

**Evaluation of Electronic versus Paper Course Instructor Survey (CIS) Use at UT Austin
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Executive Summary

Purpose

This evaluation was conducted to answer the following questions:

1. What are the differences in:
 - a. student response rates,
 - b. overall instructor ratings, and
 - c. overall course ratings between electronic and paper surveys
2. To what extent do any differences between electronic and paper surveys and/or other factors predict:
 - a. student response rates,
 - b. overall instructor ratings,
 - c. overall course ratings

Methods

The data set contained 62,212 classes across Fall 2005-Spring 2010 (no summers) spanning 4,685 courses taught by 9,095 instructors in 16 colleges. To answer question 1, unadjusted and adjusted means and mean differences were assessed. To answer question 2, total variance accounted for and independent effects were assessed across three regression models. All analyses were conducted for overall and by class size, class level, college, semester, and instructor group.

Results

Student response rates ranged from 21-100% for electronic surveys and 37-100% for paper surveys. In the past 10 semesters, only 15% of classes used electronic surveys, and the percentage of electronic surveys was similarly spread across class size and class level, but varied widely across colleges and semesters. Overall, adjusted student response rates were 23% higher and adjusted overall instructor and course ratings were slightly higher (.03 each on a five-point scale) for paper than for electronic surveys. In the prediction of student response rates, survey type, enrollment, and course accounted for the most variance (up to 49% for survey type and up to 60% for enrollment and course), and survey type, enrollment, course, and instructors were consistent predictors. In the prediction of overall instructor ratings and overall course ratings, survey type, response rate, and survey type X response rate (interaction term) accounted for the least amount of variance (0-8%) and were the least consistent predictors, whereas course and instructor showed the highest levels of prediction (up to 89%) and consistency.

Conclusions

At this time, electronic surveys are not widely used across campus and student response rates differ between electronic and paper surveys.

Electronic surveys were used in only 15% of classes in the past 10 semesters, with wide variations by college. Only 7% of instructors used electronic surveys exclusively in repeated courses, and another 21% used both electronic and paper surveys in repeated courses. In addition, there are consistent differences in student response rates for electronic versus paper surveys across the areas assessed (i.e., overall, class size, class level, college, semester, and instructor group).

Despite differences for electronic and paper surveys, electronic survey use has little impact on overall instructor and course ratings, but courses and instructors do.

The results of this study indicate significant differences in student response rates (23%), overall instructor ratings (0.03 on a five-point scale), and overall course ratings (0.03 on a five-point scale) for electronic versus paper survey use; however, the impact of electronic survey use on overall instructor and course ratings is minimal (explains up to 7% of the variance). The better predictors of overall instructor and course ratings are course and instructor (both can explain up to 88% of the variance).

Evaluation of Electronic versus Paper Course Instructor Survey (CIS) Use at UT Austin

Report

Introduction

The Course Instructor Survey (CIS) group within CTL requested evaluation of differences in the use of electronic versus paper versions for CISs. In general, student response rates are lower for electronic surveys versus paper, for larger classes versus smaller, and for different courses. Student response rates can also vary by semester and instructor. There is concern that a discrepancy in student response rates related to electronic versus paper survey use may differentially impact faculty ratings, and, thus, tenure and promotion.

This evaluation was conducted to answer the following questions:

- 1. What are the differences in (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings between electronic and paper surveys?**
- 2. To what extent do any differences between electronic and paper surveys and/or other factors predict (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings?**

Methods

Sample

The CIS data listed by instructor, course, and section (designated as “classes”) from each Dean/Chair Report for the last 10 semesters (no summers) was combined into one data set and analyzed.

Variables of Interest

The dependent variables include the following:

- Overall instructor ratings (average score for “overall instructor rating” listed by class in reports)
- Overall course ratings (average score for “overall course rating” listed by class in reports)

The independent variables include the following:

- Enrollment (listed by class in reports)
- Student response rate (calculated by dividing the number of CIS student responses by enrollment, both of which are listed by class in reports)
- Survey type (electronic or paper)
- Courses (4,810 different courses listed in reports)
- Class size (large=51 and over, medium=31-50, or small=1-30)
- Class level (graduate, undergraduate-upper level, or undergraduate-lower level)
- College (Architecture, Business, Communication, Education, Engineering, Fine Arts, Geosciences, Information, Law, Liberal Arts, Natural Sciences, Nursing, Pharmacy, Public Affairs, Social Work, Undergraduate Studies)
- Semester (Fall 2005, Spring 2006, Fall 2006, Spring 2007, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Fall 2009, Spring 2010)
- Instructor (9,397 unique instructor identification numbers or UINs listed in reports)
- Instructor group (designated group of instructors who taught the same course in multiple semesters and used both electronic and paper surveys during that time)

Analysis

Of the 67,764 original observations, 570 were deleted for the following reasons: enrollment=0 (n=44), UIN was missing (n=67), and courses were designated as University Extension (n=170), Intercollegial Programs (n=76), Freshman Seminar (n=173), Graduate Studies (n=29), or Centers (PRC=4; WCV=7). Another 5,093 were discarded to curtail the effects of outliers. These included cases with student response rates above the 95-percentile (paper: 1.0, n=1742; electronic: 1.0, n=2) and below the 5-percentile (paper: .367, n=2859; electronic: .214, n=490). The following analyses were conducted on the remaining 62,212 classes.

Descriptive statistics were generated for the overall sample and by class size, class level, college, semester, and instructor group for 'survey type by response rate,' 'survey type by overall instructor ratings,' and 'survey type by overall course ratings.'

To answer the question ***“What are the differences in (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings different between electronic and paper surveys?”*** unadjusted and adjusted means and mean differences were assessed. T-tests were performed to generate unadjusted means and mean differences. Regression analyses were performed to generate LSMs (Least Square Means or means adjusted for all other variables in the regression model) and mean differences. LSMs for student response rates were adjusted for enrollment and course; LSMs for overall instructor and course ratings were adjusted for response rate, survey type by response rate (interaction term), enrollment, and course. All analyses were conducted for the overall sample and by class size, class level, college, semester, and instructor group.

