Assessment Guide for Educators

Introduction

March 2016

GED TESTING SERVICE®

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Note on the March 2016 Edition

GED Testing Service has published the March 2016 Edition of the Assessment Guide for Educators to include the following:

1. Updated performance level information to reflect the new performance levels: Below Passing, Pass/High School Equivalency, GED® College Ready, and GED® College Ready + Credit
2. Updated information on the Social Studies test to reflect the elimination of the Social Studies Extended Response question
3. Streamlining and simplification of the guide, based on adult educator feedback, to make the guide more user-friendly and to eliminate redundancies

CHAPTER 1

Overview

Introduction

In 2014, GED Testing Service launched the latest GED® test to ensure that the GED® testing program is no longer an endpoint for adults, but, instead, a springboard to further education, training, and better paying jobs. Four test subjects—Reasoning Through Language Arts (RLA), Mathematical Reasoning, Science, and Social Studies—measure a foundational core of knowledge and skills reflecting high school equivalency. Two additional performance levels show whether adults have shown readiness for credit-bearing postsecondary courses or have already demonstrated postsecondary level work. The highest performance level actually offers adults the opportunity to earn up to 10 college credits through the ACE CREDIT® recommendation program and ACE Transcript.

The *Assessment Guide for Educators (AGE)* is designed to help adult educators and administrators better understand the content of the GED® test. This guide is tailored to each test subject and highlights the test's item types, assessment targets, guidelines for how items will be scored, and much more. This 2016 edition of the AGE has been updated to include the most recent information about the test, reflecting the adjustments that have been made in the first two years since launch.

Continuing the Tradition of Opportunity

The GED® testing program continues to provide adults the opportunity to earn a high school credential, as it has done since 1942. It measures career- and college-readiness skills that are

not only the focus of today's curriculum, but are also needed for success in both workforce and college programs.

GED Testing Service has also taken a significant leap forward in score reporting. The Enhanced Score Reports that learners receive from each test subject provide information about test-taker strengths and weaknesses. This detailed scoring information benefits test-takers, teachers, postsecondary institutions, and employers.

Today's world is dramatically different than when GED Testing Service introduced the previous edition of the GED® test in 2002. Adults want opportunities for better paying jobs, and ways to support their families. The GED® test and its supporting products and services help adults better demonstrate those skills and abilities necessary to earn a high school equivalency credential and those sought by both employers and postsecondary education institutions, and training programs.

Definition of Readiness

GED Testing Service worked closely with various consulting groups, organizations, and representatives from K-12, two-year and four-year postsecondary institutions, and employers to shape the assessment targets for the GED® test. The assessment targets are derived from nationally recognized career- and college-readiness standards. The targets are informed by research suggesting that a clear and succinct set of essential skills are necessary for success in credit-bearing postsecondary courses as well as in job training programs.

The targets:

- Are clear, understandable, and consistent
- Include rigorous content and require applications of knowledge through a range of cognitive complexity levels
- Are based on evidence

See the section titled "Webb's Depth of Knowledge" in Chapter 1 for a detailed explanation of **Cognitive Complexity**.

The Bottom Line

Test-takers who pass the GED® test must remain competitive with students who complete their high school education and receive

credentials in the traditional manner. As educators and employers increasingly embrace career-and-college-readiness standards, the GED® test has been designed to meet the market's demand for test-takers to be able to demonstrate these high-level skills.

National Curriculum Survey and other recent research evidence suggests that test-takers who demonstrate fluency with the skills measured on the GED® test are better prepared for various career and college pathways. A GED® graduate no longer simply holds a high-school equivalency credential, but instead he or she holds a roadmap for life's success. The GED® testing program today is actively fulfilling its promise to be a stepping-stone toward a college classroom or a better career paying family-sustaining earnings.

