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What is the relationship between Reading Scores on the THEA and graduation rates?

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Abstract

The purpose of this study is to investigate: What is the relationship between the reading scores of the Texas Higher Education Assessment (THEA) and the Graduation rates of students at a Historically Black College or University (HBCU)? A Correlational analysis was done using the classification of students, earned credit hours, and THEA scores. Although statically significant at the .001 level (N = 6074), all Pearson correlations were less than .08.

**What is the relationship between Reading Scores on the THEA and graduation rates?**

Reading is often looked at as the determining factor in a student's success. The ability to read and comprehend is used across the curriculum. It carries over into other subject areas such as math, science and writing. One must have the skills to read a passage and be able to comprehend what was read by either answering follow-up questions or writing their reaction to what was read.

Standardized or high stakes exams have become a common tool for accountability in the United States. The purpose of this study is to determine whether reading scores on the Texas Higher Education Assessment (THEA) can predict a college graduation.

Standardized exams are interpreted in the same way no matter when or where it is used. They can determine whether a student will be placed in an honors program or be denied admission into a particular college (IRA, 2000). The emphasis on tests as admissions criteria has become increasingly visible as a policy issue at selective colleges and universities, particularly in states such as Texas and California (Geiser & Santelices, 2007).

The Texas Higher Education Assessment (THEA) was developed in 1989 to offer Texas colleges and universities an accurate testing system. It examines the reading, writing and mathematical skills of incoming freshman. The THEA Test was approved by the Texas Higher Education Coordinating Board, under Senate Bill 286, Texas Education Code, Section 51.3062: Texas Success Initiative, for use by Texas institutions of higher education as an assessment instrument to evaluate incoming students. It provides the diagnostic data required by this legislation; its content is the same as that of the former TASP Test ([www.thea.nsinc.com](http://www.thea.nsinc.com)).

The THEA exam involves three sections: Reading, Writing and Mathematics. The reading section consists of 40 multiple choice questions and several reading passages. The mathematical section has approximately 50 multiple choice questions covering fundamental mathematics, algebra, geometry, and problem solving (Texas Higher Education Assessment, 2009). There are two subsections in the writing portion. One where students must show their ability to effectively communicate by writing on a given topic as well as approximately 40 questions on various elements of writing.

### **Literature Review**

It is often believed that a student's success in college can be determined by examining their standardized test scores. Graduation is obviously an important indicator of student success in college. Geiser and Santelices conducted a study to determine what a more accurate predictor of college graduation was: high school GPA or standardized testing.

Their study determined high school GPA was a greater factor due to the amount of time given to affect the average. A standardized test score is based on the performance of a student in one setting.

Standardized exams have served many purposes such as accountability and student placement. According to Amrein and Berliner (2002):

High stakes testing:

- are good measures of the curricula that is taught to students in our schools;
- provide a kind of "level playing field," an equal opportunity for all students to demonstrate their knowledge; and that
- are good measures of an individual's performance, little affected by differences in students' motivation, emotionality, language, and social status.

Brown and Conley (2007) analyzed the content of state tests relative to a set of standards that identify knowledge and skills necessary for success in entry-level university courses. A total of 60 math and English assessments from 20 states were analyzed. Exams were found to be moderately aligned with the university standards, but in an uneven fashion. English exams were somewhat more aligned than math exams. English exams aligned poorly or not at all in areas requiring higher order thinking. Brown and Conley (2007) suggested that states using high school exams for postsecondary purposes may want to examine the content of state standards and exams to determine their relationship to college-readiness criteria.

The U.S. Department of Education results show that only 70% of all students in public high schools graduate, and that only 32% of all students leave high school qualified to attend a four-year college ([www.ed.gov](http://www.ed.gov)). Students who fail to graduate high school prepared to attend a four-year college or university are much less likely to gain access to the country's economic, political and social opportunities (Greene & Forester, 2003). Greene and Forester define "college ready" as graduating from high school, taking high school courses that colleges require for the acquisition of necessary skills and possess basic literacy skills.

Many freshmen are entering college without the basic skills needed to get them through the first year. Every year, freshmen are required to enroll in remedial courses because they are not able to meet the minimum requirements of entering a university. In 1999, a committee of the Texas Senate summoned the chancellors of the state's five largest universities to explain why they did not enroll more minority students. The

problem was that the K-12 education system produced very few college-ready minority students, citing (among other factors) the low number of minority students who had taken the required entrance exams (Greene & Forester, 2003). These researchers believe that many students have to take remedial courses for no other reason besides they are not being properly prepared in the K-12 education system. Greene and Forester state that reform of the K-12 education system is the key to improving college access.