To answer the question ***“To what extent do any differences between electronic and paper surveys and/or other factors predict (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings?”*** total variance accounted for and independent effects were assessed. Regression analyses were conducted in three steps using three models. For student response rates, **Model 1** predicted the dependent variable from survey type; **Model 2** added enrollment and course; and **Model 3** added instructor. In separate analyses for overall instructor ratings and overall course ratings, Model 1 predicted the dependent variable from survey type, response rate, and survey type by response rate (interaction term); Model 2 added enrollment and course; and Model 3 added instructor. For each step, R^2 (total variance accounted for), Type III SS (Sums of Squares or indicators of independent effects for each variable adjusted for all other variables in the model), and $R^2 \Delta$ (R^2 -change or the differences in R^2 s between models that reflect additional prediction by additional variables) are reported. All analyses were conducted for the overall sample and by class size, class level, college, semester, and instructor group.

Results

Descriptive Statistics

After “cleaning the data,” the final data set contained 62,212 classes across Fall 2005-Spring 2010 (no summers) spanning 4,685 courses taught by 9,095 instructors across the 16 colleges. Enrollment in classes ranged from 1 to 535 students with an average of 32 per class (Mean=32.04, Standard Deviation=41.57) and enrollment did not differ by survey type ($p>.05$). ***Student response rates ranged from 21-100% for electronic surveys and 37-100% for paper surveys.***

Table 1 shows that almost 75% of classes were considered “small” (1-30 students); almost 65% were undergraduate; about 50% were within the Colleges of Liberal Arts and Natural Sciences; and the

number of classes varied by semester, but seemed to be steadily increasing. In addition, across the 10 semesters, only 7% of instructors used electronic surveys exclusively in repeated courses and another 21% used both electronic and paper surveys in repeated courses.

Overall, only 15% of classes used electronic surveys in the past 10 semesters, and the percentage of electronic surveys was similarly spread across class size and class level, but varied widely across colleges and semesters (see Table 1). Colleges with the highest percentages of electronic survey use in the past 10 semester included Communication (26%), Fine Arts (34%), Geosciences (39%), Information (45%), and Pharmacy (29%). The percentages of electronic survey use by semester fluctuated from almost no use in Fall 2005 and Spring 2006 (both less than 1%) when electronic surveys were being tested; to a substantial increase (34%) in Fall 2007 when several colleges made electronic survey use mandatory; to a decrease and settling around a modest 11-16% use in subsequent semesters when mandatory use was retracted. Spring 2010 showed another increase in electronic survey use (to 26%), presumably related to increased use within some colleges (e.g., Math).

What are the differences in (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings different between electronic and paper surveys?

Tables 2, 3, and 4 show the unadjusted means, adjusted means, mean differences, and average mean differences for student response rates, overall instructor ratings, and overall course ratings for the different areas (i.e., overall, class size, class level, college, semester, and instructor group). As shown in Table 2, across the different areas, the unadjusted means for student response rates for electronic surveys ranged from 46-70%, whereas those for paper surveys ranged from 69-90%. Average mean differences by areas ranged from 23-24%. In all cases, means for paper surveys were higher than means for electronic surveys; all mean differences favored paper surveys. Also shown in Table 3, the adjusted means across the different areas for electronic surveys ranged from 49-73%, whereas those for paper surveys ranged from 69-90%. Average mean differences by areas ranged from 22-24%; all mean differences favored paper surveys. Patterns did not change appreciably when means for student response rates were adjusted by enrollment and course. **Overall, adjusted student response rates are 23% higher for paper surveys than for electronic surveys.**

As shown in Table 3, the unadjusted means for overall instructor ratings across the different areas (i.e., overall, class size, class level, college, semester, and instructor group) ranged from 3.93-4.40 for electronic surveys and from 4.05-4.47 for paper surveys with unadjusted mean differences by area ranging from .02-.09. All average mean differences favored paper surveys. The adjusted means across the different areas for overall instructor ratings ranged from 3.86-5.33 for electronic surveys and from 4.05-4.49 for paper surveys with average mean differences by area ranging from -.13 to .01. Average mean differences for class size and semester favored electronic surveys, whereas the rest favored paper surveys. After adjusting overall instructor ratings for response rate, survey type by response rate, enrollment, and course, the magnitude of differences between electronic and paper surveys decreased and some reversed. **Overall, adjusted means for overall instructor ratings are slightly higher (.03 on a five-point scale) for paper than for electronic surveys.**

As shown in Table 4, across the different areas (i.e., overall, class size, class level, college, semester, and instructor group), the unadjusted means for overall course ratings ranged from 3.64-4.19 for electronic surveys and from 3.80-4.09 for paper surveys with mean differences by area ranging from .05-.07. All average mean differences favored paper surveys. The adjusted means across the different areas for overall course ratings ranged from 3.56-4.27 for electronic surveys and from 3.83-4.36 for paper surveys with average mean differences by area ranging from .03-.06. The average mean difference for semester

avored electronic surveys, whereas the rest favored paper surveys. After means for overall course ratings were adjusted for response rate, survey type X response rate, enrollment, and course, the magnitude of differences between electronic and paper surveys decreased and some reversed. **Overall, adjusted means for overall course ratings are slightly higher (.03 on a five-point scale) for paper than for electronic surveys.**

To what extent do any differences between electronic and paper surveys and/or other factors predict (a) student response rates, (b) overall instructor ratings, and (c) overall course ratings?

Tables 5, 6 and 7 show the variance accounted for (R^2), independent effects (Type III SS), and increases in prediction ($R^2 \Delta$ s) for the prediction of student response rates, overall instructor ratings, and overall in a series of regression analyses (Models 1-3) across the different areas (i.e., overall, class size, class level, college, semester, and instructor group). As shown in Table 5, the R^2 s across the different areas ranged from .00-.34 for predicting student response rates from survey type (Model 1), and survey type was a consistent predictor. When adding enrollment and course to the model (Model 2), R^2 s across the areas increased to .09-.64 with average $R^2 \Delta$ s ranging from .26-.49. All three variables (survey type, enrollment, and course) in Model 2 were consistent predictors of student response rates. When adding instructor to the model (Model 3), R^2 s across areas increased to .50-.93 with average $R^2 \Delta$ s ranging from .11-.21. All four variables (survey type, enrollment, course, and instructor) in Model 3 were consistent predictors of student response rates. **In the prediction of student response rates, survey type, enrollment, and course accounted for the most variance (up to 49% for survey type and up to 60% for enrollment and course), and survey type, enrollment, course, and instructor were consistent predictors.**

