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Teaching and Assessment Methods in Undergraduate Economics:
A Fourth National Quinquennial Survey

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Abstract

In 1995, 2000, 2005, and 2010 national surveys of U.S. academic economists were conducted to investigate how economics is taught and assessed in four different types of undergraduate courses. In this paper we present the first basic results from the 2010 survey to identify persistent patterns and a few gradual changes in teaching and assessment methods. Despite calls for economists and other post-secondary instructors to make greater use of active, student-centered learning methods over the past two decades, “chalk and talk” has remained the dominant teaching method in all types of undergraduate economics courses. But there is evidence of slow drops in mean (though not median) values for those variables, and of gradual growth in the use of some new teaching methods, including instructor-directed class discussions and computer-generated displays (such as PowerPoint). More instructors provided students with a prepared set of class notes, computer lab assignments were increasingly common in econometrics and statistics courses, and Internet database searches were used by a growing (though still small) minority of instructors in all types of classes. Classroom experiments are used by a small share of instructors in introductory courses, but almost never in other kinds of courses. Calculus is still not viewed as important by a majority of economics instructors in any of the four types of courses, but for the 2010 survey these ratings were higher in intermediate theory and statistics and econometrics courses than in the earlier surveys.

Key words: teaching methods, undergraduate economics.

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Teaching and Assessment Methods in Undergraduate Economics: A Fourth National Quinquennial Survey

I. A Brief Review of the Four Surveys: Content, Samples, and Response Rates

This is the first report of results from a 2010 survey of U.S. academic economists, on how they teach and assess student learning and performance in four groups of undergraduate courses: principles and pre-principles; intermediate theory; statistics, econometrics, or mathematical economics; and other upper-division field courses. The same basic survey has been administered four times, at five-year intervals, so comparisons are provided to results from 1995, 2000, and 2005, as reported in Becker and Watts (1996, 2001a, and 2001b) and Watts and Becker (2008).

Part of what initially prompted these surveys were frequent calls by prominent economists and other academics for college instructors to devote more time to teaching, and to make greater use of active, student-centered learning methods, with less use of direct instruction that is not student centered (“chalk and talk”). A number of books, journal articles, training programs, and web sites on alternative teaching methods were published/posted over this period, as detailed in the papers on earlier administrations of this survey but not repeated here.

In the five-page survey respondents are asked to provide information for up to four different kinds of undergraduate courses, but only for courses that they have recently taught. Part I of the survey features questions on: (1) classroom presentation styles (e.g., lecture, classroom discussion, and media use); (2) other classroom activities (e.g., computer labs, classroom experiments and simulations, cooperative learning and small-group work, etc.); (3) assignments involving print or computer-accessed materials (e.g., textbooks, workbooks, articles from the financial press, and instructor-developed class notes and problem sets); (4) assignments to conduct database searches; and (5) assignments to conduct literature searches of published books and articles.

Part II of the survey first asks about testing and grading methods and what percentage of course grades are assigned using multiple-choice questions, short-answer questions, essay questions, writing assignments (broken down into categories for term papers, shorter papers, homework/problem sets, and other written assignments), class participation, oral presentations, performance in classroom simulations or experiments, and other assignments. Then respondents are asked how important different levels of mathematics are in each type of course, and what percentages of grades in each type of course are based on group work rather than individual assignments and exam scores.

Finally, Part III of the survey has questions asking for background information on individual respondents, their schools, and their departments. This includes items on the individual's gender; education; academic rank; years of teaching experience; allocation of effort between teaching, research, and other activities (reported as a percentage of total work time); recent publication experience; and fields of specialization. Information is also requested on undergraduate enrollments at the respondent's school, the number of economics majors at the school, the department's typical class sizes and teaching loads, and perceived weightings on different criteria for promotion and tenure and for annual raises.

It has been increasingly difficult and expensive to find good source mailing lists to use in drawing the sample for these surveys, and to maintain response rates with a reasonable number of representatives from different kinds of schools. In 1995 Becker and Watts mailed the first survey to individuals selected either as academic members of the American Economic Association (AEA) or as college/university teachers of economics listed in the College Marketing Guide (CMG). Membership in the AEA is open to anyone who pays annual dues, but the members are typically academic, business, or government economists. Unfortunately, by 1999 the AEA no longer provided mailing lists of only academic members, so the AEA list was not used to draw names for the 2000 or 2005 surveys. In 2005 the CMG mail lists were no longer available, so Watts and Becker used a list of economics instructors compiled by Market Data Retrieval (MDR). By 2009 MDR lists were no longer available, so instead we purchased a much larger mailing list from AEA and committed a substantial amount of resources to deleting names of those for whom we could not identify an academic mailing address or affiliation from the mailing list or by individual searches on the internet.

Specifically, for the 2010 survey we started with 6,902 names from the AEA list, but eventually mailed surveys out to 4,046 individuals. In doing this we no doubt deleted some names of people who are, in fact, college instructors, but for whom we could not confirm that. We also believe that academic economists who join AEA are more likely to be interested in research than those who are not AEA members, and more likely to be teaching at schools that put more emphasis on research for promotion, tenure, and annual raises. In fact, as it turned out, 61% of those who returned 2010 surveys taught at doctoral schools, compared to 35-51% of respondents for the earlier surveys (counting both research and doctoral schools for the 1995 and 2000 groups, before the Carnegie classifications for these schools were combined).

Clearly one difficulty to face in periodically replicating this kind of survey is drawing the sample from sources that are not always consistent in their own methods, or available over a decade or more. Part of the reason for going back to the AEA list now, despite the issues noted above, is that we are sure it will continue to be available, in some version, over

time. Another reason is that the earlier surveys found no real differences in how undergraduate economics courses were taught at the different types of schools. In fact, by the 2005 survey Watts and Becker no longer published survey results on teaching methods for the different Carnegie classifications. For other issues that have been addressed using these survey data (for example, the forthcoming paper by Harter, Becker, and Watts investigating faculty time allocations and departmental incentives in the areas of teaching and research), controlling for types of schools and other personal or departmental characteristics is important.

The 1995 survey was mailed to 3,047 academic economists, the 2000 survey to 3,103, and the 2005 survey to 3,658. Those counts reflect deleting duplications that resulted from drawing names from more than one mailing list, including lists of instructors who taught different courses or field specializations when the private company lists were used. In all four surveys fixed-interval sampling was used to identify questionnaire recipients from the source lists. In all years some surveys were mailed to individuals who had retired, moved, did not teach because they held administrative or service positions or were students, or who taught only at the graduate level. Some of those surveys were returned indicating these kinds of issues, and those returns were treated as “bad addresses” and subtracted from the count of surveys mailed.

In the 1995 survey the response rate was 628 out of 3,047, or 20.6 percent; in 2000 there were 591 responses from the mailing of 3,103, for a 19.0 percent response rate; and in 2005 there were 477 responses from a mailing of 3,658, for a response rate of 13.0 percent. The response rate for the 2010 survey, broken down by Carnegie classifications, is shown in Table 1.

[Insert Table 1 about here]

The overall response rate of 10.5% for 2010 continues the decline in response rates over the four administrations of the survey, which may reflect several factors. Faculty members today may feel that they have less time to do surveys, and they may be asked to do far more surveys today than they were in 1995 or 2000. The differences in mailing lists across the samples may also play some role. Becker and Watts have said since 1995 that they believe faculty who are more interested in teaching are more likely to complete and return the surveys, and if AEA membership is associated with a greater interest in research that might lower responses. However, teaching and research can be viewed as complements rather than substitutes, and the response rate from the AEA list in 1995 was slightly higher than the response rate from the CMG mailing list. It is also possible that some potential respondents have become less interested in completing a survey on this particular topic from these particular authors, knowing that the earlier surveys had been done with published

results featuring strikingly similar results. To try to improve the response rate, for the first time with the 2010 survey we gave respondents the option of completing and returning the survey on-line, or as a hard copy using a pre-stamped envelope that was provided with the survey. Responses were guaranteed confidentiality in either format. What happened, somewhat to our surprise, was that over 70% of the responses were still sent in by regular mail.

In short, because all four of the surveys are based on opportunistic samples and self-reported data, we have no way to establish or quantify why the response rates have fallen over time, or to know whether respondents are representative of all U.S. teachers of undergraduate economics courses. But what is most striking about the new results reported below, compared to the three earlier surveys, is how consistent the results are over time, *despite* the different samples drawn from different source lists and over a period of 15 years. Specifically, the 2010 survey shows once again that the dominant teaching method in all types of undergraduate economics courses is standard lecture, or chalk and talk.

There have not been published or any major challenges to that finding over the past 15 years. Instead, it has been reinforced in several other studies. Allgood et al. (2004) found that former economics students – who were taking classes around 1976, 1986, or 1996 – consistently indicated that they remembered their undergraduate courses featuring more chalk and talk than courses in other subjects, with less discussion or interactive forms of learning. Stead (2005) and Benzing and Christ (1997) offer other survey data supporting the same conclusions. But things may be starting to change, slowly, because as with the 2005 survey results we can offer some evidence that a few more economists – though usually still a small minority – are using a somewhat wider variety of teaching methods and assignments.

II. FORMAT OF SURVEY RESULTS

For all four surveys we calculated two average measures (medians and means) and the sample standard deviation of responses for which a number line measurement is meaningful. Before discussing the survey results in more detail, several caveats and explanations are in order.

First, in Part I of the surveys respondents were asked to give a 0-4 integer response corresponding to a nonlinear range of percentage class time usage for each identified teaching method. We asked respondents to indicate whether a particular method was used never (0), rarely (1), occasionally (2), frequently (3), or almost always (4), and specified a nonlinear time range on the survey form for each of these responses (0 = 0 percent, 1 = 1-10 percent, 2 = 11-33 percent, 3 = 34-65 percent, and 4 = 66-100 percent of classes over the term of the course). To report these responses here, we have

transformed the 0 through 4 responses to the midpoints of these time ranges. In other words, a response of 0 = 0 percent of classes, 1 = 5.5 percent, 2 = 22 percent, 3 = 49.5 percent, and 4 = 83 percent. A few respondents indicated that they used a particular teaching method but did not give the percentage of time. In these cases we entered the modal response for all respondents, which was almost always also the median value.

