

Text Messaging as a Tool for Enhancing Student-Instructor Interactions

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Abstract

Maximizing student learning is first about engaging students. We investigated whether allowing students to use text messaging for course communication would enhance student instructor communication and concomitantly student engagement. We found that students did not prefer using text messaging for communicating with their instructor but that the availability of text messaging may have encouraged engagement via other methods such as email and face-to-face contact.

Introduction

Millennial/net generation students are more interconnected than any prior generation. Current modes of communication among instructors, however, still default to, in some order of preference, face-to-face meetings, email, and phone calls. As such, there may be a disconnect in the ways students would prefer to interact with their instructors and the ways available to them. It would seem, then, that to maximize student engagement, retention, and support, instructors should, if possible and practical, interact with their students via means that *students* prefer.

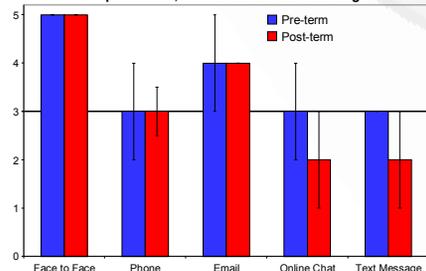
It is well-established that student-instructor interactions are critical to student learning (Chickering and Gamson 1987). However, student-faculty contact outside of class occurs on average only once per month, with 9% of students not meeting with their instructors outside of class during an entire semester (Arum, Roksa et al. 2011). Faculty members can encourage contact by continuing to evolve in how they engage students, including through employing new technologies (Heys 2008; Hadley and Debelak 2009; Liberatore 2010; Adams, Evangelou et al. 2011).

Among the technologies that should be considered is text messaging. A recent study found that 12-17-year-olds use texting as their primary mode of communication with friends, texting at nearly twice the frequency of face-to-face interactions (Lenhart, Ling et al. 2010). Interestingly, teens reported using voice calls preferentially to reach their parents. This suggests that these students recognize that different modes of communication can be useful for different purposes.

In this work, we sought to determine if students would want to use text messaging for professional communication and if doing so would increase their engagement with the course. The genesis of the project was the question of whether students' ubiquitous use of texting, which is inherently distinct from face-to-face meetings in synchronicity, portability, and relative anonymity, was in some measure responsible for the decline in office hours attendance. Thus, **could enabling texting for class communication re-establish the more traditional, and potentially more valuable, routes of communication?**

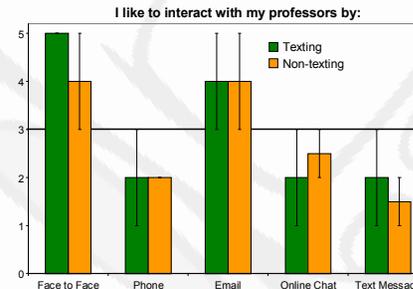
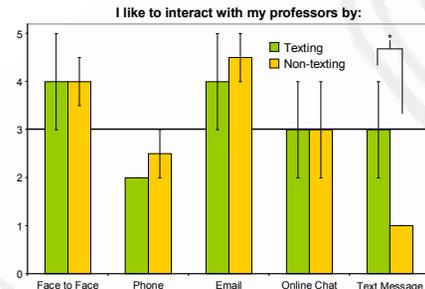
General Attitudes

In terms of getting help from your professors, how useful are the following:



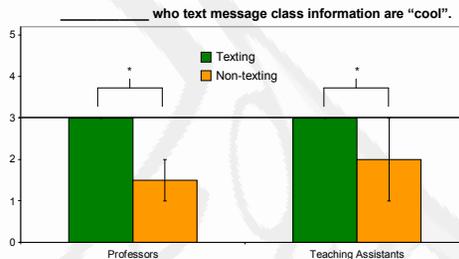
Comparison of utility of different communication strategies. Rating scale: 5 = always useful, 4 = useful, 3 = neutral, 2 = rarely useful, 1 = not useful. Data are reported as the median \pm the median absolute deviation; non-parametric statistical analysis by Mann-Whitney-Wilcoxon rank sum test; ransum function in MATLAB with a significance threshold of $p = 0.05$.

