The Organization and Administration of Graduate Education

A GUIDE FOR UNIVERSITY LEADERS

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COUNCIL OF GRADUATE SCHOOLS

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FOREWORD

This guide constitutes a major revision of a document that has long been a valuable resource to graduate education leaders. First published in 1981 and subsequently revised in 1990 in 2004, it presents a big-picture view of how graduate education is organized and administered in the United States and, to some extent, in other parts of the world. As with earlier editions, the 2018 guide combines descriptions of currently existing structures and practices with recommendations on issues that arise in a variety of organizational structures. In its newest format, the guide also presents strategies and case studies designed to help graduate deans and other university leaders better meet the contemporary challenges of graduate education.

The revision would not be possible without help from a variety of experts. Julia Kent and Matthew Linton reorganized and updated the volume, gathering insights from former deans currently serving on the CGS staff: Robert Augustine, JoAnn Canales, and Jeffrey Engler. A number of current deans, including Janet DeLany, Thomas D. Jeitschko, Barbara A. Knuth, Susan A. Porter, and Marjorie Zatz, reviewed drafts of this guide and/or contributed case studies. Graduate education is a dynamic enterprise, and this document has greatly benefited from the perspectives of leaders at a diverse range of institutions.

Finally, I would like to recognize the contributions of the authors of the 2004 edition on which the current version is based: Daniel Denecke, Lewis Siegel, Robert Sowell, Teresa Sullivan, and Paul Tate.

It is my hope that this volume will continue to inform the decision-making of university leaders and positively impact the way that graduate education enriches the lives of students.

Suzanne T. Ortega, President
Council of Graduate Schools, 2019

INTRODUCTION

Master's and doctoral institutions have distinct opportunities to meaningfully impact students, communities, and the workforce. Graduate faculty and students advance their disciplines and encourage interdisciplinary thinking; they engage with local, regional, national, and international communities to address compelling problems; and they contribute to the public good with ground-breaking research and innovative professional practices. Graduate students often teach while pursuing their degrees, educating and mentoring undergraduates. For these reasons and others, graduate education can raise a university's national and global profiles.

This volume is designed to help leaders in graduate education—from deans of graduate schools and their staff, to other leaders who work closely with them—more effectively pursue these important goals. It reflects the expertise of veteran graduate deans who have contributed as writers or editors as well as insights from CGS Best Practice initiatives, which inform the third section on strategies. Some of the content of the current volume is derived from earlier editions, but it has been updated and expanded to reflect changes in graduate education as well as current challenges transforming the higher education landscape. As requested by deans in the CGS membership, it also includes new call-out boxes with key information, insights, and case studies.

One of the themes that remains unchanged from previous editions is that graduate schools, or some other central office devoted to graduate education, play a critical role in elevating the quality and impact of individual graduate programs. Once a distinctive structural feature of American universities, graduate schools are now found across the international higher education landscape.[1] In Asia, Australia, Canada and the United Kingdom, it's common to find universities with a central office devoted to graduate education, and in Australia and Canada in particular, many, if not most, of the senior administrators responsible for graduate education carry the title of graduate dean,

dean of graduate studies, or similar. In Germany, just over a decade ago, the German Excellence Initiative supported the development of graduate schools charged with pursuing institution-wide goals for graduate education, and these offices have now become sustained structures within many German universities.[2] The establishment of graduate schools and other central administrative bodies responsible for graduate education is also becoming common in China and Continental Europe.

The expansion of the graduate school model beyond the U.S. and Canada reflects the development of more strategic institutional, regional, and national approaches to enhancing graduate education and research capacity. Establishing an office dedicated to graduate education is typically based on four principles:

1. the activities of graduate programs should be closely tied to the strategic goals of the university as a whole and therefore merit the attention of senior staff dedicated to this work;

2. centralizing some administrative roles related to graduate education helps universities accomplish goals related to graduate education more effectively and efficiently;

3. graduate students have needs that are different from those of undergraduates and benefit from an office that tailors programs to their circumstances and collaborates with other units to meet their needs; and,

4. the professional development of graduate students risks becoming too narrow or specialized if it is not supported by programming and initiatives outside the home department or academic college.

While our focus is on units responsible for graduate education, we also assume that any graduate office will partner with many university collaborators, including programs, colleges, centers for teaching and learning, alumni offices, libraries, career centers, and student organizations. One of the great strengths of graduate schools, and graduate deans, is that they are in a position to create relationships and synergies with different programs and offices across campus, ensuring that graduate education is greater than the sum of its parts.

DEFINITIONS

Throughout this publication, "dean" or "graduate dean" refers to the chief academic officer responsible for oversight of graduate education in academic, scholarly, or professional fields, although it does not include the first professional degree in medicine or law. We recognize that there is considerable variation regarding the formal title for this role. Titles may include: Dean of the Graduate School, Dean of Graduate Studies and Research, Vice Chancellor or Vice President for Research and Graduate Studies, Vice Provost and Dean of the Graduate School, Director of Graduate Studies, and others.

"Graduate school" refers to that office or unit with responsibility for central university graduate affairs, and "university" refers to any institution of higher education.

PART I

STRUCTURES

Centralized vs. Decentralized? Assessing the Case for a Graduate School

A variety of models exist for the administration of graduate education. At one end of the spectrum, a centralized graduate school—typically led by a dean who reports to the provost or vice president for research—oversees the quality and productivity of graduate (and often professional) programs across colleges and schools. In the more decentralized model, college deans have responsibility for graduate and professional education, generally via dedicated collegiate administrative offices. There are also hybrid models, where a central unit administers some aspects of graduate education (e.g., admissions technology), leaving other aspects (e.g., academic governance and degree conferral) to colleges or programs. Ultimately, a university must choose the structure that best aligns with its mission, vision, structure, strategic objectives, and funding allocations.

Many universities consider the question of whether, and to what extent, the administration of graduate education should be centralized. While a university may have good reasons for choosing a decentralized option, it is important to note that a common reason—saving resources—may produce the opposite result. Cost assessments for maintaining a graduate school should take into consideration the possibility that decentralized models may simply shift costs to other areas.[3] For example, when a graduate school shifts administrative support to departments and programs, the academic units often require an

increase in staff and faculty support, which incur costs in the form of additional staff salary or faculty course releases. Universities also need to carefully consider other benefits offered by a central graduate school, which if run well, can improve the institution's reputation, enhance its programs and visibility, and increase its enrollments. Whatever model is chosen, it is important to keep in mind the benefits of creating opportunities for strong graduate education administration.

Benefits of strong graduate education administration

- Raises the profile of graduate programs on campus, communicating the value of graduate education to prospective students, the community, employers and funders.
- Helps create economies of scale when it comes to the administration and delivery of degree programs, potentially reducing costs, especially related to systems and technology.
- Promotes student success and well-being across programs and fosters collaborations among individual programs and disciplines.
- Helps to ensure consistency of policies across graduate programs and may reduce the likelihood of legal challenges to administrative decisions.
- Collects and analyzes data to support university decisions about graduate education.
- Ensures strategic, comprehensive approaches to promoting student retention and success.

Several of these benefits—potential reduced costs, improving consistency of policies, and reducing grievances and legal challenges—are noted in Ghali, 2011.

Below we provide some descriptions of three basic models of graduate education—centralized, hybrid, and decentralized. These descriptions are designed to help graduate institutions and their leaders assess the potential viability of these models at their universities and to better anticipate their challenges and benefits.

Centralized Models

Centralized models of graduate program administration present many advantages, offering deep expertise in areas such as graduate enrollment management and program review, and bringing to scale work that might be performed less efficiently by individual colleges. While a centralized model is typically most effective in advancing larger institutional goals with respect to graduate education, this model also brings challenges that the graduate dean will need to anticipate and manage. A strong graduate school (and dean) will need to build relationships across the entire institution, including the academic deans and faculty who are critical to the success of the graduate school's mission. The graduate school must be able to offer expertise and advice that will help faculty be more successful in their efforts to recruit and support students, and help programs see their work in the context of the institution as a whole.

Common Challenges in a Centralized Model

- Creating an ambitious agenda for graduate education that takes into consideration the diverse goals of programs.
- Establishing the credibility and relationships needed (especially with academic deans and faculty) to execute this agenda.
- Encouraging faculty and staff to consider program changes, either through policies or incentives.

The three challenges we highlight above are not unique to the centralized model—in fact, hybrid and decentralized systems may also encounter these challenges. However, a centralized graduate school will typically have a broader scope of responsibility, and an effective dean will need to establish the credibility and relationships necessary to advance the graduate school's strategic goals.

Hybrid Models

A hybrid model of administering graduate education is one in which a central unit oversees some aspects of graduate education while colleges and/

or central university offices have responsibility for others. The distinction between a centralized model and a hybrid one may not always be clear, since even centralized systems may exclude certain functions, such as graduate enrollment management. In contrast to centralized models, hybrid models shift a larger portion of responsibilities and decision-making authority to other units.

For some institutions, the advantage of a hybrid model is that it allows academic colleges to take on a greater share of responsibility in decision-making. However, this should be balanced by a graduate school or office that can fully collaborate on broader institutional initiatives and activities and ensure rigor and program quality. For example, many institutions that have Responsibility Centered Management (RCM) give budgeting responsibility to colleges, while still reserving many responsibilities for a graduate school and dean. As indicated below, one of the biggest challenges of implementing a hybrid model is ensuring that the graduate school still has the authority and resources needed to have a meaningful impact on issues related to graduate education.

Common Challenges in a Hybrid Model

- Identifying which responsibilities should live in a central graduate school and which should live within programs.
- Establishing a powerful voice for the graduate school, and ensuring that it is perceived as more than an office that handles paperwork or a "help desk."
- Incentivizing institution-wide change (if the graduate school is not in a position to offer budgetary or other incentives).

For a hybrid model to serve a university well, it is important to avoid the perception (and reality) of a graduate school that executes administrative functions only without playing a more strategic role. When this is the case, the graduate school loses the credibility and influence needed to support broader institutional goals for graduate education.

Decentralized Models

A decentralized model of graduate education is typically one in which colleges or programs have primary responsibility for most aspects of planning and delivering graduate programs, whether through budgeting, maintaining program quality, recruitment and retention, and/or student affairs. This model invests a great degree of decision-making power in those who work most closely with faculty and graduate students in a particular college and/or program.

A common argument for a decentralized model is that it encourage colleges and programs to become more invested in the outcomes of its programs and aware of the resources needed to accomplish their goals. While aspects of decentralization may be right for some universities—especially those that have sufficient resources to support administrative staff within academic colleges—universities that choose this approach should carefully consider the following common challenges of a decentralized model and ensure that they have alternative structures in place to address them.

Common Challenges in a Decentralized Model

- Assuring quality and equitable governance across programs.
- Ensuring that new degree programs meet market demand and university standards.
- Estimating financial and staff resources necessary to administer graduate education at the program level.
- Incentivizing institution-wide change.
- Fostering interdisciplinarity and collaboration across units on campus that serve graduate students and programs.

It is important to recognize that graduate deans do not always choose their university's model—they inherit it, or find themselves to be one voice in a campus-wide conversation about restructuring. Nevertheless, graduate deans

and other administrators should be aware of these issues as they discuss various models for ensuring excellence in graduate education.

Key Bodies and Units Supporting Graduate Education

The next section provides brief descriptions of the various roles of the offices that typically support graduate education at master's and doctoral institutions. While the following pages do not prescribe a model for how these groups should work together, the third section of this volume outlines areas where specific groups often need to be involved, and ways that deans and universities can productively engage their perspectives.

Governing Board and Administration that Support Graduate Education

The institution's governing board and central administration create the commitment to an organizational structure for graduate education when that authority states publicly that graduate education is part of the mission, vision, and values of the university.

Programs and Other Units that Supervise Graduate Study and Recommend Degrees

Graduate degree programs typically reside within a department or a school that represents the academic discipline or professional focus of the degree. Departments and schools with common disciplinary elements may create the institution's academic colleges such as a College of Education or College of Arts & Sciences. However, there are exceptions to the idea that programs live within academic departments and schools. Units that are designed specifically to deliver online degree programs, or off-campus cohort degree programs, may serve as the academic home for some programs. Other graduate programs may reside in structures specifically designed to foster interdisciplinary study and research, such as research centers; often graduate schools serve as the administrative home for these programs. Finally, graduate degrees organized in partnership with other domestic or international universities, such as joint and dual degrees, may reside in a college, a graduate school or in other units designed to support partnership programs.

If a graduate dean is in place, they typically help guide the development of policies to ensure that the degree program meets established criteria for quality.

Graduate Program Directors

Graduate program directors hold primary responsibility for administration of a graduate program's academic requirements and they implement a program's established policies and processes. Their duties may include, but are not limited to, guiding admission and funding decisions, implementing guidelines for mentoring and the formation of thesis and dissertation committees, completing assessments and curricular reviews, facilitating graduate faculty appointments, and other duties appropriate to the mission and scope of a specific graduate program.

Graduate program directors also serve as liaisons, connecting the program's other administrators, staff, faculty, and students to the graduate school and to related administrative units at the institution. That connection helps ensure consistent interpretation of policies that govern graduate study. Just as important, however, the graduate program director represents the concerns and needs of the program to graduate leadership, while communicating information to students and faculty about centrally delivered services such as professional development activities, career services, institutional research, and related support units. Graduate Directors may also serve as the key point of contact with alumni services, the development office, and advisory boards and other programs external to the institution that contribute to the program's success and resources. Graduate schools often provide professional development for program directors to help them stay ahead of trends in graduate education and meet the diverse needs of students.