As shown in Table 6, the R^2 s ranged from .01-.07 across the different areas (i.e., overall, class size, class level, college, semester, and instructor group) for predicting overall instructor ratings from survey type, response rate, and their interaction (Model 1). Type III SS indicate that of the three variables (survey type, response rate, and the interaction between survey type and response rate) in Model 1, response rate was the most consistent predictor of overall instructor ratings, and the interaction between survey type and response rate was the least. When adding enrollment and course to the model (Model 2), R^2 s across the areas increased to .10-.50 with average $R^2 \Delta$ s ranging from .22-.47. Of the five variables (survey type, response rate, the interaction term, enrollment, and course) in Model 2, course was the most consistent predictor of overall instructor ratings, whereas survey type and the interaction term were the least. When adding instructor to the model (Model 3), R^2 s across areas increased to .51-.94 with average $R^2 \Delta$ s ranging from .30-.41. Of the six variables (survey type, response rate, the interaction term, enrollment, course, and instructor) in Model 3, both course and instructor were the most consistent predictors of overall instructor ratings, whereas survey type, response rate, and the interaction term were the least. **In the prediction of overall instructor ratings, survey type, response rate, and survey type by response rate (interaction term) explain the least amount of variance (1-7%) and are the least consistent predictors, whereas course and instructor showed the highest levels of prediction (up to 88%) and consistency.**

As shown in Table 8, the R^2 s ranged from .00-.06 across the different areas (i.e., overall, class size, class level, college, semester, and instructor group) for predicting overall course ratings from survey type, response rate, and their interaction (Model 1). Type III SS indicate that of the three variables (survey type, response rates, and the interaction between survey type and response rate) in Model 1, response rates was the most consistent predictor of overall course ratings, and the interaction between survey type and response rates was the least. When adding enrollment and course to the model (Model 2), R^2 s across the areas increased to .10-.65 with average $R^2 \Delta$ s ranging from .31-.59. Of the five variables

(survey type, response rates, the interaction term, enrollment, and course) in Model 2, course was the most consistent predictor of overall instructor ratings, whereas enrollment, survey type, and the interaction term were the least. When adding instructor to the model (Model 3), R^2 s across areas increased to .59-.94 with average R^2 Δ s ranging from .21-.31. Of the six variables (survey type, response rates, the interaction term, enrollment, course, and instructor) in Model 3, both course and instructor were the most consistent predictors of overall instructor ratings, whereas survey type, response rates, and the interaction term were the least. ***In the prediction of overall course ratings, survey type, response rates, and survey type by response rates (interaction term) accounted for the least amount of variance (0-6%) and were the least consistent predictors, whereas course and instructor showed the highest levels of prediction (up to 89%) and were consistent.***

Conclusions and Recommendations

1. There are indications of inconsistencies in the CIS data.

The data used in this study was originally collected for report purposes. Upon analysis, several inconsistencies became evident and adjustments were made. For example, 111 cases were deleted because they were missing UINs or because enrollment=0. Whereas these deletions probably had little impact on results, a potentially serious problem was discovered when calculating student response rates. About 15% (n=9975) of the cases showed response rates of 100% and 3% (n=1744) showed response rates over 100%. As shown in the table below, these cases are distributed evenly across the past 10 semesters. We would expect response rates at or over 100% to be rare, especially for paper surveys. According to CIS staff, paper surveys are not printed with the course and section numbers so reporting of student response rates relies on the course and section numbers recorded on the envelopes in which the surveys are returned. Although the response rates at and over 100% are concerning and were managed statistically, a greater concern is that all the data (including response rates under 100%) may be biased in this way. In addition, the data set used in these analyses did not include the roughly 18,000 classes that had student response rates of 0. The extent to which either of these issues may have over-inflated or under-inflated student response rates, especially for paper surveys, is unclear. The University may need to clarify policies and procedures related to the use and administration of paper surveys, and CIS needs to clarify the limitations of CIS data when reporting results and, where possible, refine procedures to ensure more accurate student response rates by class.

Student Response Rates at and over 100%

Total and By Semester	Student Response Rates = 100%						Student Response Rates > 100%					
	Total		Electronic		Paper		Total		Electronic		Paper	
	N	%	N	%	N	%	N	%	N	%	N	%
Total	9975	100.00	590	5.91	9385	94.09	1744	100.00	2	.11	1742	99.89
Fall 05	639	6.41	0	0	639	100	180	10.32	0	.00	180	100.00
Spring 06	877	8.85	1	.11	876	99.89	151	8.26	0	.00	151	100.00
Fall 06	883	9.71	136	15.40	747	84.60	144	9.86	0	.00	144	100.00
Spring 07	994	10.26	23	2.31	971	97.69	178	11.35	0	.00	178	100.00
Fall 07	969	10.02	27	2.79	942	97.21	172	10.21	0	.00	172	100.00
Spring 08	1039	8.79	26	2.50	1013	97.50	181	8.66	0	.00	181	100.00
Fall 08	1023	9.96	26	2.54	997	97.46	198	10.21	1	.51	197	99.49
Spring 09	1186	10.42	22	1.85	1164	98.15	228	10.38	0	.00	228	100.00
Fall 09	999	11.89	19	1.90	980	98.10	178	13.07	1	.56	177	99.44
Spring 10	1366	13.66	310	22.69	1366	77.31	134	7.68	0	.00	134	100.00

2. At this time, electronic surveys are not widely used across campus and student response rates differ between electronic and paper surveys.

Electronic surveys were used in only 15% of classes in the past 10 semesters, with wide variations by college. Only 7% of instructors used electronic surveys exclusively in repeated courses, and another 21% used both electronic and paper surveys in repeated courses. In addition, there are consistent differences in student response rates for electronic versus paper surveys across the areas assessed (i.e., overall, class size, class level, college, semester, and instructor group). Factors related to student response rates include survey type, enrollment, course, and instructor. The University may need to clarify policies and procedures related to increasing the use of electronic survey use, while CIS may need to further develop policies and procedures related to providing information, education, and support for courses and instructors with the goal of increasing student response rates for electronic surveys.

3. Despite differences for electronic and paper surveys, electronic survey use has little impact on overall instructor and course ratings, but courses and instructors do.

The results of this study indicate significant differences in student response rates (23%), overall instructor ratings (.03 on a five-point scale), and overall course ratings (.03 on a five-point scale) for electronic versus paper survey use; however, the impact of electronic survey use on overall instructor and course ratings is minimal (explains up to 7% of the variance). The better predictors of overall instructor and course ratings are course and instructor (both can explain up to 88% of the variance). The University and CIS staff may need to clarify and promote this finding with colleges and faculty.

