6.1.6.b	2	6.1.6.f		2	6.1.6.k	6.1.6.c	2	6.1.6.k	6.1.6.b
10	1	6.1.6.k	6.1.5.d	2	6.1.6.f		1	6.1.6.k	6.1.6.f	2	6.1.5.d	6.1.5.c
11	2	6.1.5.c										
12	2	6.1.6.k		3	6.1.6.k		2	6.1.6.b	6.1.6.k	2	6.1.6.c	6.1.6.k
13	2	6.1.6.b		2	6.1.6.b		1	6.1.6.k	6.1.6.c	2	6.1.6.b	
14	2	6.1.6.f		2	6.1.6.c		1	6.1.6.c		2	6.1.6.c	
15	3	6.1.6.a		3	6.1.6.a		2	6.1.6.a		3	6.1.6.a	
16	1	6.1.5.a										
17	1	6.1.6.k		3	6.1.6.a		3	6.1.6.k	6.1.5.c	3	6.1.6.a	
18	2	6.1.5.c										
19	2	6.1.6.e		2	6.1.6.e		2	6.1.6.k		2	6.1.6.e	
20	2	6.1.6.k	6.1.6.d	2	6.1.6.f		3	6.1.6.k		3	6.1.6.a	6.1.6.k
21	2	6.1.6.f										
22	1	6.1.5.a										
23	2	6.1.6.g										
24	2	6.1.6.k		3	6.1.6.k		2	6.1.6.b		2	6.1.6.e	6.1.6.k
25	2	6.1.6.k		3	6.1.6.k		2	6.1.6.k		2	6.1.6.e	6.1.6.k
26	1	6.1.5.a										
27	2	6.1.6.k		3	6.1.6.k		2	6.1.6.b		2	6.1.6.k	6.1.6.e
28	1	6.1.6.k		2	6.1.6.k		2	6.1.6.k		2	6.1.6.k	6.1.6.e
29	2	6.1.6.k	6.1.6.e	2	6.1.6.f		1	6.1.6.e		2	6.1.6.f	
30	3	6.1.6.a		3	6.1.6.a		2	6.1.6.a		3	6.1.6.a	
31	2	6.1.6.b		3	6.1.6.a		2	6.1.6.k		2	6.1.6.b	
32	1	6.1.5.d		1	6.1.5.d		1	6.1.5.a		2	6.1.5.a	
33	1	6.1.5.d		1	6.1.5.d		2	6.1.5.d	6.1.6.d	1	6.1.5.d	

**Table R6.6 (continued)**

34	3	6.1.6.k	6.1.6.b	3	6.1.6.k		2	6.1.6.b	6.1.6.k	2	6.1.6.k	6.1.6.a
35	2	6.1.6.b	6.1.6.k	3	6.1.6.k		2	6.1.6.b	6.1.5.a	2	6.1.6.k	6.1.6.a
36	3	6.1.6.b	6.1.6.k	2	6.1.6.b		1	6.1.6.h		2	6.1.6.b	
37	2	6.1.6.k	6.1.5.d	2	6.1.6.d		2	6.1.6.k		3	6.1.6.d	
38	2	6.1.5.c										
39	2	6.1.6.k		2	6.1.6.f		3	6.1.6.e		2	6.1.6.e	
40	2	6.1.6.k		3	6.1.6.k		3	6.1.6.e		2	6.1.6.e	
41	2	6.1.6.f		2	6.1.6.f		1	6.1.6.f		2	6.1.6.f	
42	3	6.1.6.a		3	6.1.6.a		2	6.1.6.a		3	6.1.6.a	
43	1	6.1.6.k	6.1.6.b	2	6.1.6.c		2	6.1.6.k		2	6.1.6.a	6.1.6.k
44	1	6.1.5.a										
45	2	6.1.6.b	6.1.6.k	2	6.1.6.c	6.1.6.k	2	6.1.6.b	6.1.6.k	2	6.1.6.b	
46	1	6.1.6.b		2	6.1.6.c	6.1.6.k	2	6.1.6.b	6.1.6.k	2	6.1.6.k	
47	2	6.1.6.b		2	6.1.6.b		2	6.1.6.c		2	6.1.6.b	
48	2	6.1.6.b		2	6.1.6.b		1	6.1.6.h		1	6.1.6.b	

