Graduate Student Perspectives of the Balance Between Research and Teaching – A Preliminary Report

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Abstract

To gauge graduate student views on the relative importance of undergraduate teaching and research, a national survey is being conducted across a variety of higher education institutions. Survey respondents provide not only their personal opinions on the research – teaching balance, but their perceptions of views held by other shareholders such as faculty, fellow students and the general public. The data is analyzed and compared to a similar study conducted at Syracuse University in 1995 on faculty perspectives of the research – teaching balance. A preliminary subset of the survey data is included here. The completed survey will be available and presented at the conference.

Introduction

Research shows that only 20% of new PhDs are hired as faculty members at institutions with the same Carnegie classification as their graduate degree granting alma mater[1]. Most are hired at institutions where their teaching load is increased. Compound this with "mission creep", a trend at institutions across all Carnegie classifications toward increasing demands for research, and the new faculty hire may indeed serve two masters.[2] Although programs like Preparing Future Faculty address this concern, such programs are not available at most universities[3].

Misalignment between a new hire's research/teaching preconceptions and departmental expectations negatively impacts all stakeholders. Tenure is often lost because research and teaching duties are mismanaged. Career goals are stalled and resources invested in those faculty members are lost. Accurate prior knowledge of the research/teaching balance and the requisite activities would facilitate a fast start on the tenure-track. Ph.D. graduates who deeply understand the variations in the research – teaching balance and how they affect their duties and career opportunities are more likely to secure assistant professorships that are compatible with their own goals.

To investigate these two issues: the anticipated research – teaching balance and the preparedness of Ph.D. students for a range of faculty duties, data was collected from a range of graduate students by survey at universities throughout the United States. Questions focus on student's preconceptions of the research – teaching balance that exists in university and college settings and on their preparedness for an academic life at institutions across the Carnegie classifications. Background data (field of study, degree program, institution and nationality) was also collected to identity trends.

The Survey

The survey was limited to the relative importance of research and undergraduate teaching. Specifically, the student was asked for his own opinion and well as his *perception of the opinions* of other stakeholders in higher education. That list included undergraduates, graduate students, faculty, administrators and the general public. (Querying for these perspectives parallels a national study conducted at Syracuse University in 1995, called the Lilly Study, with faculty members.[4]) To reduce costs and simplify data analysis, the survey was conducted online using FlashlightOnline, an excellent survey application maintained by Washington State University.[5]

The entire survey instrument is listed below. Of particular interest are questions 1 through 8 – the questions on graduate student perspectives. Note that each question is scored on a 7-point continuum ranging from "teaching most important" to "research most important". For data processing purposes each point is assigned a numerical value as shown at the bottom of the survey. "Teaching most important" is equated to –3, "of equal importance" is equal to 0 and "research most important" is scored as +3. In this way, increasingly positive numbers indicate a stronger leaning toward research and increasingly negative scores correspond to a preference for teaching.

Graduate Student Perspective of the Research - Teaching Balance

I. Background Information

A. Discipline area (select one)
- o Non-degree
- o Humanities and Social Sciences
- o Natural and Physical Sciences
- o Engineering and Mathematics
- o Medicine (human or veterinarian)
- o Law
- o Education
- o Other

B. University (enter school name)

C. Current degree program (select one)
   - o Masters
   - o Doctoral
   - o Other

D. Nation of Origin
   - o United States
   - o Other

II. In relation to each other, how important are research and undergraduate teaching …

	teaching most important			of equal importance			research most important
1. To you personally?	○	○	○	○	○	○	○
2. To the faculty in your department?	○	○	○	○	○	○	○
3. To undergraduates at your institution?	○	○	○	○	○	○	○
4. To graduate students at your university?	○	○	○	○	○	○	○
5. To the administration at your university?	○	○	○	○	○	○	○
6. To the general public in Your state?	○	○	○	○	○	○	○
7. to the direction you think your university *is going*?	○	○	○	○	○	○	○
8. to the direction you think your university *should go*?	○	○	○	○	○	○	○
	-3	**-2**	**-1**	**0**	**1**	**2**	**3**

The Data

Question A in the Background Information section of the survey instrument lists the degree program categories used in this study. Figure 1 shows how the population of 45 is distributed across these fields of study. Just over 50% of all respondents are studying in the humanities and social sciences. Note also that the three engineering and mathematics respondents are Master's degree candidates.