Table 1. Descriptive Statistics: Electronic and Paper Survey Use by Areas

Areas		Classes		Survey Type			
				Electronic		Paper	
		N	%	N	%	N	%
Overall		62212	100.00	9574	15.39	52638	84.61
Class Size	Large (50+)	9164	14.73	1339	14.61	7825	85.39
	Medium (31-50)	7301	11.74	742	10.16	6559	89.84
	Small (0-30)	45747	73.53	7493	16.38	38254	83.62
Class Level	Graduate	22392	35.99	3469	15.49	18923	84.51
	Undergrad/upper	14642	23.54	2140	14.62	12502	85.38
	Undergrad/lower	25178	40.47	3965	15.75	21213	84.25
College	Architecture	1229	1.98	140	11.39	1089	88.61
	Business	3580	5.75	210	5.87	3370	94.13
	Communication	4263	6.85	1091	25.59	3172	74.41
	Education	4568	7.34	231	5.06	4337	94.94
	Engineering	5160	8.29	366	7.09	4794	92.91
	Fine Arts	4444	7.14	1527	34.36	2917	65.64
	Geosciences	1288	2.07	508	39.44	780	60.56
	Information	504	.81	226	44.84	278	55.16
	Law	1886	3.03	87	4.61	1799	95.39
	Liberal Arts	16429	26.41	2243	13.65	14186	86.35
	Natural Sciences	14480	23.28	2300	15.88	12180	84.12
	Nursing	1677	2.70	202	12.05	1475	87.95
	Pharmacy	997	1.60	290	29.09	707	70.91
	Public Affairs	573	.92	52	9.08	521	90.92
	Semester	Fall 2005*	5160	8.29	10	.19	5150
Spring 2006*		5759	9.26	28	.49	5731	99.51
Fall 2006		6577	10.57	2240	34.06	4337	65.94
Spring 2007		6119	9.84	673	11.00	5446	89.00
Fall 2007		6213	9.99	1003	16.14	5210	83.86
Spring 2008		6279	10.09	952	15.16	5327	84.84
Fall 2008		6293	10.12	942	14.97	5351	85.03
Spring 2009		6659	10.70	1054	15.83	5605	84.17
Fall 2009		6402	10.29	929	14.51	5473	85.49
Spring 2010		6751	10.85	1743	25.82	5008	74.18
Instructor Group	Use of both	12969	20.85	4997	38.53	7972	61.47
	Use of one	49243	79.15	4577	9.29	44666	90.71

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Note: All percentages are significantly higher for paper versus electronic surveys.

Table 2. Unadjusted and Adjusted Student Response Rates

Areas		Unadjusted Response Rates						Adjusted Response Rates			
		Electronic		Paper		M Diff	p < .05	Elec-tronic LSM	Paper LSM	M Diff	p < .05
		M	SD	M	SD						
Overall		.58	.20	.81	.16	.23	Y	.59	.82	.23	Y
Class Size	Large (50+)	.46	.13	.69	.15	.23	Y	.49	.69	.20	Y
	Medium (31-50)	.53	.16	.76	.15	.23	Y	.55	.76	.21	Y
	Small (0-30)	.60	.20	.85	.15	.25	Y	.61	.85	.24	Y
	Avg M Diff					.24				.22	
Class Level	Graduate	.65	.22	.85	.15	.20	Y	.65	.86	.21	Y
	Undergrad/upper	.53	.18	.79	.16	.26	Y	.54	.79	.25	Y
	Undergrad/lower	.54	.17	.79	.16	.25	Y	.55	.80	.25	Y
	Avg M Diff					.24				.24	
College	Architecture	.53	.19	.83	.15	.30	Y	.56	.82	.26	Y
	Business	.65	.18	.82	.15	.17	Y	.63	.81	.18	Y
	Communication	.56	.20	.82	.14	.26	Y	.60	.84	.24	Y
	Education	.68	.19	.84	.15	.16	Y	.66	.85	.19	Y
	Engineering	.56	.19	.80	.16	.24	Y	.59	.82	.23	Y
	Fine Arts	.64	.21	.86	.16	.22	Y	.65	.86	.21	Y
	Geosciences	.47	.15	.80	.17	.33	Y	.51	.84	.33	Y
	Information	.67	.19	.87	.16	.20	Y	.73	.89	.16	Y
	Law	.70	.17	.82	.15	.12	Y	.68	.79	.11	Y
	Liberal Arts	.58	.20	.82	.15	.24	Y	.59	.83	.24	Y
	Natural Sciences	.53	.18	.76	.18	.23	Y	.55	.78	.23	Y
	Nursing	.65	.20	.90	.12	.25	Y	.64	.90	.26	Y
	Pharmacy	.49	.21	.84	.17	.35	Y	.53	.87	.34	Y
	Public Affairs	.70	.15	.89	.12	.19	Y	.71	.89	.18	Y
	Social Work	.69	.17	.89	.11	.20	Y	.68	.89	.21	Y
UG Studies	.56	.17	.84	.16	.28	Y	.47	.75	.28	Y	
Avg M Diff						.23				.23	
Semester	Fall 2005*	.57	.13	.77	.17	.20	Y	.71	.78	.07	N
	Spring 2006*	.62	.20	.79	.17	.17	Y	.71	.79	.08	Y
	Fall 2006	.65	.19	.81	.16	.16	Y	.69	.82	.13	Y
	Spring 2007	.58	.18	.81	.16	.23	Y	.59	.82	.23	Y
	Fall 2007	.54	.18	.81	.16	.27	Y	.57	.82	.25	Y
	Spring 2008	.53	.18	.82	.16	.29	Y	.56	.82	.26	Y
	Fall 2008	.57	.18	.82	.16	.25	Y	.57	.83	.26	Y
	Spring 2009	.53	.18	.82	.16	.29	Y	.53	.83	.30	Y
	Fall 2009	.52	.18	.82	.15	.30	Y	.54	.82	.28	Y
	Spring 2010	.59	.24	.84	.15	.25	Y	.56	.85	.29	Y
	Avg M Diff						.24				.22
Instructor Group	Use of both	.59	.19	.81	.16	.22	Y	.60	.82	.22	Y
	Use of one	.56	.21	.81	.16	.25	Y	.58	.83	.25	Y
	Avg M Diff						.24				.24

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: M Diff=mean differences; Y=significant; N=not significant; LSMs (Least Square Means) are adjusted means and these are adjusted for for survey type, enrollment, and course.

