



The Context

- Graduate degree holders are critical to our national workforce strategy
- People with graduate degrees contribute to a broad range of occupations
- Broadening participation in graduate education remains a national priority
- And yet, employers, policymakers, educators, and students need to learn how to best put this talent to work



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Graduate degree holders are critical to our workforce. This fact was addressed in our previous report, The Path Forward: the Future of Graduate Education in the United States. Among the many issues addressed in that report, the issue of career transparency presented the biggest gap in data and is the focus of our discussion today.

Some progress has been made along three fronts:

- (a) access to graduate education average around>of about 4% for all minority groups enrolling in graduate school since 1998-but representation of minority students is still below the representation of these groups in the general population-BLS
- (b) support during graduate school
- (c) access to careers in government



The Issue and Our Approach

- Little was known about how the work lives of graduate degree holders develop and how they are prepared for the careers they pursue
- The report examines the views of three groups students, universities, and employers—that directly observe and experience graduate career pathways



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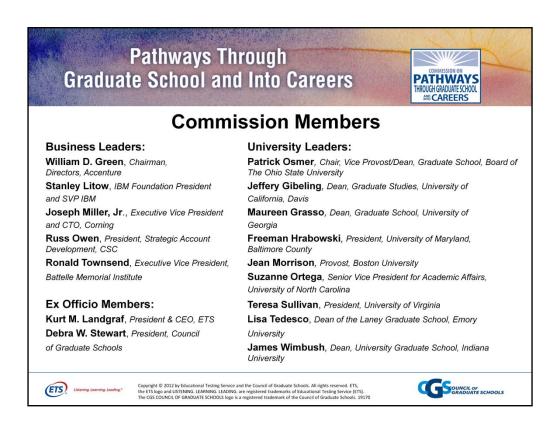
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The Commission on Pathways through Graduate School and Into Careers was an effort jointly launched by the Council of Graduate Schools (CGS) and Educational Testing Service (ETS) to examine the lack of transparency about career pathways that may impact students' plans about higher education, graduate school and jobs.

To better understand the issue of career transparency, we surveyed past and present students to gather data on their knowledge of careers and education and, for those students who had completed their graduate degree, on employment outcomes; surveyed graduate deans to explore what universities are doing to provide career guidance and to track outcomes; and we conducted one-on-one interviews with employers from a wide range of business and government settings to better understand their expectations for new hires, the pathways into careers in these sectors, and the criteria used to measure success on the job.

These groups directly observe and experience this journey and their perspectives offer an unprecedented opportunity to better understand why these important stakeholders seek, where they find success, and where their needs and goals remain unmet.



The 14-person Commission is comprised of leaders from graduate education and industry. Patrick Osmer from the Ohio State University chaired the Commission.

Debra Stewart, President of CGS, and Kurt Landgraf, President and CEO of ETS, serve as exofficio members of the Commission.



Overview of Surveys

- · Graduate Deans Survey
 - CGS member graduate deans
 - The invitation to participate in the survey was sent to 494 deans and responses were received from 213
- Student Survey
 - Individuals who took the GRE® between 2002 and 2011 and who provided an email address
 - Responses received from nearly 6,000 students including those who completed, were enrolled in, or planned on pursuing a graduate degree



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Today's presentation describes some results from the graduate deans and student surveys. Both surveys were delivered online, both accessed through a provided link.

The survey of graduate deans was sent to deans who are CGS members. CGS universities award about 90% of all doctorates granted each year in the United States and about 75% of all master's degrees. Thus, its membership provides access to a wide variety of schools from major comprehensive research universities to much smaller master's-only institutions. About 43% of the invited deans responded to the survey.

We requested information on four types of programs: professional master's, research master's, professional doctorates, and research doctorates. Nearly all (91%) of the responding deans indicated that their institution had research master's programs, 90% said they had professional master's programs, 77% had research doctorate programs, and 72% had professional doctorate programs. Although the professional degrees and the research doctorate degree are relatively easily defined, the research master's degree was a somewhat problematic category; this degree may be a terminal degree, but it is also often seen as a stepping stone to a doctoral degree. Thus, data from the research master's represent two types of degrees -- those that are terminal and those that are "en route" to the doctorate.

The student survey was sent to those students who took the GRE between 2002 and 2011 AND who provided an email address. Nearly 6,000 responses were received. While this data source does not capture all individuals who attended, or planned to attend, graduate school, it did provide access to a large number of students from a variety of demographic groups, fields of study, and institution types.

Responses to both surveys provide interesting perspectives regarding career transitions, but because both are samples of convenience, the results may not generalize to all graduate institutions or students.



