

The Teaching Practices and Time Allocation of Faculty and Graduate Student Instructors

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Research Questions

1. How does the use of Effective Teaching Practices differ between faculty and graduate student instructors (GSIs) by demographic and course characteristics?
2. How does the proportion of time spent on class activities differ between faculty and GSIs?
3. How does the time spent on teaching-related activities differ between faculty and GSIs with different demographic and course characteristics?

Theoretical Background

- Variations have been found in teaching preferences and effectiveness among faculty with different personal and course characteristics (e.g. Lammers & Murphy, 2002; Nelson Laird, Garver, & Niskodé-Dossett, 2011). Nevertheless, only a small number of studies have explored teaching experiences of GSIs in the United States (e.g. Rushin, De Saix, Lumsden, Streubel, Summers, & Bernson, 1997; Volkmann & Zgagacz, 2004).
- Studies have explored the characteristics of effective teaching practices and its positive relationship with important student qualities (e.g. Blaich & Wise, 2008; Ginsberg, 2007; Hativa, Barak, & Simhi, 2001).
- A few studies have examined how faculty distributed in-class activities (e.g. Lammers & Murphy, 2002; Lyon & Lagowski, 2008; Umbach & Wawrzynski, 2005). However, little is known about the proportion of time that GSIs spend on in-class activities and how their in-class time distribution differs from faculty class-time distribution.
- Previous studies have explored the amount of time faculty spend on activities, such as research, teaching, and service (e.g., Bowen & Schuster, 1986; Kuykendall, Johnson, Nelson Laird, Ingram, & Niskode, 2006). More knowledge is needed about the time faculty and GSIs spend on a wider range of teaching-related activities.

Data Sources, Samples, and Measures

- Data sources: 2015 administration of the Faculty Survey of Student Engagement (FSSE) and the 2014 and 2015 administrations of the FSSE for Graduate Student Instructors (FSSE-G).
- FSSE 2015 was administered to 19,056 faculty at 133 institutions. FSSE-G 2014 and 2015 were administered to 2,967 GSIs at 12 research universities.
- Independent variables:
 - Faculty and GSI characteristics (e.g. gender identity, racial/ethnic identification, disciplinary area, the number of undergraduates taught in a year, and the number of undergraduate courses taught); Course characteristics (e.g. division, course size, general education requirement, and course format).
- Dependent variables:
 - The proportion of class time spent on various in-class activities (e.g. lecture; discussion; small-group activities; student presentations or performances) were examined
 - The time that faculty and GSIs spend on various teaching-related activities (e.g. preparing class sessions, teaching class sessions, and grading assignments and exams) was calculated by using midpoints of response ranges to estimate an average number of hours spent
 - Effective Teaching Practices (ET) is an aggregate measure that combines faculty and GSI perceptions of the extent to which they use a variety of educationally effective pedagogical techniques, such as clearly explaining course goals and requirements or using examples to explain difficult points

Analyses

- RQ1: *t*-tests and Cohen's *d* effect sizes were calculated, comparing ET scores between faculty and GSIs within demographic and course characteristics (i.e. comparing women faculty to women GSIs). Additionally, an Ordinary Least Squares (OLS) regression model was used to predict the impact of faculty, GSI, and course characteristics on ET.
- RQ2: *t*-tests and Cohen's *d* effect sizes were used to look at the differences between the average percentage of time spent on various in-class activities between faculty and GSIs.
- RQ3: *t*-tests and Cohen's *d* effect sizes were used to look at the differences between the average time spent on activities by faculty and GSIs. Additional ANOVAs with post hoc Tukey tests were used to look at the differences in time spent by full Professors, Associate Professors, Assistant Professors, full-time Lecturers/Instructors, part-time Lecturers/Instructors, and GSIs. Finally, a series of OLS regression equations were used to predict the impact of faculty, GSI, and course characteristics on time spent on teaching-related activities.