**Table R6.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	2	6.1.5.c		2	6.1.5.c		1	6.1.5.c		2	6.1.5.c	
2	3	6.1.6.k	6.1.5.c	2	6.1.6.e		1	6.1.6.g	6.1.6.k	1	6.1.6.g	
3	3	6.1.6.f	6.1.6.k	3	6.1.6.f	6.1.6.k	1	6.1.6.e	6.1.6.k	3	6.1.6.e	
4	3	6.1.6.k		2	6.1.5.c		2	6.1.5.c	6.1.6.k	2	6.1.5.c	
5	2	6.1.6.g		2	6.1.6.g		2	6.1.6.g		1	6.1.6.c	
6	2	6.1.6.a		3	6.1.6.a		3	6.1.6.a		2	6.1.6.a	
7	3	6.1.6.k		2	6.1.6.b		2	6.1.6.b	6.1.6.k	2	6.1.6.b	
8	1	6.1.6.k		1	6.1.6.b		1	6.1.6.k	6.1.6.c	1	6.1.6.c	
9	3	6.1.6.k		3	6.1.6.e		1	6.1.6.k	6.1.6.c	2	6.1.6.b	
10	1	6.1.5.d		3	6.1.6.d	6.1.6.k	1	6.1.5.d	6.1.6.k	1	6.1.6.d	
11	2	6.1.5.c		2	6.1.5.c		2	6.1.5.c		2	6.1.5.c	6.1.6.d
12	3	6.1.6.b	6.1.6.k	2	6.1.6.b		2	6.1.6.b		2	6.1.6.b	
13	1	6.1.6.b		1	6.1.6.a		1	6.1.6.b	6.1.6.k	2	6.1.6.b	
14	2	6.1.6.c										
15	3	6.1.6.a		3	6.1.6.a		3	6.1.6.a		2	6.1.6.a	
16	1	6.1.5.a										
17	3	6.1.6.a		3	6.1.5.a		1	6.1.6.k		3	6.1.6.a	
18	1	6.1.6.g		2	6.1.5.c		2	6.1.5.c		2	6.1.5.c	
19	2	6.1.6.e		3	6.1.6.e		2	6.1.6.e		2	6.1.6.e	
20	2	6.1.6.a		3	6.1.6.e		3	6.1.6.a	6.1.6.d	2	6.1.6.d	
21	2	6.1.6.f		2	6.1.6.h		2	6.1.6.f	6.1.6.k	2	6.1.6.f	
22	1	6.1.5.a										
23	1	6.1.6.g		3	6.1.6.g		2	6.1.6.g		1	6.1.6.g	
24	2	6.1.6.e	6.1.6.k	3	6.1.6.e		2	6.1.6.e	6.1.6.k	2	6.1.6.f	
25	3	6.1.6.e	6.1.6.k	3	6.1.6.e		2	6.1.6.e	6.1.6.k	2	6.1.6.k	
26	1	6.1.5.a										
27	3	6.1.6.e		3	6.1.6.d		1	6.1.6.k		2	6.1.6.k	
28	2	6.1.6.e		2	6.1.6.e		1	6.1.6.k		2	6.1.6.k	
29	1	6.1.6.f		2	6.1.6.f		1	6.1.6.k		2	6.1.6.k	
30	2	6.1.6.a		3	6.1.6.a		3	6.1.6.a		2	6.1.6.a	
31	2	6.1.6.c		3	6.1.6.b		2	6.1.6.b	6.1.6.k	3	6.1.6.b	
32	2	6.1.5.c										
33	3	6.1.6.d		1	6.1.5.d		1	6.1.5.d		3	6.1.6.d	6.1.5.d
34	3	6.1.6.c	6.1.6.k	3	6.1.6.d		2	6.1.6.b	6.1.6.k	2	6.1.6.b	
35	2	6.1.6.c	6.1.6.k	3	6.1.6.d	6.1.6.b	2	6.1.6.b	6.1.6.k	3	6.1.6.b	

**Table R6.6 (continued)**

36	1	6.1.6.b		2	6.1.6.b		1	6.1.6.b	6.1.6.k	2	6.1.6.b	
37	2	6.1.6.d		2	6.1.6.e		1	6.1.6.k		2	6.1.6.a	
38	1	6.1.5.d		2	6.1.5.c		2	6.1.5.c		2	6.1.5.c	
39	3	6.1.6.f		1	6.1.6.e		1	6.1.6.k		2	6.1.6.k	
40	3	6.1.6.k		3	6.1.6.k		2	6.1.6.e	6.1.6.k	3	6.1.6.e	
41	2	6.1.6.f		2	6.1.6.f		1	6.1.6.f	6.1.6.k	2	6.1.6.f	
42	1	6.1.6.a		3	6.1.6.a		3	6.1.6.a		2	6.1.6.a	
43	1	6.1.6.c		1	6.1.6.b		1	6.1.6.k		2	6.1.6.b	
44	1	6.1.5.a		1	6.1.5.a		1	6.1.5.a		1	6.1.5.a	
45	2	6.1.6.b		2	6.1.6.c		2	6.1.6.b		2	6.1.6.b	
46	3	6.1.6.k		3	6.1.6.k		2	6.1.6.b		2	6.1.6.b	
47	2	6.1.6.c		2	6.1.6.c		2	6.1.6.c		3	6.1.6.c	
48	1	6.1.6.b		2	6.1.6.b		1	6.1.6.b		1	6.1.6.b	

**Table R7.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 7

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	2	7.1.5.d		3	7.1.6.c	7.1.5.d	2	7.1.6.j	7.1.5.d	2	7.1.5.d	
2	2	7.1.6.g		2	7.1.6.g		1	7.1.6.c		2	7.1.6.c	
3	1	7.1.5.d		2	7.1.6.d		2	7.1.6.e	7.1.6.c	2	7.1.5.d	
4	2	7.1.6.j		2	7.1.5.d		2	7.1.6.j		2	7.1.5.d	7.1.6.c
5	1	7.1.5.a										
6	2	7.1.5.c		1	7.1.5.c		2	7.1.5.a		2	7.1.5.c	
7	2	7.1.6.e		2	7.1.6.e		1	7.1.6.e		2	7.1.6.e	
8	2	7.1.5.d		2	7.1.5.d		3	7.1.6.j		2	7.1.5.d	
9	2	7.1.6.d		2	7.1.6.d		2	7.1.6.d	7.1.6.j	2	7.1.6.d	
10	1	7.1.6.j		2	7.1.6.j		1	7.1.6.j	7.1.6.d	2	7.1.6.d	
11	1	7.1.6.j		1	7.1.6.j		1	7.1.6.j	7.1.6.d	2	7.1.6.d	7.1.6.j
12	1	7.1.6.j		1	7.1.6.j		1	7.1.6.j	7.1.6.d	2	7.1.6.d	7.1.6.j
13	2	7.1.5.c										
14	1	7.1.6.j		2	7.1.5.c		2	7.1.5.c		2	7.1.6.j	7.1.5.c
15	2	7.1.6.f		2	7.1.6.f		1	7.1.6.f		2	7.1.6.d	
16	1	7.1.5.a										
17	2	7.1.6.d		1	7.1.6.d		2	7.1.6.b	7.1.6.j	2	7.1.6.d	7.1.6.j
18	1	7.1.5.a										
19	1	7.1.6.j		1	7.1.6.j		1	7.1.6.b	7.1.6.j	2	7.1.6.d	
20	2	7.1.6.f		1	7.1.6.f		1	7.1.6.f	7.1.6.g	2	7.1.6.f	
21	1	7.1.6.j		1	7.1.6.a		2	7.1.6.g		2	7.1.6.d	
22	2	7.1.6.b		1	7.1.6.j		2	7.1.6.b	7.1.6.j	2	7.1.6.b	
23	3	7.1.6.b		2	7.1.6.b		3	7.1.6.a	7.1.6.b	2	7.1.6.b	7.1.6.j
24	2	7.1.6.b		2	7.1.6.b		3	7.1.6.b		2	7.1.6.b	
25	2	7.1.5.c		2	7.1.5.c		2	7.1.5.a		2	7.1.5.c	
26	2	7.1.6.b		3	7.1.6.j		2	7.1.6.b		2	7.1.6.b	7.1.6.j
27	1	7.1.6.j		1	7.1.5.d		2	7.1.6.d	7.1.6.j	2	7.1.6.d	
28	2	7.1.5.c										
29	2	7.1.6.j		3	7.1.6.j		2	7.1.5.c		3	7.1.6.d	7.1.5.c
30	1	7.1.6.j		2	7.1.6.f		1	7.1.6.j		2	7.1.6.d	
31	1	7.1.6.j		1	7.1.6.j		2	7.1.6.j		3	7.1.6.d	
32	2	7.1.6.f										
33	1	7.1.6.j	7.1.6.d	1	7.1.6.e		1	7.1.6.d	7.1.6.j	2	7.1.6.d	
34	3	7.1.6.j	7.1.6.d	1	7.1.6.j		2	7.1.6.d	7.1.6.j	2	7.1.6.d	

