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From the Desk of the Director: Student Assessment in Undergraduate Education: Four Critical Points

Throughout their undergraduate matriculation from admission to graduation, all students experience critical assessment points. The content, format and administration of the assessments may differ; however, virtually all students experience the following types of assessments: placement, assessment of “general education” competencies in the core curriculum, assessment of application of “general education” competencies in the disciplines, and a capstone assessment or culminating experience that occurs at or near graduation. The appropriate assessment and the proper use of assessment results for making important educational decisions at each of these critical points can make the difference in quality of students’ educational experiences at the University.

♦ Placement Tests are administered to entering students to assess students’ academic ability in certain subjects, such as Mathematics and English, prior to their enrollment in a hierarchical course of study. The assessment results are used to place students at an appropriate learning environment that best matches their ability and preparation.

♦ Assessments of General Education Competencies in the Core Curriculum are administered to Freshman and Sophomores to assess students’ level of proficiency with respect to the acquisition of basic knowledge or development of skills for specific competencies or dispositions, that the University has deemed all graduates should possess. The assessment results are used to make improvements in areas of greatest need and provide requisite amounts of material, financial and human resources to ensure that levels of basic general education competencies as set by programs and the institution are met.

♦ Assessments of the Application of General Education Competencies in the Disciplines are administered to Juniors and Seniors to assess the application of general education competencies in disciplinary and interdisciplinary learning environments. Some examples included writing and quantitative reasoning across the curriculum. The assessment results are used to inform the appropriate stakeholders who manage the core curriculum of areas of strength and weakness; to make referrals for tutorials and where necessary (though not as a rule), provide instruction in the basic competencies.

♦ Capstone/Culminating Assessments in the Majors are administered to Seniors to assess whether at the point of graduation students have the knowledge, skills, competencies consistent with program institutional and higher education goals. The assessment results are used to make improvements in the quality of the educational experience for students at the program and institutional levels and to meet standards of excellence and competence as set by the institution or professional associations.

Gerunda B. Hughes

How are Howard University Seniors Spending Their Time?

♦ 31% of Senior respondents spend 6-10 hours a week preparing for class.

♦ 67% of Senior respondents spend zero hours each week working for pay on campus.

♦ 23% of Senior respondents spend 11-20 hours each week working for pay off campus.

♦ 29% of Senior respondents spend 1-5 hours each week participating in co-curricular activities.

Data taken from the National Student Engagement Survey (N=517)
Exploring Different Methodologies for Predicting Graduation Rates at HBCUs: Fitting Models and Missions

A number of models have been used to examine the predictive factors of persistence and degree attainment for African American students at HBCUs and other institutions. During Spring Semester 2010, the OIAE began work on a research study on graduation rates at HBCUs that was funded by the Thurgood Marshall College Fund. The purpose of this study was to identify institutional factors that predict 4-year and 6-year graduation rates at HBCUs (n = 57) and their self-identified non-HBCU peer institutions (n= 81). In addition to graduation rates, the following institutional-level variables were also included: the average SAT 25th percentile score for entering freshmen, average faculty salary for all ranks, and the average amount dollars per full-time equivalent (FTE) student for each of Pell grants, instructional expenditures, and academic support. Data on each of these variables were obtained from the Integrated Postsecondary Education Data System (IPEDS) for the period 2004-2008. These data were subjected to generalized least squares regression methodologies, including ordinary least squares (OLS) and panel data models in order to obtain regression models of best fit.

From a statistical perspective, a “model of best fit” is often determined by the size of the standard errors associated with the coefficients of the obtained regression equations. Smaller standard errors mean smaller errors of measurement which, in turn, provide better estimates of outcomes. In our study the model that provided the smallest standard errors was the panel data model. The panel data model distinguishes whether the data are from the same or different institution and whether institutional factors are consistent over time; whereas, the ordinary least squares model does not make these distinctions.

The results also showed that the average SAT 25th percentile score was the strongest predictor of both 4-year and 6-year graduation rates. This percentile score is a measure of students’ preparedness for college and has a statistically significant positive correlation with 6-year graduation rates (r= .49, p < .05); that is, the higher the average 25th percentile SAT score, the higher the graduation rate. Consequently, as a matter of policy, some HBCUs increased the SAT score required for admission. In some cases one could argue that these HBCUs have modified their mission to educate students who have unrealized potential or who have been undereducated.

