Graduate Student Data Collection and Reporting: Strategies for Maintaining Consistency Across Departments

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I. Research Methodology

Project Challenge

A member institution approached the Council with the following questions:

How do institutions achieve a consistent data collection and reporting system for all graduate students in the face of disparate graduate student programs?

- **Collection Structure:** What office is responsible for graduate student data collection at other institutions? How is this office staffed?

- **Definitions:** Do other institutions have standardized definitions for applicant, admitted, and first-time enrolled? How do other institutions mitigate a large leftover category of “other” (i.e., informally or officially deferred for any number of years) during the admissions process?

- **Specific Data:** How do other institutions ensure minimal standardization of graduate student data collection in spite of the unique attributes of each program? How do other institutions collect graduate student data on admissions, ethnic background, enrollment, end date, and advising roles that graduate faculty play for students? How do other institutions consider changes in majors at point of admission in the application to admission to first-time enrollment? How do other institutions address whether or not graduate students are concurrently admitted to doctoral programs (i.e., admitted to a doctoral program with a master’s degree expected versus a fail out step)?

- **Placement Information:** Who is responsible for collecting graduate student placement information – a central office or individual programs? How do other institutions track these placements?

- **Metrics:** How do other institutions ensure consistency across programs for graduation rate calculation? What other metrics are other institutions tracking with regards to graduate student data? What kinds of reports are other institutions generating regarding graduate student data?

- **Online Applications:** What institutions have moved to a completely online application process? What software programs are they using to manage this process?

Research Parameters:

The Council reached out to graduate admissions administrators at large public research institutions using a centralized graduate school model.
## I. Research Methodology (Cont.)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Geographic Location</th>
<th>Carnegie Classification</th>
<th>Approximate Total Enrollment / Approximate Graduate Enrollment (Fall 2008)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>University A</td>
<td>South</td>
<td>Research Universities (very high research activity)</td>
<td>19,400 / 6,400</td>
<td>Public</td>
</tr>
<tr>
<td>University B</td>
<td>Northeast</td>
<td>Research Universities (very high research activity)</td>
<td>44,400 / 6,400</td>
<td>Public</td>
</tr>
<tr>
<td>University C</td>
<td>Midwest</td>
<td>Research Universities (very high research activity)</td>
<td>41,400 / 7,400</td>
<td>Public</td>
</tr>
<tr>
<td>University D</td>
<td>West</td>
<td>Research Universities (very high research activity)</td>
<td>38,200 / 9,700</td>
<td>Public</td>
</tr>
<tr>
<td>University E</td>
<td>Midwest</td>
<td>Research Universities (very high research activity)</td>
<td>43,200 / 10,800</td>
<td>Public</td>
</tr>
<tr>
<td>University F</td>
<td>South</td>
<td>Research Universities (very high research activity)</td>
<td>50,000 / 12,600</td>
<td>Public</td>
</tr>
<tr>
<td>University G</td>
<td>Northwest</td>
<td>Research Universities (very high research activity)</td>
<td>39,700 / 10,200</td>
<td>Public</td>
</tr>
<tr>
<td>University H</td>
<td>Midwest</td>
<td>Research Universities (very high research activity)</td>
<td>41,620 / 11,300</td>
<td>Public</td>
</tr>
</tbody>
</table>

Source: NCES Integrated Post Secondary Education Data System; Carnegie Foundation for the Advancement of Teaching
II. EXECUTIVE OVERVIEW

Introduction
Contact institutions admit difficulty coordinating consistent data collection and reporting about graduate students across disparate and numerous graduate programs. However, many graduate school administrators have developed systems to successfully ensure student data is accurately collected, updated, and accessed—often by multiple constituencies across the graduate school. This report outlines each step of this process, from collecting data to generating reports, highlighting promising practices at contact institutions.

Key Observations:

- **Contact institutions coordinate graduate student data collection and reporting across several administrative offices, often with one office maintaining primary responsibility for one or both of these functions.** Typical offices with primary responsibility include graduate studies, institutional research for the graduate division, and graduate enrollment services. These offices might work with university institutional research offices, registrars, individual programs and departments, and deans’ and provosts’ offices.