Comparison of Graduate Deans and Students Responses

- Career knowledge
 - How much and how helpful
- Career sources
 - Who provides information, how it is provided, and the role of faculty
- Career success
 - Important skills and level of preparation



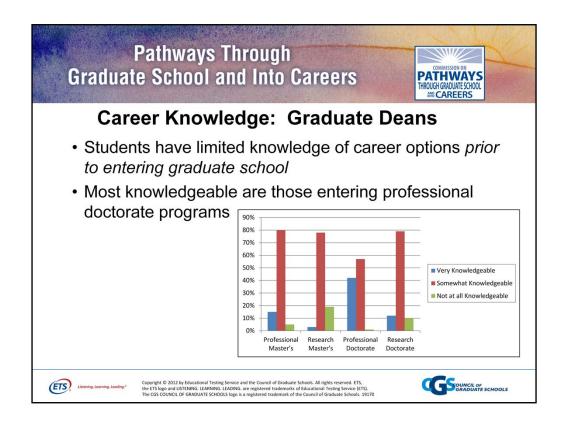
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For today's presentation we decided to provide data that compares responses of graduate deans to those of students in three areas:

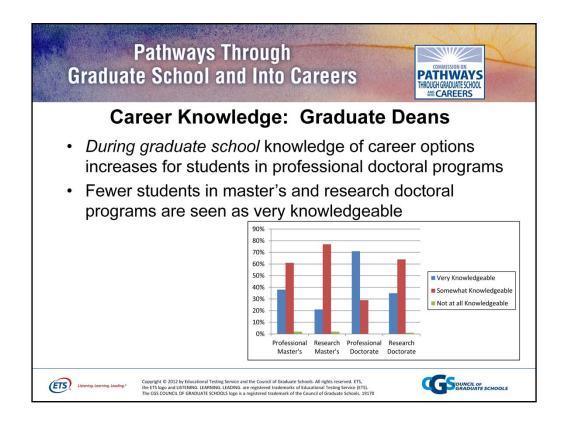
- 1. The level of knowledge students have about career options and how helpful that knowledge is
- 2. Who provides information to students about career options and how that information is delivered
 - Also will focus a bit on the role of faculty in providing this information
- 3. And which skills are viewed as important for successful careers and the level of skills preparation graduate school provides

We want this session to be interactive – will provide some data followed by discussion.

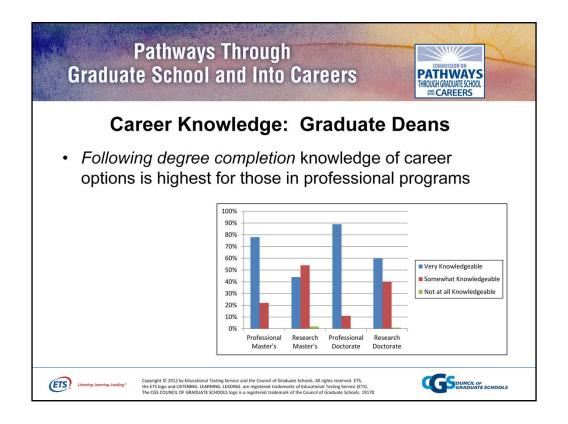


We asked deans about students' knowledge of career options at three time points: prior to entering graduate school, during graduate school, and upon graduate degree completion. Overall, graduate deans' perceptions indicated that students, at best, have only some knowledge of career options.

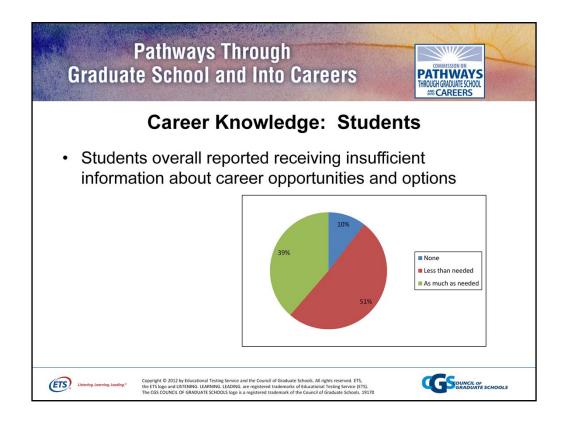
Prior to entering graduate school, fewer than 20% of the deans thought students in professional and research master's programs and in research doctoral programs were very knowledgeable of career options. The students with the highest level of knowledge of career options were seen as those entering professional doctorate programs.



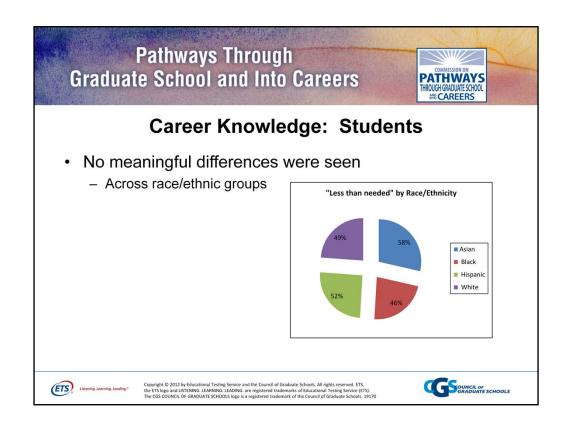
During graduate school, the level knowledge of career options increases. This is particularly true for students in professional doctoral programs, where 71% of students were believed to be very knowledgeable about career opportunities. Professional doctoral students seem to acquire more knowledge of options than students in master's or research doctoral programs where less than 50% were seen as very knowledgeable about careers.



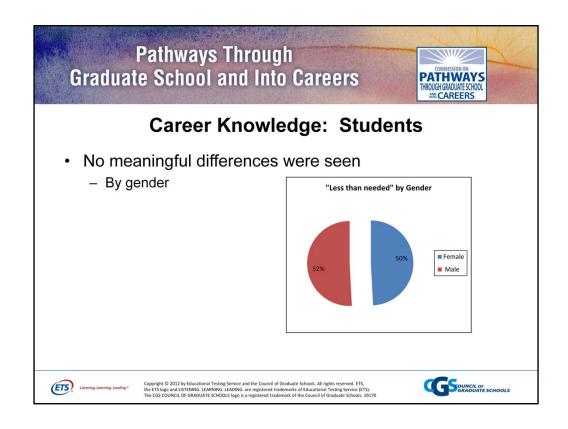
Upon completing their degree, students in professional master's or doctorate programs were thought by deans to be very knowledgeable of career options. However, 40% of the deans indicated that students receiving a research doctorate were still only somewhat knowledgeable about career options; for research master's students, this number was 54%.



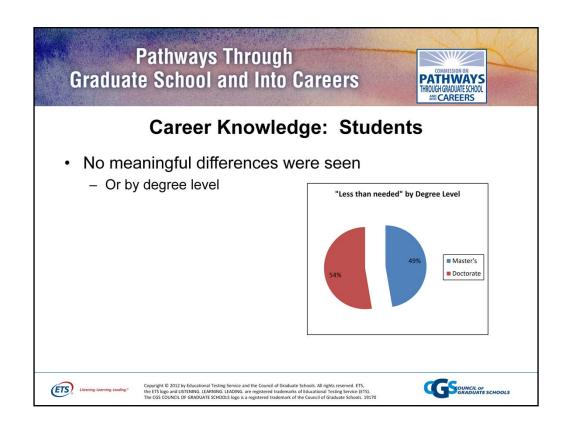
When we asked students to reflect about the amount of information they received about potential careers, more than one-half those students who were enrolled in or had completed a degree felt they had received less information than needed about possible careers.



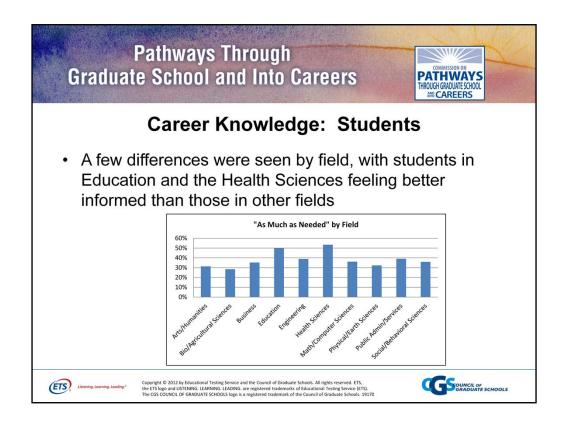
Receiving less than sufficient information about career options was expressed by all students, regardless of race/ethnicity...



