

Improving Attendance at Adult Literacy Centers

Overview

The Maxwell X Lab recently collaborated with ProLiteracy and a number of local adult literacy organizations to test whether weekly reminders and encouragement would affect attendance. The automated weekly messages were personalized reminders that also provided general encouragement based on behavioral science research in values affirmation, growth mindset, and grit. Students could also reply to the messages, allowing the staff to have ongoing text conversations with students via an online platform. **After 8 weeks, the weekly encouragement increased attendance by 25 percent. The absolute improvement in attendance remained after 15 weeks.** Below are details about the intervention and research design followed by experimental results.

Intervention

Longer programs, especially ones that require multiple in-person classes, can substantially lower the odds of following through or successful completion. Even small hurdles can deter students from attending class or completing their program. However, behavioral science has found that regular, low-cost communication can overcome these barriers to success. For instance, a randomized controlled trial found motivational text messages and planning prompts sent to adults in a literacy program increased attendance by 7 percent compared to the business-as-usual group.¹ Personalization can also increase the likelihood students pay attention and follow through on action items. In another rigorous field experiment, eight text messages to high school graduates, reminding them of their upcoming steps, increased college attendance by 9 percent.² Thus, our intervention leveraged simple, weekly text messages that combined personalization, motivation, and principles from successful interventions using growth mindset and values affirmation to boost student perseverance.³

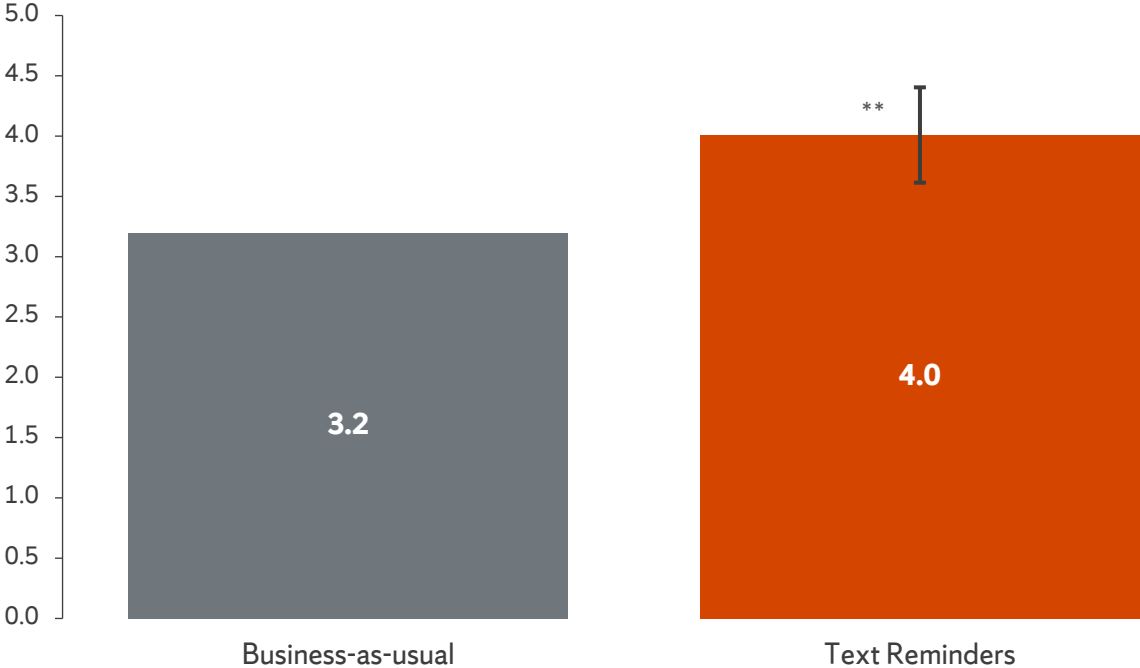
Research Design

The principle motivation of the intervention was to minimize staff requirements while maximizing student impact. During the spring of 2018, we worked with a handful of adult literacy organizations to plan and develop the texting software and randomization plan. Each organization had individualized access to the texting platform for two-way communication and a modified Excel workbook to seamlessly randomize students to the intervention. Beginning June 2018, students were randomized, on a rolling basis, to either business-as-usual (control) or weekly text encouragement across four organizations. Outcomes were tracked for up to 15 weeks, depending on the organization.⁴ In total, the intervention involved 847 adult learners with various backgrounds on education/literacy levels.

Results - 8 Weeks

After 8 weeks, students in the intervention group had attended classes for nearly an additional week on average (0.8 more weeks; p-value < .01).⁵ Compared to the average weekly attendance in the control group, this represents over a 25 percent increase.