Second, in the first section of Part II of the surveys respondents indicated the importance of different assessment methods by stating the percentage (0-100 percent) of the course grade determined using each kind of assessment procedure. Unfortunately, a few respondents continued to use the 0-4 responses from Part 1 and never wrote a value other than 0-4 in Part 2. All such responses were transformed into the same midpoint percentage responses used in Part 1.

Third, in the second section of Part II of the 1995 survey, respondents were asked to assign a 0-3 integer rating to the importance of various mathematical skills, and a few respondents seemed to continue to use the 0-4 responses from Part 1. Here there was no way to identify all of those who used the 0-4 range, versus the desired 0-3 range. For that reason, all responses of 4 were converted into a maximum response of 3 = extremely important. Given this experience, in the three later surveys we used a scale of 0 (not at all important) to 4 (extremely important) for these questions.

Finally, percentage responses were not required to sum to 100 percent. Such a constraint was inappropriate in Part 1 of the survey and could not be enforced in later parts. This raises the question of whether respondents were using the same metrics in their responses. The fact that there are relatively few and small differences in teaching methods across the different types of schools, however, suggests that, on average, respondents used the same metrics.

III. SURVEY RESULTS

The typical U.S. instructor of undergraduate economics courses is male, but more female instructors were represented with each successive survey until the 2010 survey. Specifically, males comprised 76 percent of respondents in 2005, 81 percent in 2000, and 83 percent in 1995. In the 2010 responses 79 percent were from males, which may reflect the use of the AEA mailing list if male academic economists are more likely to join AEA than females. There is evidence from the earlier administrations of this survey and from other disciplines that male professors are somewhat more likely to take positions that put relatively more weight on research than teaching. (See Harter, Becker, and Watts forthcoming.)

Most economics instructors (87 percent) are Caucasian, but that percentage may be falling (86 percent in 2005, 89 percent in 2000 and 1995). Most respondents held the PhD (92 percent vs. 81 percent in 2005, 84 percent in 2000, and 86 percent in 1995); but note that graduate student instructors were less likely to be included on any of the source mailing lists. The decline in this percentage over the three survey periods in which non-AEA mailing lists were used may also reflect a growing number of permanent non-tenure track instructor positions, sometimes called clinical or continuous-term lecture appointments. In 2005 and 2010, 15 percent of the instructors who responded to our survey did not speak English as their first language, which is notably higher than the 10 percent we found in 2000 and 1995, and may well reflect a larger share of recent economics PhDs going to non-U.S. students. In all four survey samples the typical instructor had not written or edited a book within the past five years (median response is zero), but had written at least one article over the same time period (median articles written in the 1995 survey was 2, with a mean of 3.6; in 2000 the median was 1 with a mean of 2.5; for 2005 the median was 1 with a mean of 2.2; and for 2010 the median was 2 with a mean of 3.5). The 1995 and 2010 responses for this item almost certainly reflect the use of the AEA mailing lists in those two surveys. In sum, our picture of the academic economists who teach undergraduate courses shows some slow changes in demographic variables and a relatively low level of publication activity across the total sample of instructors from all different types of schools.

In the 2010 survey the median class size remains at 40 for introductory courses. After remaining notably steady at median sizes of 20 in the earlier surveys, with considerable variation across the different types of institutions, the median values for intermediate theory classes in the 2010 survey increased to 30, and to 25 in statistics and econometrics courses, as well as other upper-division courses. Those increases may well reflect the larger share of responses from doctoral schools in the 2010 survey, however.

Turning to the survey results on teaching methods presented in Table 2, yet again in 2010 the median respondent is usually or always lecturing, with the amount of time spent lecturing in all of the courses estimated to be 83 percent. The median amount of time devoted to the use of the chalkboard for writing text and graphs during class is also 83 percent in all types of classes, except for upper-level field courses where, for the first time, there is a drop to 67%. That reflects 147 responses of 1 -3 on this item, and 147 responses of 4, which the Stata[®] program reports as a median of 3.5 or 67%. The 83 percent median values were universal for both of these items in all four courses in the 1995, 2000, and 2005 surveys. The changes in mean values on these two items are worth noting, showing gradual drops from 1995 or 2000 to

2010, ranging from 7 to 10 percentage points across all four groups of courses. And notably, a large part of the drop in mean values is seen between 2005 and 2010.

Economists still stand out in these responses, however, because across the same time period in which these four surveys were done Higher Education Research Institute (HERI) reports of national norms for faculty across disciplines found other teaching methods more widely used than lecturing that is not student centered. The more popular teaching methods across subject areas range from class discussion (Sax et al. 1996) to cooperative learning (DeAngelo et al. 2009). There is some change in the use of some of these methods in economics courses, too, however. Starting with the 2000 survey of economists, two items were included about the form of classroom discussion in undergraduate economics courses. Instructor-student discussion now occurs “frequently” (medians of 49.5 percent) even in the three types of upper-level courses, although most of the increase on this item was seen by the 2005 survey, with only small additional increases in most (but not all) of the mean values in the 2010 survey. Student-to-student discussion is considerably rarer in all types of undergraduate economics courses, and does not appear to be increasing in popularity. Nor are longstanding social issues addressed in many fields of economics regularly discussed in most undergraduate classes. For example, references to gender, race, and ethnic issues remain about as rare as references to sports, even though the HERI national norms show that over 75% of university faculty across fields accept student knowledge and appreciation of racial and ethnic diversity as a goal for undergraduate education (DeAngelo et al. 2009).