Table 3. Unadjusted and Adjusted Overall Instructor Ratings

Areas		Unadjusted Overall Instructor Rating						Adjusted Overall Instructor Rating			
		Electronic		Paper		M Diff	p < .05	Elec-tronic LSM	Paper LSM	M Diff	p < .05
		M	SD	M	SD						
Overall		4.16	.63	4.22	.56	.06	Y	4.25	4.28	.03	Y
Class Size	Large (50+)	3.93	.58	4.05	.54	.12	Y	4.08	4.05	-.03	N
	Medium (31-50)	4.04	.55	4.14	.54	.10	Y	4.16	4.12	-.04	N
	Small (0-30)	4.21	.64	4.27	.56	.06	Y	4.27	4.32	.05	Y
	Avg M Diff					.09				-.01	
Class Level	Graduate	4.28	.63	4.29	.56	.01	N	4.29	4.32	.03	Y
	Undergrad/upper	4.09	.64	4.19	.57	.10	Y	4.18	4.21	.03	Y
	Undergrad/lower	4.09	.62	4.19	.55	.10	Y	4.25	4.27	.02	N
	Avg M Diff					.07				.03	
College	Architecture	3.95	.70	4.19	.61	.24	Y	3.86	4.13	.27	N
	Business	4.32	.42	4.20	.52	-.12	Y	4.31	4.20	-.11	Y
	Communication	4.09	.64	4.27	.52	.18	Y	4.16	4.24	.08	Y
	Education	4.37	.59	4.35	.56	-.02	N	4.31	4.33	.02	N
	Engineering	3.92	.59	4.08	.58	.16	Y	4.02	4.12	.10	Y
	Fine Arts	4.40	.58	4.47	.52	.07	Y	4.48	4.49	.01	N
	Geosciences	4.11	.61	4.15	.59	.04	N	4.22	4.17	-.05	N
	Information	4.28	.56	4.10	.58	-.18	Y	4.30	4.18	-.12	Y
	Law	4.15	.50	4.26	.53	.11	N	4.08	4.22	.14	Y
	Liberal Arts	4.21	.58	4.31	.51	.10	Y	4.34	4.35	.01	N
	Natural Sciences	3.95	.69	4.06	.58	.11	Y	4.10	4.14	.04	Y
	Nursing	4.28	.65	4.39	.56	.11	Y	4.37	4.39	.02	N
	Pharmacy	4.35	.51	4.24	.52	-.11	Y	4.40	4.27	-.13	Y
	Public Affairs	4.09	.49	4.19	.56	.10	N	4.11	4.09	-.02	N
	Social Work	4.11	.54	4.22	.63	.11	N	4.20	4.28	.08	N
UG Studies	4.21	.59	4.30	.55	.09	N	4.50	4.56	.06	N	
Avg M Diff					.06				.02		
Semester	Fall 2005*	3.95	.48	4.19	.57	.24	N	5.33	4.21	-1.12	N
	Spring 2006*	4.37	.43	4.22	.55	-.15	N	4.47	4.24	-.23	N
	Fall 2006	4.08	.60	4.20	.57	.12	Y	4.19	4.20	.01	N
	Spring 2007	4.18	.63	4.23	.56	.05	Y	4.22	4.27	.05	N
	Fall 2007	4.12	.67	4.21	.56	.09	Y	4.21	4.23	.02	N
	Spring 2008	4.14	.60	4.25	.55	.11	Y	4.20	4.25	.05	N
	Fall 2008	4.16	.62	4.20	.58	.04	N	4.20	4.23	.03	N
	Spring 2009	4.14	.61	4.23	.56	.09	Y	4.31	4.26	-.05	N
	Fall 2009	4.17	.61	4.22	.57	.05	Y	4.33	4.24	-.09	Y
	Spring 2010	4.27	.70	4.28	.54	.01	N	4.32	4.32	.00	N
	Avg M Diff					.07				-.13	
Instructor Group	Use of both	4.16	.61	4.23	.55	.07	Y	4.22	4.26	.04	Y
	Use of one	4.15	.66	4.22	.56	.07	Y	4.25	4.27	.02	N
	Avg M Diff					.07				.03	

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: M Diff=mean differences; Y=significant; N=not significant; LSMs (Least Square Means) are adjusted means and these are adjusted for survey type, response rates, survey type X response rates (interaction term), enrollment, and course.

Table 4. Unadjusted and Adjusted Overall Course Ratings

Areas		Unadjusted Overall Course Ratings						Adjusted Overall Course Ratings			
		Electronic		Paper		M Diff	p < .05	Elec-tronic LSM	Paper LSM	M Diff	p < .05
		M	SD	M	SD						
Overall	Overall	3.92	.64	3.97	.57	.05	Y	4.05	4.08	.03	Y
Class Size	Large (50+)	3.72	.53	3.80	.49	.08	Y	3.85	3.83	-.02	N
	Medium (31-50)	3.82	.53	3.90	.52	.08	Y	3.90	3.90	.00	N
	Small (0-30)	3.96	.66	4.02	.58	.06	Y	4.07	4.12	.05	Y
	Avg M Diff					.07				.01	
Class Level	Graduate	4.09	.65	4.09	.57	.00	N	4.08	4.14	.06	Y
	Undergrad/upper	3.89	.62	3.95	.56	.06	Y	3.97	4.00	.03	N
	Undergrad/lower	3.79	.61	3.88	.55	.09	Y	4.04	4.05	.01	N
	Avg M Diff					.05				.03	
College	Architecture	3.74	.68	4.00	.58	.26	Y	3.56	3.91	.35	Y
	Business	4.09	.44	3.97	.50	-.12	Y	4.07	3.98	-.09	Y
	Communication	3.93	.64	4.04	.52	.11	Y	4.00	4.07	.07	Y
	Education	4.17	.60	4.19	.58	.02	N	4.11	4.16	.05	N
	Engineering	3.72	.53	3.85	.54	.13	Y	3.89	3.92	.03	N
	Fine Arts	4.19	.62	4.32	.57	.13	Y	4.32	4.36	.04	Y
	Geosciences	3.64	.56	3.81	.54	.17	Y	3.98	3.97	-.01	N
	Information	4.04	.62	3.88	.60	-.16	Y	4.10	3.97	-.13	Y
	Law	4.11	.56	4.08	.57	-.03	N	3.95	4.06	.11	N
	Liberal Arts	3.95	.60	4.05	.52	.10	Y	4.14	4.16	.02	N
	Natural Sciences	3.71	.66	3.72	.55	.01	N	3.89	3.90	.01	N
	Nursing	4.01	.65	4.09	.58	.08	N	4.04	4.07	.03	N
	Pharmacy	4.11	.50	4.02	.46	-.09	Y	4.11	4.05	-.06	N
	Public Affairs	3.93	.44	3.99	.57	.06	N	3.87	3.85	-.02	N
	Social Work	3.79	.52	3.97	.66	.18	N	3.94	4.00	.06	N
UG Studies	3.92	.61	3.98	.59	.06	N	4.27	4.32	.05	N	
Avg M Diff					.06				.03		
Semester	Fall 2005*	3.71	.38	3.93	.57	.22	N	4.52	3.99	-.53	N
	Spring 2006*	4.01	.42	3.96	.56	-.05	N	4.10	4.03	-.07	N
	Fall 2006	3.87	.57	3.94	.57	.07	Y	3.95	3.98	.03	N
	Spring 2007	3.93	.64	3.98	.57	.05	N	3.98	4.06	.08	N
	Fall 2007	3.85	.68	3.95	.56	.10	Y	3.98	4.01	.03	N
	Spring 2008	3.90	.59	4.00	.56	.10	Y	4.10	4.04	-.06	N
	Fall 2008	3.91	.62	3.95	.58	.04	N	3.96	4.01	.05	N
	Spring 2009	3.87	.62	3.99	.57	.12	Y	4.10	4.06	-.04	N
	Fall 2009	3.90	.61	3.97	.57	.07	Y	4.10	4.03	-.07	N
	Spring 2010	4.07	.73	4.05	.56	-.02	N	4.13	4.14	.01	N
	Avg M Diff					.07				-.06	
Instructor Group	Use of both	3.93	.61	3.99	.57	.06	Y	4.00	4.04	.04	Y
	Use of one	3.91	.67	3.97	.57	.06	Y	4.05	4.07	.02	N
	Avg M Diff					.06				.03	