Establishing the Performance Standards on the GED® Test

Overview

Since the inception of the GED® testing program in the 1940s, the key purpose of the GED® test has been to provide an opportunity for adults who did not complete a formal high school program to certify their attainment of high school-level academic knowledge and skills in order to earn their jurisdiction's high school-equivalency credential. The current GED® test continues this core purpose. Although the ***content*** of the current test is based on career- and college-ready content standards, the ***Passing Standard***—the score on each test subject that a test-taker must achieve in order to demonstrate the level of performance deemed necessary to receive a high school equivalency credential—is tied to the performance on the GED® test of high school students who graduated and received their diplomas in the spring of 2013.

Standardization and Norming

As previously noted, the score scale for the GED® test is tied to the performance of 2013 high school graduates who took the current version of the GED® test. This allows adult test-takers the opportunity to demonstrate that their knowledge and skills are comparable to those of high school graduates. This referencing of the GED® test score scales to a national sample of high school graduates is often referred to as "norming."

Benefits of Career- and College-Ready Content and Norm-Referenced Passing Standard

There are significant benefits to basing the GED® test content on career and college ready standards, while at the same time tying the passing standard to the performance of 2013 high school graduates.

First, tying the passing standard on the GED® test to empirical performance data means that adults who are seeking a high school-equivalency credential will be able to earn one even though they have not necessarily received instruction in the full range, depth, and breadth of content that is covered by career- and college-ready content standards. High school graduation requirements are likely to become more rigorous across the country once career- and college-ready curriculum becomes the norm in public education. However, it will likely take a number of years before this effect is felt in K-12 schools. GED Testing Service monitors both the public education environment and adult GED® test performance and is committed to revising the passing standard as circumstances dictate. In fact, the test performance standards originally established in the fall of 2013 were adjusted in early 2016 as described on the GED Testing Service website at **http://www.gedtestingservice.com/uploads/files/e4b463eb7a4fc68024098c42f851dd6a.pdf**.

Second, career-and-college ready skills have become increasingly important in a wide range of jobs, careers, and post-secondary certificate and credential programs. As a result, the college and career-based information on the score reports has demonstrated its value in helping test-takers plan their path forward.

Test-takers receive informative performance feedback regarding the content knowledge and skills they have demonstrated on the GED® test. GED Testing Service and other content and testing experts have examined how the test content aligns with the score scale to identify performance levels. Test-takers receive feedback on the knowledge and skills associated with performance within that performance levels. Identifying these areas of content knowledge and skills was a critical step in providing feedback and information to test-takers on how they are progressing toward career and college readiness, and what actions they might need to take to improve their skills going forward.

Finally, there are future benefits to having performance levels that measure progress toward career and college readiness. In conjunction with higher education institutions, GED Testing Service is conducting targeted longitudinal research studies to provide empirical evidence to support meaning and relevance of the GED® test performance levels and test-taker outcomes

Indicator

Indicators are fine-grained descriptions of specific skills that will be assessed in individual test items. (See the individual content area sections — RLA, Mathematical Reasoning, Science and Social Studies — of the AGE for more information on Indicators for each subject.)

Involvement of Higher Education in Performance Level Identification

GED Testing Service involved content experts from higher education community to define the performance levels on the GED® test. Test-taker skill attainment is an important aspect of the test, and higher education professionals have been integral in setting the performance levels.

Conclusion

In summary:

- The GED® test is tied to career- and college-readiness content, in order to provide information to test-takers on how they exhibit critical academic knowledge and skills required for success in the majority of jobs and postsecondary programs in today's economy.
- The GED® test has a ***Passing Standard*** (which test-takers need to reach in order to obtain a high school-equivalency credential) tied to empirical performance of a national sample of 2013 high school graduates, resulting in the continuing ability of the GED® testing program to meet its longstanding purpose of being an alternate pathway to a high school credential for thousands of adults who need a second chance at success.
- Now that so many careers require some sort of postsecondary education or credential, the GED® test has additional performance levels that give test-takers feedback that will help them progress toward career and college readiness and even earning of college credits.

CHAPTER 2

Webb's Depth of Knowledge Model

The Depth of Knowledge (DOK) model was developed by Dr. Norman L. Webb in 1997 to analyze the varying levels of cognitive complexity in academic standards and curricula. GED Testing Service is using Webb's DOK model to guide item development for the current GED® test, in the same manner as Bloom's Taxonomy of learning objectives was used to guide development of previous test editions.