The decision by some HBCUs to increase the SAT score required for admission begs the question: To what types of institutions of higher education will students who have been rejected by HBCUs attend, and are they more likely to graduate from these institutions than from HBCUs? The results of our study indicate that when institutions are matched on the mean values of predictor variables for HBCUs within a half of a standard deviation, the graduation rates for HBCUs are equal to or greater than those of other institutions. Thus, HBCUs must be strategic when using information from empirical models to improve graduation rates while, at the same time, remaining committed to their institutional values and missions.

A Model of Success for African-American College Students

Path Analysis is a useful statistical analysis technique that can be utilized to examine direct and indirect influences on student outcomes through the examination of causal pathways. The model below is an example of a path model that examines the influences of motivational beliefs on achievement behaviors.

![Path Analysis Model](image)

*This model examines pathways of academic success for African-American college students. The model suggests that students motivational beliefs as measured by expectancies for success, self-efficacy beliefs, and task value influences self-regulation which in turn influences academic achievement. Expectancies for success include students' beliefs about a particular outcomes (Eccles & Wigfield,2002). Self-efficacy is beliefs about the successful execution of a task (Bandura, 1977). Task value is the extent to which an academic task is has intrinsic or utility value (Eccles & Wigfield, 2002). Self-regulation is the extent to which and individual monitors and regulates their own behavior (Pintrich, 1995). Research suggest that students with high self-efficacy beliefs, high expectancies for success, and high task value with This model is important as it underscores the importance of motivational beliefs in the development of self-regulation and academic achievement. See page 4 for a list of references.*
The OIAE engaged in a number of activities during the Spring of 2011:

- Dr. Hughes was appointed to the Technical Advisory Committee (TAC) for the Partnership for Assessment of Readiness of College and Careers (PARCC). PARCC is a consortium of twenty-five states that were awarded a $170 million grant from the Race to the Top Competition to create the next-generation assessment system for K-12 assessments in mathematics and English language arts/literacy.

- The OIAE and CETLA co-sponsored a seminar “Academically Adrift”: Limited Learning on College Campuses. This seminar highlighted the major findings of the book that discussed learning outcomes in college students.

- Drs. Hughes, Yu, Wallace, and Javetta Clemmons presented Exploring Different Methodologies for Predicting Graduation Rates at HBCUs: Models and Missions at the Thurgood Marshall Conference in Orlando, FL.

- Drs. Hughes, Yu, Wallace presented Educational Attainment at HBCUs and Universities: A Study of Graduation Rates at the American Education Research Association (AERA) in New Orleans, LA.

- Drs. Hughes and Adeniran Adeboye presented Transformation Perspective through the Historiography of Mathematics in Africa, in Indianapolis, IN.

The National Survey of Student Engagement (NSSE) collects information annually from samples of first-year and senior students about the nature and quality of their undergraduate experience. The graphs below represent Howard University Freshman and Seniors and their peers at other universities on a number of student engagement indicators.

- Compared with freshman in the peer universities, HU Freshman were more likely to ask questions and contribute to class discussion, discuss grades with instructor, and discuss ideas with others outside of class. (N=234)

- Seniors marked higher scores on the level of academic challenge, active collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environments. (Freshman

Why Non-Classroom Faculty-Student Interaction Matters

Research shows that faculty-student interaction in and outside of the classroom can have a profound effect on student outcomes (i.e. grade point average, persistence, self-report of learning), and several other cognitive and non-cognitive variables. The impact of student-faculty interaction as an impact on student outcomes depends on the type of interactions that occur:

- Substantive interactions have a greater impact on knowledge acquisition and skill development compared with casual interactions.
- Researchers have concluded the frequency of the interaction has a greater influence on student outcomes compared with the reason for the interaction.

Why Some Faculty Members Interact More Than Others

Researchers have found that several factors contribute to the likelihood that faculty members will interact with their students outside of the classroom.

- Faculty members with a student-centered philosophy of education and who believe that teaching is a central component of student outcomes are more likely to engage in substantive interactions.
- Personality characteristics of faculty members contribute to student perceptions of the extent to which they feel comfortable approaching their professor outside of the class.
- The field/discipline of the faculty members and their levels of commitment to the various dimensions of faculty responsibilities (teaching, research, and service) influence the frequency of out of class interactions with students.
- Faculty member employment status (full time/part time, tenure status) also has an influence on out of the classroom interaction.

References:

