CASAS/GED

Writing Skills Study

CASAS

The Iowa Department of Education is planning to include a writing skills component in its existing adult basic skills certification program. The Iowa Basic Skills Certification program is designed to award basic skills certificates to adult learners enrolled in Iowa's community college based adult basic education programs. The CASAS Functional Writing Assessment is being proposed as a key instrument in awarding basic skills certificates in Iowa.

The major purposes of this study were to**:**

- determine the predictability of GED essay writing scores using the CASAS Functional Writing Assessment.

- establish concurrent validity between the CASAS Functional Writing Assessment rubric, a relatively new instrument, with an existing and known measure, the essay section of the GED Writing Test. The GED Writing Test is currently widely used and well known in the state of Iowa and nationwide.

- validate the inter-rater reliability of the CASAS Functional Writing Assessment rubric across the five scoring categories, as well as the total weighted score.

THE CASAS FUNCTIONAL WRITING ASSESSMENT

The CASAS Functional Writing Assessment provides teachers of Adult Basic Education (ABE) and English as a Second Language (ESL) at the adult basic education or adult secondary level with a means of assessing their students' writing skills in a functional workplace, employability, and life skills context. Learners may be assessed with any of three 30-minute writing tasks: Form Task, Picture Task, or Process Task. The Picture Task was used in this study. It involves responding to a picture prompt. Writing samples are scored analytically using detailed rubrics and annotated scoring anchors. A scoring service is available that allows programs to use these measures to report standardized results without investing in the staff training process.

Rubrics are used to interpret scores and to report results to students or others. Performance on single administrations of the test or on pre- and post-tests can be compared by looking at individual category ratings and overall scores. Scores can also be used to compare test performance among students. An advantage of analytic scoring is that individual learner test performance from each of the categories in the rubric may be discussed to provide diagnostic information about learners' strengths and weaknesses in writing. This information also provides specific assistance to instructors to determine the focus of instruction.

Each rubric category is weighted. These weighting values were developed by a panel of experts familiar with writing instruction for ABE and adult ESL learners. Score ranges for each level are derived from the weightings for each rubric category. Scores for each category receive a "weighting" (content x 5, organization x 3, word choice x 3, grammar and sentence structure x 2, and spelling/capitalization/punctuation x 1) which is then computed for a total weighted score. For example, content is weighted as 5 because it is essential for the

communication of ideas in functional writing, while the category of spelling/capitalization/punctuation is weighted as 1. The levels are related to the California ESL Model Standards Writing Skill descriptions for proficiency levels "ESL Beginning Literacy" (0), through "Advanced Low" (5). A score interpretation chart is provided for the Picture Task. (See Table 1.1.)

Table 1.1

Score Interpretation for the CASAS Functional Writing Assessment Picture Task	
Score Range	**Level**
0 - 13	0
14 - 27	1
28 - 41	2
42 - 55	3
56 - 69	4
70	5

Iowa's adult basic education programs are encouraged to adapt the score ranges provided in these charts to the actual levels in their programs if they are different from the charts. Learners' skill levels in writing may be different from their levels in listening, speaking, and reading.

DESCRIPTION OF THE STUDY

The study was conducted by CASAS for the Iowa Department of Education during the 1999-2000 program year. The study sample consisted of 204 scored GED writing samples collected from Iowa's three regional essay scoring centers. Iowa scores the GED essay for most of the midwestern states. The sample included examinees from all points on the GED holistic six-point scale, distributed evenly across the scale.

All 204 GED writing samples were independently scored by three CASAS scorers. These are expert scorers with masters degrees, extensive experience in adult basic education, and previous in-depth experience with the CASAS Functional Writing Assessment.

The following steps were taken to distribute the samples to the scorers. All steps used to prepare the samples for scoring were done by a staff member who was not involved in scoring samples. The sample originals were duplicated and placed into three stacks of 70 samples each (1-2-3, 4-5-6, etc.).

The GED scores were masked and each sample was assigned a unique number. The order of presentation for the samples was determined by a table of random numbers. The samples were placed in the order determined by the table of random numbers. The three stacks of samples were duplicated and given to the three scorers with directions that the samples should be scored in the order presented. After the initial batch of 70 were scored, each batch was halved and each half given to the two other scorers.

Each sample was double scored in five categories (content, organization, word choice, grammar/sentence structure, and spelling/capitalization/punctuation) using the CASAS Functional Writing Assessment Picture Task rubric. If there was not consensus between scorers (within one point) in any of the five categories, the sample was scored by a third scorer. Scores from each scorer were entered into a database.

RESULTS

Study results showed that the CASAS Functional Writing Assessment is a strong predictor of scores on the essay section of the GED Writing Test.

