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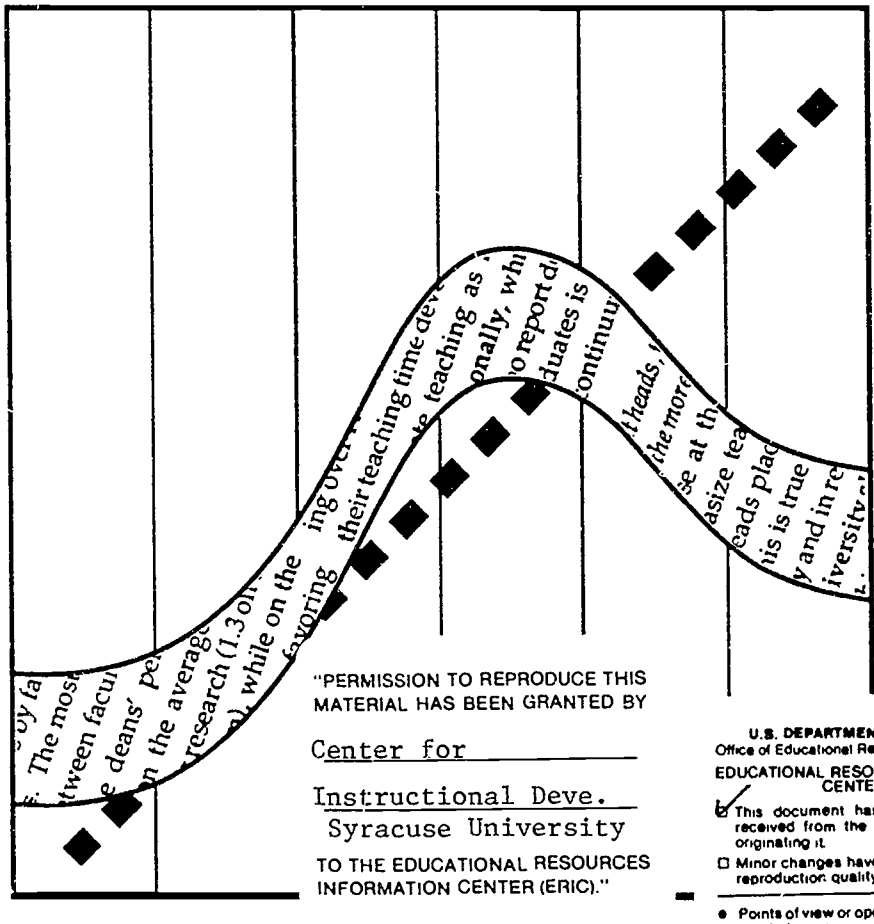
ABSTRACT

This study examined the relative importance of teaching and research at 33 public and 14 private research universities. In particular the study sought to understand the perceptions held by the study participants of the relative importance of teaching and research and to compare and contrast the perceptions of different groups within the university community. A total of 46,193 surveys were distributed and 23,302 were returned from faculty at all levels as well as deans and administrators. The results indicate that people in the university community tend to favor a balance between research and undergraduate teaching. In contrast, respondents reported that the "university" places greater emphasis on research than on teaching. Differences in the way respondents perceived the direction the university is taking and the direction it should take suggested a conflict between the culture of the university and the values of individuals. Open-ended comments about the tension between teaching and research primarily focused on the reward system, which heavily favors research, distribution of resources, and the campus culture. Included are extensive tables and figures displaying the results and 19 references. (JB)

A National Study of Research Universities

On the Balance Between Research and Undergraduate Teaching

Peter J. Gray
Robert C. Froh
Robert M. Diamond



March 1992

Center for Instructional Development • Syracuse University

A National Study of Research Universities On the Balance Between Research and Undergraduate Teaching

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The Lilly Endowment sponsored a national study of research universities regarding the balance between research and undergraduate teaching. The project has been conducted by the Syracuse University Center for Instructional Development. Its purposes are, first, to examine the relative importance of research and undergraduate teaching as perceived by faculty, department chairs, deans, and central administrators; second, to determine whether these groups agree on the balance that should exist; and third, to compare and contrast the perceptions of these groups across institutions and major academic areas.

NATIONAL REPORTS AND STUDIES

The question of the relative importance of teaching and research has been considered in other studies involving research universities. However, these studies focused primarily on the current status regarding how faculty spend their time, the criteria for making promotion and tenure decisions, and faculty productivity regarding publications, citations and grants awarded (for example, Blackburn, 1985; Blackburn and Havinghurst, 1979; Cameron, 1981; Clark and Centra, 1982; Clemente, 1973; Cole and Cole, 1967; Hogan, 1981; Reskin 1977; Samson, 1984). In other words, they took for granted the existing culture, which emphasizes research over teaching, rather than attempting to determine whether or not this culture was either appropriate or supported by the majority of those in the academic community.

Other studies such as Cochran (1989), as well as numerous national reports and publications from the mid-1980's, suggest that administrators and others feel that more attention should be given to teaching (for example, *College: The Undergraduate Experience in America*, Boyer, 1987; *Integrity in the College Curriculum: A Report to the Academic Community*, Association of American Colleges, 1985; *Involvement in Learning: Realizing the Potential of American Higher Education*, The National Institute of Education, October 1984; *To Reclaim a Legacy*, Bennett, 1984).

Many people have an intuitive sense that a conflict between research and undergraduate teaching exists, as a recent headline in the *Chronicle of Higher Education* proclaims: "Professors Feel Conflict Between Roles in Teaching and Research" (Mooney, 1991, A15). The study by Astin, reported in the Mooney article, "found that 27 percent of all professors—and 44 percent of those at public universities—felt that demands for research interfered with teaching" (A16). In this regard, faculty committed to teaching often find themselves torn between their concern for teaching students and the demands for research and publication that are perceived as essential for professional advancement within their home institution and within their discipline.

Boyer (1987) reported that divided loyalties and competing career concerns among the faculty were major points of tension that "appeared with regularity and seemed consistently to sap the vitality of the baccalaureate experience" (p. 4). In addition, Derek Bok, the president of Harvard University, noted in a presentation at the annual meeting of the American Council of Learned Societies that, "many professors believe the current faculty-reward system places a premium on the quantity of scholarly work produced" (In Box. 1991, A15). A fundamental tension seems to exist in higher education. This tension is stimulated by conflicting values regarding how faculty spend their time and what should be rewarded. This tension raises major issues related to the appropriate balance between research and undergraduate teaching. In addition, on many campuses there are sub-issues regarding narrowly defined reward systems that not only stress research over undergraduate teaching, but that also seem to emphasize the quantity rather than the quality of research and scholarly work.

"many professors believe the current faculty-reward system places a premium on the quantity of scholarly work produced."

"Gaining a better understanding of the extent to which the higher education community really values research and teaching is the ultimate goal of the present study."

Gaining a better understanding of the extent to which the higher education community really values research and teaching is the ultimate goal of the present study. The nation-wide quantitative profile and the extensive qualitative comments that have resulted from this study provide the backdrop for national and local discussions, which have already begun to occur, about the balance between research and undergraduate teaching and the redefinition of scholarship.

The Lilly study results provide participating universities with information on the perceptions that exist on their campuses, as well as a composite national picture that they can use for comparative purposes. A number of follow-up meetings have been held to disseminate the information on these campuses and to discuss their implications.

Professional organizations representing a wide variety of academic areas have also received study results related to their members. As with participating campuses, the study results have stimulated discussions regarding the appropriate balance between research and undergraduate teaching and the redefinition of scholarship. The outcomes of these discussions are likely to be recommendations about intrinsic and extrinsic rewards at national and local levels.

PREVIOUS RESEARCH AT SYRACUSE UNIVERSITY

In the Spring of 1989, Syracuse University received a twelve-month grant from the Sears Roebuck Foundation entitled *Affecting Priorities at a Research Institution: Focus on Teaching*. The Lilly study builds on this grant.

The goal of the Sears Project was to enhance the perceived importance of undergraduate teaching at Syracuse University. The project had three purposes related to this goal: first, to help deans and department chairs gain a better understanding of how they influence the attitudes and priorities of faculty regarding teaching; second, to assist these administrators in identifying the various activities and resources they could use to influence attitudes and priorities; and third, to indicate ways in which the central administrators could support deans and chairs in these efforts.

As the first step, the Sears Project Advisory Committee developed and administered a set of surveys to faculty, department chairs, and deans. This survey focused on their current perceptions of the balance between teaching and research at Syracuse University, the direction that they felt the institution was moving, and the direction that they felt SU should go. The Lilly study uses a modified version of the survey originally developed as part of this project.

The response rate to the SU survey was 70% from deans (10), 59% from chairs (27), and just over 40% from faculty (352). The quantitative results from the survey items provided data on the climate of the institution at that time, which will also be used as base-line data so that changes over time can be ascertained. These data showed that respondents perceived research as being valued more highly than teaching at Syracuse University and that the central administration was perceived as placing far greater emphasis on research than on teaching. All three groups agreed, however, that a balance between teaching and research was desired. An overwhelming number of respondents took the time to write powerful responses to the optional, open-ended question on the surveys. These qualitative results identified important strengths and weaknesses of the present reward system and suggested ways to bring the reward system into a proper balance between research and undergraduate teaching.

The Syracuse University data were used as the basis for discussions of the importance of undergraduate teaching among academic administrators, deans, chairs and faculty. Campus-wide changes in promotion, tenure and merit

pay criteria and processes have resulted from these discussions. Reports on the Syracuse University research and related activities are listed among the references under Center for Instructional Development (January 1991, April 1991).

"The Lilly study extends the Syracuse University survey on research and undergraduate teaching to forty-seven universities across the nation."

NATIONAL STUDY

The Lilly study extends the Syracuse University survey on research and undergraduate teaching to forty-seven universities across the nation. A simplified version of the form is shown in Figure 1. The survey consists of eight items about the relative importance of research and undergraduate teaching. A teaching—research continuum is associated with each item. On this continuum a 0 indicates equal importance and a 4 toward teaching or toward research indicates one or the other is of relatively greater importance. The survey also includes an open-ended question, as well as basic demographic items.

The survey forms were customized through slight modifications to make them appropriate to the four groups surveyed (faculty, academic unit heads such as department chairs, deans, and central academic administrators) and to the participating universities and their jargon. While some additional items were added at the request of individual campuses, the basic items remained the same on all surveys.

Figure 1

Faculty Survey Items

A. Even if you do not teach undergraduates, please circle the number on each scale below that best represents your perception of the relative importance of research versus undergraduate teaching. For example, a 4 would indicate that one is of utmost importance to the exclusion of the other, and a 0 would indicate that they are of equal importance. All responses will be confidential. Only group data will be reported.

In relation to each other, currently how important are research and undergraduate teaching to:

				equal importance				
teaching								research
4	3	2	1	0	1	2	3	4

a. you personally
b. the majority of other faculty in your department
c. your academic unit head (e.g., department chair)
d. your dean
e. the Office of Academic Affairs

B. Please circle the number on each scale below that best represents your perception of:
a. the direction that you think our university is going
b. the direction that you think our university should go
c. the direction that you think you should go based on your interests

C. Please comment on the similarities and differences in the above ratings. (Use back of form if necessary.)

D. Demographics
a. department and school/college
b. faculty rank
c. number of years at institution
d. % of teaching devoted to undergraduates
e. gender

National Sample

Thirty-three public and 14 private universities from all regions of the United States participated in the Lilly study. All universities are in the first four Carnegie classifications (The Carnegie Foundation, 1987). A list of the campuses surveyed is shown in Table 1. These

Table 1
Participating Institutions

Name	Carnegie Classification	Status	Number Surveyed	
American U.	Dr.-Grant. I	Private	486	*
Arizona State U.	Research II	Public	2,072	
Ball State U.	Dr.-Grant. I	Public	1,282	
Baylor U.	Dr.-Grant. II	Private	652	
Carnegie Mellon U.	Research I	Private	468	*
Clarkson U.	Dr.-Grant. II	Private	208	
Clemson U.	Dr.-Grant. I	Public	414	^
Cleveland State U.	Dr.-Grant. II	Public	635	
Drake U.	Dr.-Grant. II	Private	130	^
Duquesne U.	Dr.-Grant. II	Private	351	
Georgetown	Research II	Private	573	*
Idaho State U.	Dr.-Grant. II	Public	358	
Indiana U. at Bloomington	Research I	Public	1,398	
Lehigh U.	Dr.-Grant. I	Private	500	
Loyola U. of Chicago	Dr.-Grant. I	Private	619	*
Marquette U.	Dr.-Grant. I	Private	553	
Miami U. at Oxford	Dr.-Grant. I	Public	1,000	
Michigan State U.	Research I	Public	1,474	
Northeastern U.	Dr.-Grant. II	Private	916	
Northern Illinois U.	Dr.-Grant. I	Public	1,331	
Northwestern U.	Research I	Private	1,574	
Ohio State U.	Research I	Public	3,162	
Pennsylvania State U.	Research I	Public	1,230	^
Rutgers, The State U. of New Jersey	Research I	Public	870	*
Southern Methodist U.	Dr.-Grant. II	Private	512	
State U. of New York at Buffalo	Research II	Public	856	*
U. of Akron	Dr.-Grant. I	Public	1,253	*
U. of California at Berkeley	Research I	Public	1,570	
U. of California at Davis	Research I	Public	1,225	*
U. of California at Irvine	Research I	Public	957	
U. of Delaware	Research II	Public	957	
U. of Hawaii at Manoa	Research I	Public	1,396	
U. of Louisville	Dr.-Grant. I	Public	1,245	
U. of Maryland, Baltimore County	Dr.-Grant. II	Public	441	
U. of Massachusetts at Amherst	Research II	Public	1,275	
U. of Miami (Florida)	Research I	Private	654	*
U. of Michigan at Ann Arbor	Research I	Public	2,957	
U. of Missouri at Columbia	Research I	Public	2,231	
U. of Nevada at Reno	Dr.-Grant. II	Public	806	
U. of New Hampshire	Dr.-Grant. II	Public	670	
U. of North Dakota	Dr.-Grant. II	Public	295	^
U. of Rhode Island	Research II	Public	674	
U. of Wisconsin at Madison	Research I	Public	364	^
Virginia Commonwealth U.	Research II	Public	1,817	*
Washington State U.	Research II	Public	652	
West Virginia U.	Research II	Public	779	^
Western Michigan U.	Dr.-Grant. I	Public	351	^
Total 47			46,193	

*All surveyed except select school/colleges ^Selected sample survey

"A total of 46,193 surveys were distributed, with the average number distributed on each campus being slightly less than 1,000. Overall, 50% of the surveys were returned, amounting to 23,302."

universities were recruited through professional association contacts such as the Professional and Organizational Development Network in Higher Education (POD) and the American Association of Higher Education (AAHE).

A total of 46,193 surveys were distributed, with the average number distributed on each campus being slightly less than 1,000. Overall, 50% of the surveys were returned, amounting to 23,302.

The demographic data collected on the surveys are shown in Table 2. Faculty respondents to the Lilly survey included 27% assistant professors, 30% associate professors, and 40% full professors. Three years or less is the modal response regarding the number of years that Lilly survey faculty, unit heads and deans have been at their institution. Surprisingly, 40% of the faculty reported spending no time teaching undergraduates. A much smaller percentage (25%) spend 75% to 100% of their time teaching undergraduates. It is important to keep these demographics in mind when reviewing the survey results.

Institutions across all four Carnegie classifications had very good return rates (see Table 3). Research II institutions had the highest overall return rate with Research I institutions a close second, both exceeding 50%. The group with the highest return rate was deans at Doctorate-Granting II institutions (80%).

Table 2

Demographic Data

Return Rates

	Number Sent	Number Returned	Return Rate
Faculty	42,319	20,772	49%
Unit Heads	2,731	1,785	65%
Deans	744	522	70%
Administrators	399	223	56%
Total	46,193	23,302	50%

Faculty Rank

	Lecturer		Assistant Professor		Associate Professor		Professor		Professor Emeritus	
	#	%	#	%	#	%	#	%	#	%
Faculty	379	3%	4,039	27%	4,484	30%	6,045	40%	33	<1%

Number of Years at Institution

	3 years or less		from 4 to 6 years		from 7 to 10 years		from 11 to 19 years		20 years or more	
	#	%	#	%	#	%	#	%	#	%
Faculty	9,404	47%	2,048	10%	1,745	9%	2,995	15%	3,685	19%
Unit Heads	526	31%	151	9%	149	9%	443	26%	448	26%
Deans	160	32%	46	9%	53	10%	118	23%	129	25%
Administrators	57	26%	30	14%	28	13%	41	19%	63	29%
Total	10,147	45%	2,275	10%	1,975	9%	3,597	16%	4,325	19%

% of Teaching Devoted to Undergraduates

	0%		from 1% to 25%		from 26% to 50%		from 51% to 75%		from 76% to 100%	
	#	%	#	%	#	%	#	%	#	%
Faculty	7,912	40%	1,515	8%	2,874	14%	2,551	13%	5,012	25%

Gender

	Male		Female	
	#	%	#	%
Faculty	12,194	75%	4,583	25%
Unit Heads	1,250	87%	227	13%
Deans	334	80%	96	20%
Administrators	149	76%	51	24%
Total	13,927	74%	4,957	26%

Carnegie Classification

	#	%
Research I	10,954	47%
Research II	5,222	22%
Dr.-Grant I	4,218	18%
Dr.-Grant II	2,908	12%

Status

	#	%
Private	3,738	18%
Public	17,017	81%

Table 3

Return Rates By Carnegie Classification

	Research I			Research II			Doctorate-Grant I			Doctorate-Grant II			Total		
	Sent	Returned	%	Sent	Returned	%	Sent	Returned	%	Sent	Returned	%	Sent	Returned	%
Faculty	19,846	9,860	50%	8,848	4,718	53%	8,293	3,704	45%	5,332	2,490	47%	42,319	20,772	49%
Unit Heads	1,224	810	66%	581	347	60%	482	343	71%	444	285	64%	2,731	1,785	65%
Deans	349	244	64%	163	117	72%	126	96	76%	106	85	80%	744	522	70%
Administrators	111	60	54%	63	40	63%	133	75	56%	92	48	52%	399	223	56%
Total	21,530	10,954	51%	9,655	5,222	54%	9,034	14,218	47%	5,974	2,908	49%	46,193	23,302	50%

National Results

There is a clear message in the national results of this study: the people in the university community tend to favor a balance between research and undergraduate teaching. This is generally true for the study's total sample and for various sub-populations. In contrast, respondents report that the "university" places greater emphasis on research than on teaching. This conflict between the relative importance of research and undergraduate teaching causes tensions, which are articulately expressed in the open-ended comments of respondents.

The national results were analyzed for the total sample, for demographic subgroups, for the participating campuses, and for major academic areas. The following discussion is organized around these four analyses.

Table 4
Means and Standard Deviation by Question

	People/Units		The University	
	You Personally	Should Go	Is Going	Should Go
Faculty (n=19,500)				
Mean:	-0.1	0.2	1.5	0.0
STD:	2.1	2.0	1.4	1.5
Unit Heads (n=1,700)				
Mean:	0.0	0.2	1.0	0.2
STD:	1.7	1.7	1.8	1.5
Deans (n=500)				
Mean:	-0.3	-0.2	1.0	0.0
STD:	1.7	1.7	1.8	1.4
Administrators (n=215)				
Mean:	-1.1	*	0.5	-0.8
STD:	1.6	*	1.9	1.4

Scale: -4 Teaching; 0 Equal; 4 Research
*This question was not asked of administrators

"There is a clear message in the national results of this study: the people in the university community tend to favor a balance between research and undergraduate teaching."

Total Sample

While there is much unanimity in the national study results, a close look at the sub-populations of the total sample reveals some interesting consistencies and inconsistencies. In the following discussion the consistencies are considered first, followed by a review of the inconsistencies.

Consistencies

There is striking consistency in the responses of the faculty, unit heads, and deans to each of the four items about the relative importance of research and undergraduate teaching (the importance currently to them **personally**, the direction they think they or their unit **should go**, the direction they see the university currently **is going**, and the direction they think the university **should go**).

Table 4 shows mean ratings very close to 0 (equal importance) for the nearly 20,000 faculty, 1,700 unit heads, and 500 deans who responded to three of the items (the importance currently to them **personally**, the direction they think they or their unit **should go**, and the direction they think their university **should go**). Similarly, this table shows that there is consistency among all three groups in their perceptions that the balance at the university **is going** toward the research side of the continuum, since all three groups have mean ratings on this item of 1 or greater toward research. In Table 4 and other tables where mean ratings are reported, the teaching end of the continuum is indicated by negative numbers since they are on the left hand side of the 0 point (equal importance) and the research end of the continuum is indicated by positive numbers since they are on the right hand side of the 0 point.

The distributions of responses in Figures 2, 3, 4, and 5 show that there is a remarkable degree of consistency among faculty, unit heads, and deans. Figures 2, 3, and 5 all show modal responses of the faculty, unit heads, and deans at the 0 point. These figures also show a great deal of consistency in the pattern of responses of these three groups (on either side of the midpoint) in terms of current and future preferences regarding the relative importance of research and undergraduate teaching. Figure 4 shows consistency in the pattern of responses of these three groups all along the teaching-research continuum in terms of the direction the university **is going**. However, as discussed next, this pattern contrasts with the patterns of responses related to the direction the university **should go**.

"In contrast, respondents report that the "university" places greater emphasis on research than on teaching."

"There are also some very noticeable inconsistencies in the survey results..."

Table 4 and Figures 2 through 5 also illustrate the key inconsistencies in the overall results.

Inconsistencies

There are alsosome very noticeable inconsistencies in the survey results. These include contrasts in perceptions within groups, contrasts between academic administrators' perceptions and the perceptions of the other groups, contrasts between the group members' perceptions of themselves and the way others perceive them, and contrasts between the perceptions of all groups in relation to the direction the university is going and the direction that it should go regarding the relative importance of research and undergraduate teaching.

Figure 2
How important are research and undergraduate teaching to you personally?

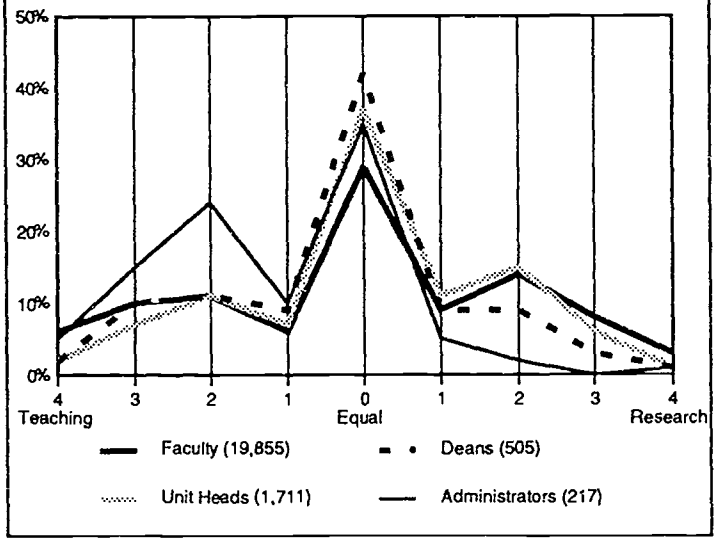
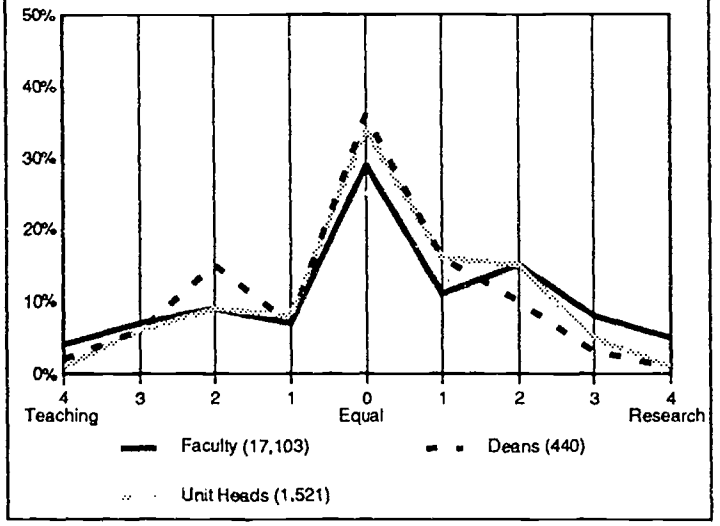


Figure 3
What direction do you think you should go (faculty); your department should go (unit heads); your school should go (deans)?



"...administrators' mean ratings are noticeably on the teaching side of the continuum..."

Perceptions Within Groups

Generally speaking there is more variability within the faculty, unit heads, and deans groups than there is among these groups regarding the relative importance of research and undergraduate teaching. This variability is suggested by the fact that even though the mean responses of the three groups are very similar and are at or near 0, standard deviations range from 1.4 to 2.1. And, while the modal responses at 0 (equal importance) account for a considerable number of responses (over 40% in some cases), the frequency distribution graphs show that a nearly equal number of faculty, unit heads, and deans chose response points of 1 or greater on either the teaching or the research side of the continuum. Figures 2, 3, and 5 thus provide a picture of the variability of responses within groups.

Academic Administrators and Others

Interestingly, the academic administrators' responses are somewhat inconsistent with the responses of the faculty, unit heads, and deans. In comparison to these groups, administrators' mean ratings are noticeably on the teaching side of the continuum for the items on the relative importance of research and undergraduate teaching

currently to them **personally** and the direction they think the university **should go**. In addition, their ratings for the item about the direction the university is **going** suggest they see less of a move toward research than do those in the other groups. Despite this they see as much conflict between where their university is **going** and where they think it **should go**.

The difference in the perceptions of the academic administrators is also evident in the pattern of responses. Regarding the importance of teaching and research to them **personally**, 54% chose points from 1 to 4 on the teaching side of the teaching—research continuum and 35% chose the 0 point (equal importance) (see Figure 2). In addition, in regard to the direction their **university should go**, 40% of them chose the midpoint and 45% chose points on the teaching side of the continuum (see Figure 5). It may well be that central administrators really value teaching. It also may be that these administrators have been influenced by the attitudes expressed in the national media and the various national reports, as well as by pressure from students and their parents, which call for a renewed emphasis on undergraduate teaching in America's research universities.

Figure 4

What direction do you think the university is going?

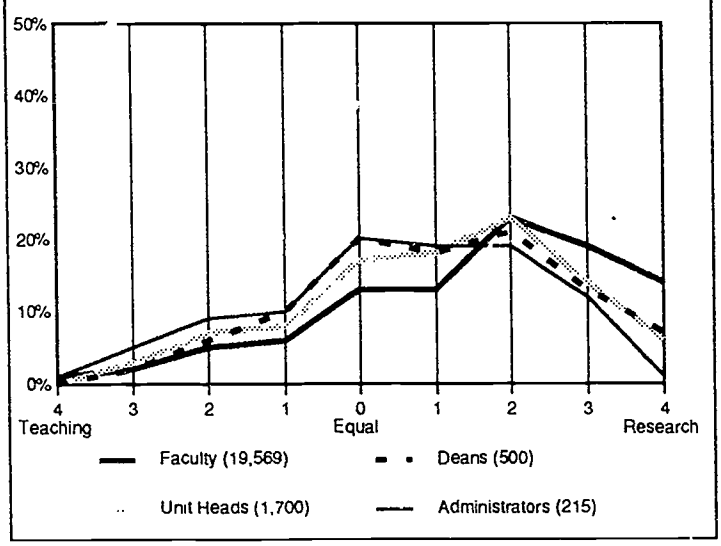
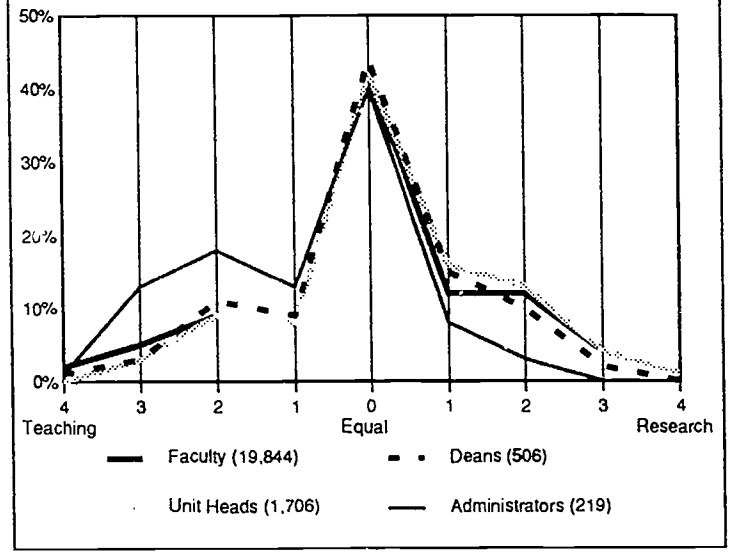


Figure 5

What direction do you think the university should go?



"...they [academic administrators] see less of a move toward research than do those in the other groups. Despite this they see as much conflict between where their university is going and where they think it should go."

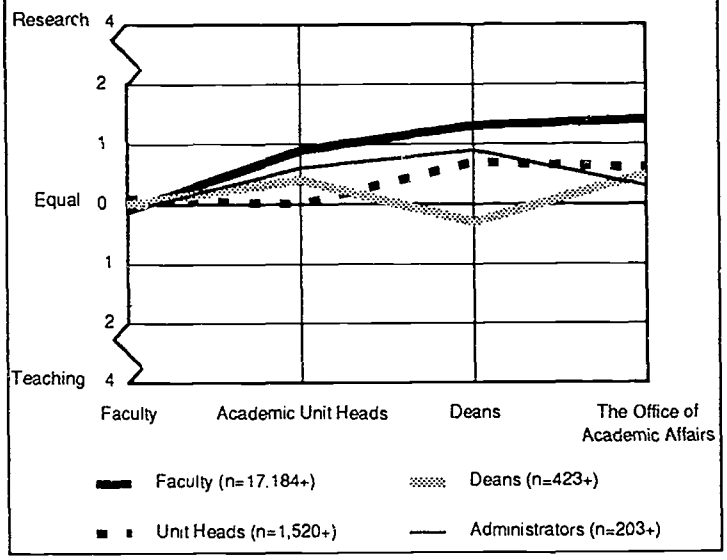
How People See Themselves and How Others See Them

There also are differences between the way people see themselves and the way others see them. Relatively speaking, there is consistency between faculty perceptions of themselves and how others see them in regard to the relative importance of research and undergraduate teaching. This is indicated by the fact that ratings of other faculty by faculty themselves and ratings of faculty by the other groups are at or near the 0 point (see Figure 6). However, there is a perception of greater and greater bias toward research as faculty view others more and more removed from teaching responsibility.