Graduate Faculty

Some universities—not all—require faculty to meet certain eligibility criteria in order to serve as graduate faculty. Regardless of whether this is the case, graduate faculty have responsibilities that go beyond those required for undergraduate teaching and supervision. Teaching and research responsibilities typically include establishing guidelines for the assignment of graduate-level courses; the supervision of theses, dissertations, and related

student research; chairing or participating in graduate student committees; and the supervision of practica and internships. Faculty often facilitate connections between graduate students and potential employers and encourage access to the professional development essential to career preparation. Service responsibilities for graduate faculty may include participation in the Graduate Council or other committees, boards, or councils that govern graduate study. Administrative service may include service as a graduate program director or other duties required to support the graduate education mission.

The Graduate Council

Most institutions depend on an organizational team of graduate faculty who serve in advisory and approval capacities to the Graduate Dean and provide leadership and university-wide policymaking for the graduate education mission. This group may be called the Graduate Council or Graduate Senate. The graduate faculty members may be elected or appointed, and membership may be contingent upon holding a graduate faculty appointment and participating in graduate education and research. Institutions may also identify other criteria for serving on the Graduate Council to achieve representation across the entire range of graduate programming. The Graduate Council may also include graduate student representatives or liaisons to other institutional legislative groups as required by the institution.

The Graduate Council usually approves institution-wide policy on all graduate education matters, including policies about students, graduate faculty, and curricula. In the table below, we outline areas where the Graduate Council typically serves a key role, with examples of specific topics on which it helps to formulate or approve policy.

Typical Governance Roles of the Graduate Council

Area of Responsibility	Graduate Council may formulate or approve:
Institutional Strategy and Mission	• Institutional strategic planning as it relates to graduate education
	• Development or revision of graduate education mission
	• Bylaws governing the role and scope of the advisory body
Students	• Marketing, recruiting, and admissions policies based on practices known for achieving well-qualified and diverse applicant pools
	• Residency requirements
	• Academic milestone requirements (e.g., qualifying, candidacy, and completion exams)
	• Time-to-degree policies
	• Professional and ethical behavior
Academics	• Program approval processes
	• Assessment and program review procedures
	• Course, research, and internship policies
	• Credit-hour requirements
	• Other requirements for successful degree completion
	• Online programs
	• Accelerated degree programs
	• Interdisciplinary study
	• Joint and dual degree programs
Graduate faculty	• Graduate faculty appointments
	• Teaching, research, and service commitments

There are a variety of models for organizing a graduate council. In a university where graduate education is more centralized, there is typically a single graduate council involving faculty representing a diverse range of fields. In a more decentralized system, each college may have its own graduate council whose members work with an administrator in the college (such as a college dean or associate dean responsible for graduate education) who oversees graduate education. Below we provide guidance on the organization of graduate councils that is relevant to both models.

Guidance on Graduate Council Organization

- **Advocate for a council where faculty, students, and graduate school share influence.** For example, in one successful model, graduate faculty elect some members, the graduate dean appoints others, and a student leader represents the student voice.
- **Collaborate on committee appointments.** The dean and other council members should review standing and ad-hoc committee appointments on a regular basis and work together to make appointments that advance goals in specific areas.
- **Collaborate with faculty on an agenda for meetings.** Establish a process where the graduate dean and the faculty vice-chair meet to develop each meeting agenda.
- **Seek to involve all members of the graduate council in major events on graduate education, such as student award programs and alumni events.** These occasions are good opportunities to celebrate the council's achievements and strengthen relationships among members.

The Graduate Student Organization

The Graduate Student Council, composed of graduate students, represents student perspectives on the policies and processes developed by the policy-making bodies. Its representatives may be elected or appointed. To achieve

a broad representation of students from across the institution, some universities may require that the council include representatives from each degree program. Others may draw Graduate Student Council representatives from larger campus-wide organizations such as the Student Senate. Still others may require that the Graduate Dean or the Graduate Council directly appoint student representatives to the Graduate Student Council on an annual basis or by using a rotational plan. Graduate students can provide critical perspectives on the impact of institutional policies on their programs of study and development as scholars and professionals.

Regardless of the organizational model, graduate deans can help create opportunities for communicating with graduate student organizations; these may include regularly scheduled meetings with the organization, its executive committee, or selected leaders. The dean can also invite the graduate student organization to inform professional development programs, student support services, awards and recognition programs, and related activities that heighten awareness of graduate education on campus.

The Graduate Advisory Board

Many graduate institutions create advisory bodies that engage alumni, employers, leaders of business and industry, philanthropists, and any other patrons who advocate on behalf of graduate education through networks beyond the institution. Often called Graduate School Advisory Boards, these committees are designed to attract people with special expertise, resources, and access to employers. The Graduate Advisory Board may create new funding sources for students, provide input to faculty on curricular matters, create access to internship and practicum sites, and promote pathways for graduate students entering postgraduate studies or the workforce.

From the perspective of the graduate dean, the Advisory Board provides an important mechanism for connecting degree recipients with the workforce at the regional and state levels, and keeping graduate candidates informed of opportunities to network with employers. It may also assist graduate leaders with fundraising and other aspects of advancement (see pp. 33–34 for more on fundraising and development). The Advisory Board may connect the graduate community to national and international partners who seek graduates

with the competencies that they need to advance their research and professional goals. A Graduate Advisory Board must be carefully managed, however, to provide meaningful engagement opportunities for its members, and useful advice to the graduate dean.

Other Units that Serve Graduate Education

The bodies and units described above are specific to graduate education, but there are a number of other university offices that serve graduate education. At some universities, these live within the graduate school. The most common of these are graduate admissions, international student and scholar services, continuing studies, and the Office of Postdoctoral Affairs, all of which are described in greater detail in the text box on the next page.

The graduate admissions function has a far-reaching impact on the quality of graduate education at an institution. Recruiting and admitting candidates that are well-matched to their programs of study will determine whether a university is able to retain students and support their success. For this reason, most graduate schools want a strong voice in the practices surrounding graduate admissions. For a further discussion of this topic, see the section on admissions and recruitment found in Part III of this volume.

Units that may live in—or outside of—the graduate school

GRADUATE ADMISSIONS

Many universities have successfully included graduate admissions within the graduate school mission and structure. This structure requires coordination between an office that maintains a central repository of admissions materials and each graduate program. Common processes for organizing graduate admissions can be found below, p. 25, and in CGS's publication, *Essential Guide for Graduate Admissions.*

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INTERNATIONAL SERVICES

Since most universities seek to attract a large number of international graduate students, postdocs, and visiting scholars, some graduate schools may choose to administer some or all international student services as part of the graduate school mission. A Director of International Services and sufficient support staff are required to make a dedicated service for international graduate students viable. The Director's responsibilities may include coordinating review of international credentials and issuing the I-20 visa required for study.

CONTINUING STUDIES

Some graduate schools oversee administration of the institution's office of continuing studies. Graduate courses, certificates, or degrees may be offered as continuing education needed by professionals to maintain certification and licensure, to add new areas of recognized expertise, or to expand knowledge for personal interest and lifelong learning.

OFFICE OF POSTDOCTORAL AFFAIRS

Some graduate schools have responsibility for postdoctoral fellows and visiting scholars. The dean's role often includes developing the appointment policies and defining the responsibilities while the scholar is affiliated with the university. The areas of oversight may include approving the appointment length, clarifying access to institutional resources, and verifying the sponsoring program or individual. Determining access to benefits and ensuring the institutional polices align with any state or national regulations established for these appointments may be among the additional duties. Graduate deans may provide professional development opportunities for postdoctoral fellows by inviting the fellows to participate in ongoing professional development programs for doctoral students or offering programs targeted specifically to the needs of postdocs.

Conclusion

While centralization can improve operational efficiency, a graduate school's structure should reflect the needs of particular institutions. Appropriate structures can improve the delivery of graduate education and minimize conflict between the diverse groups that are invested in the graduate school and/or its constituent programs.

While appropriately organizing a graduate school can improve program efficiency and support student success, the office is only as strong as its leaders and the relationships they build with other offices on campus. The next section explores the various roles graduate leaders can be expected to fill and the expectations that come with those roles.

PART II
LEADERSHIP

One of the most important parts of a graduate dean's role, irrespective of titles, (see Definitions, p. 3) is providing leadership for the central academic team, helping to inform conversations about graduate education across different offices on campus. The graduate dean keeps the provost or chief academic officer, college deans, and other members of the academic team current on graduate education issues and guides planning, prioritization, policy, and budgetary decisions. This is critical for keeping the President, Chancellor, and Vice President well-informed of the role of graduate education in meeting the institutional mission and vision.

While the roles of graduate deans vary by institution, this chapter describes six key facets of the graduate dean's role at most institutions.

Key Leadership Roles for Graduate Deans

- Advancing the University's Mission and Strategic Plan
- Establishing and Promoting Standards for Excellence
- Identifying and Managing Funding for Graduate Education and Research
- Building Bridges between Graduate Education and Research
- Creating and Supporting Graduate Student Services
- Advocating for Graduate Education and Graduate Students

These roles are overlapping, to be sure. For example, a graduate dean's role in advocating for graduate education—whether with state policymakers, or other offices on campus—may also serve the goals of promoting funding for graduate students and supporting graduate student services. All of these activities should also, ideally, advance a university's mission and strategic plan. We have chosen to address these roles separately because they call for different strategies and, in some cases, require attention to different types of policies.

Advancing Your University's Mission and Strategic Plan

Whether the graduate dean inherits the university's strategic plan or is an active participant in its development, graduate education may not be explicitly recognized as playing a key role in advancing the institution's goals. Graduate deans need to make explicit the ways in which graduate education furthers the broad pillars of the plan—whether in promoting research excellence, supporting undergraduate education and the undergraduate experience, or expanding the university's global relationships. A graduate dean should help senior university leaders see the connection between graduate education and these goals by providing data, stories, and examples.

At some universities, undergraduate education dominates the strategic plan simply because the institution has a relatively small graduate student body. In these circumstances, graduate deans should explain how strong graduate programs and services enrich the education and experience of undergraduates. Graduate students teach undergraduates at many institutions and may play a key role in their mentoring and advising. This role goes beyond the classroom, as graduate students may help to supervise extracurricular or work experiences in campus offices that employ both graduate and undergraduate students. Graduate students in the field of higher education, counseling, and psychology may also contribute to the residential life experience of undergraduates. Because graduate students are typically closer in age to undergraduate students than faculty members, they may seem more approachable and can play a critical role in supporting their development.

As advocates for graduate education on their campuses, graduate deans need to be able to articulate broad and compelling messages about the value

> I have had success in thinking through how each of the members of the President's Cabinet is affected by graduate education—whether the impact is on enrollment, alumni, research, faculty, community partnerships, economic development, or campus life. To make graduate education more visible at an institution with a strong undergraduate focus, you need to provide senior leadership with data and stories that demonstrate the impact on their particular areas of responsibility.
>
> —Graduate dean at a public institution with an undergraduate focus

of graduate education. At the same time, some of these messages may need to be tailored to the interests and needs of various offices and groups.

Campus advocacy often begins with clear evidence of the research contributions graduate students make toward advancing their disciplines and extends to the ways that graduate education enhances the undergraduate education experience. Deans may also choose to offer examples of the regional, state, national, and global networks that graduate faculty and students create through their scholarship and professional practice experiences as well as how they improve the local economy and institutions like primary or secondary schools. These connections often result in higher program rankings, research awards, and more successful and engaged graduate alumni.

Establishing Standards of Excellence

A second critical role for graduate deans is working to establish institution-wide standards of excellence for graduate education that are flexible enough to accommodate program diversity. Part of this work is defining what graduate education is—and what it is not—in collaboration with the faculty and graduate council. Since institutions design academic experiences for different purposes and various levels of preparation, clearly-written policies help universities avoid confusion and inconsistency in recognizing graduate-level work. Below, we outline some of the areas where graduate deans help guide policy and practice.

Creating Standards for the Recognition of Graduate-Level Work

- Differentiating between credit-bearing and non-credit bearing experiences.
- Determining which baccalaureate-level or honors courses can apply toward the graduate degree. This includes developing policies guiding accelerated degree programs, sometimes referred to as 4 + 1, or 3 + 2, degree programs.
- Determining which courses may apply to a graduate degree and which are designed for other purposes such as certification or licensure.
- Developing policies on credit for research and professional experience and establishing transfer credit policies for work completed at other institutions.
- Establishing policies to define the use of specialized post-baccalaureate courses approved for executive education.
- Determining how credentials may be combined to create concentrations, areas of emphasis, or degrees.
- Developing policies on joint and dual degree programs conferred by different programs within the same institution or by one's home institution and another institution.

When programs or colleges develop inconsistent policies regarding graduate-level work, it can cause understandable frustration on the part of students and faculty, and when policies are too lenient or vague, diminish the quality of credentials an institution confers. The graduate dean not only informs meaningful, fair policies, but also helps to ensure that they are consistently observed and equitably implemented.

Developing Policies Related to Program Quality

WORKING WITH GRADUATE FACULTY GOVERNANCE

The graduate dean should translate the institution's vision of academic excellence into a set of broad policies that ensure high standards for individual programs and allow them to meet regional and disciplinary accreditation requirements. Programs, in their turn, may adopt additional standards that reflect requirements for disciplinary accreditation and other goals that a specific degree program seeks to achieve.

In addition to institution and program standards, the graduate dean should plan to share accreditors' standards for graduate education with program directors so that programs can prepare to demonstrate these standards. As part of this process, they can ensure that professional accreditation standards are being met in programs seeking to meet licensure or other disciplinary requirements. Working with the graduate council members, the graduate dean may also establish policies regarding waivers of standard policies, grievance procedures, and reinstatement practices, along with funding criteria.

Current graduate students can help inform effective policymaking by explaining the impact of new or existing policies. Their feedback is why student representation on the graduate council is so valuable. Graduate deans may also want to use feedback from alumni, employers, and advisory boards to inform the development of institutional standards; these groups can share useful perspectives on the value of training in the workplace.

REVIEWING CURRENT GRADUATE PROGRAMS

Most graduate schools provide guidance for the assessment and review of existing graduate programs. In collaboration with the graduate council, the graduate school approves criteria and processes for program quality assurance and continuous improvement. Review of existing graduate programs may be influenced by the institution's regional accreditor or by a disciplinary or professional accreditor. It is important to note that *accreditation reviews* focus on discipline-specific criteria, and the standards established by the graduate council may not be reflected among these criteria. By contrast, graduate *program review* appends additional standards of rigor as determined by the graduate council and graduate dean.

Review of existing programs may be tied to the institutional review of the undergraduate program and include an in-depth analysis of the unit housing the graduate program. The institution may have criteria for such reviews that may be the same for both the undergraduate and graduate analysis. When a graduate program review is simultaneously conducted with an undergraduate review, leadership by the graduate dean ensures that the graduate review also gives close attention to the quality metrics established by the graduate council. Typically, external reviewers are invited to consult with a team of faculty, and together they identify program strengths and recommendations designed to meet program goals. More information about program review can be found in a CGS publication dedicated to this topic, *Assessment and Review of Graduate Programs* (2011).

REVISING PROGRAMS AND APPROVING NEW PROGRAMS

Graduate schools typically help to establish standards for the development and approval of revised and new programs of study. The graduate dean should meet with program directors to review areas of institutional strength, provide information about innovations in graduate program delivery at the national level, and determine areas where new programs could meet emerging regional, state, or national demands. Once new program areas are identified, deans can provide guidance for the proposal, help faculty meet institutional and other criteria for quality such as state education agency requirements, and convene senior administrators to discuss resources that will be needed to launch the program. The graduate dean provides leadership when approval for new programs is required by the board of trustees or the state higher education council.

GATHERING DATA

Typically, an Office of Institutional Research holds responsibility for data collection and distribution, but in some institutions, graduate schools may collect their own data on graduate programs. Regardless of the model, graduate schools can help ensure that the university has the data needed to make good decisions about graduate education. Usually, deans provide input on the selection of data for institution-wide analysis, program-specific analysis, or peer comparisons, and may engage consultants to help with benchmarking.

Understanding what types of data are needed for various quality assessment processes can help one use limited resources more effectively, since not all data are critical to decision-making. Institutional datasets will be required for regional accreditation, college-level reviews, or institution-wide planning, while program-level data will be needed for regularly scheduled program reviews, discipline accreditation, new program development, and analysis of specific program needs. Application, yield, and enrollment rates typically inform decisions about recruitment and marketing effectiveness and return-on-investment, while time-to-degree, degree completion rates, and career pathways are critical for assessing student success and program quality. Graduate deans may find it helpful to automate datasets for regularly scheduled distribution to key stakeholders, e.g., university and college administrators, department chairs, program directors, etc., and create both public and private data visualization dashboards to foster external and internal transparency regarding various metrics. CGS offers custom data reports that allow member institutions to compare their own data to those of peers. Custom data reports can be requested for CGS in-house data, such as CGS/GRE Survey of Graduate Enrollment and Degrees and CGS International Graduate Admissions Survey, as well as other secondary national datasets.

Academic Standards and Policies for Students and Prospective Students

ESTABLISHING GRADUATE ADMISSIONS STANDARDS AND PROCESSES

Several decision points typically define the graduate admissions process. The first is an evaluation of candidates to ensure that minimum institutional admissions standards are met. Next, the graduate program's admissions committee evaluates candidates based on program-specific standards. The faculty admissions committee then makes a decision to offer admission to the program and in some cases an offer of funding.

There are a number of common institutional admissions processes. In one, the graduate school oversees the graduate admissions process, with support staff overseeing admissions systems technology and the completion of admissions-related processes and securing timely admissions decisions from the program faculty. The advantages of this model are that the staff become

experts in graduate admissions and the graduate school can support their work with membership in the National Association of Graduate Admissions Professionals (NAGAP) to ensure that the institution uses nationally-recognized admissions practices. Another model locates the graduate admissions processes outside of the graduate school, often within an admissions office that processes both undergraduate and graduate applications. This model is often attractive to institutions because it houses all admissions functions in one institutional location. Other models may also be adopted based on institutional scope and mission, but in all, faculty are the ultimate decision-makers when it comes to selecting the appropriate candidates.

Graduate deans can share good practice guidelines for graduate admissions with faculty, inform the admissions leadership of the specialized admissions needs of graduate applicants, and advocate for technologies appropriate to graduate admissions. Ideally, the graduate dean will also play some role in encouraging graduate faculty and program directors to assess the effectiveness of admissions practices. For example, the dean may offer seminars to faculty on the use of holistic admissions criteria and share tools that are designed to make admissions decisions more transparent and consistent. They may also provide data to inform the faculty of how these practices contributed to the quality of their programs and can review admissions outcomes with an eye to improvement.

> At my university, we provide sample rubrics as well as tips for customizing these tools for individual programs. This results in more clarity and transparency about the admissions process, and has also helped faculty to consider a broader range of variables when evaluating candidates for admission.
>
> —Graduate dean at a public research institution

PROMOTING ADVISEMENT AND DEGREE COMPLETION PRACTICES

In collaboration with the graduate council, graduate schools establish milestones necessary for successful degree completion and policies on annual

review of progress. Advisement practices include monitoring the satisfactory academic progress of each graduate candidate, alerting students as they approach degree completion, and verifying that standards such as GPA and examination scores are met. For programs that use a single-advisor model, there should be effective processes to ensure that graduate candidates can successfully secure a faculty advisor who may also serve as a mentor and in many cases, provide financial support. For programs that follow a committee model, where the candidate is monitored by several faculty members, the graduate school should establish clear guidelines for committee composition and responsibility. In general, the faculty member or committee needs to meet regularly with the graduate candidate to review progress and resolve concerns early, referring candidates to other areas of expertise when there is evidence that such support is needed. Many programs and/or departments develop graduate student handbooks to clearly state the expectations for program matriculation, to establish a timeline for meeting requirements, and to outline the processes for resolving matriculation concerns.

CREATING CONFLICT RESOLUTION & GRIEVANCE PROCEDURES

Conflicts of an academic nature may arise when the academic program or research expectations of the graduate candidate do not align with those of the faculty mentor, graduate committee, or graduate program. Both faculty and students should receive information on how to manage such conflicts and graduate schools should serve as a resource for effective conflict resolution and grievance procedures. Conflicts related to matters such as harassment, discrimination, or research misconduct require application of institutional policies, requirements from external funding agencies, and may also involve legal services. Students should receive information that clearly identifies a process for reporting incidents and which campus offices can support them in such cases.

A good practice is to create a university-wide student handbook for master's and doctoral students detailing expectations, procedures, processes, and deadlines that transcend degree programs. This handbook should be updated annually to ensure current areas of concern are addressed. Program handbooks can then focus on program specific expectations, procedures, processes, and deadlines that exceed those approved at the university

level. These program specific handbooks should be reviewed by the graduate school to ensure alignment with university wide standards and policies. This process guarantees consistency of information provided to all students, minimizes contradictory/outdated sharing of information, and aligns program practice with university standards.

APPOINTING AND APPROVING OF FACULTY COMMITTEES

The process for appointing and approving faculty committees varies by institution. In addition, committee appointment and composition for doctoral degrees may be different from those used for the master's degree. Graduate deans often provide guidance on both the approval and composition of these committees.

Often, departments or degree programs appoint the committees with approval from the graduate school. In some institutions, the graduate dean appoints the committee after receiving a recommendation from the department or program. For doctoral research, committees typically include several faculty members from the student's discipline and at least one faculty member from outside of the student's academic discipline in order to ensure consistency with institution-wide standards. In some doctoral programs, a faculty member from outside the university may be appointed to the committee or asked to review the final product to provide specialized expertise or external assessment and guarantee program quality. For master's committees, it is common to include a sufficient number of faculty members to meet program standards and include others with expertise as required by the project.

Developing Academic Policies Related to Graduate Faculty

ACCESS TO GRADUATE FACULTY

Graduate schools help to ensure that graduate students have access to faculty who have the expertise to serve as mentors and supervisors and the ability to create an inclusive, thriving graduate community. At some universities, all members of the tenure-track faculty are eligible to teach, mentor, and supervise graduate students. Graduate students may select a member of the tenure-track faculty as appropriate to the area of study or funding offer.

In some programs, faculty mentors may be assigned rather than selected, based on criteria adopted by the program.

At some universities, a formal process of application and appointment is required for graduate faculty teaching, mentoring, and supervision. The graduate dean, in collaboration with the faculty, should be included in discussions about the best process for defining graduate-level faculty responsibilities along with expectations for executing those duties. In addition to tenure-track graduate faculty membership, the university may seek to establish processes for adding non-tenure track faculty or professionals from outside the university to participate in graduate teaching, mentoring and supervision activities that require specialized expertise not currently available in the program. Associate or adjunct members of the graduate faculty may be appointed for those purposes.

WORKING WITH FACULTY TO NAVIGATE LEGAL ISSUES

Graduate deans foster a collaborative relationship with the university's legal counsel to achieve a clear understanding of issues that require consultation with legal services so that practices are aligned with risk management. Inviting legal counsel to offer such guidance in the form of workshops or seminars for graduate program directors ensures that these leaders understand the legal implications of their work. Working to create clear policies, developing an understanding of appropriate practices, providing opportunities for objective review and appeal, and understanding where issues are still evolving help to manage institutional risks associated with legal action. The dean should know the process for engaging legal counsel when appropriate and help ensure that appropriate academic decision-making remains with the graduate faculty.

Identifying and Managing Funding for Graduate Education and Research

Funding Graduate Operations

Financial investment in graduate education comes from multiple sources and may include institutional funding, external funding from grants and research, and external funding from philanthropic fundraising. The multiple resource

streams combine to create a fiscally sound foundation for graduate study and research. In budget discussions, the graduate dean's role is to make a compelling case for the importance of graduate education to the institution as a whole. Institutional funding typically includes an operating budget for the graduate school; a budget for institutionally-funded assistantships, fellowships, and scholarships; and a budget to support graduate student research activities. The graduate dean advocates for a strong operating budget that provides adequate staffing and staff development, current technology, space, and memberships in the appropriate professional organizations that ensure access to best practices and current innovations in graduate education.

The graduate school's operating budget should also include sufficient funding to staff and perform all of the operations required to meet its responsibilities. These responsibilities and associated budgets include, but are not limited to, admissions and certification, appropriate technology to support admissions and student record systems, program review and new program development, graduate student professional development, assistantship and fellowship allocation and resources for advancing graduate study. Additional responsibilities and associated budgetary support may include professional development for graduate faculty and student services. These responsibilities may be offered through the graduate school or in collaboration with other campus offices.

Developing Funding Models for Graduate Students

The graduate dean is responsible for establishing appropriate standards for the funding of graduate students to ensure competitive and timely financial offers for the most qualified graduate candidates. They may also establish policies on maximum years of funding. Perhaps most importantly, deans also build collaborative relationships with all of the campus offices that have the potential to provide student support, as well as with those that handle related activities (e.g. academic programs and principal investigators, financial aid, human resources, payroll) and publishing reports on the availability of each of the funding sources available at the university. Examples of other campus units that frequently provide assistantships for graduate students include student affairs, enrollment management, information technology, libraries, and TRIO programs, among others. In all areas of awards management, the

graduate dean's leadership helps secure the resources, develop policies on their distribution and management, and demonstrate the impact of these resources on university outcomes.

At universities that grant doctoral degrees, teaching and research assistantships will be an important focus of the dean's work. These should include an institutionally- and disciplinary-appropriate financial offer of a stipend, full or partial tuition remission, health benefits, and cost of attendance. One goal of the award is to provide the student with a level of financial security sufficient to allow full-time study. A second goal is to help the student develop teaching, research, and service competencies without compromising time-to-degree. Fellowships and traineeships also include institutionally appropriate financial awards essential to recruit well-matched students and support their success through degree completion, post-doctoral placements, or career launch. These awards may or may not require teaching or research responsibilities. Similarly, federal traineeships including Graduate Assistants in Areas of National Need (GAANN), the National Science Foundation (NSF) Research Traineeship (NRT), the NSF Graduate Research Fellows Program, and the National Institutes of Health Institutional Pre-Doctoral Training Grants (T32) are additional sources of support for faculty and students. There are also numerous websites that regularly provide internship/scholarship opportunities, such as the Hispanic Association of Colleges and Universities (HACU). Additionally, grant writing workshops, like those offered through ProFellow, should be offered to help students write and submit applications for federal funding.

There are multiple models for graduate assistantship management. In some models, the graduate school is responsible for distribution of all or a portion of the institutionally funded awards. In others, the distribution may be handled by the academic colleges or programs. Regardless of the structure, the graduate dean's engagement ensures that eligibility criteria support the fair, effective, and equitable distribution of resources; that policies on portability are followed; and that conflict resolution polices are effective. Finally, deans frequently publish or approve graduate assistant handbooks and provide orientation programs to further enhance the success of the award recipients.

Securing grants, contracts, and research funding for graduate study

External research grants and contracts are another important funding source for graduate study. The graduate school creates programs to promote a research culture that encourages submission of competitive grant proposals by faculty and graduate students. Graduate schools, in collaboration with research offices and research centers, may offer institutional incentives such as internal grants to promote original research, to fund student research and travel, and to foster interdisciplinary collaborations that lead to competitive grant submissions, and grant-writing workshops for students. Such submissions are designed to include funding to financially support the research and education of graduate students. Graduate schools facilitate this process by linking faculty and graduate students to web resources, government research sponsors, non-profit foundations, and related units that provide funding. In doing this work, graduate schools may collaborate with development offices to advance the best programming.

The graduate dean also ensures that the institution develops good policy surrounding graduate student funding; these may include policies on tuition waivers, health insurance support, stipend guidelines and other financial support appropriate to the discipline and duties of earned awards. Graduate schools should establish consistent institutional guidelines for determining when graduate student tuition must be funded by grants and when it will be managed by an institutional tuition waiver. The graduate dean may help determine whether health insurance will be included in extramural benefits calculations. Furthermore, he or she may implement top-off or supplementation requirements for internal awards to incentivize students pursuing external funding. Such policies will need to accommodate the institutional, system, state, and/or federal regulations that govern different extramural funding sources.

Overseeing collective bargaining

In some institutions, graduate students on assistantships are unionized and members of a collective bargaining agreement. Since the graduate dean is required to ensure the institution's autonomy in setting policies and procedures for graduate education, the dean is typically excluded from the collective

bargaining process. To minimize conflicts of interest for the dean, many institutions adopt a model that assigns the collective bargaining role to another member of the graduate dean's staff or other institutional officers. Often, the Human Resources Office handles contract negotiations. The graduate dean's representative then serves on the bargaining team to provide administrative guidance for students in terms of compensation and benefits.

Development and Fundraising

Given the pressures on federal and state funding for higher education, graduate deans increasingly participate in fundraising on behalf of their institutions and programs. This work always requires communication with the institutional development office to ensure that solicitations of funding are well-coordinated. Development staff members can also provide the professional fundraising expertise, communication, follow-up, and related outreach required to meet the fundraising priorities established by and for the graduate school.

To strengthen its fundraising capacities, graduate schools often establish philanthropy boards composed of donors who have an established record of support for graduate education. The board members typically offer access to other donors and agree to reach out to their networks to solicit additional financial investments. Creating a network of friends of graduate education through letters, visits, and recognition in publications and presentations are common ways of stewarding good relationships with funders.

> "Development isn't just about gifts from donors. It's about telling the story of graduate education, making sure the broader public appreciates the value of the university to contemporary society and the global good. It's the graduate dean who can help shape these stories and bring student accomplishments—and needs— to development work."
>
> —Graduate dean at a private research institution

Advancing economic and industry partnerships

Often managed by the advancement office or the research division or by both jointly, the institution's ties with local, regional, national, and even global economic and industry players can enhance and empower graduate education through internships, professional development possibilities, research and project funding, and career opportunities for graduates. The graduate school is well-served by strong relationships with community partners as has been clearly documented in the development and success of the Professional Science Master's (PSM) degree. These partnerships can be strengthened through formal agreements (internships, research funding, adjunct faculty appointments), opportunities for external participation in graduate events (thesis competitions, student research fairs), and invitations to speak at seminars and workshops. As much as possible, the graduate school should be a visible participant in events that highlight the institution's connections with the community and the region.

Building Bridges between Graduate Education and Research

To support the professional development of graduate students, the graduate dean needs to take a comprehensive view of the conditions that impact a student's ability to develop as researchers or research-informed professionals. The dean will typically work with the Chief Academic Officer (often the Provost) or the Vice President for Research to advance broader institutional goals, such as:

- Supporting the funding environment that allows students to have adequate research opportunities.
- Fostering a culture in which students are encouraged to take intellectual risks and develop the autonomy needed to become independent researchers and professionals.
- Encouraging interdisciplinarity and opportunities to conduct interdisciplinary research.
- Promoting ideals of scholarly and research integrity and ensuring that graduate students know how to avoid research misconduct.

- Supporting the institution's reputation for high-quality research and research-informed professional practice.

At a more pragmatic level, the graduate dean will also help shape specific policies related to research and research-training that are designed to promote these larger goals. These are described in more detail below.

Promoting research partnerships

Graduate schools promote institutional funding for research through partnerships with the research office and the colleges and schools that generate research support. Through partnerships, many graduate schools develop institutionally-funded awards to initiate promising lines of research that have the potential to attract external funding. Others create special summer research programs to extend student engagement and accelerate research productivity. Graduate schools may also create partnerships to fund travel required to participate in disciplinary meetings where networking is important and institutional contributions to the discipline are acknowledged. Graduate schools also partner to fund faculty mentoring programs and graduate student professional development programs that strengthen presentation and publication potential and can expand opportunities for postdoctoral and career placements.

Promoting assigned research time

The graduate school, in collaboration with the research office, advocates for effective institutional policies for assigned time and research expectations of faculty mentors and graduate students. Faculty mentors require sufficient time to write and secure the grants to finance their scholarly projects and to supervise the graduate student research projects that they support. The graduate school also advocates for appropriate assigned time guidelines for research assistants and for encouraging practices that establish expectations between the faculty mentor and research assistant.

Clarifying intellectual property

In collaboration with the research office, the graduate dean promotes policies on intellectual property and authorship that ensure clarity of ownership for graduate faculty and students before a project begins. The dean should make sure that graduate students and faculty have access to policies for data collection and management, invention disclosure, patenting, licensing, and royalty distribution. It should be made clear to graduate students that the use of university resources in the development of an idea will likely result in the university having rights to that intellectual property. These rules often help ensure that graduate students are properly credited and rewarded for their discoveries. Intellectual property protection may also require embargoing publications, dissertations, and theses and appropriate embargo policies should be developed and broadly disseminated.

Developing processes for addressing academic dishonesty and plagiarism

Policies on academic dishonesty or plagiarism related to student work are sometimes governed by an Office of Student Standards or other central office that establishes both the process for reporting these concerns and the protocols that are followed after a complaint is filed. Graduate deans work with the appropriate officer to communicate both the definitions associated with dishonesty and plagiarism and their consequences. A complaint against a faculty member, graduate student, or postdoctoral scholar will often get routed through the dean's office, and it's the dean's job to ensure those complaints are handled appropriately. These situations require sensitivity and care so that allegations of research misconduct are investigated appropriately and without putting the whistleblower at risk—especially if the whistleblower is a graduate student.

Promoting responsible conduct of research and professional ethics

Of course, creating policies related to research misconduct are not the only way to prevent it from occurring. Graduate deans play an important role in creating and maintaining high-quality programs for training students in research and professional ethics. Many Responsible Conduct of Research

(RCR) programs are housed in a graduate school or are administered jointly by the graduate school and the research office. RCR training not only protects the student during their graduate education, but also lays the foundation for the responsible conduct of research throughout their career. Such training is required for students supported on most federal grants.

Many graduate students pursuing careers in professional or clinical practice will require additional training in specific federal regulations and disciplinary standards such as codes of professional conduct. For example, students whose career trajectories take them into education need to understand federal regulations such as the Family Educational Rights and Privacy Act (FERPA) and all that the law implies for educational records. Students going into any clinical career need training in Health Insurance Portability and Accountability Act (HIPAA) and its implications. There are also state and federal laws governing sexual harassment and conflict of interest. While these may be addressed in individual programs, it is good practice for the graduate school to work toward educating all graduate students in the standards that apply to their future professions and careers.

Establishing policies on theses and dissertations

Most graduate schools hold responsibility for thesis and dissertation policies such as guidelines for securing an advisor, creating the committee, completing training for responsible conduct of research, following protocols for sequestering work as appropriate, and following guidelines for multiple authorship. In fields requiring research with human or animal subjects, deans must ensure that all theses and dissertations receive reviews, as appropriate to the research, by the Institutional Review Board (IRB) for use of human subjects and by the Institutional Animal Care and Use Committee (IACUC) for use of animal subjects. In addition to disseminating these policies, graduate deans may also establish professional development programs for faculty mentors and for graduate students to assist with writing, formatting, and resolving research problems.

The graduate dean's role in shaping policies surrounding theses and dissertations is not only to help the institution maintain academic standards for quality, but also to help support research innovation and to prepare graduate

students to effectively communicate their work. Recent convenings and meeting sessions organized by CGS have led universities to share some effective practices for supporting innovation in master's theses and doctoral dissertations, outlined below.

Strategies for Encouraging Innovative Dissertations and Theses

REMOVE ROADBLOCKS— AND ARTICULATE THE POSSIBILITIES

- Explicitly allow diverse formats, languages, co-authorship
- Explicitly allow different kinds of experts to serve on committees (e.g., tribal leaders, musicians, artists)

ENCOURAGE CAPSTONES TO BUILD A BRIDGE WITH BROADER AUDIENCES

- Require lay abstracts, video abstracts, or other short forms
- Require an epilogue or extra chapter explicitly outlining broader impacts—for business, pedagogy, community
- Facilitate early conversations with external audiences (e.g., scholarly press editors)
- Host 3MT® (Three Minute Thesis) competitions to encourage students to practice communicating their research to a broader audience.

For more information and guidance, see the CGS website.

Promoting Interdisciplinarity

Creating opportunities to share information about ground-breaking research by colleagues in other fields strengthens the intellectual culture of the institution and leads to a deeply engaged graduate education experience. Yet disciplinary "silos" and tenure and promotion processes that disincentivize interdisciplinary research may be obstacles to students who seek

opportunities to work between and across disciplines. Faculty who worry that PhD students with an interdisciplinary research project may find it more challenging to secure an academic position may be encouraged to support their students in developing sufficient disciplinary depth while making cross-disciplinary connections for their professional development.

Despite these challenges, students' appetite for problem-based research and interdisciplinary opportunities may help foster connections between disciplinary cultures. The graduate school plays an important role in highlighting the interests of students and prospective students and promoting policies and experiences that meet their needs. The break-out box on page 40 highlights a number of strategies that graduate deans have successfully used to promote interdisciplinarity on their campuses.[4] As with any initiative, graduate deans will be in the best position to promote interdisciplinary research and learning if they can tie it to the missions and strategic plans of their universities, whether that means raising the research profile of their university, serving the local community, or increasing enrollments in graduate programs.

Creating and Supporting Graduate Student Services

Graduate students receive services from a wide variety of university offices depending on the scope and mission of the university, but some common offices include financial aid, human resources, career services, health services, and the campus child care center. Graduate deans often have responsibility for assessing the effectiveness of these support services for graduate students and establishing outreach and collaborations since these units often predominantly serve undergraduates. For example, the dean may offer staff in these offices opportunities to meet with the graduate school, graduate school staff, and graduate student council to learn more about the needs of graduate students. Many deans have discovered that student affairs administrators can be particularly useful allies in ensuring that graduate students' needs are considered in campus-wide discussions of student services.

Professional Development Programs for Graduate Students

Many graduate schools create professional development programs that enhance student preparation for multiple career pathways. Extending

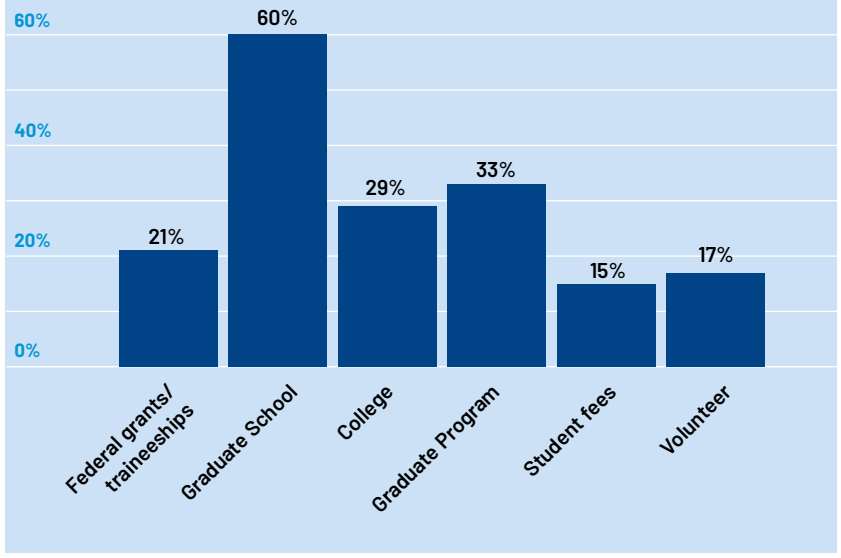
Strategies for Supporting Interdisciplinarity in Education and Research

- Encourage interdisciplinarity as a goal in strategic plans at the university and graduate school level.
- Clearly articulate the value of interdisciplinary work and methods.
- Identify research grants explicitly designed to support interdisciplinary training for graduate students.
- Integrate interdisciplinary experiences with professional development programs for graduate students.
- Create spaces and events that allow different disciplines to mix (e.g. research symposia, orientations).
- Support the integration of interdisciplinary learning outcomes in program and course-level learning outcomes.
- Encourage opportunities that are designed to promote "problem-based" thinking and learning. For example, some institutions have created graduate courses or certificates on thematic areas such as water or climate change, which require graduate students to use different disciplinary methods to solve research problems.
- Invite interdisciplinary scholars to share their work on campus.
- Encourage hiring, tenure, and promotion policies that recognize faculty for pursuing interdisciplinary research.

expertise beyond traditional teaching and research training, these programs are designed to provide graduate students with the expertise that will launch them into rewarding careers. Professional development for graduate students takes many forms: workshops, seminars, internships, practicums, shadowing opportunities, boot camps, and course modules. Some of these may be offered by the graduate school, others by teaching and learning centers or programs. The dean may not take a lead role in developing or funding all of these, but should work to foster and promote the full range of opportunities available to graduate students at their institution.