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: M Diff=mean differences; Y=significant; N=not significant; LSMs (Least Square Means) are adjusted means and these are adjusted for survey type, response rates, survey type X response rates (interaction term), enrollment, and course.

Table 5. Predictors of Student Response Rates

Area		Model 1		Model 2			R ² Δ	Model 3					R ² Δ	
		R ²	Type III SS	R ²	Type III SS			R ²	Type III SS					
					S	E			C	S	E	C		I
Overall		.21	Y	.53	Y	Y	Y	.32	.65	Y	Y	Y	Y	.12
Class Size	Large (50+)	.22	Y	.56	Y	Y	Y	.34	.76	Y	Y	Y	Y	.20
	Medium (31-50)	.17	Y	.57	Y	Y	Y	.40	.77	Y	N	Y	Y	.20
	Small (0-30)	.25	Y	.50	Y	Y	Y	.25	.63	Y	Y	Y	Y	.13
	Ave R ² Δ							.33						.18
Class Level	Graduate	.18	Y	.49	Y	Y	Y	.31	.64	Y	Y	Y	Y	.15
	UG/upper	.23	Y	.53	Y	Y	Y	.30	.71	Y	Y	Y	Y	.18
	UG/lower	.25	Y	.52	Y	Y	Y	.27	.68	Y	Y	Y	Y	.16
	Ave R ² Δ							.29						.16
College	Architecture	.27	Y	.47	Y	Y	Y	.20	.61	Y	Y	N	Y	.14
	Business	.06	Y	.46	Y	Y	Y	.40	.59	Y	Y	Y	Y	.13
	Commun	.34	Y	.57	Y	Y	Y	.23	.66	Y	Y	Y	Y	.09
	Education	.05	Y	.34	Y	Y	Y	.29	.53	Y	Y	Y	Y	.19
	Engineering	.12	Y	.51	Y	Y	Y	.39	.66	Y	Y	Y	Y	.15
	Fine Arts	.26	Y	.50	Y	Y	Y	.24	.61	Y	Y	Y	Y	.11
	Geosciences	.48	Y	.62	Y	Y	Y	.14	.72	Y	Y	Y	Y	.10
	Information	.26	Y	.66	Y	N	Y	.40	.74	Y	N	Y	Y	.08
	Law	.03	Y	.39	Y	Y	Y	.36	.54	Y	Y	Y	Y	.15
	Liberal Arts	.22	Y	.52	Y	Y	Y	.30	.65	Y	Y	Y	Y	.13
	Natl Sciences	.18	Y	.50	Y	Y	Y	.32	.64	Y	Y	Y	Y	.14
	Nursing	.27	Y	.48	Y	Y	Y	.21	.54	Y	Y	Y	Y	.06
	Pharmacy	.44	Y	.71	Y	Y	Y	.27	.76	Y	Y	Y	N	.05
	Public Affairs	.17	Y	.26	Y	Y	N	.09	.52	Y	Y	Y	Y	.26
	Social Work	.15	Y	.30	Y	Y	Y	.15	.50	Y	N	Y	Y	.20
	UG Studies	.29	Y	.45	Y	Y	Y	.16	.88	Y	N	Y	Y	.43
Ave R ² Δ							.26						.15	
Semester	Fall 2005*	.00	Y	.63	N	Y	Y	.63	.91	N	Y	Y	Y	.28
	Spring 2006*	.00	Y	.64	Y	Y	Y	.64	.89	N	Y	Y	Y	.25
	Fall 2006	.17	Y	.67	Y	Y	Y	.50	.88	Y	Y	Y	Y	.21
	Spring 2007	.17	Y	.68	Y	Y	Y	.51	.89	Y	Y	Y	Y	.21
	Fall 2007	.27	Y	.73	Y	Y	Y	.46	.90	Y	Y	Y	Y	.17
	Spring 2008	.29	Y	.73	Y	Y	Y	.44	.91	Y	Y	Y	Y	.18
	Fall 2008	.25	Y	.71	Y	Y	Y	.46	.91	Y	Y	Y	Y	.20
	Spring 2009	.32	Y	.72	Y	Y	Y	.40	.90	Y	Y	Y	Y	.18
	Fall 2009	.32	Y	.73	Y	Y	Y	.41	.92	Y	N	Y	Y	.19
	Spring 2010	.28	Y	.74	Y	Y	Y	.46	.93	Y	Y	Y	Y	.19
	Ave R ² Δ							.49						.21
Instructor Group	Use of both	.28	Y	.57	Y	Y	Y	.29	.63	Y	Y	Y	Y	.06
	Use of one	.16	Y	.52	Y	Y	Y	.36	.67	Y	Y	Y	Y	.15
	Ave R ² Δ							.33						.11

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: S=survey type; E=enrollment; C=course; I=instructor; Y=significant; N=not significant. The first set of regression analyses (Model 1) predicted student response rates from survey type; Model 2 added enrollment and course; and Model 3 added instructor. Type III SS (Sums of Squares) indicate independent effects for each variable adjusted for all other variables in the model. The difference in R² from Model to Model (R² Δ=R²-change) reflects the added prediction for added variables.