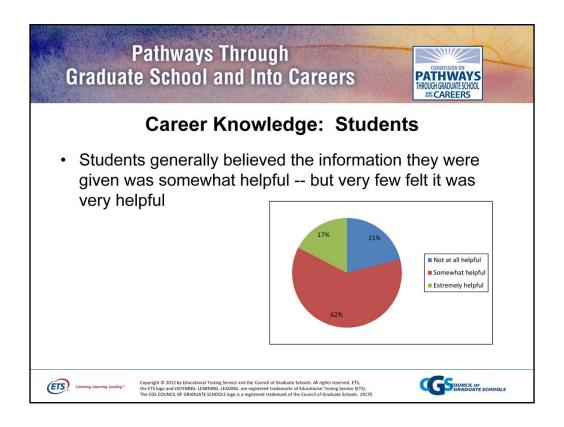
Gender...



Or degree level.

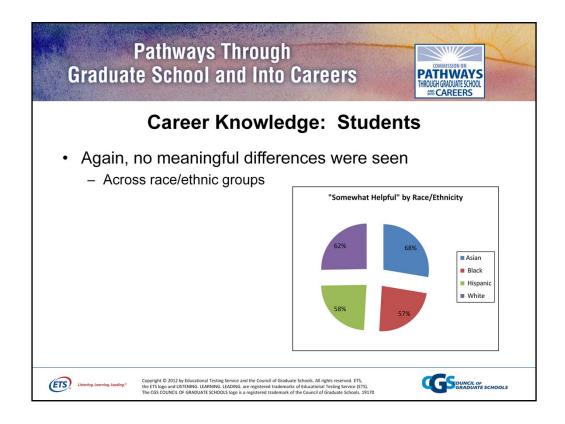


However, some differences were seen by field. Students indicating they were Education or Health Sciences majors felt better informed than those in other fields. This is not necessarily surprising, since these fields tend to be geared towards specific occupations.

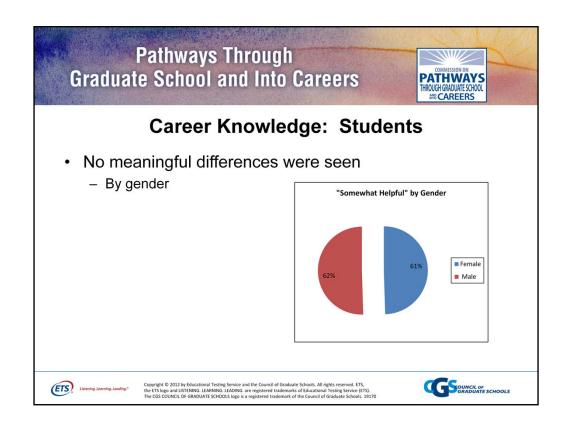


Did students feel the information was helpful?

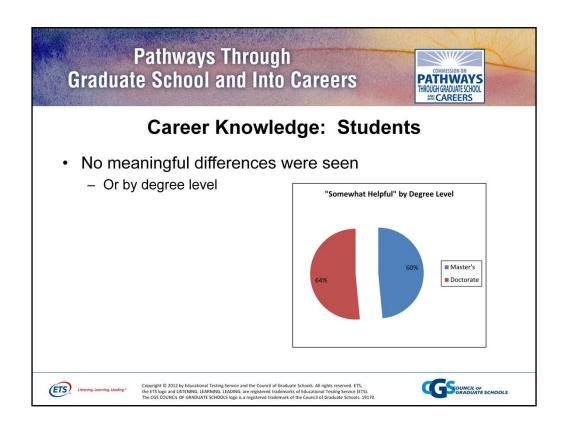
In general, students believed the information was somewhat helpful, but very few felt it was very helpful in understanding their career options.



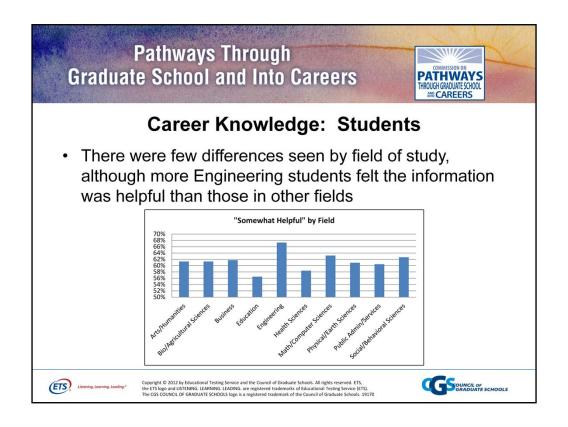
Again, there were no meaningful differences across groups by race/ethnicity...



By gender...



Or by degree level.



Only a few differences were seen by discipline, although more students in the Engineering field indicated that the information they received was helpful.