A survey by the Council of Graduate Schools found that a majority of graduate institutions provide professional development programs for graduate students outside of formal degree programs: 60% of respondents, which included graduate deans, academic college deans, professional development program directors, and faculty program leaders, reported that their institutions offer such opportunities.[5] The same survey found that professional development programs are supported by a variety of sources, with the graduate school being the most frequently cited source of support (see Figure 1 below).

Figure 1: Funding Sources for Graduate Student Professional Development



Source: CGS Student Life Cycle Survey. See CGS 2017.

For institutions that have particularly limited budgets for graduate student professional development, there are low-cost and no-cost options available. For example, some institutions may choose to invite alumni back to campus to talk about their careers or pursue private-sector sponsorship of summer "bootcamps," webinars, and internships.[6] Guidance on creating and strengthening professional development programs can be found in *Professional*

Development: Shaping Effective Programs for STEM Graduate Students and *Promising Practices in PhD Professional Development*.

Preparing Future Faculty

Institutions with graduate programs should ensure that graduate students aspiring to faculty positions have access to programs that prepare them for rapidly evolving practices and future demands. Often in collaboration with the institution's teaching and learning center (or similar unit), the graduate dean leads the implementation of programs that train graduate students as teaching assistants and instructors. These programs create opportunities for graduate teaching assistants to become familiar with the wide range of institutions that make up American higher education, to be aware of the varieties of faculty roles that exist, and to prepare to teach in settings ranging from community colleges to research-intensive campuses. Under the leadership of the graduate dean, the graduate school should also introduce graduate students to faculty responsibilities beyond classroom teaching, such as research mentoring and service. Through specialized programs to prepare future faculty, the graduate school strives to create an environment in which graduate student teaching is valued and rewarded, and to ensure that future faculty members leave the institution prepared for their roles. More information about Preparing Future Faculty resources can be found on the CGS website at https://cgsnet.org/preparing-future-faculty.

Advocating for Graduate Education

In their advocacy roles, graduate deans promote the value of graduate education both on and off campus. Advocacy is not only about communication, of course; it is also about creating a network of allies who will champion the continued success of graduate programs and students. Sharing examples and stories, along with good data, is a critical part of this work.

Often when deans think about advocacy, they think about speaking up on behalf of graduate education. But advocacy is also about engaging groups and individuals whose position or networks will allow them to communicate strategic messages about graduate education more effectively.

Examples of Advocacy

- Providing state legislators with stories of graduate students who are using their research and training to address a pressing issue in the state or local community.
- Asking a local employer to provide a quote for a press release on the value of an internship program to their business.
- Providing the university's president with talking points about graduate education for an upcoming speech or meeting with the Board of Directors/Visitors.
- Encouraging a successful alumnus to contribute to an Op-ed on policy matters related to graduate education.
- Developing relationships with the local Chamber of Commerce so that local employers understand the value of your graduates, and your programs have a better sense of local employers' needs.
- Inviting a policymaker, employer or successful alumni to serve as a judge on a 3MT® competition.

Highlighting regional, state, and provincial economic contributions

Advocacy for external audiences often focuses on evidence of how local, regional, and state economies benefit from the pipeline of graduate alumni entering the workforce. Access to talent generates the new knowledge, technologies, services, and related innovations that enhance businesses, industries, service providers, educational institutions, and related areas of the economy. Creating strong networks with key employers amplifies the economic synergy between the university and the local economy and provides campus leaders with the evidence they need to inform and address questions from policymakers and funders. Graduate deans help to develop programs that connect key audiences, including institutional leaders, business and industry representatives, and state and federal policymakers with graduate students and faculty who can share their stories directly.

Increasingly, graduate deans work with their staff and communications officers to identify students and alumni who demonstrate compelling examples of graduate education in action. These stories give a human face to graduate education and highlight the ways in which graduate education benefits the public. For examples of these types of stories, visit the CGS website.

Participating in legislative advocacy

Through collaborations with university government affairs officers and public relations staff, graduate deans can play a key role in shaping the national and state policy agenda. Graduate deans work closely with campus public relations, community affairs, and government relations staff on key federal and state policies, and provide policymakers with the data and information they need to make well-informed decisions regarding resource allocation or new policy development.

Many deans are reluctant to participate directly in legislative advocacy because they see this as the role of government affairs staff and they want to avoid breaking institutional protocols for this work. Even in institutions with strict policies about who may speak officially on policy issues, graduate deans have an important role to play in keeping government affairs staff and the President's office informed about key policy issues faced by graduate students and programs, and sharing current legislative and regulatory advocacy opportunities with appropriate individuals on campus. Additional

> Effective campus advocacy is more of an ongoing commitment than a project with a clear beginning and end. It also requires flexibility in response to evolving institutional landscapes. Each time there is a change in organizational structure, personnel, or job description, there is an opportunity to revisit strategies for advocating on campus for resources, strategic position, or collaborative partners for graduate education.
>
> —Graduate dean at a private research institution

information and resources for advocacy can be found on CGS's Public Policy and Advocacy webpages.

Conclusion

Since graduate deans have the ability to impact a broad range of programs, they are in a position to leave a lasting impact on their institutions and communities. Beyond the university, successful graduate leaders can change local, state, and national narratives about the value of graduate education. The next section of this volume is designed to make leadership strategies more concrete, drawing strategies from CGS Best Practice initiatives and the advice of experienced graduate deans.

PART III
STRATEGIES

The preceding two sections of this volume describe current organizational structures and leadership roles of graduate education. As numerous publications have noted, however, graduate education is under new pressures to adapt and evolve.[7] There is tremendous potential to reimagine graduate education by making it more responsive to student needs, more diverse, and better aligned with workforce demands. The final section of this volume is designed to help graduate leaders navigate challenges in the current moment and prepare them for future changes in higher education.

Drawing from CGS publications and the advice of experienced graduate deans, this section outlines some of the pressing problems facing graduate institutions and makes suggestions for how to address these challenges. Since the graduate education landscape is so diverse, not every suggestion will fit each institution. At the very least, the following strategies provide a starting point for thinking about core organizational challenges that confront every graduate leader.

Admissions and Recruitment

Recruiting, enrolling, and retaining students is the foundation of graduate education. While some attrition may be unavoidable, thoughtful and transparent processes can help recruit students that are well-suited to a particular program and see them through to graduation.

Enrollment Management

Every institution needs a framework of university-wide policies governing admissions and enrollment. Within this framework there is room for various levels of centralization; while graduate admissions centralized in a single office may be the easiest type to manage, decentralized models may be required for financial or organizational reasons. Though levels of centralization will vary, all institutions should recognize the principle of "integrated interdependence," whereby enrollment management is collaboratively undertaken by diverse university stakeholders to identify enrollment trends, improve outreach to prospective students, and strategize about long-term enrollment goals.[8] Graduate leaders have a vital role to play facilitating cooperation and collaboration between stakeholders and ensuring enrollment management is connected to broader institution goals.

Regardless of office structure, graduate programs should have an explicit and transparent set of application requirements, an internal application flow process, an electronic (ideally) applicant review system, and a means to notify applicants of admissions decisions in a timely manner. Data can play an important role in the creation of these procedures by identifying enrollment trends and having an early alert mechanism for informing administrators and faculty of problems.

Application Requirements

Most applications to graduate school require, at minimum, a completed application form, official transcripts of all previous academic work, letters of recommendation, and proof of English language competency for international students. All application forms should include a statement of non-discrimination. Additional assessment, such as scores from the Graduate Records Examination (GRE), or documents like a writing sample, research statement, or portfolio may be required by the program or department. Optional, supplemental evaluation materials like interviews or auditions may also provide an opportunity for applicants to showcase particular skills or experiences that may not be demonstrated in the other application materials, but are nonetheless important for strengthening their candidacy.

One element to be mindful of concerns setting the application due date. Unlike undergraduate admission, each program, depending on its competitiveness, will want to determine its own individual due dates. If programs are interested in attracting students outside of the region served, they will want to have early admission dates and be able to make admissions offers to applicants as early as possible for the following academic year. Other programs whose enrollments consist of mostly place-bound individuals paying their own way will want to have deadlines as close to the start of the school year as possible. Furthermore, more programs are offering rolling admissions and flexible start dates in order to accommodate diversifying student bodies (this is particularly true of online education). Often programs within departments, schools, or colleges will want to have different deadlines. Multiple application deadlines have implications for determining scholarship/fellowship application deadlines.

In an effort to minimize stress on the student, many members of the Council of Graduate Schools abide by the April 15 Resolution (See p. 52) which states that individuals are under no obligation to respond to offers of financial support prior to April 15 and earlier deadlines for acceptance of such offers violate the intent of this Resolution. This resolution only applies to offers of financial aid and is not tied to receiving admissions to a particular program.

CASE STUDY #1

Admissions—Towson University

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The graduate enrollment at Towson University (TU) began to decline in 2012 because of several factors including: decreased applications; decreased state, school district, and industry funding for graduate education; increased graduate offerings across institutions; and increased undergraduate debt (Okahana, & Zhou, 2018; Wiley, 2016). As an additional complication, TU deployed graduate resources to meet state-requested undergraduate enrollment targets. The decline necessitated revamping enrollment and admission practices to successfully recruit, admit, and graduate more students.

CRM. Launching a Customer Relationship Management System (CRM) was a vital step. This digital analytics system is critical for planning, managing, and executing program-specific email marketing campaigns to prospective students; filtering and correcting communication flows; and evaluating ROI. It tracks the impact of lead generation sources such as open houses, campus visits, list purchases, and online inquiries. It allows for the generation and dissemination of weekly enrollment funnels that compare current with previous year-to-date yields per college and program. The CRM supports data transparency; heightens awareness of the collective responsibility of deans, department chairs, and program directors for enrollment and admission; and permits judicious allocation of resources for communicating with prospective students, measuring outcomes, and identifying emerging opportunities.

Targeted Marketing. TU allocates the majority of its graduate marketing resources to advertise graduate programs collectively. Because of limited resources, it prioritizes which of its 80+ programs receive additional individualized marketing support based on an analysis of workforce and enrollment patterns. At TU, graduate programs cluster into three categories: (a) those with strong

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workforce and enrollment demands, (b) those with seat capacity and growing market demands, and (c) those with low enrollment and limited or niche growth markets. In collaboration with the academic deans, a category "b" program in each college is selected for an individualized campaign. CRM data are used to assess outcomes of individualized campaigns and prioritize programs for the next academic cycle. Category "a" programs can request support to expand the diversity and caliber of their applicant pools. Category "c" programs are evaluated by the provost, deans, and chairpersons for their sustainability and may need to reconfigure the curriculum, merge with another program, or sunset.

Targeted Recruitment. Recruitment focuses on undergraduate and industry pipelines. The Graduate Student Association officers meet with undergraduate groups to outline graduate pathways. Information about accelerated bachelor's to master's opportunities are disseminated through career fairs, web pages, and advisement processes. Data from Institutional Research about primary feeder institutions to TU is collated and shared with graduate program directors to create inter-institutional linkages. Data from Alumni Relations about TU undergraduate employers is compiled to explore opportunities for advanced level education partnerships. Alumni Relations data are also generated for potential recruitment and marketing geo-maps. An advisement tool will be implemented to contact talented undergraduates about graduate education opportunities.

Okahana, H. & Zhou, E. (2018). *Graduate enrollment and degrees: 2007–2017.* Washington, DC. Council of Graduate Schools.

Wiley Educational Services (2016). *State of graduate education market: Trends and insights in key masters disciplines.* Retrieved from edservices.wiley.com.

Internal Application Flow

Application materials are typically received in one central location. If centralized, the graduate school or the admissions unit is the recipient of all materials which are then uploaded into a system and made available for the program admissions committee to review and then advise the graduate dean of the recommendation decision. Any deviation from the stated criteria, e.g., lower GPA, may require an exemption approved by the graduate dean. All letters notifying the applicants should be sent from the graduate school with the signature of the graduate dean or program leader affixed, or from the admitting program using a common template approved by the graduate school with the addition of program-specific details.

In a decentralized setting, application materials are sent directly to the program units and the responsibility for notifying the applicants rests with the unit. Such a decentralized process adds complexity during university accreditation visits as the varied processes will need to be addressed versus having only one process to report in a centralized model.

Applicant Review System

Many graduate programs use an admissions committee to evaluate and assess applicants for admission. The composition of this committee is variable depending on the organization, structure, and staff resources of a particular program. Consistency in the application review and admissions process is critical to avoid any issues, real or perceived, of favoritism or discrimination. There should be an explicit and transparent process in writing that is adhered to by the members of the admissions committee. Each member should be aware of the benefits and limitations of each component used in the admissions process to ensure the process is as equitable as possible in working to achieve the program enrollment goals. Additional information regarding admissions processes can be found by consulting the CGS publications, *Holistic Review in Graduate Admissions* and *Master's Admissions: Transparency, Guidance and Training*.

It is important to keep in mind that the majority of individuals applying to graduate school have personal and professional responsibilities that will factor

into their decision on where and when to attend graduate school. The sooner they are notified of their acceptance or rejection, the sooner they can begin to make the necessary adjustments and accommodations. It is critical to have a practice of timely decision-making and oftentimes, this means monitoring the application review process to ensure that applicants are notified within a reasonable timeframe.

April 15 Statement —What is it?

Signatories to the April 15 resolution affirm that acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.