"There also are differences between the way people see themselves and the way others see them."

"In summary, the closer one is to the central administration, or the farther removed one is from direct instructional responsibilities, the more that individual or office is perceived as being biased toward research."

Figure 6
How important are research and undergraduate teaching to others at your university?



Faculty, as well as deans and administrators, see unit heads as placing more emphasis on research than unit heads themselves report. This is illustrated by nearly a 1 point gap shown in Figure 6 between unit heads' self-perceptions and the way they are perceived by faculty. In other words, faculty feel that unit heads view research as somewhat more important than teaching while unit heads indicate that research and teaching are of equal importance.

"From the point of view of faculty, unit heads, and deans there is considerable inconsistency between the direction the university is going and the direction they think it should go."

Discrepancies are even greater when deans' perceptions of themselves are compared with the perception of deans by faculty, unit heads, and administrators. The most extreme case is the 1.6 point gap between faculty perceptions of the deans and the deans' perceptions of themselves. That is, on average, faculty perceive deans as favoring research (1.3 on the research side of the continuum) while, on average, deans view themselves as favoring teaching (0.3 on the teaching side).

Faculty and central administrators have very different views of the Office of Academic Affairs on their campuses. That is, on average, faculty perceive the Office of Academic Affairs as favoring research (1.4 on the research side of the continuum) while, on average, central administrators (most of whom are within the Office of Academic Affairs) view this office as favoring more of a balance between teaching and research.

In summary, the closer one is to the central administration, or the farther removed one is from direct instructional responsibilities, the more that individual or office is perceived as being biased toward research. Such a situation can cause considerable frustration and tension. For example, faculty may feel that others do not value teaching to the extent that they do and that this bias is reflected in the reward system, which emphasizes research over teaching. Deans and central administrators may feel faculty do not appreciate the extent to which they value teaching. Unit heads are caught in the middle of such tensions. These themes are clearly articulated in the responses to the open-ended item on the survey.

The Direction the University Is Going and the Direction it Should Go

From the point of view of faculty, unit heads, and deans there is considerable inconsistency between the direction the university is going and the direction they think it **should go**. The responses in Figure 4 suggest that the respondents perceive the direction their university is **going** is not toward teaching, but either toward a balance or toward research.

While faculty data show the greatest contrast, as indicated in Table 4 by the 1.5 gap between the faculty mean ratings on these two items (is **going** and **should go**), all groups perceived the university as going much more toward research than they would like it to go. In fact, 69% of faculty, 61% of unit heads, 59% of deans, and 51% of central administrators chose response points on the research side of the continuum to indicate the direction their university is **going**. Twenty percent or fewer of the respondents

chose the response point 0 (equal importance) to indicate that they thought their university is **going** toward a balance between research and undergraduate teaching. This inconsistency is graphically illustrated in the visual differences between the frequency distribution of responses in Figure 4 (What direction do you think the university is **going**?) and the frequency distributions in Figures 2, 3, and 5, which concern current and future preferences of respondents. Such inconsistency can prove to be very stressful.

The differences in the way respondents perceive the university **is going** and the way it **should go** suggest that there is a serious conflict between the culture of the university and the values of individuals. The implications of the inconsistency between where the university **is going** and where respondents think it **should go** will be discussed more fully in relation to the different types of universities that participated in this study and in relation to the different major academic areas and disciplines represented by the respondents. These implications are clearly articulated in respondents' open-ended comments, which are summarized at the end of this report.

Demographic Sub-groups

Generally, the analysis of the survey results relative to other demographic data (i.e., gender, faculty rank, years teaching at institution, percent of teaching devoted to undergraduates, and public/private institution) shows few noticeable differences in item means or frequency distributions.

Those differences that do occur are predictable, such as lecturers and others who spend most of their time teaching being more favorable toward teaching. Interestingly enough, emeritus professors also favored teaching over research. Faculty who spend most of their teaching time devoted to undergraduates tend to rate teaching as more important to themselves **personally**, while the average response of those who report devoting no time to teaching undergraduates is slightly on the research side of the continuum.

For faculty and unit heads, the longer they have been at the university the more likely they are to choose points on the teaching side of the continuum. This is true for faculty and unit heads **personally** and in relation to the direction they feel the university **should go**. That is, average ratings by those at the university 20 years or more emphasize teaching, while average ratings of new faculty and unit heads emphasize research.

Deans generally followed this same pattern, although all dean groups, regardless of how long they have been at the university, typically feel that to them **personally** undergraduate teaching is more important than research or that teaching and research are of equal importance.

For administrators there was no clear relationship between how long they have been at the university and the relative importance of research and undergraduate teaching. However, as noted before, the means and frequency distributions for administrators are consistently on the teaching side of the continuum for them **personally** and regarding the direction the university **should go**.

Campuses

The total sample was also analyzed with respect to individual campuses. Further analysis compared and contrasted the campuses in the four Carnegie classifications.

Individual Campuses

Campuses varied considerably in the extent to which their respondent groups favored research, teaching, or a balance, and in the consistency or inconsistency among these groups. The mean responses to the item, "How important are research and undergraduate teaching to you **personally**?" by different groups on six campuses illustrate these variations (see Figure 7). For example, campus 14, campus 7, and campus 43 represent campuses that are quite different in their view of the relative importance of research and teaching. Clearly, on campus 41, and to some extent on other cam-

"As one moves from Research I to Doctorate-Granting II institutions, mean ratings typically shift toward the teaching end of the continuum regarding the relative importance of research and undergraduate teaching to faculty personally."

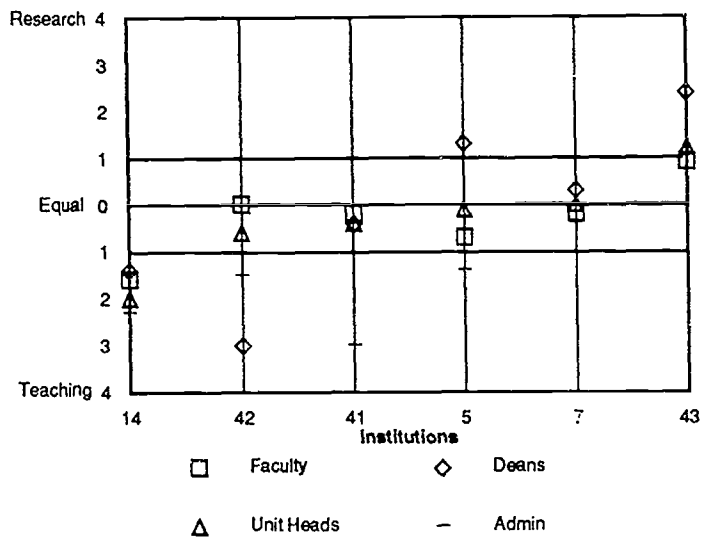
"...faculty at the Doctorate-Granting institutions (both I and II) generally feel that the relative importance of research and undergraduate teaching should favor teaching in the future."

puses, there is one group that is noticeably different in its views. In the cases of campuses 42 and 5 there are noticeable variations among several groups.

A follow-up case study project also funded by the Lilly Endowment will investigate the local campus cultures that form the context for these consistencies and inconsistencies.

Figure 7

How important are research and undergraduate teaching to you personally?



Carnegie Classifications

As one moves from Research I to Doctorate Granting II institutions, mean ratings typically shift toward the teaching end of the continuum regarding the relative importance of research and undergraduate teaching to faculty **personally** (see Table 5). However, in each category there is a range of institutional means, with the largest spread occuring among the Doctorate-Granting II institutions (1.7 points). It is interesting to note that the overall means of all the Doctorate-Granting I and II institutions are the same on this item even though the ranges are different.

Table 5

All University Faculty Means By Carnegie Classification

Carnegie Classification	You Personally	University Is Going	University Should Go	Stress Index*
Research I 15 Institutions (n=9,300+)				
Mean:	0.3	1.5	0.3	1.3
Range:	-0.9 to -0.3	2.1 to 0.7	0.9 to -0.4	2.3 to 0.4
Spread:	1.2	1.4	1.3	1.9
Research II 9 Institutions (n=4,400+)				
Mean:	0.0	1.6	0.2	1.4
Range:	.5 to -.3	2.5 to .8	.8 to -.2	2.1 to 0.3
Spread:	0.8	1.7	1.0	1.8
Dr.-Grant. I 11 Institutions (n=3,400+)				
Mean:	-0.6	1.5	-0.2	1.7
Range:	0.0 to -1.4	2.4 to 0.8	0.2 to -1.1	2.8 to 0.9
Spread:	1.4	1.6	1.3	1.9
Dr.-Grant. II 12 Institutions (n=1,200+)				
Mean:	-0.6	0.9	-0.4	1.3
Range:	0.1 to -1.6	2.3 to -0.4	0.1 to -1.1	2.2 to 0.7
Spread:	1.7	2.7	1.2	1.5

Scale: -4 Teaching; 0 Equal; 4 Research
*Stress Index =Is Going - Should Go

There is no noticeable difference in the mean or the range of faculty ratings regarding the direction the university is going among the first three Carnegie classification groups of institutions (Research I and II, and Doctorate-Granting I). However, noticeably different from the others, the average mean ratings of the Doctorate-Granting II institutions are much less toward the research end of the continuum for this item (the direction the university is **going**). But there also is a greater range of means among the institutions in this group.

In comparison to Research I and II institutions, faculty at the Doctorate-Granting institutions (both I and II) generally feel that the relative importance of research and undergraduate teaching should favor teaching in the future. This is suggested by the fact that both the range of mean ratings and the average of these means under the **should go** column in Table 5 shift toward the teaching end of the continuum for the Doctorate-Granting institutions.

In all cases, institutions are perceived as going more toward research than respondents think they should be going. For example, the data in Table 5 show that the relative importance of research and undergraduate teaching in terms of faculty perceptions of the direction the institution **is going** places greater emphasis on research than faculty indicate is their preference regarding the direction the institution **should go**. An index of the discrepancy between perceptions of the direction the institution **is going** and the direction it **should go** can be obtained by subtracting the two means. In essence, this index represents the tension that exists between perceptions of future realities (the direction the university **is going**) and future preferences (the direction the university **should go**).

This index has been designated as the Stress Index. Stress Indexes calculated for Table 4 would produce differences of 1.5 for faculty, 0.8 for unit heads, 1.0 for deans, and 1.3 for academic administrators. Overall, Doctorate-Granting I institutions have the highest Stress Indexes as shown by the means and ranges in the last column of Table 5.

Stress Indexes are calculated using mean ratings. These mean ratings typically have standard deviations between 1.5 and 2.0. Therefore, Stress Indexes below 1.5 may suggest little stress; those that fall between 1.5 and 2.0 may indicate a modest amount of stress; and those over 2.0 may well suggest considerable conflict between the culture of the university and a particular group of individuals. For example, the modest amount of stress suggested by the index of 1.7 for Doctorate-Granting I institutions may be stimulated by the position of these campuses at the border between research (Research II) and teaching (Doctorate-Granting II) focused institutions. The Stress Index data will be a factor in selecting institutions for follow-up case studies.

Major Academic Areas

The national data were analyzed according to 15 major academic areas and then, for the larger areas, by sub-disciplines. As might be expected, departments with similar names were organized within different administrative structures on various campuses. For example, speech pathology and audiology departments were found in schools of medicine, education, arts and sciences, or communication. For data analysis and reporting purposes, the structure with the greatest number of respondents was used as the default location for such departments.

Not surprisingly, there were noticeable differences in responses among people in the various academic areas and disciplines. The range of mean ratings is from 1.1 toward **research** to 1.5 toward **teaching** regarding the relative importance of teaching and research to faculty **personally** (see Table 6).

By using 1.0 toward research or toward teaching as a cut-off point, it is possible to identify disciplines whose members on average favor one or the other rather than an equal balance. Those favoring research include microbiology and immunology, physiology and anatomy, and economics. Those disciplines favoring teaching include accounting; journalism; elementary and secondary education; health, physical education, and sports science; special education; music; theater arts; and dentistry.

It should be noted that there is considerable variation in faculty mean ratings regarding the relative importance of research and undergraduate teaching to them **personally** in the disciplines under several major academic areas. In fact, faculty mean ratings for this item differ by more than 1.0 among disciplines under eight of the ten major academic areas with sub-disciplines.

Unit Heads' and Deans' means, by and large, were consistent with faculty. However, deans showed considerably more bias toward research than other respondents in two major academic areas. In communication, the faculty's mean was 0.7 toward **teaching**, the unit heads' mean was 0.6 toward **teaching**, and the deans' mean was 1.0 toward **research**. In computer science the faculty's mean was 0.8 toward **research**, the unit heads' mean was at 0.2 toward **teaching**, and the deans' mean was at 2.0 toward **research**.

"In every major academic area and for every group (except the deans of schools of communication) respondents felt that there should be a greater emphasis on teaching ..."

"Knowing the biases of people toward research and teaching ...can help identify where intrinsic rewards are operating and how extrinsic rewards may best be targeted to accomplish institutional goals."