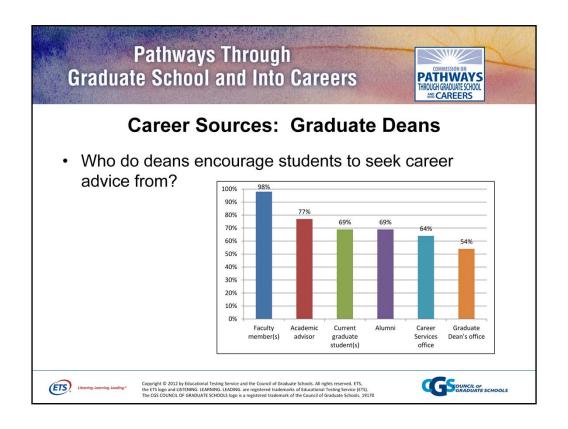
Discussion:

- Are these results surprising?
- Are the deans' perceptions aligned with what students say?



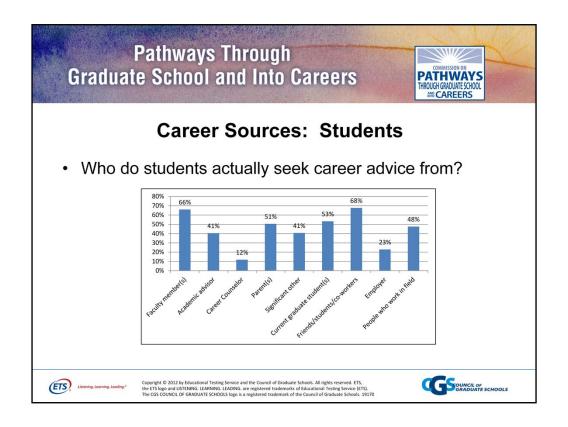
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We also asked graduate deans about sources of information – that is, who do dean encourage students to seek career advice from?

Overwhelming, it was faculty members followed by the academic advisor.



When we asked those students who were either enrolled in graduate school or had completed a degree who they actually consulted for career information, the picture was similar, with66% indicating they talked to faculty. However, more students – 68% -- indicated they consulted with peers more than any other source. Very few students sought career advice from those most closely associated with careers, such as career counselors or people who work in the field.

No differences were seen across subpopulations as well.



Career Sources: Graduate Deans

- Career Services offices were seen as a major player in providing career-based activities for students
- Deans indicated that the Career Services office at their institution was responsible for coordinating
 - Career fairs (69%)
 - Career counseling workshops (64%)
 - Professional development/skills workshops (59%)
 - Off-campus internships (82%)



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Who provides career-based activities for graduate students? When asked, graduate deans indicated that career services offices were a major player in providing such activities .

In particular, the career service office was responsible for coordinating career fairs, career counseling workshops, professional development and skills workshops, and off-campus internships.



Career Sources: Graduate Deans

- Individual programs or departments were also seen as responsible for coordinating professional development/ skills workshops (59%)
- The Graduate Dean's office was viewed as responsible for providing career guidance far less frequently than Career Services offices, individual programs, or departments
 - In some cases, graduate deans indicated that these activities did not exist at their institution



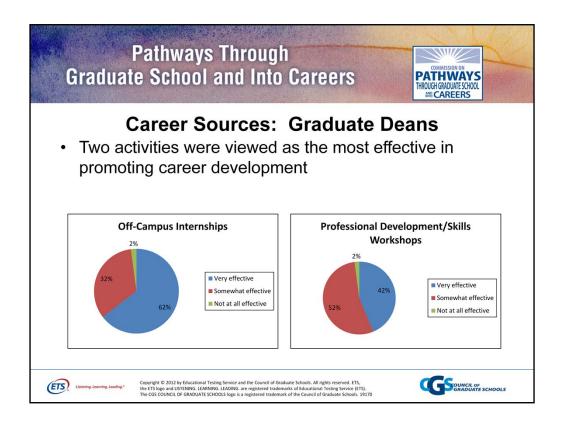
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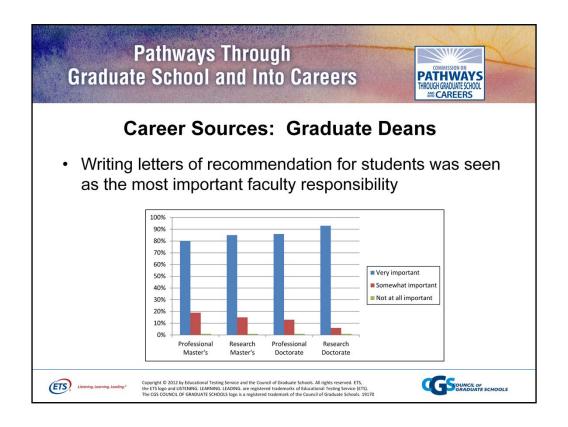
Individual programs or departments were also felt to be responsible for student career development, in that they were responsible for coordinating professional development and skills workshops.