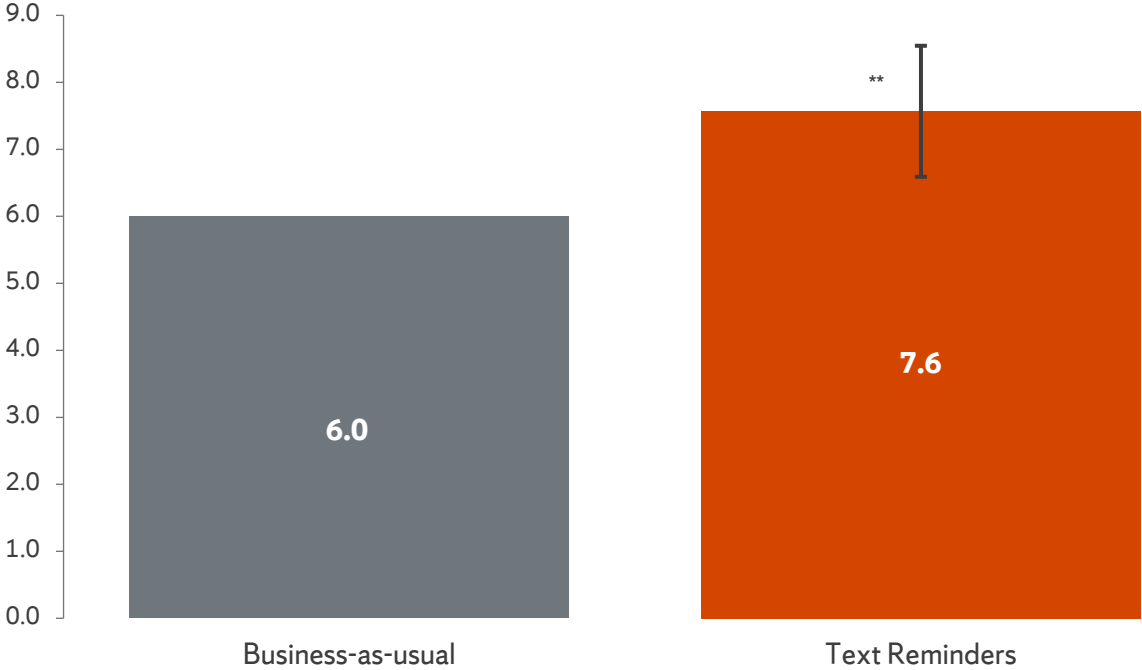
Figure 1: Weekly Attendance (8 weeks)



n = 847 | *** p<.001, ** p<.01, * p<.05

After 8 weeks, students in the text reminder/encouragement group showed up 1.56 days more on average (7.6 compared to 6.0 days; p-value < .01).⁶ This improvement also represents an over 25 percent increase in attendance compared to the control group.

Figure 2: Daily Attendance (8 weeks)

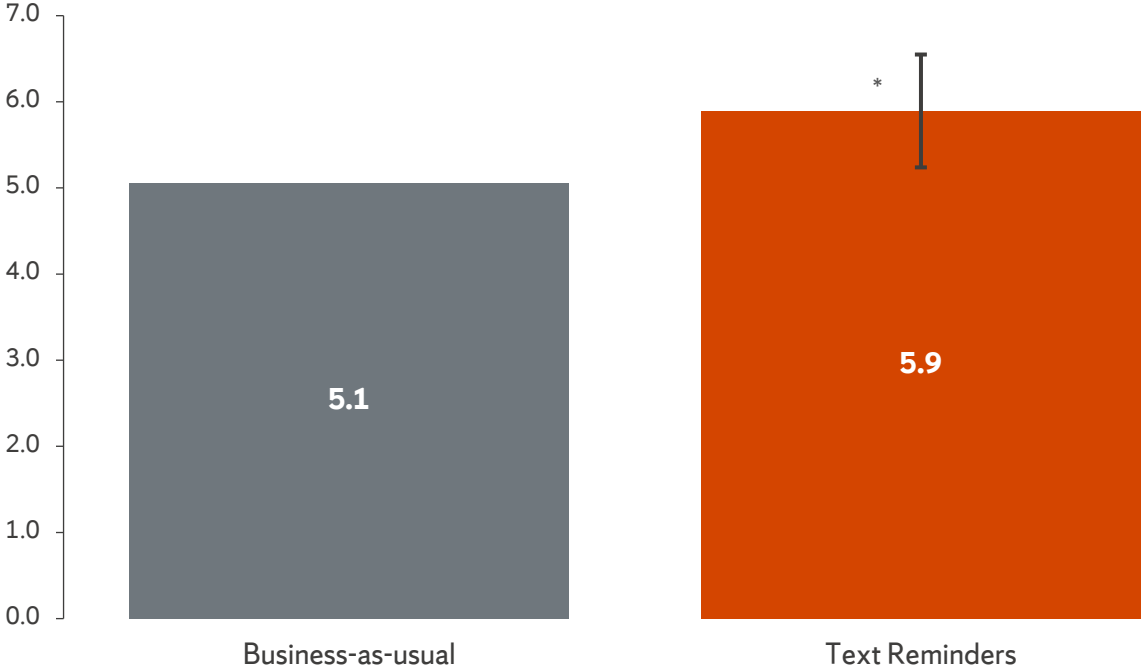


n = 847 | *** p<.001, ** p<.01, * p<.05

Results - 15 Weeks

After 15 weeks, the students assigned to the treatment group still attended 0.8 more weeks of classes than their peers in the control (5.9 compared to 5.1 weeks; p-value < .02). This represents a 16 percent increase compared to the average among students in the business-as-usual group.