Table 6

Major Academic Areas and Departments Faculty Means

	You Personally	Is Going	Should Go	Stress Index*
Agriculture & Env. Sci. (n=846)	**0.1**	**1.5**	**-0.2**	**1.7**
Agriculture (n=149)	0.1	1.7	-0.2	1.9
Basic Science (n=41)	0.6	0.3	0.3	0.0
Botany & Plant Pathology (n=63)	0.3	1.8	-0.1	1.9
Entomology (n=49)	0.7	1.4	0.1	1.3
Food Sci.& Human Nutm. (n=66)	-0.2	0.8	-0.2	1.0
Res.Dev.,En.Sc.&Reg.Pl. (n=154)	-0.4	1.4	-0.4	1.8
Soil Science (n=70)	0.5	1.8	-0.4	2.2
Veterinary & Animal Sci. (n=108)	-0.1	1.5	0.1	1.4
Architecture (n=104)	**-0.6**	**1.1**	**-0.3**	**1.4**
Business/Management (n=1,153)	**-0.2**	**1.4**	**0.0**	**1.4**
Accounting (n=185)	-1.0	1.8	-0.6	2.4
Bus.Comp.&Info.Systems (n=60)	-0.5	0.9	-0.7	1.6
Business Economics (n=118)	0.3	0.9	0.5	0.4
Finance (n=118)	0.1	1.3	0.3	1.0
Marketing & Transport. (n=118)	0.2	1.1	0.5	0.6
Mngmnt. & Organization (n=349)	-0.3	1.5	-0.1	1.6
Communication (n=297)	**-0.7**	**1.4**	**-0.5**	**1.9**
Journalism (n=65)	-1.5	1.2	-1.1	2.3
Mass.Comm.&Elec.Media (n=182)	-0.5	1.8	-0.3	2.1
Computer Science (n=92)	**0.8**	**0.7**	**0.5**	**0.2**
Education (n=886)	**-0.8**	**1.9**	**-0.6**	**2.5**
Counseling & Ed. Psych. (n=114)	-0.4	1.6	-0.4	2.0
Ed. Admin. & Supervision (n=167)	-0.3	1.6	-0.3	1.9
Elem. & Secondary Ed. (n=148)	-1.3	2.2	-0.7	2.9
Health,Ph.Ed.&Sport.Sci (n=190)	-1.4	1.8	-0.8	2.6
Special Education (n=47)	-1.3	2.0	-0.6	2.6
Engineering (n=1,364)	**0.1**	**1.5**	**0.2**	**1.3**
Chemical Engineering (n=113)	0.2	1.4	0.4	1.0
Civil Engineering (n=292)	0.1	1.3	0.2	1.1
Elec. & Comp.Engineering (n=348)	0.2	1.5	0.3	1.2
Industrial Engineering (n=76)	0.3	1.4	0.4	1.0
Mechanical Engineering (n=332)	0.2	1.6	0.2	1.4
Fine & Performing Arts (n=979)	**-0.8**	**1.2**	**-0.6**	**1.8**
Art (n=220)	-0.1	0.9	-0.1	1.0
Music (n=287)	-1.1	1.2	-0.7	1.9
Speech (n=41)	-0.7	1.8	-0.2	2.0
Theater Arts (n=140)	-1.2	1.4	-0.9	2.3
Home Econ/Hum. Dev. (n=176)	**-0.7**	**1.6**	**-0.2**	**1.8**
Child & Family Studies (n=69)	-0.6	2.0	0.0	2.0
Humanities (n=2,425)	**-0.2**	**1.6**	**-0.1**	**1.7**
Art History (n=51)	0.2	1.4	0.2	1.2
Classics & Archeology (n=51)	0.1	1.4	0.1	1.3
East Asian Lang. & Lit. (n=73)	-0.6	1.7	-0.3	2.0
Eng./Eng. Lit. & Writing (n=731)	-0.5	1.8	-0.3	2.1
German (n=49)	-0.1	0.8	0.2	0.6
History (n=415)	0.1	1.4	0.1	1.3
Italian & French (n=77)	-0.1	1.6	0.1	1.5
Modern Lang. & Lit.-all (n=550)	-0.3	1.5	-0.1	1.6
Modern Lang.&Lit. (n=284)	-0.5	1.5	-0.3	1.8
Philosophy (n=193)	0.4	1.4	0.3	1.1
Religion (n=123)	-0.3	1.1	-0.3	1.4
Spanish & Portuguese (n=51)	0.3	2.1	0.2	1.9
Info & Library Science (n=39)	**-0.9**	**1.7**	**-0.5**	**2.2**
Law (n=95)	**-0.2**	**1.5**	**-0.1**	**1.6**
Med./Health Relat. Stud. (n=2,022)	**0.0**	**1.4**	**0.0**	**1.4**
Dentistry (n=49)	-1.2	2.1	-0.5	2.6
Internal Medicine (n=80)	0.6	1.9	0.1	1.8
Medicine (n=121)	-0.2	1.2	0.1	1.1
Microbiology & Immun. (n=140)	1.0	1.0	0.6	0.4
Nursing (n=173)	-0.9	1.6	-0.3	1.9
Obstetrics & Gynecology (n=52)	0.1	0.9	-0.1	1.0
Pathology (n=67)	-0.2	1.6	0.0	1.6
Pediatrics (n=84)	0.2	0.7	0.3	0.4
Physical Therapy (n=63)	-0.3	1.7	0.2	1.5

Table 6 (continued)

	You Personally	Is Going	Should Go	Stress Index*
Physiology & Anatomy (n=127)	1.0	1.2	0.5	0.7
Psychiatry (n=103)	0.0	1.1	0.1	1.0
Public Health (n=101)	-0.1	1.5	-0.1	1.6
Speech Path. & Audiology (n=97)	-0.4	1.6	0.0	1.6
Surgery (n=93)	0.3	1.2	0.0	1.2
Science & Mathematics (n=2,294)	**0.3**	**1.0**	**0.4**	**0.6**
Biology (n=441)	0.3	1.0	0.4	0.6
Botany (n=65)	0.3	1.4	0.1	1.3
Chemistry (n=407)	0.6	0.9	0.6	0.3
Geology (n=40)	0.1	1.3	0.0	1.3
Mathematics & Statistics (n=596)	0.0	1.1	0.4	0.7
Physics (n=408)	0.6	0.9	0.6	0.3
Zoology (n=91)	0.5	0.9	0.6	0.3
Social Science (n=1,839)	**0.6**	**1.4**	**0.5**	**0.9**
Anthropology (n=165)	0.4	1.5	0.5	1.0
Criminology (n=46)	-0.1	1.5	0.3	1.2
Economics (n=226)	1.1	1.5	0.9	0.6
Geography (n=94)	0.4	1.8	0.2	1.6
Political Science (n=268)	0.3	1.5	0.4	1.1
Psychology (n=530)	0.9	1.1	0.8	0.3
Social Work (n=49)	-0.1	1.6	-0.3	1.9
Sociology (n=336)	0.5	1.3	0.5	0.8

Scale: -4 Teaching; 0 Equal; 4 Research
*Stress Index = Is Going - Should Go

In every major academic area and for every group (except the five deans of schools of communication) respondents felt that there should be a greater emphasis on teaching in relation to the direction that things are perceived to be going.

This conclusion was reached by reviewing the major academic area and discipline data regarding the Stress Index, that is, the difference between respondents' perceptions of the direction the institution **is going** and the direction it **should go**. The faculty Stress Index was 1.3 or greater for 12 of the 15 major academic areas. The various education-related disciplines had the greatest concentration of high Stress Indexes. Elementary and secondary education had the highest Stress Index, 2.9. The communication deans were the only ones with a negative index (-0.6), since collectively they perceived their schools are going less toward research (0.4) than they think they should go (1.0).

Knowing the biases of people toward research and teaching across and within academic areas and disciplines can help identify where intrinsic rewards are operating and how extrinsic rewards may best be targeted to accomplish

institutional goals. Such information can be used to design flexible promotion, tenure, merit pay, and other reward systems, which are responsive to the cultures that exist in diverse areas and disciplines. A number of professional organizations have requested detailed reports of the data for their disciplines, which they intend to use to stimulate the discussion of policies and procedures related to reward systems. Participating institutions have used these data to better understand the diversity that exists on their campuses and to consider ways to create flexible reward systems. Further funding from the Lilly Endowment has been provided to support the initial phase of these efforts.

Open-ended Comments

Over 8,000 respondents took the time to respond to the open-ended items asking them to discuss their ratings, resulting in over 1,000 pages of single-spaced comments. They provide a fascinating picture of respondents' views about research and undergraduate teaching and about the culture of their institutions.

A careful review was conducted of over 2,000 comments from 12 of the 47 campuses, chosen to represent both public and private institutions in each of the four Carnegie classifications surveyed in this study. The comments are often long and complex and they typically touch on many different topics, however, five main themes are evident.

Reward System

The predominant theme has to do with campus reward systems, the distribution of resources, and the campus culture, which are seen as placing great emphasis on research (particularly research that leads to publications and grant dollars). On some campuses over 50% of the comments are related to this theme in one way or another. A strong sub-theme is that an emphasis on research implicitly or explicitly denies proper rewards and recognition for teaching, as well as for service. As is exemplified by the following illustrative examples, the undercurrent of emotion in these comments is one of frustration, if not anger over wide-spread inconsistency between what is said about the balance between research and undergraduate teaching and the reality of the reward system.

> Nothing substitutes for a journal article in a peer reviewed journal. An outstanding publication award will get you promoted; an outstanding teaching award won't! Sorry, but that's the way it is.

> As a new junior professor I have come into the profession with a strong interest in research, but an equally strong interest in serving students by helping them to learn both in and outside of the classroom. The attitude I'm receiving from all levels ... is that research is what counts. If the other areas of service and teaching are lacking, but research is strong then promotions will follow. Unfortunately I think this is the wrong message to be sending faculty.

> Research performance is rewarded, teaching performance is not. Monetary support is available to initiate research; no monetary support is available to improve teaching.

> The University pays lip service to teaching but has structured the incentives that really matter so as to favor not just research but sponsored research. It is not scholarship but dollars; teaching is seen as consuming resources while research produces resources. Knowledge or scholarship is not the issue.