Pre-Term and Post-Term Preferences

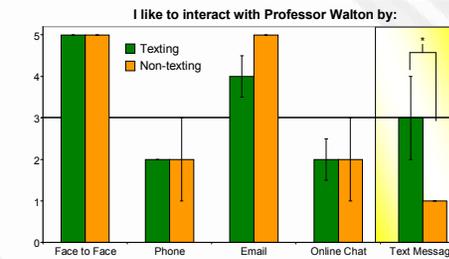


Comparison of preference for different communication modes. Rating scale: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Pre-term preferences (left) showed a significantly more positive attitude toward texting among the students in the texting section. However, the effect did not persist to the post-term survey (right). Data are reported as the median \pm the median absolute deviation; non-parametric statistical analysis by Mann-Whitney-Wilcoxon rank sum test; ransum function in MATLAB with a significance threshold of $p = 0.05$. * indicates $p = 0.004$.

General and Instructor-Specific Rapport

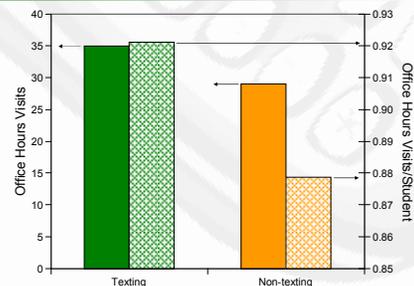


Student attitudes towards professors and TAs who use texting for course communication. Rating scale: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Data are reported as the median \pm the median absolute deviation; non-parametric statistical analysis by Mann-Whitney-Wilcoxon rank sum test; ransum function in MATLAB with a significance threshold of $p = 0.05$. * indicates $p = 0.022$ (professors) or 0.031 (TAs).

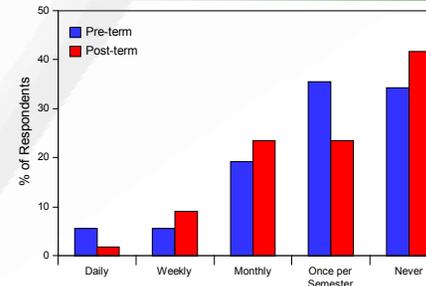


Impact of the availability of texting on post-term student preferences with respect to the specific instructor. Rating scale: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Data are reported as the median \pm the median absolute deviation; non-parametric statistical analysis by Mann-Whitney-Wilcoxon rank sum test; ransum function in MATLAB with a significance threshold of $p = 0.05$. * indicates $p = 0.002$.

Better Engagement?

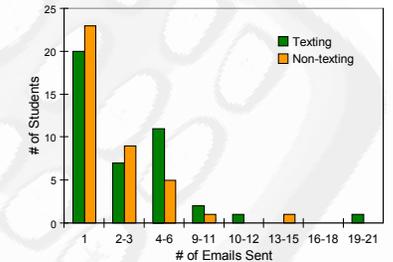
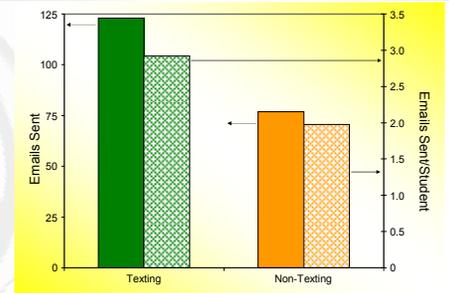


Impact of the availability of texting on student attendance at office hours. Students in the section with texting attended office hours more times overall (green, left axis) and at a slightly higher per student frequency (green pattern, right axis) than students in the section without texting.



Pre/post-term comparison of students' interactions with any single instructor. Students were asked how frequently they met with their instructor outside of class for any reason. Roughly 90% of respondents said monthly or less frequently.

Unintended Benefit?



Impact of the availability of texting on student email communication. a.) Students in the texting section emailed the instructor and TA more during the semester (green, left axis) and with a greater per student frequency (green pattern, right axis) than students in the non-texting section (orange and orange pattern, respectively). Standard deviations on the frequencies are not shown for image clarity. Mean \pm standard deviations for the texting and nontexting section frequencies are 2.9 ± 3.8 and 2.0 ± 2.8 emails/student, respectively. b.) Shown are the histograms for the number of students who sent a certain quantity of email messages to the instructor and TA during the term. From these results, the bias in (a) is likely not a result of all of the most prolific email senders being in the texting section.

Conclusions

- Students choose email and face-to-face contact, even with other choices.
 - Texting may become more accepted.
- Students do not take full advantage of opportunities to interact with their instructors.
- Perception of improved rapport from texting availability may drive engagement with the specific instructor but not necessarily overall.

Impact/Implications

- Text messaging should be used by the faculty as a means of communication with the students.
 - But, faculty members need to manage it in a way that they prefer (e.g., establish guidelines for use).
- Engaging students likely requires a multi-modal approach.
 - Early data suggest that there might be demographic differences in likelihood to use texting but further data analysis is required.

Acknowledgments

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