**Table R7.6 (continued)**

35	2	7.1.6.j	7.1.6.d	3	7.1.6.j		1	7.1.6.d	7.1.6.j	2	7.1.6.d	
36	1	7.1.5.d		2	7.1.6.c		1	7.1.6.c		2	7.1.5.d	
37	1	7.1.6.b		2	7.1.6.j		2	7.1.6.b	7.1.6.j	2	7.1.6.b	7.1.6.j
38	2	7.1.6.b		3	7.1.6.j		2	7.1.6.b	7.1.6.j	2	7.1.6.b	7.1.6.j
39	3	7.1.6.b		2	7.1.6.b		2	7.1.6.c		3	7.1.6.c	
40	2	7.1.5.c		2	7.1.5.c		2	7.1.5.c		2	7.1.5.c	
41	3	7.1.6.a		3	7.1.6.a		2	7.1.6.a		3	7.1.6.a	
42	2	7.1.6.d		1	7.1.6.d		3	7.1.6.d		2	7.1.6.e	
43	2	7.1.5.c		2	7.1.5.d		2	7.1.6.j		2	7.1.5.c	
44	3	7.1.6.a		3	7.1.6.a		2	7.1.6.a		2	7.1.6.a	
45	2	7.1.6.d		3	7.1.6.d		2	7.1.6.d	7.1.6.j	2	7.1.6.c	
46	1	7.1.6.j		3	7.1.6.d		1	7.1.6.d	7.1.6.j	1	7.1.6.d	
47	1	7.1.6.j		2	7.1.6.e		1	7.1.6.d	7.1.6.j	1	7.1.6.d	7.1.6.j
48	3	7.1.6.d	7.1.6.j	3	7.1.6.a		3	7.1.6.d		3	7.1.6.d	7.1.6.j

**Table R7.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	3	7.1.6.c		2	7.1.5.d		2	7.1.6.c	7.1.5.d	3	7.1.6.c	7.1.5.d
2	2	NA		3	7.1.6.g	7.1.6.b	2	7.1.6.g		1	7.1.6.g	
3	2	7.1.6.c		3	7.1.6.c		2	7.1.6.c	7.1.5.d	2	7.1.6.c	7.1.5.d
4	3	7.1.6.c		3	7.1.6.c		2	7.1.6.c		3	7.1.6.c	7.1.5.d
5	1	7.1.5.a										
6	1	7.1.5.c		2	7.1.5.c		2	7.1.5.c		2	7.1.5.c	
7	2	7.1.6.e										
8	2	7.1.5.d		3	7.1.6.d		2	7.1.5.d		2	7.1.5.d	
9	2	7.1.6.d		1	7.1.6.d		2	7.1.6.d		2	7.1.6.j	
10	1	7.1.6.d	7.1.6.j	1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
11	1	7.1.6.d	7.1.6.j	1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
12	1	7.1.6.d	7.1.6.j	1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
13	1	7.1.5.c		2	7.1.5.c		2	7.1.5.c		2	7.1.5.c	
14	1	7.1.5.c		2	7.1.5.c		2	7.1.5.c		1	7.1.5.c	
15	2	7.1.6.f		3	7.1.6.f		2	7.1.6.f		2	7.1.6.f	
16	1	7.1.5.a										
17	3	7.1.6.d		3	7.1.6.d		2	7.1.6.e		3	7.1.6.a	
18	1	7.1.5.a		2	7.1.5.a		1	7.1.5.a		1	7.1.5.a	
19	1	7.1.6.a		3	7.1.6.a		1	7.1.6.j		3	7.1.6.a	
20	1	7.1.6.j		1	7.1.6.f		1	7.1.6.j		1	7.1.6.f	
21	1	7.1.6.j		3	7.1.6.d		1	7.1.6.j		3	7.1.6.a	
22	2	7.1.6.j		1	7.1.6.j		2	7.1.6.b		2	7.1.6.b	
23	3	7.1.6.b		3	7.1.6.c		2	7.1.6.b		2	7.1.6.b	
24	2	7.1.6.b										
25	2	7.1.5.c		2	7.1.5.c		1	7.1.5.c		2	7.1.5.c	7.1.6.c
26	2	7.1.6.j		2	7.1.6.b		2	7.1.6.b	7.1.6.j	2	7.1.6.b	
27	3	7.1.6.d	7.1.6.j	3	7.1.6.j		1	7.1.6.j		1	7.1.6.j	7.1.6.d
28	1	7.1.5.c		1	7.1.5.d	7.1.5.c	2	7.1.5.c		2	7.1.5.c	
29	2	7.1.5.d		2	7.1.6.d		2	7.1.5.c		2	7.1.6.j	7.1.5.d
30	3	7.1.6.j		3	7.1.6.j		1	7.1.6.j		2	7.1.6.j	
31	2	7.1.6.d		1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
32	2	7.1.6.f										
33	2	7.1.6.e		1	7.1.6.d		1	7.1.6.j		2	7.1.6.d	
34	3	7.1.6.d	7.1.6.j	1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
35	3	7.1.6.d	7.1.6.j	1	7.1.6.d		2	7.1.6.d		2	7.1.6.j	
36	1	7.1.6.c		2	7.1.6.c		2	7.1.5.d	7.1.6.j	1	7.1.6.c	7.1.5.d

