Study of the CASAS Relationship to GED® 2014

CASAS, in cooperation with the GED Testing Service®, is conducting a study to provide guidance to adult education programs and instructional staff regarding student readiness to take the 2014 GED® test. The study examines the relationship of CASAS reading and math scores to the GED Ready® practice test results in Reasoning through Language Arts (RLA) and Mathematical Reasoning.

To date, more than 1,000 students have participated in the study from three principal states — California, Connecticut, and Rhode Island. CASAS and the GED Testing Service® continue to recruit participants to increase the sample size of the study. This research brief presents preliminary results that show a positive relationship between CASAS reading scores and the GED® Reasoning Through Language Arts Ready Test scores as well as between CASAS math scores and GED® Mathematical Reasoning Ready Test scores.

▶ **Test Content**

CASAS

CASAS Reading and Math forms are designed and validated to represent the entire range of skills associated with the National Reporting System for Adult Education (NRS) Educational Functioning Levels.

Tables 6 and 7 provide additional information including CASAS reading and math skill level descriptors for CASAS Levels D and E and CASAS scoring ranges compared to National Reporting System for Adult Education (NRS) Educational Functioning Levels.

More information on test content can be found at www.CASAS.com.

GED Ready® Practice Test

GED Ready®: The Official Practice Test (GED Ready®) is a computer-based practice test that is approximately 50 percent of the length of the operational 2014 GED® test.

GED Ready® is an abbreviated version of the operational GED® test. It is a battery comprising four content area tests: Reasoning Through Language Arts (RLA), Mathematical Reasoning, Science, and Social Studies. Each test is a practice version of the full-length, operational GED® test of the same content area, though for the purposes of this study only the RLA and Mathematical Reasoning tests were used.

All GED Ready® test items are developed simultaneously with those for the operational GED® test and are drawn from the same item pool. Furthermore, GED Ready® contains all of the same item types and formats of the operational test. GED Ready® and GED® test scores are reported on the same scale, which ranges from 100 to 200. Because the purpose of GED Ready® is to provide feedback on future performance on the GED® test, GED Testing Service created the following performance reporting zones to aid score interpretation: (1) Not Likely to Pass (the "red" zone), (2) Too Close to Call (the "yellow" zone), and (3) Likely to Pass (the "green" zone).

Table 1 shows the percentage of adult testers who passed the operational GED® test given their performance on GED Ready®.

More information on test content can be found at www.gedtestingservice.com.

Table 1 GED Ready® Performance and GED® Pass Rates

Content Area	GED Ready® Zone	Passed
Reasoning Through Language Arts	Red	51%
	Yellow	64%
	Green	92%
Mathematical Reasoning	Red	47%
	Yellow	64%
	Green	90%

▶ **Study Methodology**

All participants were from WIOA funded adult education providers who offer adult basic education (ABE), adult secondary education (ASE), and English as-a-second language (ESL) programs.

Colleges and agencies were asked, when possible, to administer the CASAS and GED Ready® practice tests within a two-week time period. This was to limit the amount of instruction between testing events. It was not always feasible for the tests to be administered within two weeks but, as a whole, the tests were administered within close proximity.

Of the 1033 participants, 28 percent completed the two tests within one week, 55 percent completed the tests within two weeks, 87 percent completed the tests within 30 days, and 94 percent completed the tests within 60 days. Less than 6 percent completed the tests in a period greater than 60 days.

Study Population

The study looked at the relationship of CASAS tests to the official GED Ready® practice test using paired test data from California (n=807), Connecticut (n=101), Rhode Island (n=109), and other states (n=16). The sample population represented the population for whom the CASAS tests are intended.

Age data was reported by 98.8 percent of the study participants. Of these participants 4 percent were between 16-18 years, 23 percent were between 19 and 24, 57 percent were 25 to 44 years, 14 percent were 45 to 59 years, and 1 percent were 60 or older.

Gender data was reported by 98.5 percent of the study participants. Of these participants 67 percent were female and 33 percent are male.

Race/Ethnicity data was reported by 98.2 percent of the study participants. Of these participants 69 percent identified as Hispanic or Latino, 14 percent as White, 9 percent as Black, 4 percent as Asian, and 2 percent as American Indian.