Highlighted Findings

1. *How does the use of Effective Teaching Practices differ between faculty members and GSIs by demographics and course characteristics?*
 - Faculty in Health Professions ($p < .001$, $d = 1.00$); in Physical Sciences, Mathematics, and Computer Science ($p < .001$, $d = .79$); teaching a combination of in-class and distance education ($p < .01$, $d = .78$); in Business ($p < .001$, $d = .77$); and teaching a class size of 31-40 students ($p < .001$, $d = .71$) displayed noticeably more effective teaching practices (ET) than GSIs in those fields or teaching those kinds of courses.
 - When examining the impact of overall faculty, GSI, and course characteristics on ET, faculty had much higher ET than GSIs ($B = .37$, $p < .001$). Faculty or GSIs who are women ($B = .24$, $p < .001$), Asian, Native Hawaiian, or other Pacific Islander ($B = .35$, $p < .001$), in the field of Education ($B = .19$, $p < .001$), who taught 26 to 50 undergraduate students ($B = .06$, $p < .05$) and taught 76 to 100 undergraduate students ($B = .06$, $p < .05$) during the school year, who taught an upper-level course ($B = .07$, $p < .001$), who taught a course with a general education requirement ($B = .17$, $p < .001$), or who taught a course in a distance education format ($B = .27$, $p < .001$) had the highest ET.
2. *How does the proportion of time spent on class activities differ between faculty and GSIs?*
 - Faculty spent the largest proportion of their class time on lecturing--a little over third of class time (37.9%), followed by a quarter of time (24.7%) on discussion, and then 15.7% of class time on small-group activities.
 - GSIs spent around a third of class time (33.7%) on lecture and less than a quarter on discussion (23.3%) and small-group activities (20.5%).
 - The biggest differences in how faculty and GSIs spent their time was that GSIs spent more time on small group activities ($p < .001$, $d = -.29$), faculty spent more class time on assessing student learning ($p < .001$, $d = .22$), and faculty spent more time on student presentations or performances ($p < .001$, $d = .20$).
3. *How does the time spent on teaching-related activities differ between faculty and GSIs with different demographic and course characteristics?*
 - The top three activities that faculty spent most time on were teaching class sessions (9.01 hrs/week), preparing class sessions (8.03), and grading assignments and exams (6.77). The top three activities that GSIs spent most time on were: grading assignments and exams (4.43 hr/week), preparing class sessions (4.37), and teaching class sessions (4.19).
 - The pattern of indicators in the overall model (entering faculty, GSI, and course characteristics together as independent variables) was very similar to the ones in the model with only faculty and course characteristics. There were several common indicators in the overall models and faculty models, such as gender identity, racial and ethnic identification, disciplinary area, and the number of undergraduate course taught in the school year etc. However, among the models with only GSI and course characteristics, only disciplinary area was the common indicator predicting the variations in GSI's time commitment on different teaching-related activities.

Significance, Discussion and Recommendations

- This study is significant for faculty and GSIs to establish mutual understanding about their teaching patterns.
- GSIs have more space to improve their effective teaching practices. Meanwhile, graduate schools, faculty advisors, and academic support staff should provide more support and resources in facilitating GSIs' effective teaching practices.
- More communication and exchanging of ideas are recommended between faculty and GSIs on course design and evaluation. Further thought should be given to ensuring that GSIs have experiences in teaching in a variety of contexts with a variety of teaching methods to best prepare them as future faculty.
- Although GSIs spent less time than full-time and part-time faculty, graduate schools can utilize the findings of this study to measure GSIs' time spent on teaching-related activities and compare it with school expectations on time commitment.
- The time commitment of GSIs varies among students with different racial and ethnic identifications, disciplinary areas, course sizes, and course formats. With this information, graduate schools will be able to better support GSIs in teaching through adjusting expectations and work load. GSIs additionally should be helped to understand the teaching time commitments required of faculty so that their expectations can more easily transfer in their future careers as faculty.

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