**Table R7.6 (continued)**

37	2	7.1.6.j		3	7.1.6.j	7.1.6.b	1	7.1.6.b		1	7.1.6.b	
38	3	7.1.6.b		3	7.1.6.j	7.1.6.b	2	7.1.6.b		2	7.1.6.b	
39	3	7.1.6.b		3	7.1.6.c		2	7.1.6.b		3	7.1.6.b	
40	2	7.1.5.c		2	7.1.5.c		2	7.1.5.c		2	7.1.5.c	
41	2	7.1.6.a		3	7.1.6.a		3	7.1.6.a		2	7.1.6.a	
42	3	7.1.6.e		2	7.1.5.c		1	7.1.6.j		2	7.1.6.d	
43	2	7.1.5.c		2	7.1.5.d		2	7.1.5.c		2	7.1.5.d	7.1.5.c
44	3	7.1.6.a		3	7.1.6.a		3	7.1.6.a		3	7.1.6.a	
45	2	7.1.6.d		3	7.1.6.d		2	7.1.6.d		2	7.1.6.j	
46	3	7.1.6.d		1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
47	3	7.1.6.e		1	7.1.6.d		1	7.1.6.j		2	7.1.6.j	
48	3	7.1.6.d		3	7.1.6.b		2	7.1.6.d		3	7.1.6.d	7.1.6.a

**Table R8.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 8

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	1	8.1.6.g		2	8.1.6.g		1	8.1.6.g		2	8.1.6.g	8.1.6.j
2	2	8.1.6.j		2	8.1.6.e		2	8.1.6.e	8.1.6.j	2	8.1.6.e	
3	1	8.1.6.j		3	8.1.6.d		1	8.1.6.j		2	8.1.6.c	8.1.5.d
4	2	8.1.6.f		2	8.1.6.f		1	8.1.6.f		2	8.1.5.c	8.1.6.f
5	2	8.1.6.b		2	8.1.5.c		2	8.1.6.b	8.1.6.d	2	8.1.5.c	
6	2	8.1.6.b		3	8.1.6.d		2	8.1.6.b	8.1.6.d	2	8.1.6.a	8.1.6.b
7	1	8.1.6.j		3	8.1.6.d		1	8.1.6.d	8.1.6.j	1	8.1.6.j	
8	1	8.1.6.j		2	8.1.6.d		1	8.1.6.j		1	8.1.6.j	
9	1	8.1.5.a		2	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
10	1	8.1.6.j		3	8.1.6.d		1	8.1.6.j		2	8.1.6.j	
11	1	8.1.6.j		2	8.1.5.d		2	8.1.6.d	8.1.6.j	2	8.1.6.j	
12	1	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
13	2	8.1.6.j		2	8.1.6.f		2	8.1.6.f		2	8.1.6.d	8.1.6.j
14	2	8.1.6.e		2	8.1.6.e		2	8.1.6.d		2	8.1.6.e	
15	3	8.1.6.a		3	8.1.6.a		3	8.1.6.a		3	8.1.6.a	
16	2	8.1.6.b		2	8.1.6.g		1	8.1.6.j		2	8.1.6.j	
17	2	8.1.5.d		2	8.1.5.d		1	8.1.6.c	8.1.5.d	2	8.1.6.c	8.1.5.d
18	2	8.1.6.c		2	8.1.6.c		2	8.1.5.c	8.1.5.c	2	8.1.6.c	8.1.5.d
19	1	8.1.6.e	8.1.6.g	2	8.1.6.g		1	8.1.6.g		2	8.1.6.j	8.1.6.j
20	3	8.1.6.a		3	8.1.6.a		3	8.1.6.a		3	8.1.6.a	
21	1	8.1.5.d		1	8.1.5.a		1	8.1.5.a		2	8.1.5.c	
22	2	8.1.6.e		2	8.1.6.e		2	8.1.6.e		2	8.1.6.j	8.1.6.c
23	2	8.1.5.c		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
24	1	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
25	2	8.1.5.d		2	8.1.5.d		3	8.1.5.d	8.1.6.c	2	8.1.5.d	
26	2	8.1.6.b	8.1.6.j	2	8.1.6.b		3	8.1.6.a		2	8.1.6.j	8.1.6.b
27	2	8.1.6.b	8.1.6.j	2	8.1.6.b		2	8.1.6.b		2	8.1.6.j	8.1.6.a
28	2	8.1.6.b		2	8.1.6.b		2	8.1.6.b	8.1.6.g	2	8.1.6.b	
29	1	8.1.6.j		2	8.1.6.e		1	8.1.6.j		2	8.1.6.j	
30	2	8.1.5.c		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
31	2	8.1.6.j		2	8.1.6.d		2	8.1.6.b	8.1.6.g	2	8.1.6.d	
32	1	8.1.5.d		2	8.1.6.e		2	8.1.5.d	8.1.6.c	2	8.1.5.d	
33	3	8.1.6.a		1	8.1.6.a		3	8.1.6.a		2	8.1.6.a	