Histograms of responses across the entire study population for questions 1, 3 and 4 are shown in Figures 2 through 4. These questions deal with the personal opinion and the perceived opinions of other students. The data in Figure 2 for question 1 shows that the respondents overwhelmingly feel that research and undergraduate teaching should be of equal importance. (Over 60% of the respondents entered a zero for question 1.) Equally dramatic is the data for question 3, undergraduate perspectives, where 47% of the scores are at the "teaching most important" point of the continuum then drops geometrically. That undergraduates would be perceived to value undergraduate teaching is logical and gives validity to the survey. Finally, responses to question 4, how other graduate students feel, were similar to the responses to

question 1 with a lower peak of 29% at the "of equal importance" point. Two assertions can be made. Common peaks at the midpoint of the continuum show that the respondents feel their colleagues largely share their opinion that research and teaching are of equal importance. However, the disparity in the size of the peaks and the spread in the data points suggest that the respondents are much more certain of their own positions.

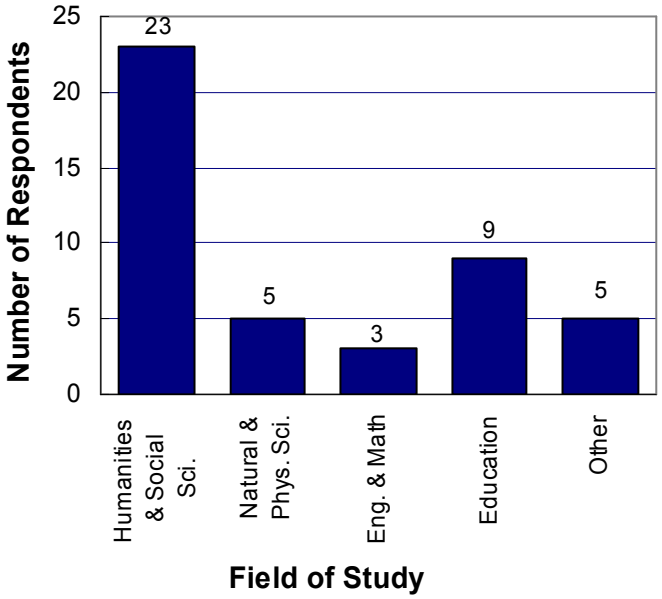

Figure 1. Survey population by field of study.

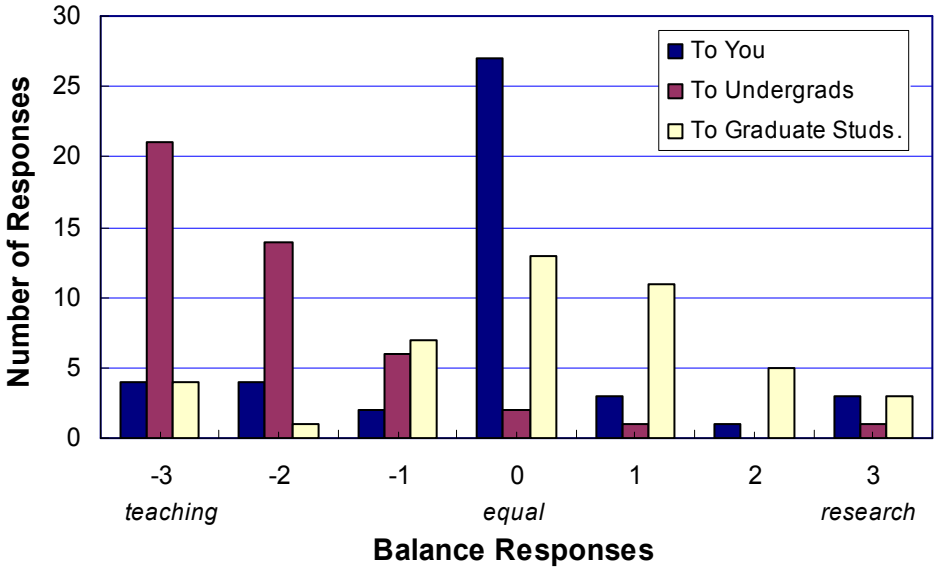

Figure 2. Responses for perceptions of personal views and those of undergraduates and other graduate students at the respondent's institution regarding the balance between research and undergraduate teaching.

Questions 2, 5 and 6 address the views of other stakeholders – the faculty, the administration and the general public. Figure 3 shows the data for the faculty and the administration are quite similar are heavily skewed toward research. Over 68% of the respondents scored the faculty on the research side of the continuum with over 53% at or above a 2. Similarly, the administrators were marked on the research side by 64% of the respondents with only 38% at 2 or above. These data indicate a level of sophistication in the graduate student population. They perceive a research-leaning faculty that is rewarded and promoted by administrations that values research over teaching. These perceptions will be shown to be in agreement with the Lilly study.

Finally, the perceptions of public opinion lean heavily toward teaching. Considering that it is the public who send their sons and daughters to fill the undergraduates classrooms of our institutions, this view is logical. It is also compatible with strengthened calls from the public and from state governments for accountability and productivity in the university. Number of degrees conferred, average GPA's, retention and job placement are easy metrics to track and are indicative of good teaching. While the value added to the public by university research cannot be denied, it is more difficult to quantify. Especially since much of it, particularly for hard sciences like physics and engineering, is funded through taxes on the public.

Questions 7 and 8 are about perceived trends – the direction the institution *is going* and the direction it *should be going*. From the data, shown in Figure 4, it is clearly evident that graduate students see their institutions moving boldly toward research. Again, this is compatible with "mission creep". Responses for the direction the institution *should go* correlate strongly with those on personal views of research and teaching with a very strong peak at the midpoint. This is to be expected. However, the differences between the *is going* and the *should be going* data, if accurate, suggest that at some point in the future graduate students and faculty will have drastically different opinions on what higher education should be.

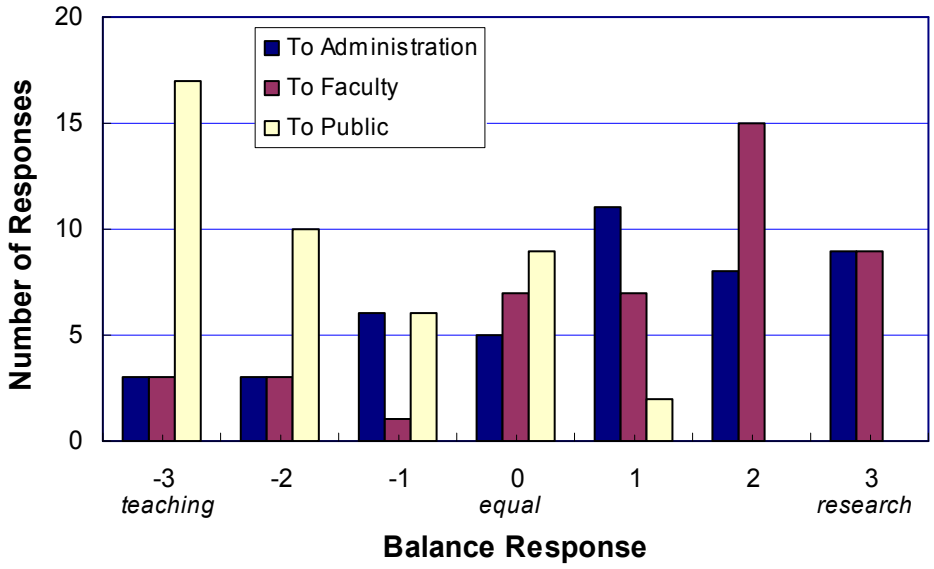

Figure 3. Responses for perceptions of the views held by the administration and faculty at the respondent's institution as well as the general public of the state.

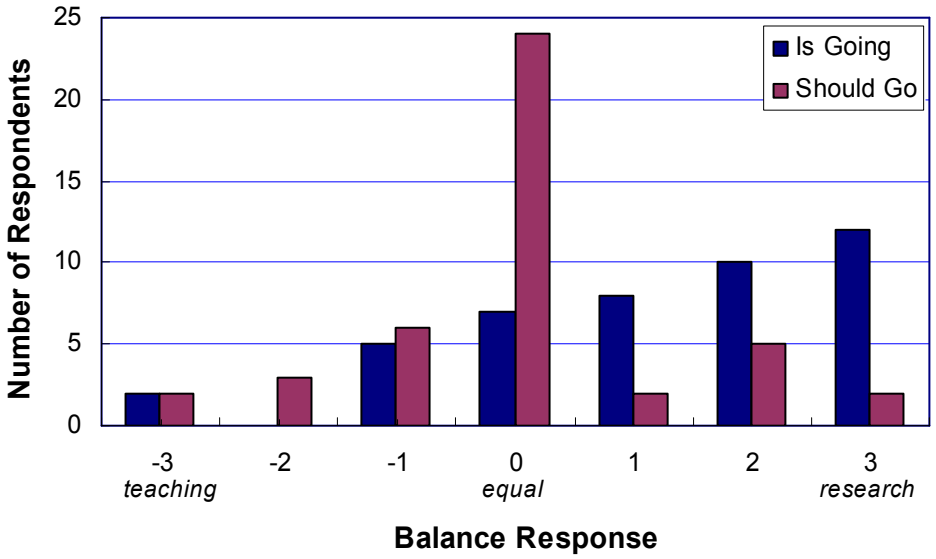

Figure 4. Responses for perceptions of institutional trends in the balance of research and teaching.

Standard deviations and means for the responses to questions 1 through 8 are shown in Figure 5. There are three noticeable groupings. The only significant negative values (teaching-centric) are undergraduate and the general public means at -2.1 and -1.8, respectively. At the opposite end of the continuum, is a group consisting of the faculty (+1.2), the administration (+0.7) and the trend for the direction the institution is going (+1.2). In the final group are the individual respondents (-0.2), the graduate student colleagues (+0.2) and the trend for the direction the institution should go (0). These data confirm the commonalities and differences seen in Figures 2 through 4.

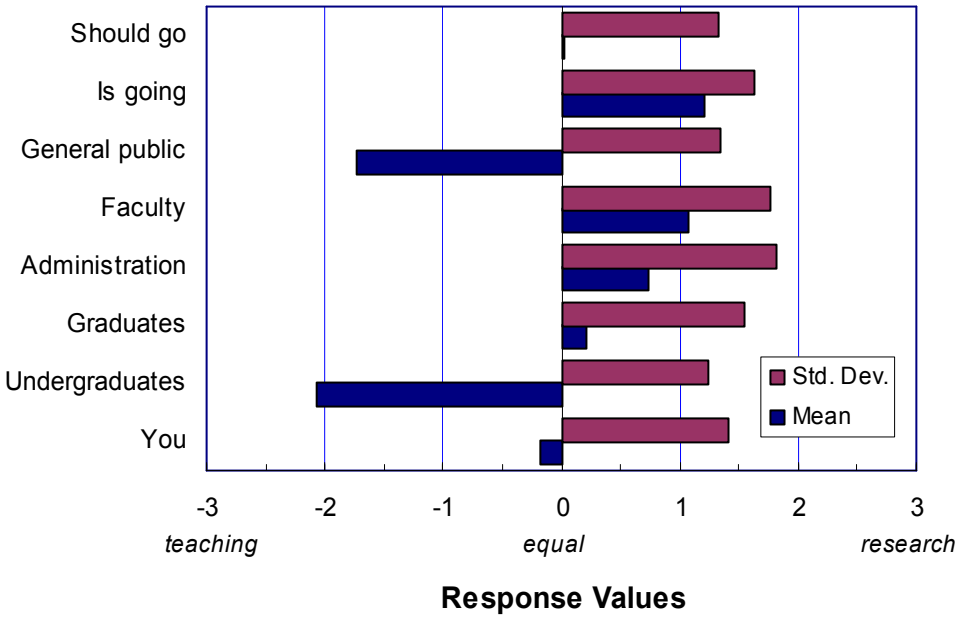

Figure 5. Means and standard deviations for the entire population.

Breakdowns by Fields of Study and Degree Program

Figure 6 shows the means for responses to question 1 for each field of study subdivided into Master's and doctorate candidates. Of particular interest is the affinity for teaching seen in the Education Master's students (-3.0) contrasted against that of the Education doctorate students (-0.3). This difference is compatible with the nature of advanced degrees in Education. Master's programs focus on coursework and practicums, essentially relegating research to the doctorate students.

Means for question 3 – perceptions of the views of undergraduates – are shown in Figure 7. As expected, all means are well into the teaching side of the continuum. It is interesting that in all degree fields except Education, doctorate candidates rate the undergraduates further towards teaching than their counterparts Master's students do. This is very likely the result of doctorate students being more likely to serve as teachers of record (actually teach an undergraduate class).

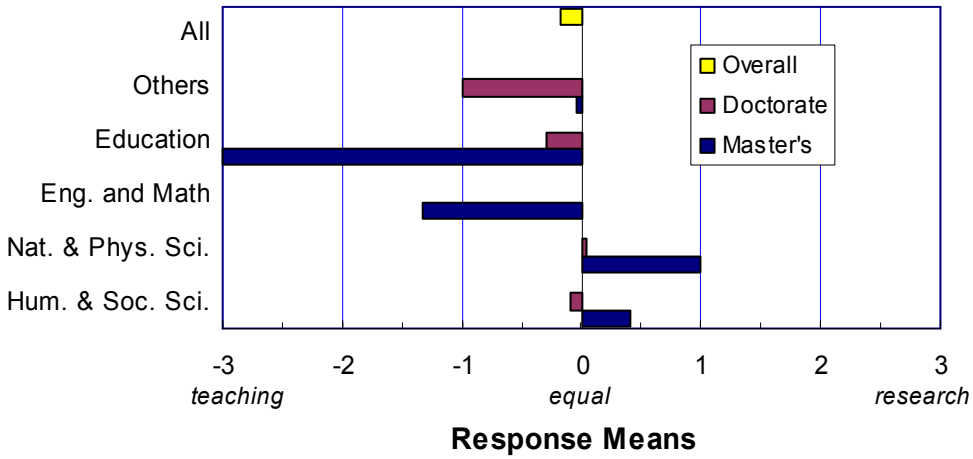

Figure 6. Means for personal perspective on the research – teaching balance (question 1).

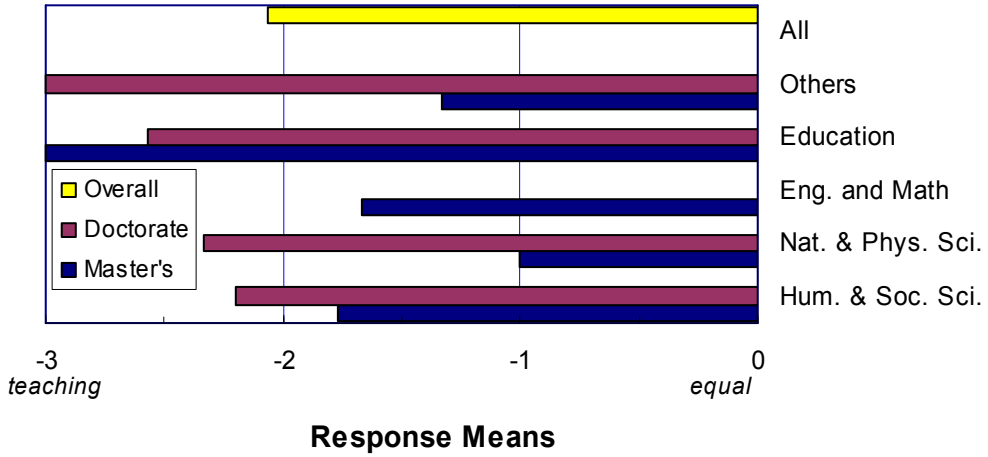

Figure 7. Means for perspectives of undergraduates feelings on the research – teaching balance (question 3).

Figure 8 shows the means for question 4 – the views of other graduate students. Compared to Figure 6, the means for self-perceptions, the numbers are generally shifted toward research, particularly for Engineering and Mathematics, the Natural and Physical Sciences and the Others category. Figure 2 clearly shows that self perceptions are strongly balanced with equal importance for both teaching and research. Thus, the graduate student sees himself as equally balanced while his colleagues' views are skewed slightly toward research. This mimics precisely the findings of the Syracuse study – individual faculty members tend to think that other faculty lean more toward research.[4]

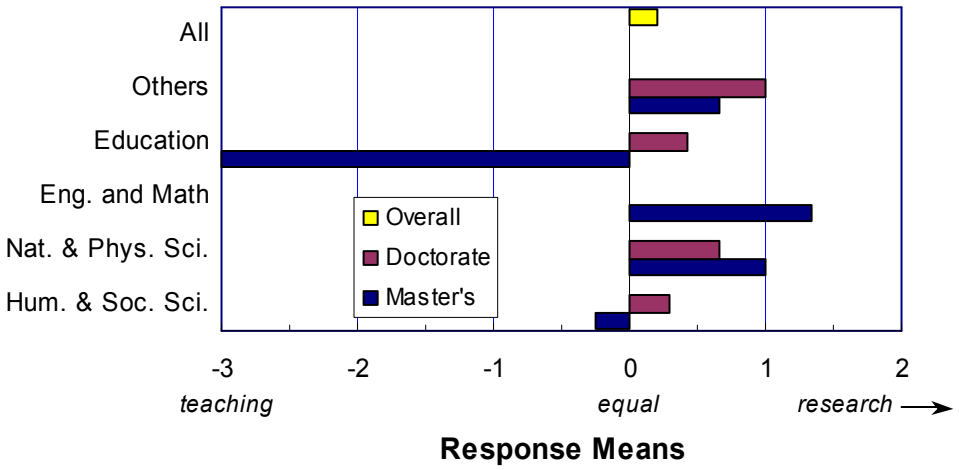

Figure 8. Means for perspectives of other graduate students opinions on the research – teaching balance (question 4).

Figures 9 and 10 show the means for questions 5 and 2 – perceptions of the views of administrators and faculty, respectively. Both graphs are heavily on the research half of the continuum. Of particular note are the high positive values for the Education and the Engineering and Mathematics students. Compared to Figures 6 and 7, these disciplines have shifted hard toward research.

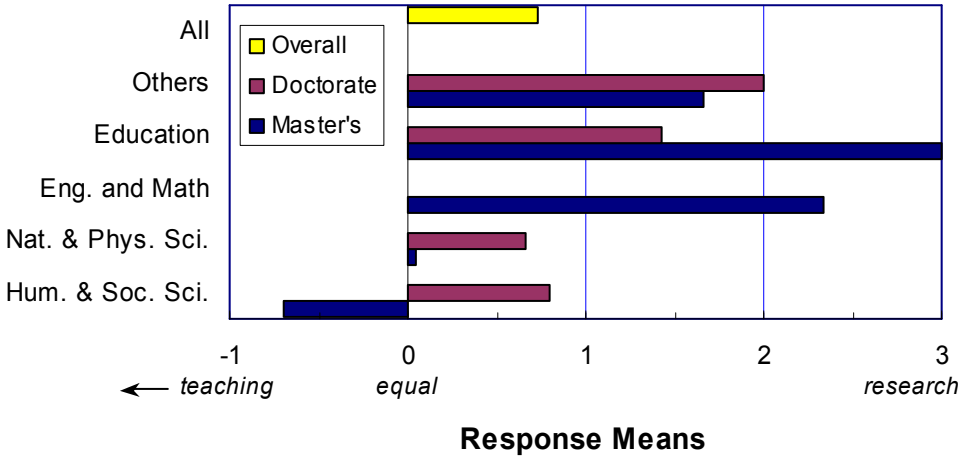

Figure 9. Means for perspectives of institution administration stand on the research – teaching balance (question 5).

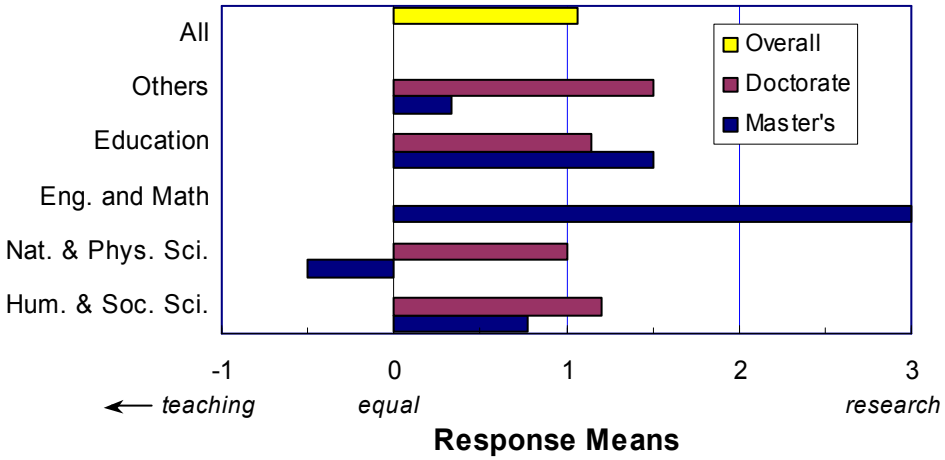

Figure 10. Means for perspectives on faculty views of the research – teaching balance (question 2).

Figure 11 shows the means for perceived public opinion. Across all disciplines and both degree programs, the means are, as expected, consistently and significantly in the teaching half of the continuum.

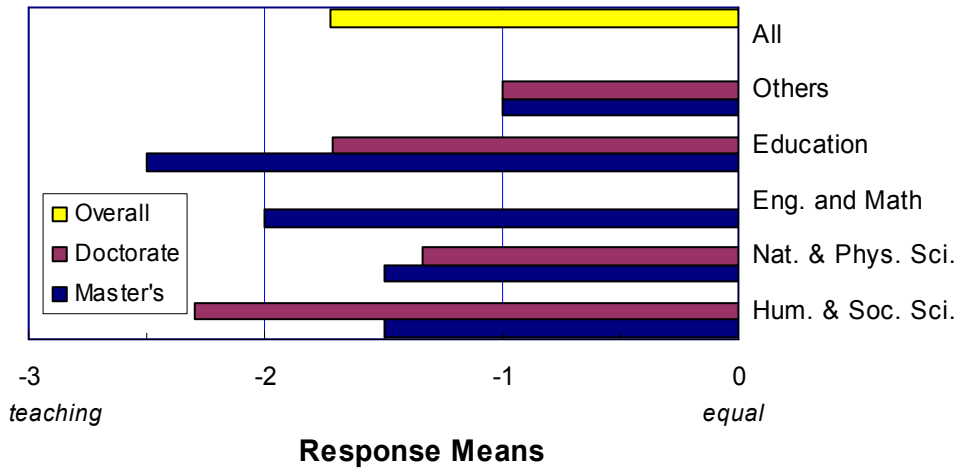

Figure 11. Means for perspectives on the public's position on the research – teaching balance (question 6).

Means for questions 7 and 8 on the direction the institution is going and should be going are shown in Figures12 and 13. In all cases, the opinion is that the institution is moving towards research. In five of nine groups the movement is seen to be significant (scores > 1.8). But in Figure 13, with the exception of Education Master's students, the respondents strongly prefer a more equitable treatment of teaching and research. The fact that graduate students have so much to gain from strong research programs makes the differences in these two figures startling.

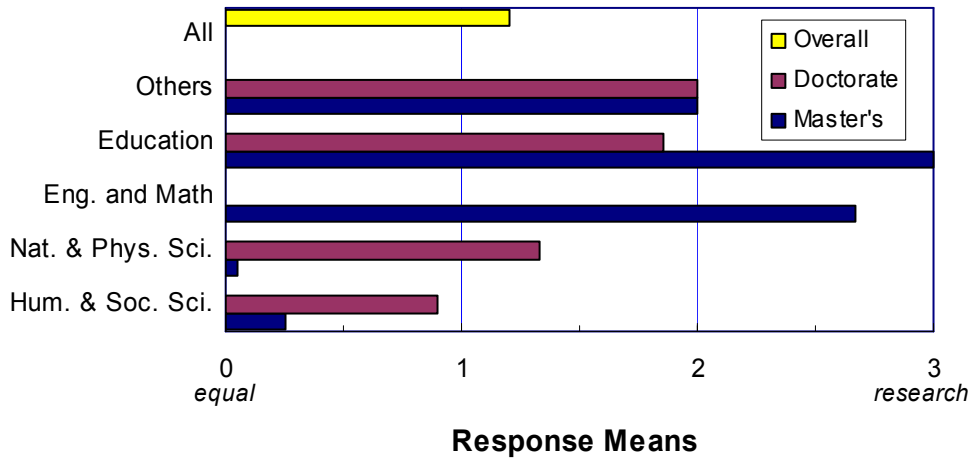

Figure 12. Means for perspectives on the direction the research – teaching balance is going at the respondent's institution (question 7).