Despite recent attention given to cooperative and active-learning methods by economists (e.g., Yamarik 2007, Bartlett 2006, and Marburger 2005), and to alternative classroom assessment techniques (e.g., Durden 2008 and Walstad 2006), there is still relatively little use of these practices in undergraduate economics courses. The median use of team teaching is zero for all years and types of courses. Similarly, there is a zero median response for the use of student self-assessment techniques, such as the one-minute paper, for which Chizmar and Ostrosky (1998) provided empirical evidence of changes in student learning in undergraduate economics courses. Cooperative learning and small group assignments are still rarely used in all kinds of courses. Classroom experiments are now used by a small share of instructors in introductory courses; but overall games, simulations, and experiments are almost never used, despite the rising popularity of experimental research methods.

In all four economics surveys textbooks were used 83 percent of the time. Instructor-developed problem sets are increasing popular, with median responses from all respondents of 49.5 percent in principles and upper-division field

courses, and 83 percent in intermediate theory and statistics and econometrics courses. In most courses, however, it seems unlikely that the problem sets are based on current, real-world data, because popular business and economics press readings (e.g., articles in the *Wall Street Journal* and *The Economist*) are rarely assigned (median = 5.5 percent) in intermediate theory or statistics and econometrics courses, and only occasionally (median = 22 percent) in principles or other upper-level courses. Readings from scholarly publications such as the *American Economic Review* and *Journal of Economic Literature* are almost never used in introductory courses, rarely used in intermediate theory and quantitative courses, but still occasionally used in other upper-division field courses.

[Insert Table 2 about here.]

PowerPoint and other computer-generated displays are increasingly used by instructors, probably reflecting greater availability of projection systems in classrooms at many schools. But the median response for this approach is still only in the rarely used (5.5 percent) range for intermediate theory courses, and in the occasionally used (22 percent) range for the three other types of classes. As the use of computer displays has increased the use of overhead projectors has dropped to the zero median response in all types of classes. The use of Internet database searches rose in most types of classes in the early part of the last decade but seems to have leveled off since then, at the occasional or lower use levels.

Although there are few major differences in teaching methods across different types of courses, there continue to be marked differences in some grading procedures, as shown in Table 3. In particular, multiple-choice questions are more heavily used in principles and other introductory courses, with the mean response indicating that a 42 percent (median 40 percent) weight in grading is given to multiple-choice questions. That is actually a little lower than the 45-50 percent ranges reported in the earlier three surveys. In other types of classes, the mean response on weightings for multiple choice questions was less than 20 percent, with a median response of zero use in quantitative and upper-division field courses, and 6 percent in intermediate theory classes (a slight increase compared to the earlier surveys). Predictably, essay questions are used more in courses where multiple choice questions are used less.

Other than homework/problem sets, writing assignments remain relatively rare except in upper-division field courses, where roughly a fourth of students' grades are frequently tied to term papers and/or class presentations. But there was a notable increase in the reported use of term papers in statistics and econometrics courses for the 2010 survey, with median and mean weightings of 16 and 22 percent, respectively. Class participation is counted for a small share of student grades (usually in the 5 - 10% range) by a relatively small minority of instructors in most types of classes; but a

small share of instructors in the “other” upper-division field courses assign student presentations as a graded assignment. Median responses for all other grading options listed on the survey were zero. For more discussion on assessment issues and measures of the shares of instructors in the first three surveys using different assessment instruments see Schaur, Watts, and Becker (2008).

[Insert Table 3 about here.]

Finally, calculus was not viewed as important by a majority of respondents in any of the four types of courses, and the strong consensus was that it had no importance in introductory courses. On a 0-4 scale with 0 = not at all important and 4 = extremely important, the median response was 0 in introductory courses, 2 in intermediate theory and statistics and econometrics classes, and 1 in other upper-level field courses. The median values of 2 for intermediate theory and statistics and econometrics classes were, however, an increase from values of 1 in the 2005 survey. Algebra was rated extremely important for statistics/econometrics courses, somewhat important for intermediate theory and upper-division field courses (median response = 3), and less important in introductory courses (median response = 2). Those values were unchanged from the 2005 survey. Graphs were viewed as extremely important in introductory and intermediate theory courses, and somewhat important (median response = 3) in statistics and econometrics and other upper-division field courses. In the 2005 survey, the median value for other upper-level field courses was four, and there were no changes values for the other three types of courses. So in broad terms the 2010 responses on the importance of math and graphs are basically consistent with the three earlier surveys, and indicate that undergraduate economics is still typically not taught as a highly quantitative subject, compared to courses on engineering, mathematics, and the physical sciences. But there seems to be some increase in the perceived importance of calculus, especially in intermediate theory and statistics and econometrics courses, and some indication that the importance of graphs may be waning slightly in upper division field courses, though not in favor of more mathematical material.