**Table R8.6 (continued)**

34	2	8.1.6.c	8.1.5.c	2	8.1.5.d		2	8.1.5.c	8.1.6.b	2	8.1.5.d	8.1.5.c
35	1	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
36	2	8.1.6.c		2	8.1.5.d		3	8.1.5.c	8.1.6.j	2	8.1.5.c	
37	1	8.1.6.j		3	8.1.6.c		2	8.1.6.b		2	8.1.5.c	
38	2	8.1.6.b		3	8.1.6.j		2	8.1.6.a		3	8.1.6.j	
39	2	8.1.6.b		2	8.1.6.b		2	8.1.6.b		2	8.1.6.j	
40	3	8.1.6.b	8.1.6.j	3	8.1.6.a		2	8.1.6.b		2	8.1.6.b	8.1.6.j
41	1	8.1.6.j		2	8.1.6.g		1	8.1.6.j		2	8.1.6.b	8.1.6.j
42	2	8.1.5.c		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
43	1	8.1.6.j		2	8.1.6.f		1	8.1.6.j		2	8.1.6.j	
44	2	8.1.6.j		2	8.1.6.d		3	8.1.6.a		2	8.1.6.j	
45	2	8.1.5.c		2	8.1.5.c		1	8.1.5.a		2	8.1.5.c	
46	2	8.1.6.a		3	8.1.6.a		2	8.1.6.j	8.1.6.a	1	8.1.6.a	
47	1	8.1.6.j		3	8.1.6.a		1	8.1.6.j		2	8.1.6.b	
48	3	8.1.6.j		3	8.1.6.e		2	8.1.6.j		2	8.1.6.j	
49	1	8.1.6.f		2	8.1.6.f		1	8.1.6.f		2	8.1.6.e	
50	2	8.1.6.e		2	8.1.6.e		2	8.1.6.e		2	8.1.6.e	

**Table R8.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	1	8.1.6.j		2	8.1.6.g		1	8.1.6.j	8.1.6.g	1	8.1.6.g	
2	2	8.1.6.e		3	8.1.6.j		2	8.1.6.b		2	8.1.6.d	
3	2	8.1.6.c		3	8.1.6.g		1	8.1.6.j		2	8.1.6.c	
4	1	8.1.6.f		1	8.1.6.f		1	8.1.6.j		1	8.1.6.f	
5	1	8.1.5.c		2	8.1.6.d	8.1.5.c	2	8.1.6.b		3	8.1.6.d	
6	2	8.1.6.b		3	8.1.6.d		2	8.1.6.b		3	8.1.6.d	
7	1	8.1.6.d		1	8.1.6.d		1	8.1.6.j		2	8.1.6.d	
8	1	8.1.6.d		1	8.1.6.d		1	8.1.6.j		1	8.1.6.j	
9	2	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
10	1	8.1.6.d		1	8.1.6.d		1	8.1.6.j		2	8.1.6.j	
11	2	8.1.6.e		1	8.1.6.d		1	8.1.6.j		2	8.1.6.j	
12	1	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
13	2	8.1.6.e		3	8.1.6.d		2	8.1.6.f		3	8.1.6.f	
14	1	8.1.6.e		2	8.1.6.e		2	8.1.6.b		2	8.1.6.b	
15	1	8.1.6.a		3	8.1.5.a		3	8.1.6.a		2	8.1.6.a	
16	1	8.1.6.a		1	8.1.6.b		2	8.1.6.b		2	8.1.6.b	
17	1	8.1.6.c		1	8.1.6.d		2	8.1.6.c	8.1.5.d	1	8.1.6.c	
18	1	8.1.6.c		1	8.1.6.c		2	8.1.6.c		3	8.1.6.c	
19	2	8.1.6.g		2	8.1.6.e		2	8.1.6.j		2	8.1.6.e	
20	2	8.1.6.a		3	8.1.6.a		3	8.1.6.a		2	8.1.6.a	
21	2	8.1.5.d		2	8.1.5.d		2	8.1.5.c		2	8.1.5.c	
22	1	8.1.6.e		2	8.1.6.b		2	8.1.6.e		1	8.1.6.e	
23	1	8.1.5.c		2	8.1.5.c		2	8.1.6.c		2	8.1.6.b	
24	2	8.1.5.a		2	8.1.5.a		1	8.1.5.a		1	8.1.5.a	
25	1	8.1.6.c		2	8.1.6.c		2	8.1.5.d	8.1.6.c	2	8.1.6.c	
26	2	8.1.6.j		3	8.1.6.g		2	8.1.6.b		2	8.1.6.b	
27	3	8.1.6.j		3	8.1.6.a		2	8.1.6.b	8.1.6.j	2	8.1.6.b	
28	1	8.1.6.g		2	8.1.6.b		2	8.1.6.b	8.1.6.j	2	8.1.6.b	
29	1	8.1.6.e		1	8.1.6.d		1	8.1.6.j	8.1.6.b	1	8.1.6.d	
30	1	8.1.5.c		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
31	2	8.1.6.d		3	8.1.6.g		2	8.1.6.b	8.1.6.j	2	8.1.6.j	
32	2	8.1.6.c		2	8.1.5.d		2	8.1.6.c	8.1.5.d	2	8.1.6.c	
33	1	8.1.6.a		2	8.1.6.a		3	8.1.6.a		2	8.1.6.a	
34	2	8.1.6.c		2	8.1.5.d		2	8.1.6.c	8.1.5.d	3	8.1.6.c	
35	1	8.1.5.a		1	8.1.5.a		1	8.1.5.a		1	8.1.5.a	