At the time of this study, GED holistic writing scores were reported on a six-point rubric ranging from 1 to 6, while CASAS scores were reported on a six-point rubric ranging from 0 to 5. (In the new GED 2002, the GED writing rubric will change to a four-point holistic scale.) The 0 level for the CASAS test has not been reported because only one person in the sample scored at that level.

As can be seen in table 1.2, the probability is high of receiving a comparable GED holistic score at the two lower levels of the CASAS test. Someone who scores 1 on the CASAS writing test is likely also to score 1 on the GED Writing Test 87.5 percent of the time. At CASAS level 2, there is also a very strong relationship to a GED score of 2. Of the 53 examinees in the sample who scored 2 on the CASAS test, nearly 72 percent are expected also to score 2 on the GED.

Table 1.2

CASAS Functional Writing Assessment Score as a Predictor of GED Holistic Writing Sample Score

CASAS Functional Writing Assessment Score	GED Writing Sample Score					
	1	2	3	4	5	6
1	87.5%	12.5%				
2	7.5%	71.7%	17.0%	3.8%		
3		12.5%	51.8%	26.8%	7.1%	1.8%
4			10.3%	35.9%	38.5%	15.4%
5				12.5%	25.0%	62.5%

In the middle of the two scales, the predictability is not as clear, perhaps because of the different number of score points on the two scales. A score of three on the CASAS scale translates to a 3 on the GED about half of the time (51.8%), and to a 4 on the GED about one-quarter of the time (26.8%).

For a CASAS score of 4, three-quarters of the scores are divided between a GED score of 4 (35.9%) and 5 (38.5%). Finally, with a CASAS score of 5, there is a 25 percent probability of the same score on the GED, and a 62.5 percent probability of scoring the top GED score of 6.

To summarize, for CASAS scores of 1 and 2, there is a very strong probability of receiving the same score on the GED. A score of 3 on CASAS translates to a 3 or 4 on the GED, a 4 on CASAS translates to a 4 or 5 on the GED, and a CASAS score of 5 translates to a 5 or 6 on the GED.

REGRESSION ANALYSES

A regression analysis was also computed with the GED holistic score as the criterion variable and the CASAS Functional Writing Assessment score as the predictor variable. The results were as follows:

> GED Score = -.091 + .826 (CASAS Writing Score)
> T-value = 20.979
> R-squared = .682

The Pearson correlation coefficient is .826, indicative of a robust correlation between the CASAS Functional Writing Assessment and the GED holistic writing score. In addition, the T-value for the predictor coefficient is significant at the .01 level, another indicator of the strong correlation between the two instruments. These results suggest high concurrent validity between the two writing assessments.

INTER-RATER RELIABILITY

Another aspect of this study was to determine the inter-rater reliability of the CASAS Functional Writing Assessment rubric across the various scoring categories. Results of the study support a significant level of inter-rater reliability while demonstrating that the CASAS scoring rubric for narrative writing is well defined and constructed.

Table 1.3 looks at the proportion of tests in each category that have the indicated point differences (0 to 3).

Table 1.3

Functional Writing Assessment Category Proportions by Scorer Point Differences				
	Point Difference Between Scorer 1 & 2			
Category	**0**	**1**	**2**	**3**
Content	29.4	53.9	15.7	1.0
Organization	28.9	52.5	18.1	0.5
Word Choice	23.0	64.8	12.2	0.0
Grammar/SS	26.5	63.2	10.3	0.0
Spell/Cap/Punc	36.8	54.9	7.8	0.5
Overall Score	20.6	67.6	11.8	0.0

Overall, 88.2 percent of the tests had a score difference of one or less. The results reflect a strong degree of inter-rater reliability. Within the specific categories, spelling/capitalization/punctuation had the highest proportion (91.7 percent) with a scoring difference less than or equal to one, followed by grammar/sentence structure (89.7) and word choice (87.8%). Since these categories are more concrete for scoring purposes, it follows that they would have less variation between scorers. Organization (81.4%) and content (83.3%) are more subjective categories, and this may be the reason for more variation among scorers for these categories. However, their inter-rater reliability coefficients are still strong.

CONCLUSION

The results of this study provide a solid research-based rationale for using the CASAS Functional Writing Assessment as a key instrument in awarding basic skills writing certificates in Iowa. The demonstrated relationship between the CASAS Functional Writing Assessment Picture Task rubric and the GED essay Writing Test provides practitioners with a framework for interpreting CASAS writing results.

Teachers will be able to use test results to provide diagnostic information to learners by looking at individual category ratings and overall scores. They will thus be able to target learners' strengths and weaknesses and provide meaningful guidance as learners move toward completion of a writing skills certificate.