It is likely that the results of the NRC Assessment of Research Doctorate Programs will be released soon. It is keenly awaited and, in the minds of many, long overdue. Although the data will be somewhat out of date, the study and its database will make available in one place comparable data from over 4,500 doctoral programs. The NRC is extraordinarily grateful to the graduate school community for all the effort that it contributed to this study. The study could not have been carried out without the labors of hundreds of data collectors, institutional coordinators, and faculty. In this article, we wish to discuss what will become available when the report is released.

The Database

The NRC report will be accompanied by the release of a database that will consist of comparative data for each program in each of the 61 fields in the NRC taxonomy, with ranges of rankings for a variety of measures provided for 59 fields. The data elements were listed in detail in the November 2009 Communicator. Data will be available for all the major fields in which PhD degrees are awarded in the United States with one exception, although it does not include degrees in education, social work, or other areas of professional study. Most of the data were collected for the 2005-06 academic year, but data on publications go back to 1981 and the study reports recent (2002-05) citations referring to all those publications. The user will find data on student funding, completion, and time to degree, as well as on diversity of faculty and students. Users with an interest in the humanities will find bibliographic data that do not appear elsewhere derived from hand counts of books and articles from faculty resumes. The data will appear in Excel spreadsheets, and users will be able to download information from programs of interest and conduct their own customized comparisons.

Though the data would have been more useful if available sooner, data collection and validation were not simple tasks. Although our committee felt that these data may have been already collected or, if not, related to data that should be known to programs or administrators, this was not always the case. We spent a great deal of time reviewing and validating the data (including getting back in touch with the universities that provided them), and when the data are released, there may still be errors. It is the hope of the committee that the data will be updated as soon as possible and will become especially valuable when it is possible to make periodic comparisons.

The Ranges of Rankings

Those who read the Methodology Guide will recall that the study based its methodology for calculating rankings in two separate ways: first, through quantifying, and giving weights to, those measures that faculty thought important to the quality of a doctoral program by tallying faculty answers to a questionnaire that listed 20 characteristics of doctoral programs and asking faculty to choose among them; and second, by asking faculty in each field to provide ratings on a five point scale for a sample of programs in their field. These ways of obtaining weights for program characteristics were then combined statistically to give an overall rating for a program. The possibility that raters might disagree on a program's standing was taken into account by repeatedly sampling raters and recalculating the rating. Variability in the values of program characteristics over time was also taken into account. After ratings were calculated that included all these sources of uncertainty, programs were ranked, and the repeated sampling of raters resulted in a range of rankings.

The Methodology Guide was developed after the committee had generated ranges of rankings for some, but not all, fields. When we were preparing the final report, it turned out that, upon reviewing the ratings based on the two approaches for all fields, the rankings generated by the two techniques were dissimilar enough that they would be presented individually. Also, based upon the results of the NRC review process, the committee agreed that ranges of rankings calculated by each technique should be presented as illustrative. The committee is not endorsing any one measure or combination of measures as best.

When the report appears, users will be able to see—as illustrations for insights that they provide—ranges of rankings for three measures of doctoral programs (dimensional measures)—based on 1) research activity, 2) student support and outcomes, and 3) diversity of the academic environment. They will also see—for the insights they provide—two illustrative overall rankings, which we will call the R (for regression) based and the S (for survey) based rankings. The S-based ranking is based on weights calculated from response to a survey that asked the faculty which of the 20 characteristics of a doctoral program mattered most for program quality; the R-based ranking depends on the weights calculated from faculty responses to a survey in which they were asked to rate a sample of programs in their field of programs on a scale of 1 to 5, and then these ratings were related, through a regression, to the 20 characteristics. All five approaches have strengths and deficiencies.

How, then, is the relative standing of a program to be understood? The user must understand what underlies the range of illustrative rankings—that is, the coefficients (or weights) and the program's values for the characteristic. In the most general sense, a rating is simply the sum of the value for each characteristic multiplied by its weight and the ranking results from the ordering, from high to low, of these ratings. Typically, the weights for the R-based rankings are larger for program size, measured by PhDs produced, than in the S-based rankings, which usually give more emphasis (larger weights) to measures of per capita research activity. The ranges of rankings for the

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dimensional measures, of course, rank programs based on a selection of characteristics. The NRC will provide all the data that went into each ranking range, so that users will be able to understand the results.

Which ranking to use—one of the above or a different one—depends on the purpose for which it is intended. The user should choose the measure that weights most heavily what is important for the user's purpose. The committee stresses that the user may take the data that the study provides and construct a set of rankings based on the values that the user places on the characteristics. The NRC will leave the decision about what ranking approach is "best" to the users, but we have gained a number of insights.

- First, that constructing rankings based on observable program characteristics is a highly complex undertaking. The ranking for a program depends on how a characteristic is valued by the ranking index and by the value of the characteristic itself. For example, a program may have a relatively high proportion of students who complete within six years, but that characteristic is not given a large weight on any overall measure. It is given a higher weight on the student support and outcomes dimensional measure. Programs with high completion rates may want to point to their ranking on this measure when explaining what their programs do well.

- Second, although the committee sought to measure the separate effects of the characteristics in a statistical sense, changing a program's performance on a particular characteristic may well have implications for other measures. For example, if a program increases the number of PhDs it produces through increasing enrollment, these students will also have to be funded. If it doesn't increase funding, the proportion of first year students funded will go down. A program can hold enrollment constant but improve PhD production by improving completion rates through becoming more selective. The discussion has to focus on all the aspects of improving where a program stands in a chosen ranking, not just one highly weighted characteristic.

We hope that the insights that we have gained into the complexity of trying to measure the quality of doctoral programs will assist those who wish to discourage simplistic approaches to accountability. The most responsible answer to "Who is best?" is "That depends on what people find most valuable in a doctoral program." Our study illuminates the various sets of values that people who believe in doctoral education hold.

By Charlotte Kuh, Deputy Executive Director, Policy and Global Affairs Division, The National Academies

Endnotes

1 Data for computer science will appear later because we are still in the process of compiling data on papers presented at refereed conferences, which is accepted in this field as a form of publication but not fully indexed by Thompson Reuters, the bibliographic source that we used. These data will be released later in the summer of 2010.


Preparing the Faculty of the Future for US Community Colleges

When President Obama proposed in July of last year the "American Graduation Initiative," a 10-year, 12 billion dollar investment in the nation's community college system, he both recognized and ensured that community colleges will play a larger role in shaping the future of the US economy than ever before.1 The success of community colleges is vital to positioning the US for economic recovery. Going forward, Obama noted, "jobs requiring at least an associate degree are projected to grow twice as fast as jobs requiring no college experience."2 This success will not depend primarily on recruiting more students: enrollment in community colleges is burgeoning, and will likely continue to grow. Total for-credit fall student enrollment at community colleges in 2005 was over 6 million, up from 1 million students in the early 1960s, resulting in a growth rate for community colleges three times that of four-year colleges during the same period.3 Success will depend on improving degree completion rates, which for community colleges have been a particular challenge. In 2005, only 30% of full-time, degree-seeking community college students had completed their degrees within three years;4 within six years of first enrollment, community college students had completed their degrees at half the rate of four-year college students.5 The Obama administration's goal of five million new community college graduates by 2020 is realistic. However, for these graduates to be truly prepared for success in the knowledge economy there are two requirements that will be absolutely crucial. First, institutions will need a comprehensive degree completion strategy. Second, they will need a skilled faculty equipped to help community colleges advance all of their