- **The application for admission is consistently the initial point of collection for information about graduate students at all contact institutions.** Universities have developed strategies for maintaining central control of the admissions process, thereby ensuring consistent data collection, while still leaving control of admissions decisions to individual academic departments. Online applications can be customized at departments’ discretion or programs may request additional application materials from students as needed. A variety of software systems are used to manage online applications, including CollegeNet and Hobsons. In addition, some graduate schools develop their own online applications software.

- **Graduate student databases may operate under one of three models: the graduate school maintains its own primary student database; the graduate school accesses student information in a database used by the entire university; or some combination of the two.** Graduate schools collect and track exhaustive information about their students, including biographical information, enrollment data, funding statistics, and checkpoints to degree completion.

- **In addition to guiding strategic planning and enabling reporting to external institutions (e.g., National Center for Education Statistics or organizations providing grants to the university), graduate student data is used to generate regular and special reports about graduate student characteristics and progression, as well as to conduct reviews about each department or program.**
III. COORDINATING OVERSIGHT OF GRADUATE STUDENT DATA

Contact institutions coordinate the collection and management of data about graduate students across several administrative offices, often with one office maintaining primary responsibility for this function. Primary oversight and organizational structures for managing this function across graduate programs include the following:

<table>
<thead>
<tr>
<th>Graduate Studies Office</th>
<th>Graduate Enrollment Services</th>
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<tbody>
<tr>
<td>All data collected about graduate students at <strong>University A</strong> is entered initially through admissions; the information collected during the application process filters directly into a student records database. While the registrar’s office manages certain academic data for enrolled students (e.g., course choices and grades), the graduate studies office acts as overall steward for all information on graduate students, from the point of admission to graduation, and can grant other offices access to certain student information as needed.</td>
<td>Graduate enrollment services at <strong>University B</strong> manage all graduate student data from application to graduation. A director, associate director, and six coordinators are responsible for student records from admission to graduation; each coordinator is responsible for a section of the alphabet (and follows each student assigned to him or her throughout their entire time at the graduate school). This ensures that each coordinator is proficient in all necessary functions. Graduate enrollment services work with the registrar’s office to track student academic records and progress.</td>
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<table>
<thead>
<tr>
<th>Graduate Division Institutional Research and Information Systems</th>
<th>Assistant Dean in the Graduate School</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Graduate Division at <strong>University D</strong> is responsible for generating reports about graduate students and program reviews, among other things, using data obtained from the graduate admission process and the registrar’s office. The Graduate Division includes an institutional research and information systems department, staffed by two full-time analysts, a web manager, communications director, and archivist.</td>
<td>The Graduate School at <strong>University H</strong> is currently undergoing an administrative restructuring to add a fourth assistant dean who will be responsible for funding, academic assessment, and program analysis. This new dean will also have principal responsibility for coordinating the collection and reporting of graduate student data across graduate school units that operate largely independently of one another. Previously, responsibility for graduate student data collection and reporting was shared by information technology and the dean’s office. Copious information about individual academic programs is compiled into program profiles to provide transparency and easy access to information.</td>
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</table>
### IV. Admissions Process and Initial Data Collection

Application by and admission of candidates are consistently the initial points of data collection about graduate students for most contact institutions. Incorporating a completely online application process is reportedly crucial to successfully collecting consistent and comprehensive student information at all contact institutions. Additional data gathered during the students’ tenure includes academic records and basic statistics relating to characteristics of each academic department.