**Table R8.6 (continued)**

36	2	8.1.6.c		2	8.1.6.c		2	8.1.6.c	8.1.5.d	3	8.1.5.d	8.1.6.c
37	2	8.1.5.d		2	8.1.6.b		1	8.1.6.j	8.1.6.b	3	8.1.5.d	
38	2	8.1.6.j		2	8.1.6.g		1	8.1.6.b	8.1.6.j	2	8.1.6.b	
39	1	8.1.6.b		2	8.1.6.d		2	8.1.6.b	8.1.6.j	2	8.1.6.b	
40	2	8.1.6.b		3	8.1.6.b		2	8.1.6.b		3	8.1.6.b	
41	1	8.1.6.j		2	8.1.6.g		2	8.1.6.j		2	8.1.6.b	
42	2	8.1.5.d		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
43	1	8.1.6.d		1	8.1.6.d		1	8.1.6.j		2	8.1.6.d	
44	2	8.1.6.d		3	8.1.6.g		2	8.1.6.d		2	8.1.6.j	
45	1	8.1.5.c		2	8.1.5.c		2	8.1.5.c		2	8.1.5.c	
46	2	8.1.6.a		3	8.1.6.a		3	8.1.6.a		3	8.1.6.a	
47	2	8.1.6.d		3	8.1.6.a		1	8.1.6.j	8.1.6.d	3	8.1.6.a	
48	3	8.1.6.j		3	8.1.6.j		2	8.1.6.j	8.1.6.d	3	8.1.6.a	
49	2	8.1.6.e		2	8.1.6.e		2	8.1.6.f		1	8.1.6.f	
50	2	8.1.6.e		2	8.1.6.e		2	8.1.6.e		1	8.1.6.e	

**Table R11.6***DOK Levels and Benchmarks Coded by Each Reviewer*

NeSA Reading Grade 11

Item	DOK R1	R1P	R1S	DOK R2	R2P	R2S	DOK R3	R3P	R3S	DOK R4	R4P	R4S
1	2	12.1.5.c		2	12.1.5.c		1	12.1.6.j	12.1.5.c	2	12.1.5.c	
2	1	12.1.5.a		1	12.1.5.a		2	12.1.5.a	12.1.5.c	1	12.1.5.a	
3	1	12.1.6.j		2	12.1.6.d		1	12.1.6.j		1	12.1.6.j	
4	2	12.1.6.b		2	12.1.5.d		3	12.1.6.d	12.1.6.j	2	12.1.6.b	12.1.6.j
5	2	12.1.6.e		2	12.1.6.e		2	12.1.6.e	12.1.6.a	2	12.1.6.b	12.1.6.j
6	3	12.1.6.a		3	12.1.6.a		2	12.1.6.a		3	12.1.6.a	
7	2	12.1.6.c		2	12.1.6.b		3	12.1.6.c	12.1.6.b	3	12.1.6.c	12.1.6.b
8	2	12.1.6.b		2	12.1.6.b		1	12.1.6.j		2	12.1.6.b	12.1.6.j
9	3	12.1.6.c		2	12.1.6.c		2	12.1.6.c		3	12.1.6.c	12.1.6.j
10	1	12.1.5.a		1	12.1.5.a		1	12.1.5.a		1	12.1.5.a	
11	2	12.1.6.b		3	12.1.6.c		3	12.1.6.c	12.1.6.b	3	12.1.6.b	
12	2	12.1.6.b		3	12.1.6.b		2	12.1.6.b		3	12.1.6.b	12.1.6.j
13	2	12.1.6.d		3	12.1.5.d		3	12.1.6.j	12.1.6.b	3	12.1.5.d	
14	3	12.1.6.b	12.1.6.j	3	12.1.6.j		2	12.1.6.j		3	12.1.6.b	12.1.6.a
15	3	12.1.6.b	12.1.6.j	3	12.1.6.a		3	12.1.6.a		2	12.1.6.a	12.1.6.b
16	3	12.1.6.a		2	12.1.6.e		2	12.1.6.j		2	12.1.6.d	12.1.6.g
17	2	12.1.6.f		2	12.1.6.f		2	12.1.6.f	12.1.6.d	2	12.1.6.e	12.1.6.d
18	1	12.1.6.j		2	12.1.6.d		2	12.1.6.j		2	12.1.6.d	12.1.6.j
19	1	12.1.5.a		1	12.1.5.a		1	12.1.5.a		1	12.1.5.a	
20	2	12.1.6.j		2	12.1.6.e		1	12.1.6.d	12.1.6.j	2	12.1.6.d	
21	1	12.1.5.a		1	12.1.5.a		2	12.1.5.c		1	12.1.5.a	
22	1	12.1.6.j		2	12.1.5.d		2	12.1.6.j		1	12.1.6.j	12.1.6.b
23	2	12.1.6.b	12.1.6.j	2	12.1.6.d		2	12.1.6.b	12.1.6.j	3	12.1.6.j	12.1.6.b
24	2	12.1.5.c		1	12.1.5.a		2	12.1.5.c	12.1.5.a	2	12.1.5.c	
25	1	12.1.6.j		2	12.1.6.d		1	12.1.6.j		2	12.1.6.j	
26	2	12.1.6.j		3	12.1.6.j		2	12.1.6.b	12.1.6.j	2	12.1.6.j	
27	3	12.1.6.j		3	12.1.6.a		2	12.1.6.b		2	12.1.6.j	
28	3	12.1.6.a		3	12.1.6.a		3	12.1.6.a		3	12.1.6.a	12.1.6.j
29	2	12.1.6.c		3	12.1.6.c		2	12.1.6.c	12.1.6.g	3	12.1.6.c	
30	2	12.1.6.b		3	12.1.6.d		2	12.1.6.j	12.1.6.b	3	12.1.6.c	12.1.6.j
31	2	12.1.6.f		2	12.1.6.f		2	12.1.6.c	12.1.6.f	3	12.1.6.c	
32	1	12.1.6.c		2	12.1.6.c		2	12.1.6.c		2	12.1.5.d	12.1.6.c
33	3	12.1.6.a		3	12.1.6.a		2	12.1.6.a		3	12.1.6.a	
34	2	12.1.6.g		2	12.1.6.g		2	12.1.6.c		2	12.1.6.g	12.1.6.c
35	2	12.1.6.j		3	12.1.6.c		2	12.1.6.d		2	12.1.6.e	12.1.6.d