▶Preliminary Observations

Students who take the GED Ready® practice test were classified into a GED Ready® Performance Level based on their score. The GED Ready® Performance Levels are comprised of the Red Zone (Not Likely to Pass), the Yellow Zone (Too Close to Call), and the Green Zone (Likely to Pass).

Preliminary results showed a clear positive relationship between student functioning level on the CASAS test and student classification into GED Ready® Performance Levels. Based on these analyses, preliminary observations regarding performance on CASAS and administration of the GED® test are included in the next section. These observations are based in the data presented in tables 2 through 5 at the end of this brief.

GED Ready® Practice Test Reasoning Through Language Arts and CASAS Reading Test

An analysis of preliminary results with respect to the CASAS Reading Level classifications showed that students taking CASAS reading tests and placing into CASAS Level C were classified into the GED Ready® Red Zone 22 percent of the time, the Yellow Zone 55 percent of the time, and the Green Zone 23 percent of the time based on their GED Ready® Reasoning Through Language Arts. Students taking CASAS reading tests and placing into CASAS Level D were classified into GED Ready Red Zone 8 percent of the time and the Green Zone 58 percent of the time. Students taking CASAS reading tests and placing into CASAS Level E were classified into GED Ready® Yellow Zone 14 percent of the time and the Green Zone 83 percent of the time. See Table 2.

An analysis of preliminary results with respect to the GED Ready® Performance Levels showed that students classifying into GED Ready® Red Zone had a mean CASAS reading score of 229, and 27 percent classified into CASAS Level D or E. Students classifying into the GED Ready® Yellow Zone had a mean CASAS reading score of 235, and 44 percent classified into CASAS Level D or E. Students classifying into the GED Ready® Green Zone had a mean CASAS reading score of 242, and 59 percent classified into CASAS Level D or E. See Table 3.

GED Ready® Practice Test Mathematical Reasoning and CASAS Math Test

Students taking CASAS math tests and placing into CASAS Level C were classified into the GED Ready® Red Zone 16 percent of the time, the Yellow Zone 60 percent of the time, and the Green Zone 24 percent of the time based on their GED Ready® Mathematical Reasoning Score. Students taking math tests and placing into CASAS Level D were classified into GED Ready® Red Zone 7 percent of the time, the Yellow Zone 44 percent of the time, and the Red Zone 49 percent of the time. All 12 students taking CASAS math tests and placing into CASAS Level E were classified into GED® Yellow or Green Zones. See Table 4.

Students classifying into GED Ready® Red Zone had a mean CASAS math score of 225, and 8 percent classified into CASAS Level D or E. Students classifying into the GED Ready® Yellow Zone had a mean CASAS math score of 229, and 16 percent classified into CASAS Level D or E. Students classifying into the GED Ready® Green Zone had a mean CASAS math score of 234, and 40 percent classified into CASAS Level D or E. See Table 5.

▶Summary

Preliminary observations indicated that students who scored at the CASAS Level E have the highest probability of being ready to take the individual GED® test subsections.

Preliminary data also indicated that in certain cases a student functioning at CASAS Level D may be sufficiently prepared to take the GED® test. An instructor, considering additional factors and methods used to determine a student's readiness, may conclude that a student functioning at this level is ready to attempt the GED® test.

Students functioning at CASAS Level C were more unlikely to be sufficiently prepared to take the GED® test. As with those students functioning at Level D, an instructor may consider additional factors and conclude that a student functioning at the higher end of the Level C range (greater than 230) is ready to attempt the GED® Reasoning through Language Arts or Mathematical Reasoning subsections.

▶Future Research

CASAS and the GED Testing Service® continue to recruit student participation to further analyze the preliminary observations cited in this brief. This is especially important at the highest functioning levels where the sample sizes must be increased to provide final conclusions. An update to this research brief will be published based on the increased study population.