<table>
<thead>
<tr>
<th>Collecting Student Information through a Central Application or Admissions Office…</th>
<th>…While Maintaining Graduate Program Autonomy through Ready Access to or Customization of Student Applications</th>
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<tr>
<td><strong>At University A</strong>, the graduate studies office manages the admissions function, overseeing all student data collection from the outset of a student’s application; this information is then inputted directly into the student records system which may be accessed by other divisions such as the registrar’s office and the institutional research office.</td>
<td>Once application documents are submitted and reviewed initially by the central admissions office, they are sent to the appropriate academic departments for review. Some additional information about candidates may be requested by individual departments.</td>
</tr>
<tr>
<td>Graduate enrollment services at <strong>University B</strong> oversee all administrative aspects of student applications, through enrollment. This office also collects application fees.</td>
<td>When a student submits an application, the graduate enrollment services office and the appropriate academic program are both notified simultaneously, allowing the central office to catch any ineligible students early on. Individual programs make official admissions decisions, generating decision sheets which, along with an applicant’s transcript, are then verified by graduate enrollment services.</td>
</tr>
<tr>
<td><strong>University C</strong> uses a central application for the graduate school.</td>
<td>This online application allows for easy customization by individual departments.</td>
</tr>
<tr>
<td>Contacts at <strong>University C</strong> note that centralizing the application process has helped generate revenue through application fees; previously, when students applied first to the department where decisions were made before asking candidates to submit an application to the university admissions office, potential revenue was lost by not collecting application fees via the university application from all potential candidates.</td>
<td>Although using a common application, graduate programs are offered some flexibility by being able to add additional information to a student’s application as needed (e.g., a writing sample). Each of the over 100 graduate programs at <strong>University F</strong> is administered by both a graduate coordinator and graduate advisor. These personnel within individual programs can access information about student applications to inform their admissions decisions as well as recruitment tactics.</td>
</tr>
<tr>
<td><strong>University F</strong> uses a common application for the state across all its graduate programs.</td>
<td>Individual departments are responsible for admissions decisions for students applying to their graduate program; program administrators have access to the central student data warehouse.</td>
</tr>
<tr>
<td>Graduate applications at <strong>University G</strong> centrally submitted, with student information housed in a central data warehouse once submitted by way of an application.</td>
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</table>
Defining Applicant Status

Although many institutions face problems with applications that remain uncategorized at the end of an admissions cycle due to inaction or deferral, contacts describe several strategies to systematically define and categorize all applicants (i.e., admitted, accepted, enrolled, etc.) throughout the process:

**Close Out All Applications with Every Semester**

In order to accurately define applicant categories and avoid unresolved applications, every application to the graduate school at University A must begin and end within a semester; students are admitted, denied or cancelled. If admitted, students are admitted for a specific program and term (admissions letters include a date and term for admittance), though departments have sole discretion over allowing applications to their programs to be reactivated. Even with this reactivation option, applications can only remain open for one year, after which candidates must start the application process over. Similarly, University C only holds applications open for one or two semesters, as applicants must apply to admission for a particular term.

**Code Applicants for Each Possible Result**

University B’s application system allows for coding of students according to their status—ineligible, admitted, pending, or deferred (automatically moved to the next semester’s applicant pool)—to ensure the accurate tracking of applicants. Academic departments at University D make recommendations for admissions and code applicants accordingly (e.g., no action, incomplete, withdrawn, etc.) before the applicants are officially approved by the graduate division. Although a small percentage may be left untagged, the division tries to follow up with departments to obtain an explanation, but does not find a large portion of applicants uncategorized.

**Remove Student Deferral Option**

University F does not allow students to defer their admission, requiring students to reapply and thus avoiding complications with categorizing deferred applicants.
Software Systems for Online Applications

All contact institutions use an online application system which helps facilitate consistent and efficient data collection across graduate programs. Systems used for online applications at contact institutions include:

**CollegeNet**

*University A* uses *CollegeNet* for online applications and *Banner* for housing and managing student information. The university also uses an imaging system that is part of *Banner* to make digital copies of additional application materials that are submitted in paper; this allows the university to avoid using any paper in the admissions process.

**Hobsons**

*University D* recently partnered with *Hobsons* to develop a customized online application system. While earlier application software systems that were developed in-house did not incorporate all application materials (e.g., letters of recommendation and statements of purpose were not submitted online), a new IT director is prioritizing the move to an online system with *Hobsons* that overcomes this shortcoming.

**ApplyYourself (a Hobsons system)**

The third-party admissions system *ApplyYourself* allows graduate applications to be completed mostly online at *University E*; this admissions system updates to the *Banner* central database every night.
V. STUDENT RECORDS AND DATABASES

When student information is collected through the admissions process, it is typically inputted directly, or subsequently transferred into, a database of student information. Sometimes this database is reserved for graduate student records, while at other institutions it is part of the database for all student records at the university.

