

Applying Webb’s Depth-of-Knowledge (DOK) Levels in Social Studies

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According to Norman L. Webb (“Depth-of-Knowledge Levels for Four Content Areas,” March 28, 2002), interpreting and assigning depth-of-knowledge levels to both objectives within standards and assessment items is an essential requirement of alignment analysis. Four levels of Depth of Knowledge are used for this analysis.

A general definition for each of the four (Webb) Depth-of-Knowledge levels is followed by Table 1, which provides further specification and examples for each of the DOK levels for social studies. Webb recommends that large-scale, on-demand assessments only assess Depth-of-Knowledge Levels 1, 2, and 3, due primarily to testing time constraints. Depth-of-Knowledge at Level 4 in social studies is best reserved for local assessment. Table 2 provides examples of DOK “ceilings” (the highest level of cognitive demand for large-scale assessment) using one state’s social studies grade level expectations.

Descriptors of DOK Levels for Social Studies (based on Webb, *Technical Issues in Large-Scale Assessment*, report published by CCSSO, December 2002)

Level 1 Recall of Information

Level 1 asks students to recall facts, terms, concepts, trends, generalizations and theories or to recognize or identify specific information contained in graphics. This level generally requires students to identify, list, or define. The items at this level usually ask the student to recall who, what, when and where. Items that require students to “describe” and “explain” could be classified at Level 1 or 2 depending on what is to be described and explained. A Level 1 “describe or explain” would recall, recite or reproduce information. Items that require students to recognize or identify specific information contained in maps, charts, tables, graphs or drawings are generally level 1.

Level 2 Basic Reasoning

Level 2 includes the engagement of some mental processing beyond recalling or reproducing a response. This level generally requires students to contrast or compare people, places, events and concepts; convert information from one form to another; give an example; classify or sort items into meaningful categories; describe, interpret or explain issues and problems, patterns, reasons, cause and effect, significance or impact, relationships, points of view or processes. A Level 2 “describe or explain” would require students to go beyond a description or explanation of recalled information to describe or explain a result or “how” or “why.”

Level 3 Complex Reasoning

Level 3 requires reasoning, using evidence, and a higher level of thinking than the previous two levels. Students would go beyond explaining or describing “how and why” to justifying the “how and why” through application and evidence. The cognitive demands at Level 3 are more complex and more abstract than Levels 1 or 2. Items at Level 3 include drawing conclusions; citing evidence; applying concepts to new

situations; using concepts to solve problems; analyzing similarities and differences in issues and problems; proposing and evaluating solutions to problems; recognizing and explaining misconceptions or making connections across time and place to explain a concept or big idea.

Level 4 Extended Reasoning

Level 4 requires the complex reasoning of Level 3 with the addition of planning, investigating, or developing that will most likely require an extended period of time. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require applying significant conceptual understanding and higher-order thinking. At this level the cognitive demands should be high and the work should be very complex. Students should be required to connect and relate ideas and concepts *within* the content area or *among* content areas in order to be at this highest level. The distinguishing factor for Level 4 would be evidence through a task or product that the cognitive demands have been met. A Level 4 performance will require students to analyze and synthesize information from multiple sources, examine and explain alternative perspectives across a variety of sources and/or describe and illustrate how common themes and concepts are found across time and place. In some Level 4 performance students will make predictions with evidence as support, develop a logical argument, or plan and develop solutions to problems.

Many on-demand assessment instruments will not include assessment activities that could be classified as Level 4. However, standards, goals, and objectives can be stated so as to expect students to perform thinking at this level. On-demand assessments that do include tasks, products, or extended responses would be classified as Level 4 when the task or response requires evidence that the cognitive requirements have been met.

Source of Challenge Criterion for Social Studies

The Source of Challenge criterion is only used to identify items where the major cognitive demand is inadvertently placed and is other than the targeted social studies content, concept, skill and application. Excessive reading demands, cultural bias, or specialized knowledge could be reasons for an item to have a source of challenge problem. Such item characteristics may cause some students to not answer an assessment item or answer an assessment item incorrectly even though they have the social studies content knowledge, understanding and skills being assessed. Items with an appropriate source of challenge level will differentiate between those students who have the social studies knowledge and understanding the assessment item intends to measure from those students who do not have this knowledge.

