ELA Summative Assessment Design: Prioritization

(excerpted from the ELA Content Specifications, pp. 17-20)

1) Design Decisions: English language arts contributors to this document engaged in a rigorous and intensive process to assure that the Consortium's Assessment Design maintained fidelity to the Common Core State Standards.

   - In-depth analysis of each standard in the CCSS document in every strand, at every grade level: All CCSS English language arts/literacy standards in each strand at each grade level were initially considered as the starting points for the large-scale, summative assessment. Both the content and the implied cognitive demand of each standard were analyzed. Given the large number of standards to consider at each grade level (many more standards and a wider scope than any state has assessed in the past with a large-scale assessment), prioritization was needed to determine which standards should or could be emphasized and still provide meaningful assessment data to schools and teachers. It was determined as well that some aspects of a given standard lent themselves to formative rather than summative assessment (Smarter Balanced Assessment Consortium, 2011).

   - Design decision to assess reading abilities applied to the two broad text types identified as the focus of two sub strands in the CCSS: Reading assessment targets for Claim #1 address both literary and informational texts and make specific distinctions that align with CCSS standards for Reading Literature (RL) or Reading Informational (RI) texts. Attention to reading closely and reading texts of increasing complexity at all grade levels—ideas stressed in the CCSS—have been incorporated into the wording of Claim #1 (Students can read closely and analytically to comprehend a range of increasingly complex literary and informational texts) and applied to descriptions of what sufficient evidence of student performance should look like for this claim.

   - Design decision to assess writing of three specific text types identified as the focus in the CCSS: Writing assessment targets for Claim #2 address the unique features of all three text types and make specific distinctions that align with CCSS for each type of writing at every grade level (W1, 17 opinion/argument, W2, informational/explanatory, and W3, narrative writing). The wording of Claim #2 (Students can produce effective and well-grounded writing for a range of purposes and audiences) and descriptions of what sufficient evidence of student performance should look like address all three writing purposes.

   - Designs decisions about the most appropriate and practical content to include for a summative assessment: These decisions were guided by the instructional emphases recommended in the CCSS. Prioritization criteria for selecting standards (or parts of standards) to be assessed at the end of each grade level included the following:

- **Content identified in the CCSS document as having greater emphasis at different grade levels was given the highest priority.** For example, the CCSS calls for shifting the balance between reading literary and informational texts across grade levels; it calls for greater emphasis on writing argumentative and explanatory texts at high school than on narrative writing.

- **Content that could be assessed in an on-demand, large-scale setting was identified and compared with high-emphasis CCSS content**. An earlier (2011) document created by WestEd for Smarter Balanced identifying "eligible content" for large-scale assessment was reviewed during the prioritization process (Smarter-Balanced-CCSS-Eligible-Content-FinalReport). This report emphasizes the "numerous considerations and trade-offs to be made when designing a summative assessment (e.g., content coverage, emphasis, burden). Therefore, coordinated discussion across Consortium groups (e.g., Test Design, Item Development, Technology Approach, and Accessibility and Accommodations Work Groups and the content specifications committee) must occur in order to verify the need for and conditions under which the eligible content identified in this report should ultimately be included or excluded on the summative assessment (p. 6).

- **Skills and concepts deemed critical for college and career readiness by the CCSS and sources outside of the CCSS were considered**. Information from research on the views of higher education faculty and employers about key skills and understandings within the standards to be emphasized was reviewed and integrated into the design.

- **Last, but certainly not least, practical constraints of the proposed Smarter Balanced summative assessments (e.g., computer adaptive, use of multiple item formats, time frames allotted for summative assessment) and critical elements required of any large-scale assessment informed revisions to the assessment design.** Throughout the extensive assessment development and review processes, including the Small-scale Pilot, Pilot and Field Tests and taking place over several years, ongoing recursive revisions to the assessment design were made based on a close analysis of student responses to assessment items. These changes, however, were at the micro level (e.g., dropping or adding item types to insure fidelity to assessment targets) and did not affect the overall assessment design.

- The English language arts contributors to this document also reviewed a related document written by the CCSS authors (Coleman & Pimentel, 2012b). Although this document is not an assessment document, it provides insights into what the lead CCSS authors felt was important to emphasize instructionally (e.g., choosing high quality text, text-dependent questioning, writing with a purpose, and conducting short research projects).

2) Learning Progressions: In addition to the considerations above, the Smarter Balanced Consortium recognizes that there are two important kinds of progressions that ground the Common Core State Standards, and these progressions inform the development of assessment targets.
   - One set of progressions is associated with text complexity—the expectation set in Reading Standard #10 that students should encounter and be able to understand, analyze, and use increasingly complex texts for a variety of purposes as they move up the grades in elementary school until they graduate from high school.
   - The second set of progressions is associated with the skills that students develop over time, with assistance from teachers. These are reflected in the CCSS in the form of progressions in skills and content that advance in difficulty from one grade to the next and guide the unfolding of curriculum and instruction over time. For example, one key progression in the standards is the growing command of evidence from text. One way that the Smarter Balanced assessments integrate this progression falls within Claim 2 (writing for a purpose). In the grade 3-5 span, students are tasked with using text evidence to write *informatively* (identifying and connecting relevant information). In grades 6-11, however, Smarter assessments ask students to write *explanatory* texts, requiring analysis and synthesis of text evidence. This shifting emphasis and increased task rigor is based on the increased rigor implied in the CCSS. Other progressions come directly from the CCSS. For example, the CCSS document contains a "Language Progression Chart," describing various language conventions appropriate to each grade. Smarter Balanced assessment developers used this chart as the basis for interpreting appropriate grammar and usage conventions (e.g., identifying the difference between subject-verb agreement items appropriate for grade 4 and subject-verb agreement items appropriate for grade 8).