Under the terms of this resolution, students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15 and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution or a link to the URL should accompany every scholarship, fellowship, traineeship, and assistantship offer.

For the full April 15 statement, please visit the CGS website. Questions about the resolution can be sent to Jeffrey Engler at CGS (jengler@cgs.nche.edu).

Early Alert System

Enrollment management does not end with admissions. Student retention is the link tying admissions to completion and is a key to effective enrollment management. Graduate leaders should monitor enrollment management in all phases of the graduate student lifecycle. Enrollment specialists should also be included in discussions of student success. They can use information learned about what kinds of students succeed in particular graduate programs to change recruitment and admissions strategies as well as provide feedback to other stakeholders about how admissions can improve retention. Additionally, because there is an increasing number of first-time students in graduate school, there need to be processes in place to identify students in need of support early and throughout their time in the program similar to the 'early alert' system utilized with undergraduates. This may entail creating and implementing a co-curricular program to support students academically, emotionally, personally, or socially. Helpful to this process is having regularly generated reports that track enrollment, progress, and academic standing, and are shared with program coordinators each semester. Other considerations to support graduate students include having a place and a space just for graduate students where they can study, receive professional development, network and/or socialize with other students across disciplines, print documents, and have access to specialized software. This may be particularly important for for non-traditional students who may be in need of workspace outside the home to accomplish individual or group projects.

International Students

International students play a vital role in strengthening graduate programs, but additional admissions and enrollment strategies should be adopted to support their recruitment and academic success. International students who have completed their baccalaureate degrees abroad should provide official transcripts from a credible institution of higher education. If their home institution did not initially provide English transcripts, the student, or their institution must provide a certified, literal (not interpretive) English translation of the transcript as part of their application. Additionally, non-native English speaking international students may be required to provide proof of English language competency. That proof may take the form of a standardized test

such as the Test of English as a Foreign Language (TOEFL) administered by the Educational Testing Service (ETS) or the International English Language Testing System (IELTS), a written examination, or an interview administered either in person, over the telephone, or via a videoconferencing system like GoToMeeting or Skype.

A thoughtful approach to international student recruitment can prevent problems down the road. Students from unaccredited institutions or without English language competency will likely struggle. Graduate leaders must balance their desire to include international student perspectives in graduate programs with a rigorous assessment that will ensure that admitted students will have a good chance to succeed academically. Communication between the graduate office, faculty, and university administration is essential to ensure that international graduate students understand the university's application requirements and enrollment expectations. Some institutions may have English language proficiency requirements for holding a teaching assistantship that differ from the admissions requirements. These differences need to be considered when making funding offers that include teaching assistantships, since a student may not be allowed to hold such an assistantship until after he or she demonstrates sufficient English language proficiency.

Promoting an Inclusive and Supportive Climate

Graduate school is meant to challenge students. Navigating more difficult coursework, conducting independent research, and communicating complex concepts are all part of a student's intellectual growth. Uncertainty, frustration, fear, and melancholy can be part of this maturation process.

Yet, there is a crucial difference between the normal challenges graduate students go through as they learn and real threats to their emotional and physical well-being. Fostering a diverse, inclusive, and supportive climate for all students is critical for mitigating these threats. Programs with an inclusive and supportive climate welcome students from various backgrounds and ensure those with different perspectives will be heard and respected. Successful graduate leaders are vigilant in identifying and helping students for whom the campus environment is not supportive, or who may not be connected to the resources that would benefit them. Strong leadership, and culturally

competent faculty and staff are crucial for creating and maintaining such a climate, particularly when external events contribute to the stresses of graduate school.

Diversity and Inclusion

A growing body of research demonstrates that diversity improves the training of all graduate students.[9] Graduate leaders should make an unequivocal commitment to diversity and work with campus leaders across the university to highlight the centrality of diversity to success in higher education. Of course, diversity can mean many different things to different institutions, so aligning diversity efforts with institutional and program mission will generally be more helpful than finding a "one size fits all" solution. Though institutional missions will vary, graduate deans should be central to crafting and implementing diversity initiatives on their campuses.

Whether the admissions process is centralized or decentralized, graduate deans can play a role in informing the conversation about diversity with research and information. For example, they may provide information to relevant faculty and administrators about research on racial and gender biases in making admissions decisions; use of holistic admissions practices; collection and use of data on program-level admissions, enrollment, and completion demographics; and support in addressing continuing demographic underrepresentation. For a more detailed discussion of diversity and inclusion in admissions, consult the CGS publication *Holistic Review in Graduate Admissions*.

It is also important to ensure that students from underrepresented groups are integrated into university life. Diversity in admissions, in other words, does not automatically mean inclusion and engagement. Graduate community leaders should work with departments, the graduate student association, and campus student and religious organizations, so that graduate students from diverse backgrounds are actively welcomed. The importance of inclusion and engagement to the success of diversity initiatives demonstrates that diversity is not only an admissions issue but is a central feature of graduate program excellence.

CASE STUDY #2

Diversity and Inclusion—Cornell University

The Graduate School leadership at Cornell University recognized the need to improve the campus climate, particularly for populations who are underrepresented in graduate education. A problem analysis over time identified several target areas, including stereotypes and implicit or unconscious bias. Evidence-based approaches to tackle these challenges include creating intentional spaces for dialogue on issues of diversity and inclusion, frank discussions, and naming specific actions that faculty, students, and staff can take.

A model of doctoral student persistence* provided a framework, with a key premise that student persistence is related to their ability to integrate into the university community academically and socially, in other words, focus on the whole person and the whole experience. Effective integration may be interrupted by academic or social isolation, exclusion from formal or informal networks (professionally and personally), implicit or explicit bias and phobias, and feeling unaccepted or devalued by other members of the community. Fostering an inclusive climate depends on all members of the graduate community understanding and valuing diverse identities, experiences, and perspectives.

A comprehensive strategy focused on promoting graduate student success and a more inclusive climate through a series of innovative inclusion interventions: a Summer Success Symposium; a video with facilitated dialogue called *My Voice, My Story: Lived Experiences of Graduate and Professional Students*; an Inclusive Teaching Institute; and an Intergroup Dialogue Project. Developing and implementing this comprehensive approach was possible only through collaborations with other university partners, including the campus teaching and learning center, the university's interactive theatre ensemble, and diversity program offices across campus.

The **Summer Success Symposium** is a one-day event for new and continuing doctoral students with a focus on students from

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backgrounds historically underrepresented in graduate education. Key goals include establishing a sense of community between new and continuing students, promoting engagement with diverse faculty, alumni, and external speakers, and providing participants with access to knowledge and insights to support their successful transition to and progression in their graduate studies.

My Voice, My Story in video format uses interactive theatre principles to develop understanding of the lived experiences of graduate and professional students through a series of eight monologues followed by facilitated dialogue. The experience provides an opportunity for discussion and learning about listening for understanding, identifying instances of exclusion and inclusion in learning and research environments, respecting mutual similarities and differences, and awareness of unconscious bias and how to confront it.

The Inclusive Teaching Institute involves annual cohorts of participants engaging in complex discussions about diversity and inclusion, and learning how to incorporate inclusive teaching practices into their classrooms at Cornell and beyond. The Intergroup Dialogue Project uses peer-led cohorts to facilitate communication across social, cultural, and power differences in critical and meaningful ways.

The Graduate School regularly assesses the impacts of these efforts through various baseline and trend data collected through student experience and exit surveys, and program-specific evaluations. Evidence suggests the graduate education climate is becoming more inclusive, promoting graduate student success through supporting the academic and social integration of graduate students into various communities within the university.

* Fletcher, E.C. Jr., M. Gies, & S.R. Hodge. (2011). Exploring persistence, challenges, and barriers of doctoral students. *Multicultural Learning and Teaching 6* (1), Article 5.

International Students

Though many diversity and inclusion initiatives involve them, international students have special organizational and administrative needs that may not apply to domestic students. International students will need support securing and maintaining a student visa and may need help securing housing. If graduate student housing is offered to international students, the graduate program office should let prospective students know during the application process or, at the latest, as part of the offer of admission. International students may also need special academic programming to augment regular course offerings such as English speaking and writing support, how to navigate the American university system, standards for scholarly integrity, and programs on living within a new cultural community.

Emphasizing inclusion is also important for international graduate students. Navigating graduate school, a new culture, and sometimes a foreign language can be overwhelming. Inclusion initiatives designed for international students should take into account these challenges.

Mental Health and Wellness

Graduate student mental health is a topic of growing concern among researchers and campus officials.[10] The pressure of a rigorous academic workload combined, at times, with economic insecurity, family responsibilities, preexisting psychological conditions, or other stressors can lead to depression and/or anxiety. Without intervention these conditions can lead to harmful behaviors like substance abuse, eating disorders, self-harm, and suicide attempts.

Though graduate student mental health is widely recognized as a serious problem, it is not always clear how to address it. A recent CGS study found that while 63% of deans believed graduate student mental health was worse than it was five years ago, only 21% felt that they did an excellent job informing and training faculty and staff about mental health challenges facing the graduate student population.[11] Graduate community leaders should collaborate with relevant units on campus to advertise the mental health resources available to graduate students and train faculty and administrators to identify students who may be struggling and to encourage healthy habits.

Additionally, they should develop and provide free or low-cost preventive wellness resources like yoga classes, meditation, or community outings for all students. Communication across the graduate community is vital to ensure that graduate students know how to access the resources they need and that staff and faculty are aware of wellness resources available to their students and encourage their students to make use of them.

CASE STUDY #3

Mental Health and Wellness—University of British Columbia

In 2016, the University of British Columbia (UBC) became one of the first universities to adopt the *Okanagan Charter: An International Charter for Health Promoting Universities and Colleges*. In doing so, UBC signaled a formal commitment to becoming a health-promoting university, integrating wellbeing into all aspects of campus culture and destigmatizing mental health.

Using the *Okanagan Charter* as a roadmap, UBC's Graduate and Postdoctoral Studies (G+PS) has also committed to championing wellbeing. In 2017, G+PS partnered with Student Health Promotion and Education and the Graduate Student Society (GSS) to create a working group dedicated to identifying graduate student specific wellbeing priorities. From the Graduate Student Wellbeing Report, G+PS prioritizes the following wellbeing-centered, collaborative initiatives:

Embed wellbeing into strategic planning documents. Wellbeing was identified as a key consideration within the G+PS Strategic Plan and University Strategic Plan. Currently, G+PS is working with many units and faculties to inform policies and practices and embed a wellbeing lens within.

Support faculties and/or departments to consider wellbeing as a factor contributing to student success. G+PS has partnered with Student Health Promotion and Education on a pilot program to support student consultation sessions and open dialogue with

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leadership in their Faculty or department, and to identify priorities, enhance graduate student wellbeing, and teach mental health literacy to faculty and staff.

Develop a tailored, wellbeing-informed approach to professional development and skills training. *Graduate Pathways to Success* within G+PS offers a unique opportunity for graduate students to build professional development skills alongside their degree program. Strategic workshops geared towards building mental health resilience include topics such as overcoming procrastination, perfectionism, imposter syndrome, and leveraging your strengths.

Engage a Graduate Student Wellbeing Working Group. Partnering with Counselling Services, Student Health Promotion and Education, and the GSS, the Graduate Student Wellbeing Working Group has created a space for an open dialogue to address graduate student needs within Counselling Services, with the goal of designing a graduate student-centered curriculum and specific support groups.

Play a key role within the UBC Collaborative Care Model. UBC recently launched the new Collaborative Care Model bringing together Counselling Services, Student Health Services, Early Alert, Student Health Promotion and Education, and the Centre for Accessibility, to establish an inclusive community of practice for addressing student mental and physical health, safety and wellbeing needs. G+PS works in collaboration with these units to ensure a tailored approach to the unique needs of graduate students.

Identify approaches to address funding needs of graduate students. Financial wellness can impact graduate student mental health, relationships in their personal life and academic success. With this awareness in mind, G+PS recently created a policy for minimum funding for all PhDs.

Ensure graduate student engagement in wellbeing initiatives and discussions. Representation of the Graduate Student Society has been key in all strategic initiatives. Recently, G+PS partnered with

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Student Health Promotion and Education to collaborate with and empower grass-roots, wellbeing focused, student-led groups.

Support faculty and program initiatives. Through UBC's *Teaching and Learning Enhancement Fund* (TLEF), G+PS has collaborated with many faculties and programs across campus to support wellbeing. Projects have focused on exploring wellbeing in the graduate supervision context, supporting intercultural fluency, strengthening mentoring of Aboriginal graduate students, creating a space for dialogue and wellbeing through theatre, and offering graduate student writing retreats.

Strengthen supervisory capacity for graduate students. G+PS has a number of ongoing initiatives related to supervision, including faculty and student workshops, online resources, symposia, recognition events, and incorporating the subject of supervision in all relevant work. G+PS also developed a *Graduate Supervision Leadership Group* composed of faculty and key stakeholders to promote principles and practices of excellent supervision.

Prioritize student-centered educational practices. As an example, G+PS has been leading numerous initiatives and conversations toward reimagining the PhD for the 21st century. Among the most prominent is the *Public Scholars Initiative* (PSI), which supports and encourages doctoral students to orient at least part of their dissertation research to collaborative work that makes a tangible impact in the world and that crosses traditional boundaries of scholarship. This has had a substantial, positive, influence on the participating students' identities, community, and feelings of preparedness for diverse careers. It is also contributing to a culture change more broadly.