Table 6. Predictors of Overall Instructor Ratings

Areas		Model 1			Model 2					R ² Δ	Model 3						R ² Δ			
		R ²	Type III SS			R ²	Type III SS					R ²	Type III SS							
			S	R	X		S	R	X		E		C	S	R	X		E	C	I
Overall		.04	Y	Y	N	.31	N	Y	N	Y	Y	.27	.67	Y	Y	N	Y	Y	Y	.36
Class Size	Large (50+)	.05	N	Y	N	.41	N	Y	N	Y	Y	.36	.86	N	N	N	Y	Y	Y	.45
	Medium (31-50)	.03	N	Y	N	.40	N	Y	N	Y	Y	.37	.84	N	N	N	Y	Y	Y	.44
	Small (0-30)	.02	N	Y	Y	.30	N	Y	N	Y	Y	.28	.66	Y	N	N	Y	Y	Y	.36
	Ave R ² Δ											.34								.42
Class Level	Graduate	.02	Y	Y	N	.32	N	Y	N	Y	Y	.30	.67	N	N	N	Y	Y	Y	.35
	UG/upper	.05	Y	Y	N	.34	N	Y	N	Y	Y	.29	.75	Y	N	N	Y	Y	Y	.41
	UG/lower	.04	N	Y	N	.26	N	Y	N	N	Y	.22	.72	Y	N	N	Y	Y	Y	.46
	Ave R ² Δ											.27								.41
College	Architecture	.02	N	N	N	.24	N	N	N	Y	Y	.22	.63	N	N	N	N	Y	Y	.39
	Business	.04	Y	Y	N	.27	N	Y	N	N	Y	.23	.69	N	Y	N	Y	Y	Y	.42
	Commun	.04	N	Y	N	.25	N	Y	N	N	Y	.21	.60	N	N	N	Y	Y	Y	.35
	Education	.00	N	N	N	.22	N	N	N	N	Y	.22	.65	N	N	N	Y	Y	Y	.43
	Engineering	.06	Y	Y	Y	.37	Y	Y	Y	N	Y	.31	.73	N	N	N	Y	Y	Y	.36
	Fine Arts	.01	N	Y	N	.28	N	N	N	Y	Y	.27	.58	N	N	N	Y	Y	Y	.30
	Geosciences	.02	N	Y	N	.18	N	Y	N	N	Y	.16	.60	N	N	N	N	Y	Y	.42
	Information	.04	N	N	Y	.41	N	Y	Y	N	Y	.37	.70	N	N	Y	Y	Y	Y	.29
	Law	.05	Y	Y	Y	.30	N	N	N	N	Y	.25	.67	N	N	N	Y	Y	Y	.37
	Liberal Arts	.05	Y	Y	N	.30	N	Y	N	N	Y	.25	.66	Y	Y	N	Y	Y	Y	.36
	Nat Sciences	.03	Y	Y	Y	.26	Y	Y	Y	Y	Y	.23	.69	Y	Y	Y	Y	Y	Y	.43
	Nursing	.01	N	Y	N	.19	N	N	N	Y	Y	.18	.51	N	N	N	Y	Y	Y	.32
	Pharmacy	.03	N	Y	N	.30	Y	N	N	N	Y	.27	.64	N	N	N	Y	Y	Y	.34
	Public Affairs	.01	N	N	N	.19	N	N	N	N	Y	.18	.64	N	N	N	Y	Y	Y	.45
	Social Work	.01	N	N	N	.16	N	N	N	Y	Y	.15	.63	N	N	N	Y	Y	Y	.47
	UG Studies	.04	N	N	N	.10	N	N	N	N	Y	.06	.90	N	N	N	N	N	Y	.80
	Ave R ² Δ											.22								.41
Semester	Fall 2005*	.04	N	N	N	.55	N	N	N	N	Y	.51	.94	N	N	N	Y	Y	Y	.39
	Spring 2006*	.04	N	N	N	.53	N	N	N	N	Y	.49	.93	N	N	N	Y	Y	Y	.40
	Fall 2006	.06	N	Y	N	.51	N	Y	N	N	Y	.45	.92	N	N	Y	N	Y	Y	.41
	Spring 2007	.04	N	Y	N	.51	N	Y	N	N	Y	.47	.92	N	N	N	N	Y	Y	.41
	Fall 2007	.03	Y	Y	N	.48	N	N	Y	N	N	.45	.92	N	N	N	N	Y	Y	.44
	Spring 2008	.04	N	Y	N	.50	N	Y	N	Y	Y	.46	.92	N	N	N	N	Y	Y	.42
	Fall 2008	.03	Y	Y	N	.52	N	Y	N	N	Y	.49	.93	N	N	Y	Y	Y	Y	.41
	Spring 2009	.04	Y	Y	N	.50	N	Y	N	N	Y	.46	.93	N	N	N	N	Y	Y	.43
	Fall 2009	.04	N	Y	N	.51	N	Y	N	N	Y	.47	.93	N	N	Y	Y	Y	Y	.42
	Spring 2010	.07	N	Y	Y	.52	N	Y	N	Y	Y	.45	.93	N	N	N	Y	Y	Y	.41
	Ave R ² Δ											.47								.41
Instructor Group	Use of both	.04	Y	Y	N	.45	N	Y	N	Y	Y	.41	.67	N	N	N	Y	Y	Y	.22
	Use of one	.04	N	Y	Y	.32	Y	Y	N	Y	Y	.28	.70	Y	Y	N	Y	Y	Y	.38
	Ave R ² Δ											.35								.30

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: S=survey type; R=response rate; X=interaction between S and R; E=enrollment; C=course; I=instructor; Y=significant; N=not significant. The first set of regression analyses (Model 1) predicted overall instructor ratings from survey type while controlling for response rate and survey type X response rate (interaction term); Model 2 added enrollment and course; and Model 3 added instructor. Type III SS (Sums of Squares) indicate independent effects for each variable adjusted for all other variables in the model. The difference in R² from Model to Model (R² Δ=R²-change) reflects the added prediction for added variables.