### *Research Question*

The purpose of this study is to investigate: What is the relationship between the reading scores of THEA and the Graduation rates of students at a Historically Black College or University (HBCU)?

## **Methodology**

### *Participants*

The 6074 participants in this study were college students from a 4 year University located in the northwest area of Houston, TX. These students all attend a Historically Black College or University (HBCU) with the sample consisting of approximately 70% African-American.

### *Instrument*

The Texas Higher Education Assessment (THEA) was used as the measuring instrument. The content validity is superior, since the items developed for the assessment are selected from a large test bank developed by teachers and curriculum experts. This effort is coordinated by Evaluation Systems Group of Pearson in cooperation with the Texas Higher Education Coordinating Board and the State Board for Education Certification (<http://www.thea.nesinc.com/index.asp>). The reliability of the scores of

state standardized tests is assumed high when given to the proper audience and therefore not much of a focus for this study, specifically since the evaluation of individual students is not the gain.

### *Design*

The design used for this study was Correlational. This design was selected because the focus of the research question was to investigate the relationship between THEA test scores and graduation rates.

### *Procedure*

The 2002 and 2003 scores from the THEA were used to see how well they predicted the 2007 student matriculation. Pre-existing confidential data files of student scores were gathered of student information of the 2002 and 2003. The data sets included information concerning students Test Dates, Reading Score, Mathematics Score, and Writing Score for 1232 students on the THEA. However the data set for the 2007 student file contained information concerning student Cumulative Grade Point Average (CumGPA), Cumulative Attempted Hours (CumAhrs), Cumulative Earned Hours (CumEhrs), Current Attempting Hours (CurrEhrs), Current Semester Grade Point Average (CurrGPA), and Classification (Class) on 6074 students.

The data sets were then organized in the following manner before analysis:

1. THEA Scores from 2002 and 2003 were combined on one Excel sheet.
2. All scores that contained a 0 in either category for Reading, Writing, or Mathematics were removed. \*This was done because sometimes scores of 0 are given on test parts when a student retakes the THEA in order to pass one particular part. It was assumed that all students would be taking the test and

would score something for the purpose of this study.

3. Those scores were moved and made new columns in the 2007 student file.
4. Those 1232 scores were then replicated to duplicate the 6074 students. \*This was done because normality of scores was assumed.
5. Re label Classification (Class) as a numerical ordinal value where 1 would be freshman (0-30 Earned Hours) thru 5 being a college graduate (120+ Earned Hours)

After the data file was complete, a Bivariate Correlational Analysis in SPSS was done using the Reading Scores, Cumulative Earned Hours, Classification, and Cumulative Attempted Hours was done.

**Results**

Table 1. Correlational Analysis Output from SPSS

**Correlations**

		RDN	Class	CumEhrs	CumAhrs
RDN	Pearson Correlation	1	.039(**)	.082(**)	.074(**)
	Sig. (2-tailed)		.003	.000	.000
	N	6074	6062	6074	6074

\*\* Correlation is significant at the 0.01 level (2-tailed).

With the infinitesimal correlations present between Classification (Class) and Reading (RDN), this data strongly supports that there is very little relationship between the reading scores on the THEA and the graduation rates of this sample.

**Discussion**

Conclusively, it is noticed that the correlations were statistically significant, but with a sample size this large that would commonly be the case. But a focus on the small correlations indicate that the relationship between reading and classification support an

argument that the focus of this test as an indicator of graduation should be frowned upon. In fact, the data supports that this type of high stakes testing, being a gate-keeper for many students, may be unfairly used and in some cases may keep some students from the opportunity of a college education. Kolajo (2004) found that students in developmental education were performing just as well as the non-developmental students when it came to ratio of graduation and performance.

In the end, it is debated the actual necessity for such high stakes testing in admission. Do these tests unfairly keep minorities from taking advantage of the educational privilege? Future studies, like Plata (2008), should probably focus on what other factors that assist or predict graduation. Because, the data in this study supports the idea that the THEA does little more than indicate student readiness at the beginning of their college career, showing that an over emphasis on the use of the test other than entry level of knowledge should be highly discouraged.

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World Wide Web Addresses

Texas Higher Education Assessment - [http://www.thea.nesinc.com/TA10\\_overview.asp](http://www.thea.nesinc.com/TA10_overview.asp)

U.S. Department of Education - [www.ed.gov](http://www.ed.gov)