**Table R11.6 (continued)**

36	1	12.1.6.j		3	12.1.5.d		1	12.1.6.j	12.1.6.d	2	12.1.6.d	
37	2	12.1.6.f		2	12.1.6.f		1	12.1.6.f	12.1.6.j	2	12.1.6.f	12.1.5.c
38	2	12.1.5.c	12.1.5.a	1	12.1.5.a		2	12.1.5.a	12.1.5.c	2	12.1.5.c	
39	1	12.1.6.j		2	12.1.6.d		1	12.1.6.j	12.1.6.d	2	12.1.6.d	
40	2	12.1.6.j		3	12.1.6.j		3	12.1.6.d	12.1.6.g	3	12.1.6.d	
41	2	12.1.6.j		3	12.1.6.a		3	12.1.6.j	12.1.6.d	3	12.1.6.d	
42	1	12.1.6.j		2	12.1.6.d		1	12.1.6.j	12.1.6.d	3	12.1.6.d	
43	2	12.1.6.j		3	12.1.6.d		2	12.1.6.d		3	12.1.6.d	
44	2	12.1.5.c		2	12.1.5.c		2	12.1.5.c		2	12.1.6.c	
45	2	12.1.5.d	12.1.6.j	2	12.1.5.d		2	12.1.6.c	12.1.6.j	3	12.1.5.d	
46	2	12.1.6.j		3	12.1.6.b		3	12.1.6.b		2	12.1.6.b	12.1.6.j
47	2	12.1.6.j		3	12.1.6.d		2	12.1.6.b	12.1.6.j	2	12.1.6.b	12.1.6.j
48	3	12.1.6.a		3	12.1.6.a		3	12.1.6.a	12.1.6.c	3	12.1.6.a	
49	2	12.1.6.j	12.1.6.b	3	12.1.6.g		3	12.1.6.b		3	12.1.6.j	
50	2	12.1.6.c		2	12.1.6.a		2	12.1.6.b	12.1.6.c	3	12.1.6.c	

**Table R11.6 (continued)**

Item	DOK R5	R5P	R5S	DOK R6	R6P	R6S	DOK R7	R7P	R7S	DOK R8	R8P	R8S
1	1	12.1.5.c		2	12.1.5.c		2	12.1.5.c		1	12.1.5.c	
2	2	12.1.5.a		1	12.1.5.a		1	12.1.5.a		1	12.1.5.a	
3	1	12.1.6.j		1	12.1.6.d		1	12.1.6.j		2	12.1.6.d	
4	3	12.1.6.d		3	12.1.6.d		2	12.1.6.d		2	12.1.6.b	
5	1	12.1.6.e		2	12.1.6.e		2	12.1.6.e		1	12.1.6.e	
6	2	12.1.6.a		3	12.1.5.a		3	12.1.6.a		2	12.1.6.a	
7	3	12.1.6.c		3	12.1.5.d	12.1.6.c	2	12.1.6.b	12.1.6.c	3	12.1.6.c	
8	1	12.1.6.b		2	12.1.6.d		1	12.1.6.j	12.1.6.b	1	12.1.6.b	
9	3	12.1.6.c		3	12.1.5.d		1	12.1.6.c		3	12.1.6.c	
10	1	12.1.5.a										
11	3	12.1.6.b		3	12.1.6.b		2	12.1.6.c		3	12.1.6.b	
12	2	12.1.6.b		3	12.1.6.b		2	12.1.6.b		2	12.1.6.b	
13	2	12.1.6.b		3	12.1.6.b		2	12.1.5.d		2	12.1.6.b	
14	3	12.1.6.j		3	12.1.6.g		2	12.1.6.b	12.1.6.j	3	12.1.6.b	
15	3	12.1.6.b	12.1.6.j	3	12.1.6.g		3	12.1.6.b		3	12.1.6.b	
16	2	12.1.6.a		3	12.1.6.a		3	12.1.6.a		3	12.1.6.a	
17	2	12.1.6.f										
18	2	12.1.6.j		3	12.1.6.d		1	12.1.6.j		2	12.1.6.d	
19	1	12.1.5.a										
20	2	12.1.6.d		3	12.1.6.a		2	12.1.6.d		3	12.1.6.a	
21	1	12.1.5.a										
22	2	12.1.6.b		3	12.1.6.d		1	12.1.6.j		2	12.1.6.b	
23	3	12.1.6.b	12.1.6.j	3	12.1.6.g		2	12.1.6.d		2	12.1.6.b	
24	1	12.1.5.a		2	12.1.5.c		2	12.1.5.c		2	12.1.5.c	
25	1	12.1.6.j		3	12.1.6.d		1	12.1.6.j		2	12.1.6.d	
26	2	12.1.6.j		3	12.1.6.j		2	12.1.6.d		2	12.1.6.j	
27	3	12.1.6.j		3	12.1.6.e		1	12.1.6.j		2	12.1.6.d	
28	3	12.1.6.a		3	12.1.6.a		3	12.1.6.a		2	12.1.6.a	
29	2	12.1.6.c		2	12.1.6.c		2	12.1.6.c		3	12.1.6.c	12.1.5.d
30	3	12.1.6.j		3	12.1.6.b		2	12.1.6.b		2	12.1.6.b	
31	2	12.1.6.f		3	12.1.6.f		2	12.1.6.c		1	12.1.6.f	
32	1	12.1.6.c		1	12.1.6.f		2	12.1.6.c		2	12.1.6.c	
33	2	12.1.6.a		3	12.1.6.a		3	12.1.6.a		3	12.1.6.a	
34	2	12.1.6.g		1	12.1.6.g		2	12.1.6.b		1	12.1.6.g	
35	1	12.1.6.e		3	12.1.6.f		2	12.1.6.d		3	12.1.6.d	
36	1	12.1.6.d		1	12.1.6.d		1	12.1.6.j		2	12.1.6.d	