IV. CONCLUSION

It has been difficult to obtain good and reasonably consistent mailing lists to use in replicating this survey over a period of 15 years, and to obtain high response rates for the survey. Despite that, we find the results interesting and important, and convincing in terms of the general picture they show about how economists teach undergraduate courses and assess student performance and learning in those courses. The stability (or arguably inertia) in those results, across

the four surveys conducted at five-year intervals, with mailing lists drawn from several different sources, fits with the results from the few other studies that have been done on these questions, and seems to fit reasonably well with economists' (and their students') views of what goes on in their classrooms. We say that despite the fact that there is considerable evidence suggesting that different kinds of teaching and assessment are used by instructors across most other subject areas.

Some – not many, really – new instructional methods are slowly being adopted by economists, however. In some cases that appears to happen because of newer technologies, such as PowerPoint, and wider availability of classroom projector systems. But it is also possible that some of the changes are being driven by younger faculty cohorts joining the profession; or perhaps by more emphasis on teaching by colleges, universities, and their broader constituencies; and at the margin perhaps even in response to calls for more use of student-centered pedagogies, and increasing numbers of conferences, training programs, and print and electronic materials on those methods.

In this paper we have deliberately presented the basic survey results for the 2010 survey in the same format that descriptive statistics were first presented for the three earlier surveys. Although it is possible to make a reasonable case that the gradual changes noted in teaching and assessment methods (particularly in the last two surveys) may reasonably be expected to continue, the larger and more powerful part of the picture to report is still that the preferences, incentives, and/or constraints that lead most economists to use chalk and talk teaching methods should not be underestimated. On the other hand, we believe there is finally enough change reported on some of the teaching and assessment methods that it makes sense to explore which groups of economics instructors are making greater use of the newer methods. That will require considerably more attention to the different mixes of instructor and school characteristics within and across the four different groups of survey respondents, however, and therefore lies beyond the purview of this paper.

Table 1: Response Rates for 2010 Survey, by Carnegie Classification

Carnegie Classification	Mailed *	Completed and Returned by Regular Mail	Completed and Returned On Line	Response Rate**
Associates	69	10	2	17.4%
Bachelors	410	44	22	16.1%
Masters	582	64	25	15.3%
Doctoral	2985	188	69	8.6%
Total	4046	306	118	10.5%

* Minus surveys returned for bad addresses, as explained in the text.

** Response rates are calculated as the percentage of mailed surveys returned, again after subtracting surveys returned for bad addresses from the number mailed.

TABLE 2: Survey Results on Teaching Methods, Examples, and Assignments

A. INTRODUCTORY COURSES (principles and pre-principles)				
Median (Mean) Responses (%)				
	1995	2000	2005	2010
Classroom Presentations				
Traditional lectures	83 (73)	83 (68)	83 (69)	83 (65)
Chalkboard or whiteboard text/graphs	NA ^a	83 (65)	83 (63)	83 (57)
PowerPoint/ computer- generated displays	0 (5)	0 (13)	6 (22)	22 (37)
Overhead projector displays/ document camera	NA ^b	6 (25)	6 (21)	0 (15)
DVD/VCR tapes, films, or movie clips	0 (6)	NA	6 (7)	6 (9)
Team teaching	0 (2)	0 (2)	0 (2)	0 (2)
Discussion/Student Response				
Student with student	NA	6 (19)	6 (20)	6 (18)
Instructor with student	NA	50 (43)	50 (44)	50 (43)
Clickers or other response devices	NA	NA	NA	0 (6)
Other Classroom Activities				
Classroom experiments	0 (6)	0 (8)	6 (10)	6 (11)
Games and simulations	NA	NA	NA	6 (8)
Cooperative learning/small group assignments	0 (14)	6 (17)	6 (16)	6 (16)
Computer lab assignments	0 (4)	0 (10)	0 (9)	0 (8)
Student self-assessment of learning	NA	0 (5)	0 (7)	0 (6)
References to gender/race/ethnic issues	NA	6 (13)	6 (13)	6 (12)
Reference to lit./drama/music	NA ^c	6 (8)	6 (8)	6 (10)
Reference to sports	NA ^d	6 (10)	6 (11)	6 (11)
Study lives of eminent economists	0 (3)	0 (5)	0 (4)	6 (9)
Other	0 (6)	0 (5)	0 (2)	0 (9)
Assignments of Print or Electronic Material				
Textbooks	83 (76)	83 (76)	83 (72)	83 (73)
Workbooks/study guides	22 (34)	22 (29)	6 (24)	6 (19)
Instructor-developed class notes	6 (31)	6 (30)	22 (36)	22 (36)
Instructor-developed problem sets	22 (38)	50 (43)	50 (44)	50 (48)
Press readings	22 (28)	22 (32)	22 (30)	22 (28)
Scholarly readings	0 (4)	0 (5)	0 (5)	0 (6)
Database Searches Via:				
Library holdings	0 (9)	0 (10)	0 (11)	0 (9)
Internet/WWW	6 (18)	6 (19)	0 (3)	6 (19)
CD sets	0 (3)	0 (4)	0 (3)	0 (1)
Literature Searches of Published and Working Paper Research Via:				
Library holdings	0 (8)	0 (7)	0 (7)	0 (6)
Internet	0 (2)	0 (10)	0 (11)	0 (9)
Econ Lit	0 (3)	0 (3)	0 (4)	0 (4)
Other	0 (0)	0 (1)	0 (1)	0 (0)