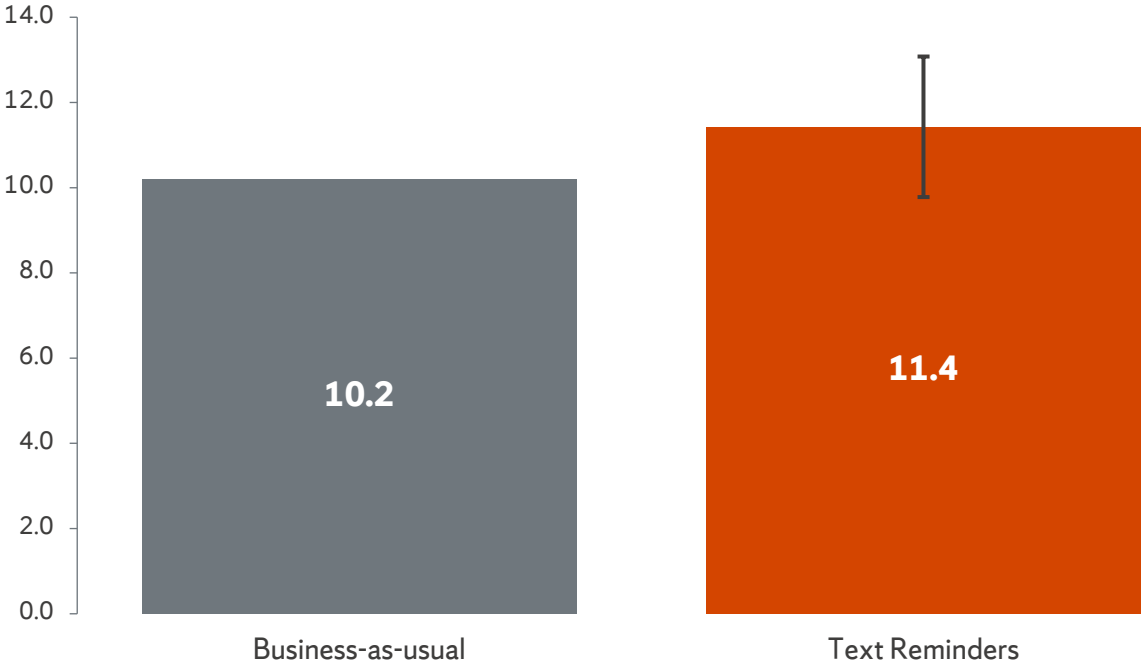
Figure 3: Weekly Attendance (15 weeks)



n = 847 | *** p<.001, ** p<.01, * p<.05

After 15 weeks, students sent reminders/encouragement showed up an additional 1.2 days, but this was not a statistically significant difference. It is important to note that the treatment effect is close in absolute terms to the 1.56-day difference after 8 weeks, coincides with a statistically significant gap in weeks (Figure 3), and may suffer from the fact that only three organizations had 15 consecutive weeks of classes. In context, this evidence suggests that the difference may be real but statistically undermined by a small sample.

Figure 4: Daily Attendance (15 weeks)



n = 847 | *** p<.001, ** p<.01, * p<.05

Discussion

The behaviorally-informed encouragement boosted attendance by 25 percent early on and the absolute difference did not fade away. Notably, our intervention was at least twice as effective as a similar, published adult literacy experiment after 15 weeks (16% versus 7%). This is promising evidence that such reminders are a cost-effective addition to broader student retention strategies. In fact, one of the four participating organizations immediately phased-in the intervention on their own as standard practice.

We hypothesize that further modifications—e.g., reinforcing specific class activities or homework and incorporating even more behavioral science research on growth mindset, values affirmation, and grit—could have an additional positive effects on attendance. Indeed, our experiment found suggestive evidence that organizations which used the bi-directional chat feature (between staff and student) more frequently had the greatest improvement in attendance.

The sample is too small to make inferences about whether particular messages were more effective or certain student groups were more responsive to the intervention. We recommend additional experiments on larger samples to unearth these important nuances and to further improve student outcomes.

¹ Chande, Raj, Michael Luca, Michael Sanders, Xian-Zhi Soon, Oana Borcan, Netta Barak Corren, Elizabeth Linos, Elspeth Kirkman, and Sean Robinson. "Curbing adult student attrition: Evidence from a field experiment." (2015).

² Benjamin L. Castleman and Lindsay C. Page, "Summer Nudging: Can Personalized Text Messages and Peer Mentor Outreach Increase College Going Among Low-Income High School Graduates?," *Journal of Economic Behavior & Organization* 115 (2015): 144-160.

³ Walton, Gregory M., 2014. "The New Science of Wise Psychological Interventions." *Current Directions in Psychological Science*, 23(1): 73-82

⁴ One organization only has 8-week classes.

⁵ This result controls for teacher. We also could not create an attendance rate because some participating programs do not have scheduled class days and times.

⁶ Graph rounded from 1.5681. This result controls for teacher.