However, career guidance was generally not viewed as a responsibility of the graduate dean's office.

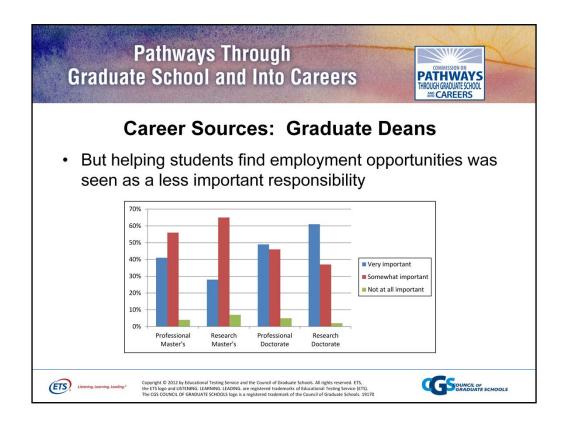
And in some cases, deans indicated that few or none career development activities existed at their institution.



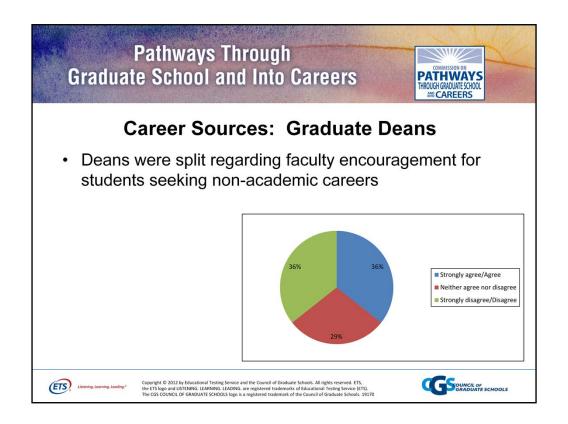
For those institutions who held activities aimed at providing career development for students, only two were believed to be the most effective: off-campus internships and professional development and skills workshops.



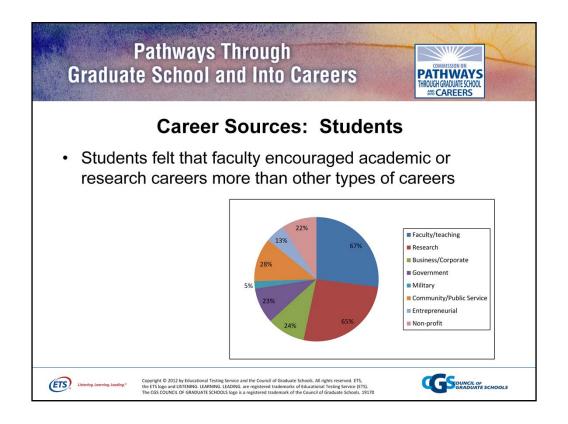
While graduate deans said that they encouraged students to seek career advice from faculty, writing letters of recommendation was indicated as the most important faculty responsibility regardless of the type of degree program the student was enrolled in.



Helping students **find** employment opportunities was seen as a less important responsibility for faculty. This responsibility was seen as more important for those students enrolled in a doctoral program than those in a master's program, but still not as important as writing recommendation letters.



We've also heard from some deans that faculty are less encouraging for those students who wish to seek opportunities outside of the academy. However, our survey indicated that for those deans who had an opinion, the opinions were split: a third **agreed** that faculty were less encouraging but a third **disagreed** that faculty were less encouraging.



Students, however, indicated that faculty encouraged them to consider faculty or teaching positions followed by research positions much more frequently than other types of careers.

Pathways Through Graduate School and Into Careers Career Sources: Students Some differences were seen by race/ethnicity More White students (70%) felt encouraged to consider faculty/teaching positions; fewer Asian students (62%) felt encouraged More Asian students (76%) felt encouraged to consider research positions; fewer Black students (56%) felt encouraged

Here, some differences were seen by race/ethnicity.

White students indicated they were encouraged to consider faculty or teaching positions while fewer Asian students indicated they were encouraged to consider teaching positions compared to other students.

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More Asian students, however, felt they were encouraged to consider research positions; fewer Blacks students felt encouraged to consider such positions.