B. INTERMEDIATE THEORY COURSES

Classroom Presentations				
Traditional lectures	83 (72)	83 (70)	83 (71)	83 (65)
Chalkboard or whiteboard text/graphs	NA ^a	83 (70)	83 (68)	83 (60)
PowerPoint/computer- generated displays	0 (4)	0 (10)	6 (16)	6 (28)
Overhead projector displays/ document camera	NA ^b	6 (18)	6 (19)	0 (12)
DVD/VCR tapes, films, or movie clips	0 (2)	NA	0 (3)	0 (3)
Team teaching	0 (2)	0 (0)	0 (1)	0(1)
Discussion/Student Response				
Student with student	NA	6 (15)	6 (16)	6 (14)
Instructor with student	NA	22 (38)	50 (40)	50 (42)
Clickers or other response devices	NA	NA	NA	0 (6)
Other Classroom Activities				
Classroom experiments	0 (4)	0 (6)	0 (6)	0 (7)
Games and simulations	NA	NA	NA	0 (6)
Cooperative learning/small group assignments	0 (13)	6 (15)	3 (14)	6 (15)
Computer lab assignments	0 (6)	0 (10)	0 (7)	0 (6)
Student self-assessment of learning	NA	0 (4)	0 (5)	0 (3)
Reference to gender/race/ethnic issues	NA	6 (9)	6 (9)	0 (7)
Reference to lit./drama/music	NA ^c	0 (6)	0 (6)	6 (7)
Reference to sports	NA ^d	6 (8)	6 (7)	6 (9)
Study lives of eminent economists	0 (3)	0 (4)	0 (4)	6 (8)
Other	0 (4)	0 (5)	0 (1)	0 (3)
Assignments of Print or Electronic Material				
Textbooks	83 (76)	83 (77)	83 (73)	83 (73)
Workbooks/study guides	6 (24)	6 (21)	0 (16)	0 (16)
Instructor-developed class notes	6 (28)	6 (28)	6 (31)	22 (40)
Instructor-developed problem sets	50 (43)	50 (50)	50 (50)	83 (57)
Press readings	6 (25)	22 (29)	22 (28)	6 (25)
Scholarly readings	6 (12)	6 (14)	6 (13)	6 (10)
Database Searches Via:				
Library holdings	0 (10)	0 (12)	0 (13)	0 (9)
Internet/WWW	0 (3)	6 (17)	6 (18)	6 (16)
CD sets	0 (2)	0 (3)	0 (2)	0 (1)
Literature Searches of Published and Working Paper Research Via:				
Library holdings	0 (10)	0 (12)	0 (10)	0 (7)
Internet	0 (2)	0 (14)	0 (12)	0 (9)
Econ Lit	0 (3)	0 (9)	0 (8)	0 (6)
Other	0 (1)	0 (2)	0 (1)	0 (2)

C. STATISTICS AND ECONOMETRICS COURSES

Classroom Presentations				
Traditional lectures	83 (73)	83 (67)	83 (69)	83 (63)
Chalkboard or whiteboard text/graphs	NA ^a	83 (67)	83 (68)	83 (59)
PowerPoint/computer- generated displays	0 (12)	22 (26)	22 (30)	22 (38)
Overhead projector displays/ document camera	NA ^b	6 (19)	6 (19)	0 (12)
DVD/VCR tapes, films, or movie clips	0 (2)	NA	0 (3)	0 (2)
Team teaching	0 (2)	0 (2)	0 (1)	0 (2)
Discussion/Student Response				
Student with student	NA	6 (16)	6 (15)	6 (15)
Instructor with student	NA	22 (39)	50 (41)	50 (43)
Clickers or other response devices	NA	NA	NA	0 (3)
Other Classroom Activities				
Classroom experiments	0 (5)	0 (10)	0 (8)	0 (6)
Games and simulations	NA	NA	NA	0 (7)
Cooperative learning/small group assignments	6 (18)	6 (19)	6 (18)	6 (17)
Computer lab assignments	22 (32)	50 (49)	50 (46)	50 (40)
Student self-assessment of learning	NA	0 (3)	0 (3)	0 (4)
Reference to gender/race/ethnic issues	NA	0 (9)	6 (8)	6 (10)
Reference to lit./drama/music	NA ^c	0 (5)	0 (6)	0 (4)
Reference to sports	NA ^d	6 (9)	6 (11)	6 (11)
Study lives of eminent economists	0 (1)	0 (2)	0 (3)	0 (7)
Other	0 (4)	0 (2)	0 (2)	0 (4)
Assignments of Print or Electronic Material				
Textbooks	83 (75)	83 (76)	83 (73)	83 (71)
Workbooks/study guides	0 (18)	0 (16)	0 (15)	0 (12)
Instructor-developed class notes	22 (34)	22 (32)	22 (35)	22 (41)
Instructor-developed problem sets	83 (52)	83 (57)	50 (55)	83 (60)
Press readings	0 (10)	6 (12)	6 (14)	6 (13)
Scholarly readings	0 (12)	6 (13)	6 (13)	6 (21)
Database Searches Via:				
Library holdings	0 (13)	6 (18)	0 (17)	6 (18)
Internet/WWW	0 (3)	6 (22)	22 (24)	22 (30)
CD sets	0 (5)	0 (7)	0 (9)	0 (4)
Literature Searches of Published and Working Paper Research Via:				
Library holdings	0 (15)	0 (14)	6 (16)	0(16)
Internet	0 (3)	0 (16)	6 (20)	6 (19)
Econ Lit	0 (7)	0 (11)	0 (14)	0 (18)
Other	0 (0)	0 (1)	0 (2)	0 (0)