Table 2 CASAS to GED Ready® Practice Test – Reasoning Through Language Arts

CASAS Level	Mean GED Ready® Score	GED Ready® Practice Test Levels			Total
		% of Examinees at Red (100-133)	% of Examinees at Yellow (134-144)	% of Examinees at Green (145-200)	
Level A <211	123	100%	0%	0%	1
Level B 211-220	132	60%	36%	4%	25
Level C 221-235	139	22%	55%	23%	211
Level D 236-245	145	8%	34%	58%	238
Level E >245	154	3%	14%	83%	106

Table 3 GED Ready® Practice Test to CASAS – Reasoning Through Language Arts

GED Ready® Practice Test Performance Levels	Mean CASAS Reading Score	CASAS Reading Test Levels					Total
		% of Examinees at CASAS Level A (< 211)	% of Examinees at CASAS Level B (211-220)	% of Examinees at CASAS Level C (221-235)	% of Examinees at CASAS Level D (236-245)	% of Examinees at CASAS Level E (>246)	
GED Ready® Red Zone (100-133)	229	1%	18%	54%	24%	3%	85
GED Ready® Yellow Zone (134-144)	235	0%	4%	52%	37%	7%	222
GED Ready® Green Zone (145-200)	242	0%	0%	41%	41%	18%	274

Table 4 CASAS to GED Ready® Practice Test – Mathematical Reasoning

CASAS Level	Mean GED® Ready Score	GED Ready® Practice Test Levels			Total
		% of Examinees at Red (100-133)	% of Examinees at Yellow (134-144)	% of Examinees at Green (145-200)	
Level A <211	133	60%	40%	0%	5
Level B 211-220	135	32%	56%	12%	57
Level C 221-235	139	16%	60%	24%	294
Level D 236-245	143	7%	44%	49%	84
Level E >245	158	0%	17%	83%	12

Table 5 GED Ready® Practice Test to CASAS – Mathematical Reasoning

GED Ready® Practice Test Performance Levels	Mean CASAS Math Score	CASAS Math Test Levels					Total
		% of Examinees at CASAS Level A (< 211)	% of Examinees at CASAS Level B (211-220)	% of Examinees at CASAS Level C (221-235)	% of Examinees at CASAS Level D (236-245)	% of Examinees at CASAS Level E (>246)	
GED Ready® Red Zone (100-133)	225	4%	24%	64%	8%	0%	75
GED Ready® Yellow Zone (134-144)	229	1%	13%	71%	15%	1%	248
GED Ready® Green Zone (145-200)	234	0%	5%	55%	32%	8%	129

Table 6 CASAS Reading and Mathematics Skill Level Descriptions for Levels D and E

Level	Reading	Math
Level D CASAS Scale Score 236-245	Has a range of vocabulary adequate for reading material related to life and work needs, such as common workplace communication; Interprets forms, instructions and manuals with moderately complex formatting. Reads diagrams with familiar content; Understands some technical vocabulary related to work needs; Is able to apply reading skills to computer and Internet use, including searching for and identifying documents and information and understanding standard Web site organization	Creates tables that provide for calculation of data; Applies common practical formulas (e.g., d = r x t); Plots equations on a graph; Interprets and calculates rates (e.g., frequency, consumption); Calculates perimeter, area and volume of a variety of common figures; Calculates with metric units of measure
Level E CASAS Scale Score 246+	Reads a variety of specialized or technical materials related to job needs, such as operating instructions, manuals, and technical information; Interprets detailed policies and procedures; Reads complex diagrams and graphs; Reads most materials and communications related to job without significant difficulty; Uses print and Internet based references and interpret complex Web sites	Interprets data in more complex sorts of graphs and representation; Summarizes and reports data for a particular purpose; Presents data in various representations and interpretations; Applies ratio and proportion; Creates and interprets graphs of more complex equations; Works with three dimensional representations and coordinate systems; Applies and calculates a variety of rates

Table 7 CASAS Score Ranges and NRS Levels

CASAS Score Ranges and NRS Levels	NRS ABE Levels	NRS ESL Levels
<180	ABE Beginning Literacy	ESL Beginning Literacy
181-190	ABE Beginning Literacy	ESL Beginning Low
191-200	ABE Beginning Literacy	ESL Beginning High
201-210	ABE Beginning Basic Education	ESL Intermediate Low
211-220	ABE Intermediate Low	ESL Intermediate High
221-235	ABE Intermediate High	ESL Advanced
236-245	ASE Low	—
246+	ASE High	—