

The Performance of Alabama College System Students on the Alabama Basic Skills Test--Update

BACKGROUND

The Alabama Basic Skills Test is a criterion-referenced test developed by National Computer Systems. The test is designed to measure a student's skills in relation to an established level of performance rather than to other students who have taken the test. This test has been used since 1992 and is required for all students seeking admission to teacher education programs at Alabama colleges or universities.

The test consists of three major content areas—reading, writing, and mathematics. The reading portion requires students to use context clues and structural analysis to determine the meaning of unfamiliar words. Students must read short passages and identify, interpret, and evaluate various components of the passage. Familiarity with the scope of commonly used referenced materials—for example, the dictionary, library card catalog, charts and graphs—is also assessed.

Writing ability is tested with a series of multiple-choice questions and through an essay in response to a given topic. The mathematics area assesses basic knowledge of arithmetic, geometry, statistics, and measurement. It is reported by NCS that most questions in the mathematics section require students to demonstrate problem-solving ability, as well as knowledge of mathematical procedures.

The test is composed of the essay and 100 multiple-choice items. Scores for the Alabama Basic Skills Test are reported on a scale from 94 to 428. A score of 428 represents the maximum score possible. A score of 94 represents the lowest score reported. The State Board of Education established a minimum passing score for admission to teacher education programs of 300. The final score is determined by combining the essay score with the multiple-choice score.

SAMPLE

The State Department of Education provided a database containing 2,699 records. There were data from three test administrations in October 1999, January 2000, and July 2000. The data from the April 2000 administration were not provided. The number of records for each administration is presented in Table 1.

Table 1: Number of Examinees by Test Date

October 1999	January 2000	July 2000
905	991	803

A second database was provided in June 2002, containing 4,178 records. There were data from three administrations in April 2001, July 2001, and October 2001.

Table 2: Number of Examinees by Test Date in 2001

April 2001	July 2001	October 2001
1,090	873	2,215

To determine if the data for both sets of administrations were consistent with the historical data provided by the State Department of Education, basic descriptive statistics were calculated. These data are provided in Table 3.

Table 3: Comparison of Sample Statistics to Historical Data

	Number Tested	Mean Scale Score	Standard Deviation	Minimum Score	Maximum Score	Percent Passing
Historical	30,611	353.80	39.00	178	428	89.5%
Sample 1	2,699	352.76	36.39	221	424	90.8%
Sample 2	4,178	349.43	38.35	175	428	88.5%

An inspection of Table 3 indicates that the data for both administrations do not appear to be meaningfully different from the data calculated from 1992 to 1999.

METHODOLOGY

The second database of 4,178 students provided by the State Department of Education was compared with files from the Alabama State Department of Postsecondary Education to determine which students attended an Alabama College System (ACS) institution prior to sitting for the Alabama Basic Skills Test. Student attendance at an ACS institution was defined as registering for classes for more than one quarter/semester (in 1999 the ACS institutions changed from the quarter system to the semester system) excluding summers between fall 1998 and summer 2001. In other words, if a student only attended an Alabama College System institution during summers, that student was not considered as attending an ACS institution. There were 315 students who were excluded because of summer-only attendance.

Using the selection conditions specified above, it was determined that 1,486 students had attended an Alabama College System institution since 1998. It was then assumed that the remaining 2,377 students (including those who attended summers only) would be considered students native to the 4-year institution. It is recognized that some of these students may have attended a 2-year institution in another state or that some of the students may have transferred from another 4-year institution; however, given the research question under investigation, these possibilities do not impact the analyses conducted herein.

The mean scores for various comparisons were used to determine if significant differences existed between various groups. Where appropriate, statistical tests were conducted; however, since statistical significance is directly related to sample size and the sample size here is large, effect sizes were also calculated. The effect size indicates whether the differences observed are meaningful in terms of the measures under investigation and is required for all articles submitted to certain journals for publication (e.g., Research in Schools, Journal of Experimental Education). The effect size is an indication of the magnitude of difference between the groups expressed as a locator on the distribution of the control variable.

RESULTS

A comparison of the mean scale score for students who had attended an ACS institution and those who had not in the first sample are presented in Table 4. The same information for the second sample is presented in Table 4A. The number tested and the average scale score by ACS institution is included as Appendix A. The descriptive statistics for each group are presented in Tables 4 and 4A.

Table 4: Mean Scale Scores for ACS and Non-ACS Students for First Sample

	Number Tested	Mean Scale Score	Standard Deviation	Minimum Score	Maximum Score	Percent Passing
ACS Students	1181	353.92	33.06	221	423	93.2%
Non-ACS Students	1518	351.86	38.74	228	424	89.0%

While there is no statistically significant difference in the mean scale scores for ACS students compared with native four-year institution students ($d = .05$), the percentage of ACS students passing the BST is statistically significantly higher than students who have not attended an ACS institution ($z = 3.74$; $p < .001$).

Table 4A: Mean Scale Scores for ACS and Non-ACS Students for Second Sample

	Number Tested	Mean Scale Score	Standard Deviation	Minimum Score	Maximum Score	Percent Passing
ACS Students	1486	353.45	33.04	194	422	93.7%
Non-ACS Students	2377	346.06	41.27	175	428	84.9%

In the second sample, there is a statistically significant difference in the mean scores for ACS students compared with native four-year institution students ($t = 5.83$; $p < .001$; $d = .18$). The

percentage of ACS students passing the BST is, again, statistically significantly higher than students who have not attended an ACS institution ($z = 8.36; p < .001$).

DISCUSSION/CONCLUSIONS

From the analyses conducted there is a difference in the performance on the Alabama Basic Skills Test between students who have attended an Alabama College System institution and those students who did not attend an ACS institution. In the first sample there was no difference in mean test scores; however, in the second sample ACS students significantly outperformed non-ACS students. In addition, the percentage of students passing the BST is statistically and meaningfully higher for ACS students in both samples. The data suggest that the core preparation provided by the institutions of The Alabama College System for students intending to become teachers in Alabama public schools is comparable to the preparation received at other institutions. Alabama College System transfer students perform at least the same as other students on the Alabama Basic Skills Test and in the second sample, for the year 2001, they outperformed other students.

**BST Study
Summary Table**

	1999-2000 Non ACS Students	1999-2000 ACS Students	2000-2001 Non ACS Students	2000-2001 ACS Students
Number in Sample	1,518	1,181	2,377	1,486
Mean Score	351.86	353.92	346.06	353.45
Standard Deviation	38.74	33.06	41.27	33.04
Percent Passing	89.0%	93.2%	84.9%	93.7%