Supporting Student Success

Promoting Retention

The processes of recruitment and admissions should always be accompanied by a commitment to promoting student retention and degree completion. Different types of degrees and fields of study require different approaches

to retention. Financial support (through fellowships, traineeships, research assistantships, teaching assistantships, or other forms), mentoring, and family support are all important factors in retaining doctoral students to degree completion.[12] Setting clear expectations through student orientations, graduate handbooks, communicating and enforcing specific academic milestones to achieve, and regular check-ins can aid retention by reducing factors that lengthen time to degree. Creating alternative support structures is another promising practice to retain students. This can take the form of program committees, community service, support groups, and campus-wide events. Attaining a doctoral degree is a long and sometimes arduous process, so supporting students financially, organizationally, and emotionally is valuable in retaining students from admission to completion.

Since the retention period is shorter, master's student retention may require a slightly different approach. As with doctoral education, clear expectations for program completion communicated via student orientations, graduate handbooks, and check-ins are important for avoiding confusion that can prolong time to degree. But many master's students do not receive financial support from their university and pay for living expenses by working for pay or with loans. This added financial strain can cause attrition. A CGS study of STEM master's students found that 73% of those who left their graduate program before completion were working for pay while in graduate school and 81% worked more than 30 hours per week for a non-university employer.[13] For these students, flexibility may be important for completion since it will facilitate work/life balance and prevent students from having to choose between work and school. Emphasizing professional development opportunities may also help retain these students, since it will help demonstrate how graduate school can lead to better post-graduate careers.

Graduate student leaders should be particularly vigilant in promoting retention of graduate students from underrepresented minority (URM) groups. Graduate school programming like orientations should be designed with URM students in mind and make special efforts to include them. There should also be graduate programming created for URMs. Designing social and networking opportunities for URM students that will connect them to other URM students and alumni is one way to promote retention by providing social support. These means of social support should continue throughout a student's

graduate education, since recent evidence suggests that the sense of isolation and stress felt by URM students is particularly high during the "all but dissertation" (ABD) phase.[14] Training faculty and staff about diversity issues and the challenges facing URM graduate students can help foster a more welcoming and understanding culture. Similar approaches may be valuable for first-generation college students who are now in graduate school, and other populations underrepresented in graduate education.

Learning Assessment

Determining whether graduate programs are teaching students what they need to know to be successful after graduation is an essential component to ensuring student success. There are two points at which a graduate dean can exercise some leverage to ensure quality and rigor. The initial point is when the program and/or course(s) are being proposed. Graduate programs and courses should have student learning outcomes that explicitly identify the cognitive skills graduate students will develop in the program. These learning outcomes should be aligned with activities that will allow them to demonstrate the competencies and the assessment strategies should also be aligned with outcomes and activities undertaken. For example, if a program indicates a student learning outcome focused on building skills for professional practice, and the curriculum provides few or weak opportunities to practice those skills, there is a disconnect between the intended program outcome, the instructional approach, and the assessment practice. Additionally, there should be evidence of formative as well as summative assessment. Having multiple data points throughout the semester to provide feedback to the student will allow for early intervention if needed.

The second opportunity for assessing program efficacy is through periodic program reviews conducted by university administrators or outside agencies. These reviews should be done in addition to professional licensing and accreditation reviews, which have specific purposes not necessarily related to holistic program improvement. This is an opportunity for programmatic self-analysis and self-reflection as program faculty revisit the intended student learning outcomes, analyze the disaggregated data on admissions, enrollment, and completion, and assess the relevancy of the program content and structure.

Below are six important features of successful program reviews.[15]

Six Key Features of Program Review

1. Program review is evaluative, not just descriptive. Reviewers must make academic judgments about program quality, student experience, and resource adequacy.
2. Review of graduate programs is forward-looking; it is directed toward program improvement, not simply an assessment of its current status.
3. Programs should be assessed on their academic strengths and weaknesses, not their actual or potential for revenue generation.
4. Program reviews should be as objective, fair, and transparent as possible.
5. Graduate program review should be an independent process, distinct from any other review.
6. Program reviews result in action. Showing how program reviews lead to program reform will help faculty and staff take them more seriously.

Master's degree program reviews are a particularly important, though sometimes neglected, part of the learning assessment process. For departments or programs granting master's and doctorate degrees, the master's program should be evaluated on its own merits and not viewed simply as a continuation of undergraduate work or a step towards a doctoral program. If master's and doctoral programs are being evaluated together, separate criteria should be developed to assess master's program effectiveness.

Models for Professional Development

RESEARCH INTEGRITY

At the graduate school level, responsible conduct of research begins with strong leadership. The rapidly changing role, scope, and demographics of the

university have made maintaining standards of research integrity more challenging than ever before. The pace of research production has increased, and many grants have become more competitive, prompting some researchers to cut corners to produce more. At the same time, boundaries between scholarship, government, and industry have become more porous, challenging academic values of objectivity and disinterest. Finally, globalization has both expanded the arena of research competition and brought researchers with different expectations to American campuses. These changes have made campuses vibrant research hubs but have also made designing a single set of guidelines for research integrity more difficult.

Responsible conduct is defined as the specific areas in which researchers are expected to follow professional codes and disciplinary norms, government regulations, and institutional policies for research behavior.[16] These research standards exist across a range of activities including, but not limited to, data acquisition, curation, and management; use of human and animal subjects;research misconduct; publication and authorship; peer review; mentor/trainee responsibilities; and conflicts of interest. Graduate leaders should ensure there are clear policies establishing such research standards and that those policies are clearly communicated to all members of the graduate school community. Furthermore, graduate leaders must work with faculty and administrators to ensure that research standards are maintained by all employees affiliated with the graduate school.

Though research integrity is often framed negatively (i.e. when there are cases of research misconduct), graduate leaders should promote a comprehensive, proactive approach. Transparent processes to identify and adjudicate cases of research misconduct, while important, are only a part of this approach. Research integrity is consistent with core values (sometimes called "scholarly integrity") every university should encourage in its students, faculty, and staff: accuracy, transparency, collegiality, fairness, and care. These values are central to higher education's mission to improve society. As such, researchers that can learn, practice, and communicate these values will be highly sought after as employees in universities, government, and industry.

CASE STUDY #4

Responsible Conduct of Research—Michigan State University

Implementing responsible conduct in research (RCR) training poses several challenges. First, there are important variations among disciplines in research methods (e.g., experimental, theoretical, empirical); and in research locales (lab work, field work, archival work, office work, and work in the studio). There are disciplinary differences in terms of customs and expectations; for instance, in questions of authorship: what is the threshold for co-authorship and what determines the order of authors' names on papers and projects? Second, responsible conduct in research is not an issue limited to questions of compliance—responsible conduct speaks to the culture in which research takes shape. RCR training is not "merely" about what is prohibited, i.e., what ought not be done; it must fully encompass best practices, i.e., how research ought to be done.

Both of these factors—variations in disciplinary characteristics, and the importance of fostering a culture of research integrity—suggest strongly that whatever RCR training is offered centrally to uphold common principles and expectations at the university (be it through the Graduate School/College, the Vice President for Research, the Research Integrity Office, or another central institution) must be reinforced and augmented by training at the unit (e.g., School or Department) level. Units are the nexus between the student, their advisors and mentors, and their research: where they learn the norms of their discipline, assimilate the prevailing culture, and carry out their research.

Generating expertise and creating buy-in for RCR training are long, continuous processes. In 2009 Michigan State University instituted and later assessed a discipline-specific approach to RCR, with mandated tracking for all funded research, coupled with a year-long workshop on RCR. While in the first five years there were significant improvements—such as raising the awareness of what constitutes misconduct and how to report it, the commitment of advisors engaging advisees about RCR, and socializing of early-career researchers to RCR—the progress was not uniform.

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In light of these findings, in 2015, MSU engaged in campus-wide iterative conversations among the Graduate School, individual units, governance, the VP for Research and Graduate Studies, and the Provost. As a result, since 2017, all graduate and professional students (including those in online programs) are required to undergo RCR training that incorporates a common core (online modules) and entails an additional six hours of discussion-based training. For doctoral and research-focused master's students, further annual RCR training is documented and integrated into disciplinary courses, advising, and other departmental activities (e.g., brownbags and discussion groups), much of which are case-based.

RCR training instituted through shared and joint responsibility between the university, the units, and the individuals carries risks and requires trust, but the conversations around RCR and joint responsibility contribute as much or even more to creating a healthy culture around research as do the training plans themselves. And herein lies a key to successful implementation and training: in addition to regular assessment to document outcomes and to establish accountability, it is critical that ongoing conversations keep everyone involved, resulting in RCR going beyond mere compliance to fostering ethical research practice. With this in mind, a focus at MSU is to include RCR training in our increased efforts on fostering inclusive mentoring practices.

STEM PROFESSIONAL DEVELOPMENT

Though the skills acquired in Science, Technology, Engineering, and Math (STEM) graduate programs are in high demand inside and outside the academy, professional development for STEM students is essential for helping students recognize the transferability of their skills to a wide range of careers. Of course, there may be pressures working against broader STEM professional development, such as lack of encouragement devoted to careers outside of the professoriate and extramural funding structures. Graduate leaders can play a central role coordinating with STEM departments to make sure professional development is a significant part of their graduate education platform.

Graduate school leaders should work with faculty to create professional development programming for graduate students. Programming can be offered

through a centralized graduate office, in specific departments, or a combination of both. This programming can take many different forms ranging from a professionalization seminar to regular workshops and online tools like webinars. Graduate leaders should emphasize that professional development is meant to complement academic programming, not replace it.

Beyond working with university personnel, graduate deans and other leaders may work with industry or government representatives to determine what STEM skills they find most valuable. These consultations should be transparent and, if possible, faculty representatives should be included. Bringing in outside voices can help determine which STEM skills are highly valued by employers and can open employment opportunities for graduates. Preparing STEM graduates for professional careers relies on cooperation and communication between university and extra-university stakeholders to ensure broad understanding about the value of STEM graduate education.

HUMANITIES PROFESSIONAL DEVELOPMENT

Professional development for diverse career pathways is a field of growing interest for humanities graduate programs. Decreasing academic job market prospects have prompted many graduate students in the humanities to look beyond the university for employment. This shift has put the onus on graduate leaders to work with humanities faculty to prepare graduate students for a wide range of careers and to work with employers to understand the unique transferrable skills possessed by PhD-trained humanists. As in STEM, it is important to avoid sending the message that careers in industry, government and non-profit sectors are less valuable than academic jobs. As indicated in the upcoming section, "Understanding Career Pathways," it is also critically important to understand the career outcomes of humanities alumni and to use data to inform improvements.

Many of the same organizational and administrative policies that apply to professional development programming for STEM also apply for the humanities. Programming can take many forms including a professionalization seminar, workshops, guest lectures, and webinars. Coordination between the graduate office and individual departments is important to avoid duplication of effort and ensure relevant programming is offered to all students.

Skills humanists possess or may need, like grant writing, oral presentation, and qualitative data analysis, have broad appeal and can be fruitful sites for interdisciplinary cooperation.[17]

Recommendations for Graduate Student Professional Development

- Identify opportunities for graduate programs and faculty to connect with employers and alumni.
- Graduate programs should track career outcomes to gauge how well programs prepared their graduates for careers inside and outside the academy.
- Keep up with innovative professional development programs at other institutions that might be a good fit for your institution.
- Avoid dividing professional development into "academic versus non-academic careers." Instead, focus on multiple career pathways.
- Engage faculty and administrators skeptical of professional development and invite them to actively participate in the creation of professional development resources.
- Remove administrative roadblocks and allow students to tailor their education to fit their employment goals.
- Look for free and low-cost opportunities. Inviting graduate students to participate in shadowing professionals in different campus offices, serve on committees, or organize events can help them gain skills and experience while helping the graduate office and other campus groups.

PREPARING FUTURE FACULTY (PFF)

While much recent attention has been given to preparing graduate students for non-faculty careers, it remains important to prepare current graduate students to be the next generation of faculty. This work is not limited to their responsibilities as researchers, however. Former CGS President Jules LaPidus noted in 1995 that the notion that faculty work is a continuation of graduate school leaves graduate students unprepared for faculty careers.[18] Beyond research specialization, graduates should leave their program ready to become successful faculty members.

To prepare them for faculty roles, graduate students should receive training in three core competency areas: teaching, including learning assessment; research; and service. This training can take many forms, including apprenticeships, teaching assistantships, pedagogical workshops, administrative internships, research traineeships, seminars, and webinars. Active learning methods that allow students to practice faculty responsibilities are preferred. Ideally, graduate leaders will forge partnerships with other institutions of higher learning—particularly institutions with different organizational structures or which serve different student demographics—to provide opportunities for graduate students to work in different types of institutions. As much as possible, these experiences should be integrated into the core graduate curriculum to promote wide participation and emphasize their centrality to professional development.

CASE STUDY #5

Preparing Future Faculty—University of California–Merced

Authors: Angela Winek, Laura Martin, and Anne Zanzucchi

UC Merced has engaged graduate students and faculty in assessment of undergraduate learning, with the integrative goals of preparing future faculty to practice assessment as pedagogy and program planning and enriching undergraduate student success. Two key concepts formed the program's foundation. First, "assessment as pedagogy" is an advanced instructional practice, requiring significant reconsideration of teaching and learning approaches, including the ability to gather and use evidence of student learning in curricular planning. Second, that proficiency with "teaching as research" is essential to cultivating sustainable programmatic assessment practices that impact student learning.