Table 1: Sample Depth-of-Knowledge Level Descriptors for Social Studies
(Based on Webb, Karin Hess, 2005, National Center for Assessment www.nciea.org)

| Level 1 Recall of Information | Level 2 Basic Reasoning | Level 3 Complex Reasoning | Level 4 Extended Reasoning |
|---|--|--|--|
| <ul style="list-style-type: none"> a. Recall or recognition of: fact, term, concept, trend, generalization, event, or document b. Identify or describe features of places or people c. Identify key figures in a particular context d. Describe or explain: who, what, where, when e. Identify specific information contained in maps, charts, tables, graphs, or drawings | <ul style="list-style-type: none"> a. Describe cause-effect of particular events b. Describe or explain: how (relationships or results), why, points of view, processes, significance, or impact c. Identify patterns in events or behavior d. Categorize events or figures in history into meaningful groups e. Identify and summarize the major events, problem, solution, conflicts f. Distinguish between fact and opinion g. Organize information to show relationships h. Compare and contrast people, events, places, concepts i. Give examples and non-examples to illustrate an idea/concept | <ul style="list-style-type: none"> a. Explain, generalize, or connect ideas, using supporting evidence from a text/source b. Apply a concept in other contexts c. Make and support inferences about implied causes and effects d. Draw conclusion or form alternative conclusions e. Analyze how changes have affected people or places f. Use concepts to solve problems g. Analyze similarities and differences in issues or problems h. Propose and evaluate solutions i. Recognize and explain misconceptions related to concepts | <ul style="list-style-type: none"> a. Analyze and explain multiple perspectives or issues within or across time periods, events, or cultures b. Gather, analyze, organize, and synthesize information from multiple (print and non print) sources c. Make predictions with evidence as support d. Plan and develop solutions to problems e. Given a situation/problem, research, define, and describe the situation/problem and provide alternative solutions f. Describe, define, and illustrate common social, historical, economic, or geographical themes and how they interrelate |

Depth-of-Knowledge as a “Ceiling” NOT as a “Target”

An important aspect of assessment design is to use the highest Depth-of-Knowledge (DOK) demand implicit in a GLE as the “ceiling” for assessment, not the “target.” Table 2 provides three examples of *one state’s* social studies GLEs for high school with different “ceilings,” that is, the highest DOK Level at which a GLE should be assessed. When considering the highest DOK Level as the ceiling not the target, the GLE has the potential to be assessed at Depth-of-Knowledge Levels at the ceiling, and up to the ceiling, depending upon the demand of the GLE. Table 2 also indicates the other DOK levels at which the GLE could be assessed.

Table 2 Examples of GLEs and Depth of Knowledge for Assessment Purposes

| <i>One state’s</i> Social Studies GLEs for High School | GLE Ceiling | Potential DOK Levels for Assessment |
|--|--------------------|---|
| SS-HS-5.1.2 Students explain that history is a series of connected events shaped by multiple cause and effect relationships, tying past to present. | 1 | 1 (Recall or restate a generalization) |
| SS-HS-1.1.2 Students explain how democratic governments preserve and protect the rights and liberties of their constituents through different sources (e.g., U.N. Charter, Declaration of the Rights of Man, U.N. Declaration of Human Rights, U.S. Constitution). | 2 | 1 (Describe what rights each document preserves) 2 (Explain relationships) |
| SS-HS-1.1.1 Students compare and contrast (purposes, sources of power) various forms of government in the world (e.g., monarchy, democracy, republic, dictatorship) and evaluate how effective they have been in establishing order, providing security, and accomplishing common goals. | 3 | 1 (Identify forms of government) 2 (Compare/contrast forms of government) 3 (Evaluate effectiveness using established criteria) |

Why is this distinction between “ceiling” and “target” important?

If assessed only at the “target,” all GLEs with a Level 3 as their highest demand would only be assessed at Level 3. This would potentially have two negative impacts on the assessment: 1) The assessment as a whole could be too difficult; and 2) important information about student learning along the achievement continuum would be lost.