   These progressions are based, in part, on a growing understanding of learning sequences — descriptive continuums of how students typically develop and demonstrate more sophisticated understanding of content over time. Studies have begun to show that tracking student progress using a learning progressions schema can have a positive effect on teaching and learning (Hess, 2011b). A growing body of knowledge surrounds their use, as well as ongoing research in identifying and validating learning progressions of varying grain sizes in different content areas (Hess, 2010a, p. 57).

   Current thinking about how learning progressions can lay out a path for learning is aptly summarized in Taking Science to School: Learning and Teaching Science in Grades K–8, which describes learning progressions as "anchored on one end by what is known about the concepts and reasoning of students entering school . . . [for which] there now is a very extensive research base." At the other end of the learning continuum are "societal expectations (values)" about what society wants students to know and be able to do in the given content area. Learning progressions propose the intermediate understandings between these anchor points that are "reasonably coherent networks

of ideas and practices . . . that contribute to building a more mature understanding" (NRC, 2007, pp. 219–220).

In the case of the Common Core, "societal expectations (values)" include preparing students for college and careers. Content-specific research and cognitive research help to identify for educators (both visually and verbally) hypotheses about how students will typically move toward increased understanding and build expertise in reading, writing, speaking, and listening. The general mapping of how skills and concepts might be best learned over time, while being organized around unifying ideas, provides much more than a simplistic scope and sequence, pacing guide, or checklist of skills. Later skills can clearly be built upon earlier prerequisite learning. These kinds of progressions are reflected in the assessment targets across grades.

It is important to note that *claims do not change* across grade levels, but targets do. They reflect 19 both the depth of content and skills as well as the expected expression of that content based on learning progressions across CCSS strands. The targets are described in detail in Part III of this document.

Mathematics Summative Assessment Design: Prioritization

(excerpted from the Mathematics Content Specifications, pp. 17 and 68-71)

Focus and Coherence: The principles of focus and coherence on which the CCSSM are based have additional implications for mathematics assessment and instruction. Coherence implies that the standards are more than a mere checklist of disconnected statements; the cluster headings, domains, and other text in the standards all organize the content in ways that highlight the unity of the subject. The standards' focus is meant to allow time for students and teachers to master the intricate, challenging, and necessary things in each grade that open the way to a variety of applications even as they form the prerequisite study for future grades' learning. The Smarter Balanced assessment will strive to reinforce focus and coherence at each grade level by testing for proficiency with central and pivotal mathematics rather than covering too many ideas superficially – a key point of the Common Core State Standards. It will, as well, reflect changes in curricular emphases as students move toward engagement with new content (e.g., specific aspects of arithmetic will be emphasized and de-emphasized as students make the transition from reasoning with numbers to reasoning algebraically.)

An emphasis on focus and coherence in assessment rests on the prioritization of content for purposes of sampling – it is simply not feasible to thoroughly assess every student on all topics, but it *is* essential to provide information regarding student understanding and facility with centrally important topics. Thus, for purposes of focused and coherent coverage, this document identifies a subset of the content clusters that are identified as high-priority assessment clusters. The sampling of content within the assessment will emphasize content in the high-priority clusters, with content that is not in high-priority clusters being sampled with less frequency. The

overall ratio on the assessment of content in high-priority clusters to other content should be about 3:1. Thus any particular student's assessment will sample in greatest proportion from content clusters representing the major work of that grade, but, over the whole population, all content will be assessed.

Appendix A: CAT Sampling Proportions for Claim 1

The Content Specifications suggest that the computer-adaptive selection of items and tasks for Claim #1 be divided according to those clusters identified as "major" and those identified as "additional/supporting." This breakdown of clusters for each grade level was conducted in close collaboration with lead authors of CCSSM and members of the CCSSM validation committee.

The tables below (only grade 5 is included) show the categorization for each cluster in CCSSM, and also show "internal relative weights" suggested by the Content Specification authors. The Consortium is encouraged to investigate the feasibility of incorporating internal relative weights into the computer adaptive administration of Smarter Balanced.

The two components envisioned for Smarter Balanced assessment of CCSSM are:

High-intensity assessed clusters, about 75%-80% of the item level scores

- o Also high-adaptivity: 3 or more questions, and can cross into neighboring grades
- o Consists of the major clusters (generally the progress to algebra continuum)
- o Internal relative weights used for content balancing

Low-intensity assessed clusters, about 20%-25% of the item level scores

- o Consists of the additional and supporting clusters
- o Internal relative weights used in a pure sampling approach

GRADE 5

Hi	75%	5.NF.A	Use equivalent fractions as a strategy to add and subtract fractions	40 %
		5.MD.C	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition	
		5.NF.B	Apply and extend previous understandings of multiplication and division to multiply and divide fractions	30 %
		5.NBT.B	Perform operations with multi-digit whole numbers and with decimals to hundredths	30 %
		5.NBT. A	Understand the place value system	

Lo	25%	5.G.A	Graph points on the coordinate plane to solve real-world and mathematical problems	60 %
		5.G.B	Classify two-dimensional figures into categories based on their properties	
		5.OA.A	Write and interpret numerical expressions	40 %
		5.OA.B	Analyze patterns and relationships	
		5.MD.A	Convert like measurement units within a given measurement system	
		5.MD.B	Represent and interpret data	