UC Merced's program was structured as a semester-long learning community that convened graduate student instructors (GSIs), faculty mentors, and assessment specialists on a weekly basis. In groups of no more than ten, participants pursued the integration of assessment into ongoing teaching activities to develop and support undergraduate learning outcomes, at both course and program levels. The theory of backward design informed weekly practice with developing outcomes-focused activities, using evidence of learning to plan instruction, and receiving systematic feedback on teaching practices. Upon completion of the program, GSIs received a certificate in *Undergraduate Learning Outcomes Assessment: Pedagogy and Program Planning.*

As a key feature of the program's design, each GSI identified a signature assignment that represented significant learning with respect to one or more course learning outcomes and, thus, offered the opportunity to be assessed at both the course and program level (e.g. laboratory reports). To support undergraduate development of desired outcomes, certificate participants strategically gathered direct and indirect evidence of student learning throughout the semester

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and used the results to inform instructional planning. This recursive and cumulative process of assessment and planning formed the foundation of our weekly learning community meetings, supplemented with targeted readings, presentations and related discussions. Essays summarizing each GSIs project were published on the website of the Center for Engaged Teaching and Learning.

As an alternative to traditional vertical mentoring, learning communities enrich graduate and faculty professional growth opportunities. Over the three years of the program, 33 graduate students and 12 faculty* from a range of disciplines participated in our certificate program. This cooperative format fostered the exchange of mutually enriching perspectives on undergraduate learning experiences and needs. Faculty provided experienced insight about teaching, learning, and the faculty career path, connected future faculty to a campus's learning culture, and were able to implement curriculum and/or programmatic changes, increasing the impact of project outcomes.

The opportunity to practice new instructional concepts is essential to GSI development of teaching skills and overall professional development. Evidence from the project indicates that it takes time and practice to develop the skill of assessment as pedagogy and, even for experienced teachers, sustained feedback is essential. A benefit of our project's model is that it established a campus venue where outcomes-based teaching could be practiced and ultimately integrated into routine instruction; more generally, it also offers a flexible and widely applicable future faculty model for evidence-informed instructional planning.

* These participant levels involved about 5% of current graduate student and Senate faculty member totals.

PROFESSIONAL MASTER'S DEGREE

The Professional Master's Degree is designed to provide additional knowledge and skill development for non-academic career paths. There are two broad categories of Professional Master's Degree: the Professional Science Master's (PSM) and the Professional Master's of Arts (PMA). The PSM is the better known

of the two degrees and provides advanced training in science or mathematics while equipping students with workplace skills. The PMA has a similar goal—to equip master's graduates with a combination of advanced training and workplace skills—but is for fields in the humanities and social sciences. The most common professional master's degree types are in engineering, social work, and public administration.

Professional master's programs are designed to prepare students for specific career opportunities, offering students opportunities to develop industry-specific skills and a clear understanding of the field's professional expectations for new graduates. Professional master's programs also cultivate relationships with employers to provide professional master's students with first-hand experiences working in their chosen field as interns or trainees. Professional master's programs are of growing interest to graduate leaders as they look to ease the transitions of graduate students into employment.

UNDERSTANDING CAREER PATHWAYS

The idea that graduate school prepares a student for a single job is antiquated.[19] So, too, is the notion that a graduate's first job will be lifelong as opposed to the first step in a longer career journeys or even multiple career journeys. Graduate students should be made aware of the many career pathways for which their degrees prepare them.

Conversations about career pathways should be informed by data. Information and discussions about professionalization and career planning have historically centered on a graduate's first job after graduation. While this information is crucial for establishing graduates' ability to find employment and to assess job readiness, it fails to account for the long-term career trajectories of graduates. Graduate leaders should partner with departments, career counseling services, and alumni affairs to gather data about alumni as a first step toward building a career pathways database. While any assessment of career pathways data should account for disciplinary diversity, creating common standards for data collection and management will make the information gathered more useful.

Gathering data on career pathways for graduate students involves forethought and will require an investment of both time and resources. However, long-term career outcomes data can help graduate institutions in a variety of ways: by revising and updating department programming; informing conversations about mentoring; helping prospective students, students and alumni understand the range of careers they can secure with their degrees.[20] These data can also be a valuable tool for graduate leaders as they advocate for graduate education with groups both inside and outside the university. Furthermore, gathering career data from alumni can be a useful first step in engaging them in graduate student professional development through networking or professionalization seminars.

The career pathways approach to graduate student professionalization has grown into a national movement.[21] Graduate programs are taking the initiative to gather career pathways data from alumni to see where they are working and determine how well their graduate studies prepared them for their careers. The Council of Graduate Schools has worked closely with a diverse group of institutions to collect data on the career outcomes of STEM and humanities PhDs.[22] CGS will continue to work with graduate school leaders to promote the adoption of the career pathways approach and to provide just-in-time information on new career development trends and forecasts.

Recommendations

- Gather data on alumni career pathways to determine where your graduates are employed and to create networking opportunities for current students.
- Consider also gathering information from current students on their career aspirations and professional development experiences.
- Clearly communicate the goals of data collection to faculty, emphasizing that the end goal is improving programs.
- Make sure to communicate the data collected to relevant groups, including faculty, students and prospective students.

Conclusion

While the recommendations outlined above can help graduate leaders navigate common challenges, these guidelines are not intended to offer a fixed menu of solutions. CGS recognizes the diversity of graduate institutions and their missions. It is the role of graduate deans and other leaders to determine the most appropriate and effective course of action for their universities.

Given the rapid changes affecting the higher education landscape, perhaps the most important skill for new and experienced deans is a willingness to learn. We hope that the principles offered in this guide will help you steer a course through the vast amounts of information, ideas, challenges, and opportunities that you will encounter in your role. CGS is committed to serving as a resource as you create a path forward for graduate education at your institution.

NOTES

1 For helpful discussions of structures of graduate education administration in various countries, including the U.S., see Nerad & Heggeland (2008).

2 Gibeling (2010).

3 See Ghali (2011).

4 Many of these strategies are noted in Stewart (2009, p. 1-4) and in the Proceedings of the 2014 Strategic Leaders Global Summit on Graduate Education, http://cgsnet.org/global-summit-2014.

5 Denecke, Feaster, & Stone (2017)

6 Denecke, Feaster, & Stone (2017, p. 40).

7 See AAU (2017), NASEM (2018), NIH (2012), NASEM (2018), Wendler et. al. (2012) for recent calls to reform graduate education.

8 Connor, LaFave, & Balayan (2015).

9 Page (2008).

10 Evans, et al. (2018, p. 282–284); Flaherty (2018) ; Levecque et al. (2017).

11 Okahana (2018).

12 Sowell, Bell, & Kirby (2010, p. 5).

13 Council of Graduate Schools (2013, p. 48–49)

14 Sowell, Allum, & Okahana (2015).

15 Baker, Carter, Larick, & King (2011, p. 3–5).

16 Tate & Denecke (2006).

17 McCarthy (2017).

18 Gaff, Pruitt-Logan, Simms, & Denecke (2003).

19 Allum, Kent, & McCarthy (2014). See also, American Academy of Arts and Sciences, Commission on the Humanities and Social Sciences (2013); Cassuto (2015); Tuhus-Dubrow (2013); Turk-Bicakci, Berger, & Haxton (2014).

20 McCarthy (2017).

21 This interest in career pathways is not limited to graduate programs. A number of undergraduate (and even high school) initiatives are under way to better track career outcomes in order to improve admissions and educational delivery. A particularly useful survey and best practices report is, Carnavale, Garcia, & Gulish (2017).

22 Armistead, et al. (2018).

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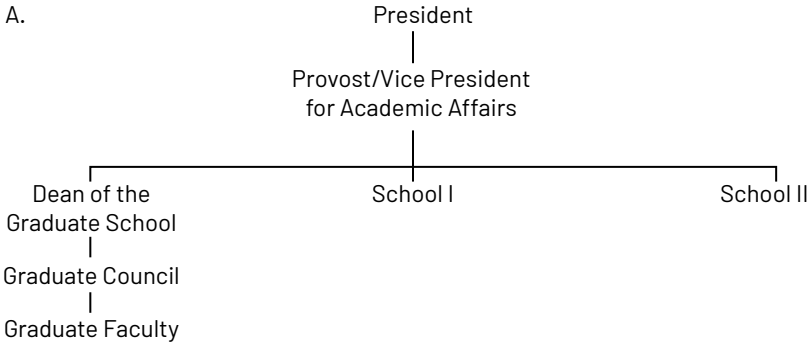
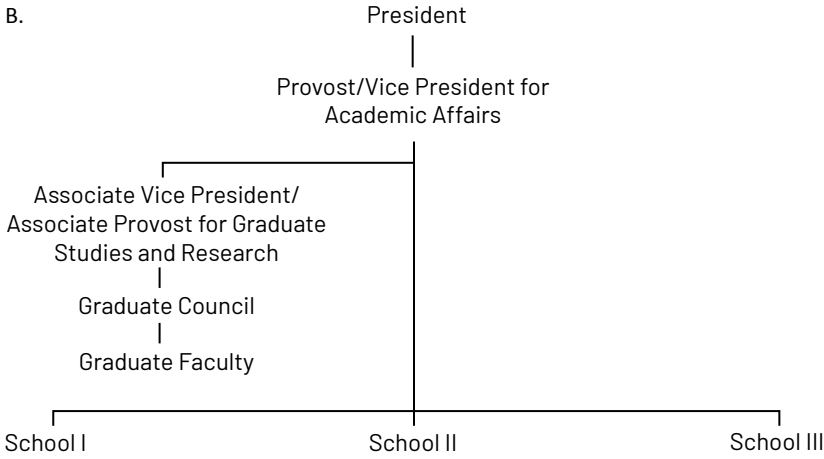
APPENDIX A

Sample Organizational Charts: The University

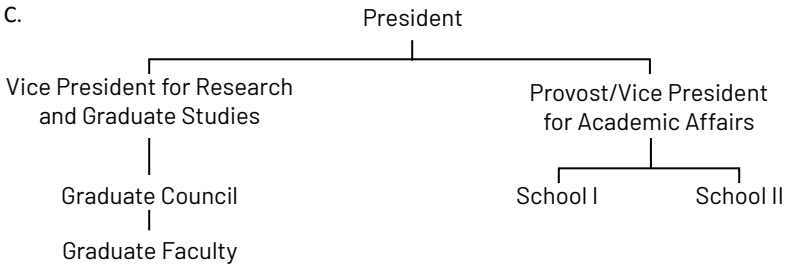
A.



B.



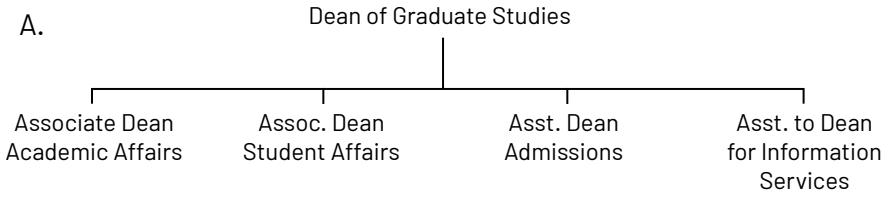
C.


President
Vice President for Research and Graduate Studies
Provost/Vice President for Academic Affairs
Graduate Council
School I
School II
Graduate Faculty

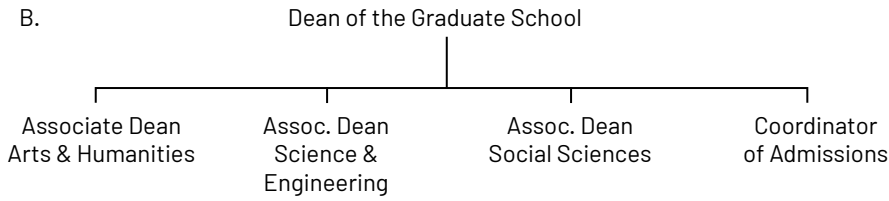
APPENDIX B

Sample Organizational Charts: The Graduate School

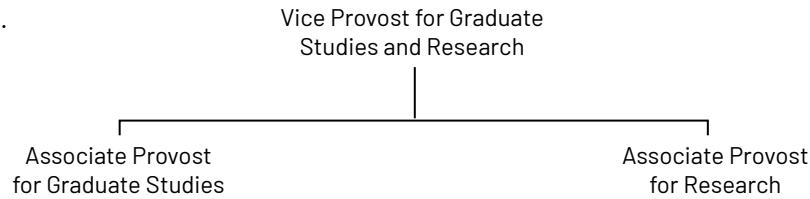
A.



B.



C.



APPENDIX C

Scope of Responsibility of Graduate Schools by Degree Programs

Graduate schools vary significantly in the scope of their responsibility for post-baccalaureate degree programs. Some have responsibility for degrees in arts and sciences disciplines only, while others have responsibility for all post-baccalaureate degrees at the institution. The majority of graduate schools fall somewhere in between. The chart below describes the range of responsibility possible from least inclusive to most inclusive. There is, of course, no single recommended model; the responsibility of any given graduate school should be determined by the institution, taking into consideration its history, organizational structure, and mission. In those cases where the graduate dean does not have direct academic responsibility for professional degrees, however, he or she should have indirect responsibility through the graduate council or vice president for academic affairs.

	Master's Degrees	**Doctoral Degrees**
Least Inclusive	Academic master's (M.A./M.S.) in the arts and sciences	Research doctorates (Ph.D.) in arts and sciences
	Academic master's (M.A./M.S.) in professional schools	Research doctorates (Ph.D.) in professional schools
	Some professional master's (e.g., M.S.W., M.P.A., M.F.A.)	Some professional doctorates (e.g., Ed.D., D.P.A., D.V.M.)
Most Inclusive	All professional master's (including M.B.A., M.Engin.)	All professional doctorates (including J.D., M.D.)


COUNCIL OF
GRADUATE SCHOOLS