GED Testing Service uses Webb's DOK model to measure the cognitive complexity of test items. The model has four levels. The levels serve to categorize varying cognitive complexities of items and are not a hierarchy of importance. The table below identifies the four DOK levels.

Level 1	Recall and Reproduction
Level 2	Skills and Concepts
Level 3	Strategic Thinking
Level 4	Extended Thinking

Cognitive Complexity

In order to understand Webb's DOK model, one must understand the meaning of cognitive complexity. The term *complexity* refers to the cognitive steps a test-taker must go through to arrive at a correct answer. Complexity does **not** refer to an item's level of difficulty.

For example, listing all U.S. presidents in order is relatively simple for someone who has memorized the list. However, it would be quite challenging for someone who has not. Regardless, this is a straightforward task one-step task that relies on direct recall. Therefore, the

Cognitive Complexity refers to the cognitive demand of the item. In other words, it is determined by how many steps are necessary for the test-taker to answer a question or solve a problem. **Item difficulty** is determined by the percentage of students who chose the correct answer on an assessment.

task would be labeled as DOK level 1. On the other hand, writing a response that compares the roles of the legislative and judicial branches of government requires strategic analysis. Test-takers need to go through multiple steps in order to analyze information and transform it using their own words. This task would likely be labeled as DOK level 3.

Cognitive complexity is impacted by a number of factors, including (1) the steps required in developing a response, (2) the type of response test-takers need to produce, and (3) the types of stimulus materials all help determine cognitive complexity.

Comparing Bloom's Taxonomy and Webb's DOK

Differences between Bloom's Taxonomy and Webb's DOK are shown in the comparison table below. At first glance, DOK might seem to resemble Bloom's Taxonomy, but DOK actually takes a different approach. In Bloom's Taxonomy, the focus is on a learner's activity (e.g. applying, analyzing, creating, etc.). In DOK, the emphasis is on the complexity of the cognitive processes that each of those activities (applying, analyzing, creating) requires on the part of the learner.

A Comparison: Bloom's Taxonomy and Webb's Depth of Knowledge[1]

BLOOM'S TAXONOMY	WEBB'S DEPTH OF KNOWLEDGE [2]
KNOWLEDGE "The recall of specifics and universals, involving little more than bringing to mind the appropriate material"	**RECALL** Recall of a fact, information, or procedure (e.g. What are three critical skill cues for the overhand throw?)
COMPREHENSION "Ability to process knowledge on a low level such that the knowledge can be reproduced or communicated without a verbatim repetition."	
APPLICATION "The use of abstractions in concrete situations."	**BASIC APPLICATION OF SKILL/CONCEPT** Use of information, conceptual knowledge, procedures, two or more steps, etc. (e.g. Explain why each skill cue is important to the overhand throw. "By stepping forward you are able to throw the ball further.")
ANALYSIS "The breakdown of a situation into its component parts."	**STRATEGIC THINKING** Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer; generally takes less than ten minutes to do (e.g. Design 2 different plays in basketball and explain what different skills are needed and when the plays should be carried out.)
SYNTHESIS AND EVALUATION "Putting together elements & parts to form a whole, then making value judgments about the method."	**EXTENDED THINKING** Requires an investigation; time to think and process multiple conditions of the problem or task; and more than ten minutes to do non-routine manipulations (e.g. Analyze three different tennis, racquetball, and badminton strokes for similarities, differences, and purposes. Then, discuss the relationship between the mechanics of the stroke and the strategy for using the stroke during game play.)

1 Bloom's Taxonomy and Webb's Depth of Knowledge comparison table source: http://www.palmbeachschools.org/qa/documents/WebbsDepthofKnowledge.pdf

2 Each of the four descriptions below correspond with a DOK level. For example, "Recall" corresponds to DOK 1, "Basic Application" to DOK 2, "Strategic Thinking" to DOK 3, and "Extended Thinking" to DOK 4.