> There is big talk around here about the importance of teaching, but no reward for it!

> Teaching counts for less than nothing.

> No one on my campus believes our administrators when they tell us that our teaching is as important as our research. Their actions speak louder than their words.

> Mostly lip service to teaching - research is all important to the campus. But the undergraduates, who have little voice in the matter, are the ones who suffer from the unspoken but definite emphasis on research.

> The difference [in the survey item ratings] is based on what the university says vs. what is done. Teaching is supposed to be almost as important or as important as research. In reality, teaching is worth 5% and research 95%. Research is most important for untenured faculty. Without x number of journal publications you will not get tenure even if you walk on water in the classroom. On the other hand, you can be an absolute disaster in the classroom if your research publications are numerous.

> I think our attitude toward teaching is a scandal. It is not rewarded, and good teaching is often punished in that people assume your scholarship must be suffering if you're working so hard on your courses. Prestige is the only thing that matters to administrators ... and to most faculty as well, and you don't get it by teaching.

"I find the two are symbiotic, each nourishing the other."

The Relationship Between Research and Teaching

The second most prevalent theme concerns the relationship between research and teaching. A sub-theme of many comments is the conflict that exists when one tries to do both well.

> I find the two are symbiotic, each nourishing the other.
>
> Research and teaching are integral parts of a university. Increasing or decreasing one component at the expense of another would be detrimental to the university as a whole.
>
> I feel that we are here as both teachers and researchers and that efforts in each of these areas are and should be interrelated. I want to try to bring my research into my teaching to make my teaching more stimulating and exciting. I already do this on the graduate level and would like to do more of it on the undergraduate level.
>
> I believe they are complementary, or should be. The best researchers are often those who can integrate material and demonstrate a passion for their research area in the classroom.

"Good teaching takes time! Good research takes time!"

> Lower division teaching requires people who specialize in teaching: the great researcher who is also a great teacher is a myth, at the lower division level. Of course researchers should teach, but chiefly at the graduate or upper division level.
>
> I enjoy both my teaching and my research. Of the two, however, I think that the teaching is more valuable in terms of social/intellectual contribution. My research and publication always relates basically to my teaching, but much of it is too specialized to be of genuine interest to undergraduates. I am alarmed at how decidedly the emphasis in our department in the past fifteen years has shifted away from the importance of teaching to the importance (rewards and recognition) of publishing. We used to talk in the halls about our classes and teaching ideas. Now all I seem to hear is, "How's your work coming?" "Work" always refers to writing for publication. We talk about grants, not students. We talk about "release" time as if the really important activity is publishing; we need to be released from teaching or that which sidetracks our time from academic conferences and publication. The pendulum has swung too far away from the real life and work of a liberal arts program - teaching and being taught, the classroom, not just the carrel. We need to find our "center of balance" again.
>
> Good teaching takes time! Good research takes time! I work so hard now, I need institutional support if I am going to significantly improve either.

"Too much emphasis on numbers of publications rather than quality."

> Very conflicting. I am expected to teach well in the two heaviest and most important courses at the undergraduate level and they have the least relation to my research. I may end up compromising research or teaching, a decision I do not want to make.

Improve the Evaluation of Research and Teaching

Another recurrent theme among the comments is that both research and teaching need to be evaluated in a more realistic and fair manner. These comments express concern that the quantity of research seems to count more than its quality; that the pressure to publish results in much low-quality research; that the definition of research is too narrow; and that teaching is ineffectively evaluated. For example,

> Too much emphasis on numbers of publications rather than quality. This forces people to be prolific writers at the expense of quality writing and teaching.
>
> Regrettably, it is very difficult to judge teaching. Thus, it is usually possible to identify an exceptionally fine teacher and an exceptionally poor one but the 80% - 89% in the middle are hard to distinguish from one another.

Research is Primary Focus

Since 40% of the respondents indicated that they spend no time teaching undergraduates it is understandable that comments were also made about the primacy of research.

> I am principally employed in a research unit ... hence my activities are dominated by research, including direction of graduate students.
>
> My commitment to research is based less on my perception of what is necessary to get promoted at the university than on the intrinsic enjoyment that I get in doing research. Also, the effective conduct of experimental research is much more challenging than effective instruction of undergraduates.

The Survey

The last theme concerned the survey itself. A number of respondents felt that the survey presented a false dichotomy between research and undergraduate teaching or felt it suggested that research and undergraduate teaching were mutually exclusive or part of a zero-sum game. Others were concerned about the use of the word "important" in the stem of the survey items and about being asked not only how

important research and undergraduate teaching is to them personally, but to others at their university, too.

Conclusions

Perhaps one of the best kept secrets in higher education is that many faculty, unit heads, deans, and academic administrators at research universities believe that an appropriate balance between research and undergraduate teaching does not now exist at their institutions, but that such a balance should exist. Contrary to popular opinion, faculty and professional staff do care about undergraduate education. This is not to suggest that research universities should abandon their research mission, but rather that the relative importance of research and undergraduate teaching should be closer to equal.

Faculty are especially concerned about the messages that unit heads, deans, and academic administrators give through campus reward systems. This message clearly over-emphasizes research, in many cases to the detriment of teaching. Most disturbing is the fact that while "lip service" is often given to teaching, the policies and procedures of the university related to hiring practices, the allocation of rewards and resources, the granting of promotion and tenure, and the distribution of merit pay, almost always favors research.

The results obtained via the survey's scaled and open-ended items suggest that faculty, unit heads, deans, and academic administrators at research universities strive for a balance between research and undergraduate teaching for both intrinsic and extrinsic reasons. The balance may occur over time in a faculty member's career, among a number of faculty in a department or college, or across the university given the different missions of various units. This suggests that the intrinsic and extrinsic reward systems of the university should be flexible. That is, they should recognize a wide variety and constantly changing set of interests and needs in order to promote an overall balance in the relative importance of research and undergraduate teaching.

"Perhaps one of the best kept secrets in higher education is that many faculty, unit heads, deans, and academic administrators at research universities believe that an appropriate balance between research and undergraduate teaching does not now exist at their institutions, but that such a balance should exist."

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To assist you in the interpretation of the graphs, we are also providing you with the following data on which they were based.

The Authors

Figure 2: How important are research and undergraduate teaching to you personally? (in %)

		Teaching					Research			
	n	4	3	2	1	0	1	2	3	4
Faculty	19,855	6	10	11	6	29	9	14	8	3
Unit Heads	1,711	2	7	11	7	37	11	15	6	1
Deans	505	2	10	11	9	42	9	9	3	1
Administrators	217	5	15	24	10	35	5	2	0	1

Figure 4: What direction do you think the University is going? (in%)

		Teaching					Research			
	n	4	3	2	1	0	1	2	3	4
Faculty	19,569	1	2	5	6	13	13	23	19	14
Unit Heads	1,700	0	3	7	8	17	18	23	14	6
Deans	500	0	2	6	10	20	18	21	13	7
Administrators	215	1	5	9	10	20	19	19	12	1

Figure 5: What direction do you think the University should go? (in %)

		Teaching					Research			
	n	4	3	2	1	0	1	2	3	4
Faculty	19,844	2	5	9	8	42	12	12	4	1
Unit Heads	1,706	0	3	9	8	42	16	13	4	1
Deans	506	1	3	11	9	44	15	10	2	0
Administrators	219	1	13	18	13	40	8	3	0	0

Figure 6: How important are research and undergraduate teaching to others at your University? (Means)

	n	Faculty	Unit Heads	Deans	Admin.
Faculty	17,184+		Research (0.9)	Research (1.3)	Research (1.4)
Unit Heads	1,520+	Research (0.1)		Research (0.7)	Research (0.6)
Deans	423+	Equal	Research (0.4)		Research (0.5)
Administrators	203+	Teaching (0.1)	Research (0.6)	Research (0.9)	

0 = balanced

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