Table 7. Predictors of Overall Course Ratings

Areas		Model 1			Model 2					R ² Δ	Model 3						R ² Δ			
		R ²	Type III SS			R ²	Type III SS					R ²	Type III SS							
			S	R	X		S	R	X		E		C	S	R	X		E	C	I
Overall		.04	Y	Y	N	.43	N	Y	Y	Y	Y	.39	.67	Y	Y	N	Y	Y	Y	.24
Class Size	Large (50+)	.04	Y	Y	Y	.51	N	Y	N	Y	Y	.47	.85	N	N	N	Y	Y	Y	.34
	Medium (31-50)	.05	Y	Y	Y	.50	N	Y	N	N	Y	.45	.84	N	Y	Y	Y	Y	Y	.34
	Small (0-30)	.02	Y	Y	Y	.43	N	Y	N	Y	Y	.41	.67	Y	N	N	Y	Y	Y	.24
	Ave R ² Δ											.44								.31
Class Level	Graduate	.02	Y	Y	N	.37	N	Y	Y	Y	Y	.35	.66	N	N	N	Y	Y	Y	.29
	UG/upper	.05	Y	Y	N	.45	N	Y	N	N	Y	.40	.75	Y	N	N	Y	Y	Y	.30
	UG/lower	.03	N	Y	Y	.42	N	Y	N	N	Y	.39	.73	N	N	N	Y	Y	Y	.31
	Ave R ² Δ											.38								.30
College	Architecture	.02	N	N	N	.29	N	N	Y	N	Y	.27	.62	N	N	N	N	Y	Y	.33
	Business	.04	Y	Y	N	.32	N	Y	N	Y	Y	.28	.67	N	Y	N	Y	Y	Y	.35
	Commun	.02	N	Y	N	.34	N	Y	N	N	Y	.32	.59	N	Y	N	Y	Y	Y	.25
	Education	.00	N	N	N	.30	N	N	N	N	Y	.30	.63	N	N	N	Y	Y	Y	.33
	Engineering	.06	Y	Y	Y	.47	Y	N	Y	N	Y	.41	.71	N	N	Y	Y	Y	Y	.24
	Fine Arts	.02	Y	Y	N	.35	N	N	N	N	Y	.33	.57	N	N	N	Y	Y	Y	.22
	Geosciences	.05	N	Y	N	.36	N	Y	N	N	Y	.31	.59	N	N	N	N	Y	Y	.23
	Information	.03	N	N	Y	.46	N	N	N	N	Y	.43	.70	N	N	N	Y	Y	Y	.24
	Law	.05	Y	N	Y	.41	Y	N	Y	N	Y	.36	.70	N	N	N	Y	Y	Y	.29
	Liberal Arts	.05	Y	Y	N	.39	N	Y	N	N	Y	.34	.66	N	N	N	Y	Y	Y	.27
	Nat Sciences	.03	Y	Y	Y	.42	Y	Y	N	Y	Y	.39	.69	Y	Y	N	Y	Y	Y	.27
	Nursing	.01	N	Y	N	.33	N	N	N	Y	Y	.32	.53	N	N	N	Y	Y	Y	.20
	Pharmacy	.02	N	Y	N	.43	Y	N	N	N	Y	.41	.60	Y	N	Y	N	Y	Y	.17
	Public Affairs	.01	N	N	N	.25	N	N	N	N	Y	.24	.62	N	N	N	Y	Y	Y	.37
	Social Work	.02	N	Y	N	.24	N	N	N	Y	Y	.22	.66	N	N	N	Y	Y	Y	.42
	UG Studies	.02	N	N	N	.10	N	N	N	N	Y	.08	.92	N	N	N	N	N	Y	.82
Ave R ² Δ											.31								.31	
Semester	Fall 2005*	.04	N	N	N	.65	N	N	N	N	Y	.61	.94	N	N	N	Y	Y	Y	.29
	Spring 2006*	.04	N	N	N	.64	Y	N	N	N	Y	.60	.93	N	N	N	Y	Y	Y	.29
	Fall 2006	.04	Y	Y	N	.62	N	Y	Y	N	Y	.58	.92	N	N	N	N	Y	Y	.30
	Spring 2007	.04	N	Y	N	.63	N	Y	N	N	Y	.59	.92	N	N	N	N	Y	Y	.29
	Fall 2007	.03	Y	Y	Y	.60	Y	N	Y	N	Y	.57	.92	N	N	N	N	Y	Y	.32
	Spring 2008	.04	N	N	Y	.61	N	Y	N	N	Y	.57	.92	N	Y	N	Y	Y	Y	.31
	Fall 2008	.03	Y	Y	N	.62	Y	N	Y	N	Y	.59	.93	N	Y	Y	N	Y	Y	.31
	Spring 2009	.04	N	Y	N	.62	N	Y	N	N	Y	.58	.93	N	N	N	N	Y	Y	.31
	Fall 2009	.03	N	Y	Y	.62	Y	Y	Y	N	Y	.59	.93	N	N	Y	Y	Y	Y	.31
	Spring 2010	.08	Y	Y	Y	.65	Y	Y	N	Y	Y	.57	.94	N	N	N	Y	Y	Y	.29
	Ave R ² Δ											.59								.30
Instructor Group	Use of both	.04	Y	Y	Y	.53	N	Y	Y	N	Y	.49	.68	N	N	N	Y	Y	Y	.15
	Use of one	.04	N	Y	Y	.44	N	Y	N	Y	Y	.40	.70	Y	Y	N	Y	Y	Y	.26
	Ave R ² Δ										.45									.21

* Semesters in which electronic survey use was tested (n=10 in Fall 2005; n=28 in Spring 2006)

Notes: S=survey type; R=response rate; X=interaction between S and R; E=enrollment; C=course; I=instructor; Y=significant; N=not significant. The first set of regression analyses (Model 1) predicted overall course ratings from survey type while controlling for response rate and survey type X response rate (interaction term); Model 2 added enrollment and course; and Model 3 added instructor. Type III SS (Sums of Squares) indicate independent effects for each variable adjusted for all other variables in the model. The difference in R² from Model to Model (R² Δ=R²-change) reflects the added prediction for added variables.