Interpreting the DOK Levels

DOK level 1 items require a single cognitive process, with no extensions or connections. The items usually are answered by a literal interpretation of the stimulus materials or require a rote response through memorized algorithms. Items that require direct recall of information, whether it's a fact, term or procedure, and are generally labeled DOK 1.

DOK level 2 items go beyond literal interpretation. Items that require test-takers to apply skills, make estimations, interpretations, or connections within or among different ideas or pieces of information are generally labeled DOK 2.

DOK level 3 items require test-takers to use multiple cognitive processes across an entire stimulus or multiple stimuli. Items that that require test-takers to use their own words in order to problem solve, express their thoughts, or synthesize information are generally labeled DOK 3.

DOK level 4 tasks require complex reasoning and investigation (e.g. skills required to successfully complete long-term research projects) and are better-suited for the classroom than for a time-constrained assessment like the GED® test. The GED® test does not include DOK level 4 items.

The following table provides more information about each DOK level, as well as examples.

English Language Arts [3]

Level 1	Level 2	Level 3	Level 4
Requires students to recall, observe, question, or represent facts or simple skills or abilities. Requires only surface understanding of text, often verbatim recall or slight paraphrasing. Use conventions of standard English. **Examples:** • Support ideas by reference to specific details in text • Use dictionary to find meaning • Use punctuation marks correctly • Identify figurative language in passage • Identify correct spelling or meaning of words	Requires processing beyond recall and observation. Requires both comprehension and subsequent processing of text. Involves ordering, classifying text as well as identifying patterns, relationships and main points. Connect ideas using simple organizational structures. Requires some scrutiny of text. **Examples:** • Use contextual clues to identify unfamiliar words • Predict logical outcome • Construct or edit compound or complex sentences • Identify and summarize main points • Apply knowledge of conventions of standard American English • Compose accurate summaries	Requires students to go beyond text. Requires students to explain, generalize, and connect ideas. Involves inferencing, prediction, elaboration, and summary. Requires students to support positions using prior knowledge and to manipulate themes across passages. Students develop compositions with multiple paragraphs. **Examples:** • Determine effect of author's purpose on text elements • Summarize information from multiple sources • Critically analyze literature • Edit writing to produce logical progression • Compose focused, organized, coherent, purposeful prose	Requires extended higher order processing. Typically requires extended time to complete task, but time spent not on repetitive tasks. Involves taking information from one text/passage and applying this information to a new task. May require generating hypotheses and performing complex analyses and connections among texts. **Examples:** • Analyze and synthesize information from multiple sources • Examine and explain alternative perspectives across sources • Describe and illustrate common themes across a variety of texts • Create compositions that synthesize, analyze, and evaluate

3 The English Language Arts table is used with permission of Dr. Norman L. Webb from the University of Wisconsin Center for Educational Research.

Mathematics [4]

Level 1	Level 2	Level 3	Level 4
Requires students to recall or observe facts, definitions, or terms. Involves simple one-step procedures. Involves computing simple algorithms (e.g. sum, quotient). **Examples:** • Recall or recognize a fact, term or property • Represent in words, pictures or symbols in a math object or relationship • Perform routine procedure like measuring	Requires students to make decisions of how to approach a problem. Requires students to compare, classify, organize, estimate, or order data. Typically involves two- step procedures. **Examples:** • Specify and explain relationships between facts, terms, properties or operations • Select procedure according to criteria and perform it • Solve routine multiple- step problems	Requires reasoning, planning, or use of evidence to solve problem or algorithm. May involve activity with more than one possible answer. Requires conjecture or restructuring of problems. Involves drawing conclusions from observations, citing evidence, and developing logical arguments for concepts. Uses concepts to solve non-routine problems. **Examples:** • Analyze similarities and differences between procedures • Formulate original problem given situation • Formulate mathematical model for complex situation	Requires complex reasoning, planning, developing, and thinking. Typically requires extended time to complete problem, but time spent not on repetitive tasks. Requires students to make several connections and apply one approach among many to solve the problem. Involves complex restructuring of data, establishing and evaluating criteria to solve problems. **Examples:** • Apply mathematical model to illuminate a problem, situation • Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results • Design a mathematical model to inform and solve a practical or abstract situation

4 The Mathematics table is used with permission of Dr. Norman L. Webb from the University of Wisconsin Center for Educational Research.