Managing Graduate Student Databases: Three Models

Model I: Graduate School Maintains Own Student Database

- The Graduate Division at University D collects student information in the admissions process. That information, plus data supplied from the registrar’s office, comprises an internal data warehouse at the Graduate Division.
- The Graduate School at University C coordinates with the registrar’s office, and both have access to a shared student record database. The registrar collects information on course registration, grades, and approval of students' plans of study. This database goes back to 1983, so the graduate school is able to draw from data on individual programs and the graduate school generally. The institutional research office maintains its own student database as well, so some of the student information is purposefully duplicated.

Model II: Graduate School Accesses the University Database

- University B transfers data collected during the graduate admission process to a central database for the entire university.
- Once an application is submitted to admissions at University F, the information is submitted to the central student record system, which was developed in-house by the university.
- Institutional data is maintained through the Banner informational system at University E, with access granted to the information technology office, individual academic programs and departments, and graduate administrators. Information management staff assist other divisions with projects requiring more complex analyses.
- The graduate studies office at University A is the steward of general student data and controls student information from initial application to graduation; administrators in this office are able to grant or deny permission to other offices to access the student information system. The university institutional research office is able to access information inputted by graduate studies, but does not input additional information; the university uses Banner for this student database. Course choices and grades are inputted by the registrar’s office using the same student database to house this information.

Model III: Graduate School Maintains a Database and Accesses the University Database

- A central student database at University H contains all student data. Additional information of interest to the graduate school that is collected through the application process is also added to this central database, as is funding information. The graduate school also maintains its own data library, which includes basic student data from the central database and additional data of interest only to the graduate school.
V. Student Records and Databases (Cont.)

Student Information Collected across Contact Institutions

Biographical Information
Student biographical and educational information collected during the admissions process is exhaustive, and includes: educational records GPA, and transcript; test scores (e.g., GRE and TOEFL, if applicable); international status; in-state or out-of-state residency; and ethnicity; among other things.

Enrollment and Completion
Enrollment data, often maintained by the registrar’s office but available through student databases, includes courses and grades received in those courses. Graduate schools also track completion rates and time to degree for individual programs as well as across all programs.

Financial Information
Contact institutions also track financial information about students and programs, including financial aid and scholarships, funding for research positions and fellowships.

Checkpoints to Degree Completion
Several contact institutions track checkpoints to students’ degree completion in their student record system. Some institutions partner with the registrar’s office to track this information, but often checkpoints must be officially cleared through the graduate division. These include major and/or minor, preliminary exam completion and scores, thesis topics, thesis committee composition and defense, and thesis acceptance, among other things.

Capturing Information about Student Placement after Graduation
Most contacts report using the Survey of Earned Doctorates to gather information about students’ plans after graduation, but also admittedly rely on relationships students have developed with faculty and department administrators for knowledge about student placement. Some institutions conduct their own exit surveys in addition to the Survey of Earned Doctorates; several career services and/or alumni offices may also track student placement and contact information after students leave the university. Contacts at University A, however, said they would like to collect more information than is requested in the Survey of Earned Doctorates and are working on developing a new survey to use in addition. This additional survey will be offered along with the Survey of Earned Doctorates so as not to overwhelm students with multiple surveys, but it will be clear that it is a separate, institution-specific survey. University C distributes an online exit survey for Master’s and PhD students to gather information about their employment and experiences while at the university.
Additional Strategies for Effective Data Management

Developing an ideal data management system is still a work in progress according to contacts at the University G. The Provost has charged a data management committee to focus on ensuring the university has consistent, high-quality analytic data and risk management policies. The committee has been in place for about two years, with most of that time focused on risk assessment and management for the university’s data. Committee members have been working to develop concrete policies and procedures, a reportedly time-consuming and daunting task. They have developed a roadmap for proceeding, as outlined below:

**Roadmap for Data Management Committee**

- **Build out data at the university level**
  This requires investment in technical infrastructure. In addition, it also requires developing data definitions and quality assurance, which is perhaps a more difficult task.

- **Produce consistent definitions and reporting**
  The committee must develop clear definitions and reporting methods to obtain consistency across systems.