**Table R11.6 (continued)**

37	3	12.1.6.d		2	12.1.6.j		2	12.1.6.f		2	12.1.6.j	
38	1	12.1.5.a		2	12.1.6.c		2	12.1.5.c		2	12.1.5.c	
39	1	12.1.6.d		1	12.1.6.d		1	12.1.6.j		1	12.1.6.j	
40	2	12.1.6.d		1	12.1.6.d		1	12.1.6.j		3	12.1.6.d	
41	3	12.1.6.j	12.1.5.d	3	12.1.5.d	12.1.6.g	2	12.1.6.d		3	12.1.6.c	12.1.5.d
42	2	12.1.6.j		3	12.1.6.g		2	12.1.6.d		2	12.1.6.d	
43	2	12.1.6.d		3	12.1.6.d		2	12.1.6.d		2	12.1.6.d	
44	1	12.1.5.c		2	12.1.5.c		2	12.1.5.c		2	12.1.5.c	
45	2	12.1.5.d		3	12.1.6.f		2	12.1.6.c		3	12.1.5.d	
46	2	12.1.6.b		3	12.1.6.b		2	12.1.6.b	12.1.6.j	2	12.1.6.b	
47	3	12.1.6.j	12.1.6.b	3	12.1.6.b		2	12.1.6.b	12.1.6.j	2	12.1.6.b	
48	2	12.1.6.j	12.1.6.b	3	12.1.6.a		2	12.1.6.c		2	12.1.6.a	
49	2	12.1.6.j		3	12.1.6.b		2	12.1.6.b	12.1.6.j	3	12.1.6.b	
50	3	12.1.6.c		3	12.1.6.c		2	12.1.6.c	12.1.6.j	3	12.1.6.c	

## Results of Intra-Class Correlation

Reliability can be increased by adding more training to reduce the One-judge Reliability or by adding more judges to reduce the variability of the mean.

Number of Judges needed to reach Aspiration Level of Reliability		
Aspiration Level	One Judge Reliability	Number of Judges Needed
	0.421	Reading
0.7	3.2	4
0.8	5.5	6
0.9	12.4	13
0.95	26.1	27

Notes: The minimum number of judges calculation is based on the Spearman Browne Prophecy formula,

$$m = \left\{ \frac{\rho^*}{1 - \rho^*} \middle/ \frac{\rho_L}{1 - \rho_L} \right\} = \frac{\rho^* (1 - \rho_L)}{\rho_L (1 - \rho^*)}$$

where  $\rho^*$  is the reliability aspired to and  $\rho_L$  is the reliability estimate for a single judge.

The two-way analysis assuming both random items and fixed judges gives a result for the mean correlation identical to Cronbach's Alpha, i.e.,  $\alpha = \frac{\sigma_{Bet}^2 - \sigma_e^2}{\sigma_{Bet}^2}$ . While SPSS allows the user to select between the random and mixed models, the calculations come out the same with either model. Assuming the judges are fixed would imply these are the only judges that would ever be used so there is no component of variance associated with them. *Random judges* assume the judges used are one of many possible selections of judges; then the variability among judges must be taken into account, which will result in a lower value for the intra-class correlation (or any other measure of reliability.)

For the mixed model (i.e., fixed judges), the intra-class correlation would be calculated identically to Cronbach's Alpha:

$$ICC_{FixedJudges} = \frac{ItemMS - EMS}{ItemMS}$$

For the random model, the correct calculation is:

$$ICC_{RandomJudges} = \frac{ItemMS - EMS}{ItemMS + \frac{JudgeMS - EMS}{n}}$$

## Calculation Modes

Calculation for two-way model with both questions and judges random

Grade 3:

	<b>Reading</b>	
	DF	MS
questions	44	2.21
judges	7	0.48
error	308	0.19
<b>Intra-Class Correlation</b>		.91
Cronbach's Alpha		.91

Grade 4:

	<b>Reading</b>	
	DF	MS
questions	44	2.11
judges	7	.67
error	308	.20
<b>Intra-Class Correlation</b>		.90
Cronbach's Alpha		.90

Grade 5:

	<b>Reading</b>	
	DF	MS
questions	47	2.03
judges	7	1.03
error	329	.21
<b>Intra-Class Correlation</b>		.89
Cronbach's Alpha		.90

Grade 6:

	<b>Reading</b>	
	DF	MS
questions	47	1.79
judges	7	1.72
error	329	.24
<b>Intra-Class Correlation</b>		.85
Cronbach's Alpha		.86

### Calculation Modes (continued)

Grade 7:

	<b>Reading</b>	
	DF	MS
questions	47	1.57
judges	7	1.14
error	329	.29
<b>Intra-Class Correlation</b>		.81
Cronbach's Alpha		.82

Grade 8:

	<b>Reading</b>	
	DF	MS
questions	49	1.43
judges	7	1.83
error	343	.24
<b>Intra-Class Correlation</b>		.81
Cronbach's Alpha		.83

Grade 11:

	<b>Reading</b>	
	DF	MS
questions	49	2.16
judges	7	2.22
error	343	.25
<b>Intra-Class Correlation</b>		.87
Cronbach's Alpha		.89