Science [5]

Level 1: Recall & Reproduction	Level 2: Skills & Concepts	Level 3: Strategic Thinking	Level 4: Extended Thinking
a. Recall or recognize a fact, term, definition, simple procedure (such as one step), or property b. Demonstrate a rote response c. Use a well-known formula d. Represent in words or diagrams a scientific concept or relationship e. Provide or recognize a standard scientific representation for simple phenomenon f. Perform a routine procedure, such as measuring length g. Perform a simple science process or a set procedure (like a recipe) h. Perform a clearly defined set of steps i. Identify, calculate, or measure **NOTE:** If the knowledge necessary to answer an item automatically provides the answer, it is a Level 1.	a. Specify and explain the relationship between facts, terms, properties, or variables b. Describe and explain examples and non- examples of science concepts c. Select a procedure according to specified criteria and perform it d. Formulate a routine problem given data and conditions e. Organize, represent, and compare data f. Make a decision as to how to approach the problem g. Classify, organize, or estimate h. Compare data i. Make observations j. Interpret information from a simple graph k. Collect and display data **NOTE**: If the knowledge necessary to answer an item does not automatically provide the answer, then the item is at least a Level 2. Most actions imply more than one step. **NOTE:** Level 3 is complex and abstract. If more than one response is possible, it is at least a Level 3 and calls for use of reasoning, justification, evidence, as support for the response.	a. Interpret information from a complex graph (such as determining features of the graph or aggregating data in the graph) b. Use reasoning, planning, and evidence c. Explain thinking (beyond a simple explanation or using only a word or two to respond) d. Justify a response e. Identify research questions and design investigations for a scientific problem f. Use concepts to solve non-routine problems/more than one possible answer g. Develop a scientific model for a complex situation h. Form conclusions from experimental or observational data i. Complete a multi-step problem that involves planning and reasoning j. Provide an explanation of a principle k. Justify a response when more than one answer is possible l. Cite evidence and develop a logical argument for concepts m. Conduct a designed investigation n. Research and explain a scientific concept o. Explain phenomena in terms of concepts	a. Select or devise approach among many alternatives to solve problem b. Based on provided data from a complex experiment that is novel to the student, deduct the fundamental relationship between several controlled variables c. Conduct an investigation, from specifying a problem to designing and carrying out an experiment, to analyzing its data and forming conclusions d. Relate ideas within the content area or among content areas e. Develop generalizations of the results obtained and the strategies used and apply them to new problem situations **NOTE:** Level 4 activities often require an extended period of time for carrying out multiple steps; however, time alone is not a distinguishing factor if skills and concepts are simply repetitive over time.

5 © Karin K. Hess, National Center of Assessment, Dover, NH. khess@nciea.org. Link: http://www.nciea.org/publications/DOKscience_KH11.pdf

Social Studies [6]

Level 1: Recall of Information	Level 2: Basic Reasoning	Level 3: Complex Reasoning	Level 4: Extended Reasoning
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 meaning of words d. Describe or explain: who, what, where, when e. Identify specific information contained in maps, charts, tables, graphs, or drawings	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	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	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

6 © Karin K. Hess, National Center of Assessment, Dover, NH. khess@nciea.org. Link: http://www.nciea.org/publications/DOKsocialstudies_KH08.pdf

Determining DOK Levels on the GED Test Subjects

DOK level is determined by content experts and experienced educators, as opposed to item difficulty, which is measured empirically through test item statistics when the items are field-tested. Items with higher DOK levels tend to be more difficult than items with a lower DOK level, but that is not necessarily the case.

Content experts take many factors into consideration when determining DOK levels. The type of item and the type of response the test-taker needs to produce are considered. If the item contains a stimulus, the complexity of the stimulus is also a factor that must be considered.