D. OTHER UPPER-DIVISION FIELD COURSES

Classroom Presentations				
Traditional lectures	83 (69)	83 (65)	83 (64)	83 (62)
Chalkboard or whiteboard				
text/graphs	NA ^a	83 (63)	83 (62)	67 (54)
PowerPoint/computer-generated displays	0 (5)	0 (11)	6 (20)	22 (34)
Overhead projector displays/document camera	NA ^b	6 (23)	6 (20)	0 (13)
DVD/VCR tapes, films, or movie clips	0 (5)	NA	0 (6)	6 (7)
Team teaching	0 (4)	0 (2)	0 (3)	0 (3)
Discussion/Student Response				
Student with student	NA	22 (24)	22 (26)	14 (23)
Instructor with student	NA	50 (47)	50 (48)	50 (49)
Clickers or other response devices	NA	NA	NA	0 (3)
Other Classroom Activities				
Classroom experiments	0 (4)	0 (6)	0 (6)	0 (7)
Games and simulations	NA	NA	NA	0 (7)
Cooperative learning/small group assignments	6 (16)	6 (21)	6 (21)	6 (21)
Computer lab assignments	0 (7)	0 (10)	0 (8)	0 (8)
Student self-assessment of learning	NA	0 (4)	0 (6)	0 (4)
Reference to gender/race/ethnic issues	NA	6 (17)	6 (17)	6 (15)
Reference to lit./drama/music	NA ^c	0 (9)	6 (7)	6 (9)
Reference to sports	NA ^d	6 (8)	6 (9)	6 (10)
Study lives of eminent economists	0 (5)	0 (7)	0 (6)	6 (11)
Other	0 (6)	0 (6)	0 (5)	0 (4)
Assignments of Print or Electronic Material				
Textbooks	83 (70)	83 (70)	83 (65)	83 (64)
Workbooks/study guides	0 (15)	0 (11)	0 (9)	0 (7)
Instructor-developed class notes	6 (28)	22 (30)	22 (33)	22 (40)
Instructor-developed problem sets	22 (36)	50 (43)	50 (43)	50 (51)
Press readings	22 (29)	22 (36)	22 (35)	22 (34)
Scholarly readings	22 (34)	22 (32)	22 (34)	22 (37)
Database Searches Via:				
Library holdings	6 (21)	22 (26)	22 (26)	6 (25)
Internet/WWW	0 (6)	22 (31)	22 (32)	22 (32)
CD sets	0 (8)	0 (8)	0 (6)	0 (3)
Literature Searches of Published and Working Paper Research Via:				
Library holdings	6 (24)	22 (29)	22 (29)	6 (27)
Internet	0 (6)	22 (30)	22 (30)	22 (28)
Econ Lit	0 (13)	6 (21)	6 (23)	6 (23)
Other	0 (1)	0 (3)	0 (5)	0 (3)

^aIn the 1995 survey, respondents were asked to distinguish between materials written on the chalkboard before class and during class.

^bIn the 1995 survey, respondents were asked to distinguish between the use of prepared acetates and freehand transparencies drawn or written during class.

^cIn the 1995 survey, respondents were asked to distinguish between using references to literature, drama, or music in lectures and in readings and class discussions.

^dIn the 1995 survey, respondents were asked to distinguish between using references to sports in lectures and in readings and class discussions.