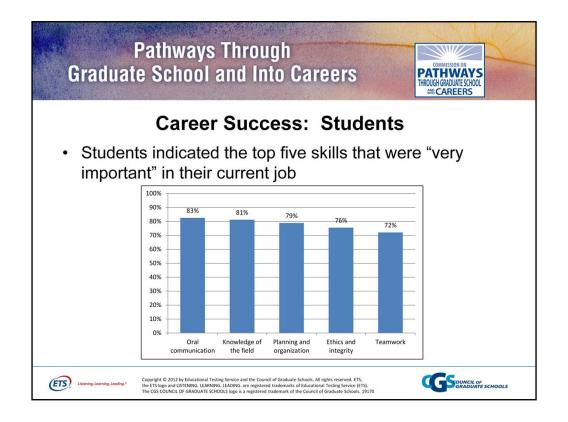
Discussion:

- Are the activities provided appropriate and sufficient?
- Are faculty the best providers of career advice? Who should be?



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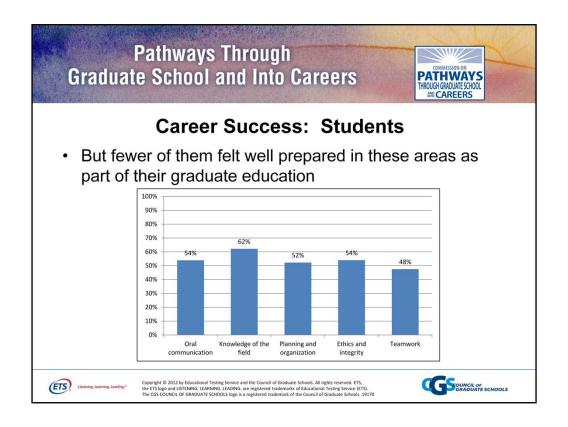




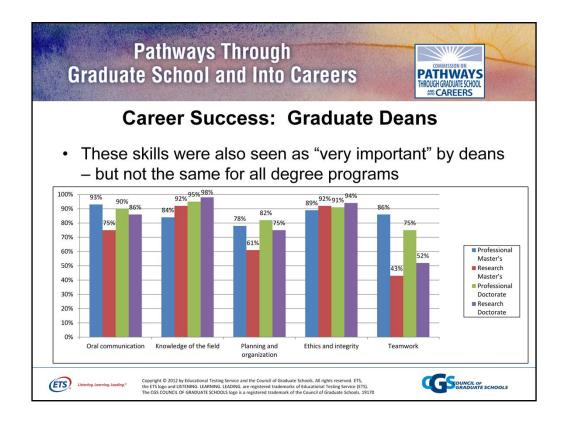
We asked those students who had completed their degree and were employed to indicate which skills were very important in their current job. Five skills rose to the top of the list:

- Oral communication
- •Knowledge of the field
- Planning and organization
- Ethics and integrity
- And teamwork

Most of these were ranked the highest regardless of the field in which the student was working.



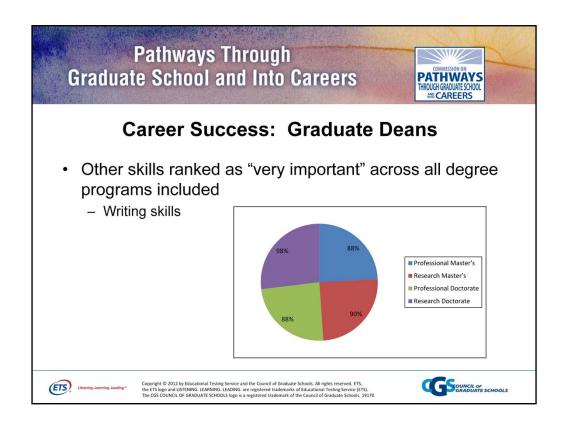
Unfortunately, fewer of these students felt well prepared in these areas as part of their graduate education. Knowledge of the field was indicated as the highest in terms of preparation while teamwork was the lowest.



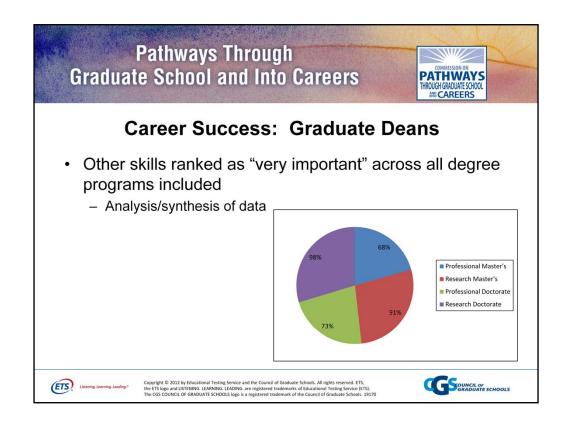
These five skills were also seen as very important by deans but there were differences depending upon the degree program.