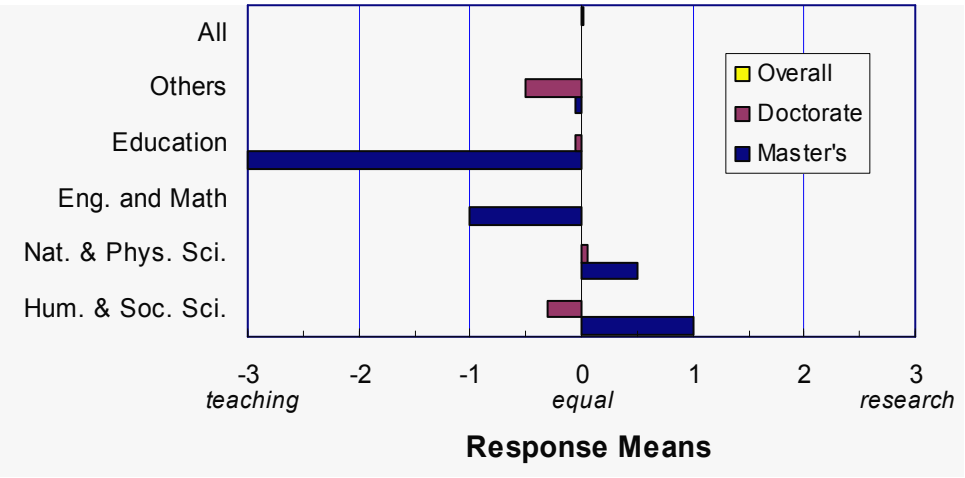

Figure 13. Means for perspectives on the direction the research – teaching balance should go at the respondent's institution (question 8).

Comparisons to the Lilly Study

In the Lilly Study conducted by Syracuse University in 1995, over 23,000 assistant, associate and full professors, department chairs and deans at Carnegie classifications Research I and II were surveyed using an instrument very similar to the eight perception questions used here. There are three findings consistent with the data collected in this work. First there is a marked consistency among faculty, heads and deans on the topic of the direction the institution is going – towards research. Second, regarding the directions the institution should be going, all population group means are very near zero – an equal importance on research and teaching. And third, every population group saw themselves as being more equally balanced than the other groups. Faculty felt that heads and deans leaned more toward research. Deans felt they were more interested in good teaching than the faculty or heads perceived them to be, and so on.

There is one important difference between the Lilly study and this work. In the Lilly study, the consistent perception is that more removed an individual is from the daily task of teaching the more highly they regard research. Thus, from teaching faculty to research faculty to heads to deans, the perceived emphasis moves toward research. In this study however, the group viewed to be most research-centric is the faculty, not the administration. But the graduate student rarely interacts with his department head or dean. For most graduate students, the faculty are the university. In that sense, the findings are more alike than originally appear.

Conclusions

In concert with the findings of the Lilly study, it can be said that deans, department heads, faculty and graduate student all feel that a proper balance between research and undergraduate teaching is not in practice today and the trend is toward further imbalance. These parties are also in agreement that a more equal balance should exist. Over the past decade, through funding sources such as the NSF's directorate for undergraduate education, extensive work has been done across the map of undergraduate teaching.

The data collected in this study also indicates that the graduate student is well aware that the shift towards research requires the coordinated effort of the entire university. The question then is when does he learn it? In 1998, the Boyer Commission on Educating Undergraduates in the Research University in its report, Reinventing Undergraduate Education, made a recommendation that addresses this matter.[6] The commission called for institutions, particularly research universities, to be direct with students, both undergraduate and graduate, about the university mission and expectations -a kind of pre-enrollment truth in advertising. While this would not improve undergraduate teaching, it would be very helpful in aligning the student's expectations of the academy with its actual mission.

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