TABLE 3: Assessment Methods

(% of grade determined by different types of assignments or assessment instruments)

A. INTRODUCTORY COURSES (principles and pre-principles)**Median (Mean) Responses (%)**

	1995	2000	2005	2010
<u>Examinations</u>				
Multiple choice questions	50 (48)	48 (45)	50 (51)	40 (42)
Essay/problems				
Short-answer questions	20 (26)	25 (29)	30 (37)	25 (32)
Long-answer questions	16 (21)	15 (22)	6 (21)	6 (17)
<u>Writing Assignments</u>				
Term papers	0 (5)	0 (5)	0 (7)	0 (4)
Shorter papers	0 (6)	0 (8)	0 (12)	0 (9)
Homework/problem sets	10 (13)	10 (14)	15 (27)	15 (23)
Other written assignments	0 (4)	0 (4)	0 (8)	0 (4)
<u>Class Participation</u>	0 (7)	4 (7)	5 (17)	5 (11)
<u>Oral Presentations</u>	0 (3)	0 (3)	0 (6)	0 (3)
<u>Performance in Games, Simulations, or Experiments</u>				
	0 (1)	0 (2)	0 (3)	0 (3)
<u>Other</u>	1 (1)	1 (1)	0 (3)	0 (3)
<u>Group Projects</u>				
All students in group receive same grade	NA	0 (5)	NA	0 (4)
Grades in groups vary based on team-member input	NA	1 (1)	0 (11)	0 (34)
Grades in groups vary based on instructor evaluations	NA	1 (1)	0 (6)	0 (12)
	NA	1 (1)	0 (7)	0 (13)

B: INTERMEDIATE THEORY COURSES

<u>Examinations</u>				
Multiple choice questions	0 (18)	0 (18)	0 (19)	6 (18)
Essay/problems				
Short-answer questions	30 (35)	30 (38)	50 (47)	42 (47)
Long-answer questions	35 (39)	40 (38)	30 (37)	30 (35)

<u>Writing Assignments</u>				
Term papers	0 (8)	0 (6)	0 (9)	0 (5)
Shorter papers	0 (5)	0 (7)	0 (10)	0 (7)
Homework/problem sets	10 (16)	10 (18)	20 (32)	20 (30)
Other written assignments	0 (2)	0 (4)	0 (8)	0 (3)
<u>Class Participation</u>				
	0 (7)	1 (7)	5 (18)	0 (10)
<u>Oral Presentations</u>				
	0 (3)	0 (2)	0 (5)	0 (3)
<u>Performance in Games, Simulations, or Experiments</u>				
	0 (1)	0 (2)	0 (2)	0 (1)
<u>Other</u>				
	1 (1)	1 (1)	0 (3)	0 (3)
<u>Group Projects</u>				
All students in group receive same grade	NA	0 (4)	NA	0 (4)
Grades in groups vary based on team-member input	NA	1 (1)	0 (9)	0 (22)
Grades in groups vary based on instructor evaluations	NA	1 (1)	0 (5)	0 (12)
	NA	1 (1)	0 (7)	0 (7)

C: STATISTICS AND ECONOMETRICS COURSES

<u>Examinations</u>				
Multiple choice questions	0 (8)	0 (9)	0 (10)	0 (9)
Essay/problems				
Short-answer questions	45 (45)	40 (42)	44 (44)	35 (39)
Long-answer questions	21 (29)	25 (34)	20 (31)	30 (34)
<u>Writing Assignments</u>				
Term papers	0 (12)	4 (14)	3 (15)	16 (22)
Shorter papers	0 (5)	0 (5)	0 (9)	0 (9)
Homework/problem sets	20 (23)	20 (22)	20 (33)	20 (32)
Other written assignments	0 (3)	0 (2)	0 (8)	0 (3)
<u>Class Participation</u>				
	0 (5)	0 (7)	0 (13)	0 (13)
<u>Oral Presentations</u>				
	0 (3)	0 (4)	0 (5)	0(6)
<u>Performance in Games, Simulations, or Experiments</u>				
	0 (1)	0 (2)	0 (2)	0 (2)
<u>Other</u>				
	1 (1)	1 (1)	0 (3)	0(2)
<u>Group Projects</u>				
All students in group receive	NA	0 (6)	NA	0 (5)

same grade	NA	1 (1)	0 (11)	0 (19)
Grades in groups vary based on team-member input	NA	1 (1)	0 (6)	0 (9)
Grades in groups vary based on instructor evaluations	NA	1 (1)	0 (7)	0 (6)

D: OTHER UPPER-DIVISION FIELD COURSES

Examinations

Multiple choice questions	0 (12)	0 (11)	0 (15)	0 (11)
Essay/problems				
Short-answer questions	20 (27)	25 (31)	35 (42)	30 (37)
Long-answer questions	40 (42)	30 (37)	40 (43)	25 (32)

Writing Assignments

Term papers	20 (23)	20 (22)	20 (28)	22 (30)
Shorter papers	0 (11)	10 (15)	10 (19)	10 (19)
Homework/problem sets	10 (13)	10 (15)	10 (23)	15 (23)
Other written assignments	0 (5)	0 (5)	0 (11)	0 (8)

Class Participation

5 (10)	5 (10)	10 (21)	5 (17)
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Oral Presentations

0 (7)	5 (8)	5 (17)	5 (16)
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Performance in Games,

<u>Simulations, or Experiments</u>	0 (2)	0 (2)	0 (3)	0 (2)
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Other

1 (1)	1 (1)	0 (3)	0 (3)
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Group Projects

All students in group receive same grade	NA	1 (9)	NA	0 (9)
Grades in groups vary based on team-member input	NA	1 (1)	0 (15)	0 (47)
Grades in groups vary based on instructor evaluations	NA	1 (1)	0 (10)	0 (25)
	NA	1 (1)	0 (12)	0 (30)

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