For example, ethics and integrity were viewed as very important regardless of the type and level of degree.

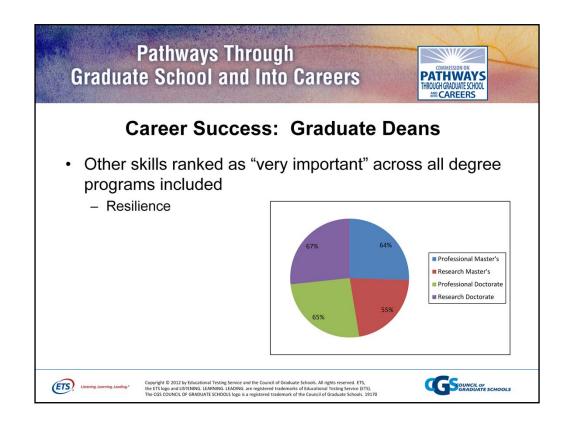
But teamwork was seen as less important for those students receiving research master's or research doctorate degrees.



Other skills ranked as very important by graduate deans across all degree programs included writing skills...



The analysis and synthesis of data...



And resilience.



Career Success: Graduate Deans

- Some skills were ranked as "very important" for the Research Doctorate but not for other degree programs
 - Publications (99%)
 - Research skills (99%)
 - Creativity (79%)
 - Teaching and training (63%)



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A few skills were indicated as being very important for students in research doctorate programs but not for other degree programs. These included

- Publications
- Research skills
- Creativity
- And teaching and training.



Discussion:

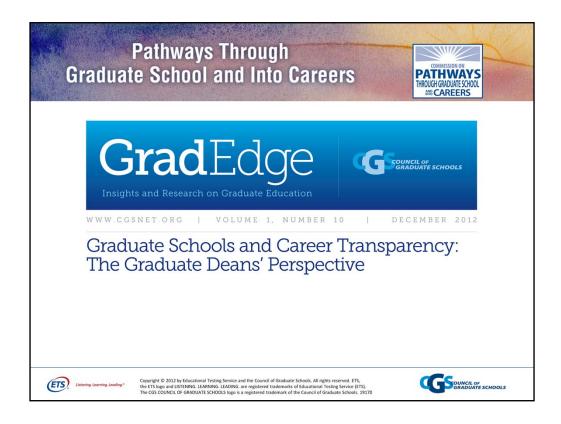
- Are graduate schools providing those skills to ensure career success?
- How can professional skills be further developed at the graduate level?



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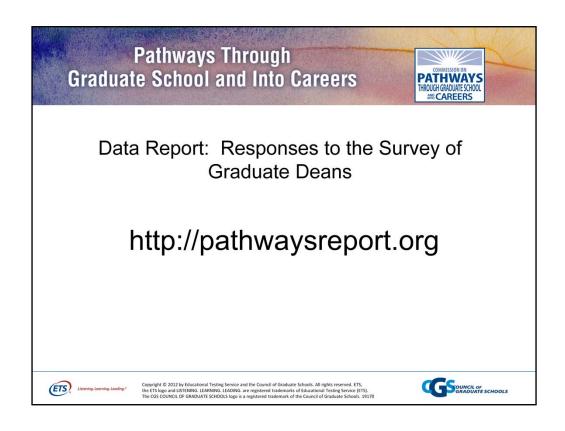
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Additional information will be provided from the "Pathways" report.

A summary of the graduate dean focus groups held as part of the "Pathways" data collection will appear soon in GradEdge.



The data report of the responses to the graduate deans survey has been posted at http://pathwaysreport.org

The site also includes a pdf of the full "Pathways" report as well as other helpful materials.



Next Steps: Additional data reports based on the student survey

- Master's level by sub-group (race/ethnicity, gender)
- Discipline level (broad band categories for fields by degree and subgroup)
- Non-traditional students, including parental education level and other background variables
- Point of study/transition (not yet entered graduate school, in graduate school, degree completed)



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A series of data reports based on the student survey will also be issued. These reports are likely to include a master's level report, a report by broad discipline field, a report that looks at responses to the survey by different student background variables, and a report looking at responses for the three types of students surveyed (not yet enrolled in graduate school, in graduate school, and completed degree).

These reports will also be posted on the "Pathways" site.