- **Reconcile multiple central systems and even more smaller, decentralized systems**
  Ideally, these policies will help develop consistency in data collection and analysis across the university’s multiple central systems, and additional smaller, decentralized systems.

The graduate school provides as much information as possible about graduate programs through program profiles, providing a user-friendly format for accessing data about each program. Data is accessed three times a year, at the same time every year to ensure consistency, and includes: number of applications; number of students admitted and enrolled; funding information; number of research assistants, teaching assistants, and fellows; ethnicity and gender of students; whether they are domestic or international; time to degree; and student cohort information.

Students at the University D are assigned an identification number immediately upon applying to a graduate program. This number follows each student throughout his or her time at the university and is tied directly to all data the university collects about each individual, providing a consistent way to easily track students for reporting purposes.
Defining Complex Enrollment Data

Tracking Dual Enrollments

- **University A** does not allow students to be dually enrolled in two graduate programs, avoiding the problem of how to track these students. Similarly, students at **University E** can only be enrolled in one program at a time.
- At **University B**, dual enrollments are indicated in the system and counted separately. At **University F**, students pursuing a dual degree are technically enrolled in both programs, but are assigned a single code in data systems to designate them as a dual degree seeker.
- **University C** allows students to be admitted at the same time for dual degrees, but students create a separate plan of study for each degree.
- The college deans at **University G** decided to count dual-degree seekers twice. Contacts suggest that this is partially driven by the fee-based funding model adopted by the university, motivating deans to capture as many students as possible in their colleges.
- Contacts at **University D** note that students who are in joint degree programs are only technically enrolled in one of the two programs in any given quarter.

Calculating Time to Degree

- **University B** counts time to degree as time from admission to graduation.
- At the **University D**, completion rates are measured by counting the number of students who completed a given degree within a certain amount of time; the university also tracks the number of students who started a given degree and completed within a certain amount of time.
- Time to degree at **University E** is measured not just by when students entered and left, but also with consideration for any stop-outs; contacts note that they expect variety in this time based on the program and discipline.
- **University C** calculates and tracks both the number of terms to degree completion as well as the time between initial enrollment and completion to account for stop-outs and time off.

Recording Leaves of Absence

- Students at the **University D** may take an official leave of absence for up to two years, during which they are not enrolled in the university but after which they are not required to re-apply.
- If students are on leave from **University A** for more than two semesters, they must file a readmission form; permitting student re-registration is at the discretion of individual departments. **University C** also allows students to stop-out for two semesters without reapplying.
VI. REPORTING ON GRADUATE STUDENTS AND PROGRAMS

Contacts point out that there are multiple motivations for producing reports about graduate students and programs, whether for national reporting, academic planning at the university level, the Association of American Universities data exchange, internal measuring for the graduate school specifically, reporting to institutions providing grants (e.g., the National Science Foundation) or individual graduate program reviews. Some additional reports conducted at contact institutions are outlined below.

Generating Reports about Graduate Students

The Graduate School at University C provides annual updates with basic data about new incoming students, continuing students, and a summary of exit survey results (on a three-year average to protect the identify of students in smaller programs). Individual departments can make special requests if they would like to review a particular topic (e.g., minority students).

The University D institutional research and information systems office in the graduate division regularly produces an annual report. In addition to student information input from admissions and the registrar, analysts at University D have access to information from payroll and financial aid for reporting purposes, as necessary. This uninhibited access for the institutional research office is crucial to analysts’ ability to work across programs.

Conducting Program Reviews

University C has over 70 academic units, reviewing each every six years. If specific departments are undergoing certain accreditation reviews, the university will allow this review to take the place of the graduate school review to avoid redundancy.

University D conducts a review of each program or department every eight years. A survey is distributed to students in each program a year before the review is scheduled to obtain information about student climate. Analysts also include student exit survey data in program reviews.

The Graduate College at the University E provides snapshots of individual programs including numbers of applied, admitted, and enrolled students; degree completion information; and time and terms to degree for students in each program. The college recently put together “quick facts” for high-level reporting for the institution, which includes financial aid information, the number of research and teaching assistants and whether they are covered by tuition waivers.
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