

Strengthening Connections

Increasing apprenticeship course attendance
through behavioural interventions





Contents

Executive summary	5
1. Background	6
2. Trial aim	7
3. Trial design and interventions	7
4. Results	8
5. Policy implications	10
6. What's next?	11
7. References	11



Executive summary

The Behavioural Insights Unit ran a randomised control trial (RCT) with Training Services NSW (TS NSW) and TAFE NSW South Western Sydney (henceforth 'TAFE NSW') to increase the proportion of course lessons that apprentices and trainees (henceforth 'learners') attend.

We found that if the employers of learners were sent a text message detailing what the learners are studying at TAFE, we could significantly increase course attendance.

Policy implications:

Based on the findings from our trial, we proposed the following policy recommendations:

1. Continue timely text messages with actions employers can take.

We recommend creating stronger links to translate curriculum (including theory) to on-the-job-learning. We recommend that TAFE NSW enhances communication with employers using SMS at optimum times, detailing what learners are learning and providing succinct tips, 'cheat-sheets,' checklists and other actionable SMSs for employers to boost class attendance.

2. Use behavioural insights (BI) to disseminate best practice to employers:

- a. Make behaviour change easy. Reduce the hassle for employers to learn better communication and supervision skills, with mobile-accessible resources and support.
- b. Design attractive rewards and sanctions. Boost communication between learners and employers using incentives and disincentivise poor practices.
- c. Reinforce social norms of best practice. Disseminate best practice from employers with high completion rates. Make completions data available from top employers, using social comparison methods from behavioural science. This will stimulate peer influence and promote changed behaviour among low-performing employers.
- d. Maintain timeliness of messages. Effects of messages are short-lived and require ongoing reinforcement during difficult periods where learners may be considering quitting.

3. Apply lessons from the trial to better use data on completions.

As TAFE NSW has moved to the 'One TAFE' model and looks to standardise course content in 2019, the methods of our intervention show that getting access to data early and achieving consistency in reporting attendance and cancellations would benefit these aims. Better use of data allows for superior monitoring of negative patterns, targeting and timing of interventions. Proactively support learners using machine learning to identify problem patterns in class attendance and target interventions. Support employers' supervision capability using electronic prompts via SMS. SMS can be used to update records and inform employers on learners' ongoing outcomes and class attendance.

1. Background

In 2015, the Premier Mike Baird set a state target of 65% completion rates for apprentices and trainees ('learners'). Since November 2015, BIU has worked closely with Training Services NSW (TS NSW) to design and deliver a range of interventions to increase the proportion of people completing apprenticeships and traineeships. TS NSW is an agency within the Department of Industry that acts as the government regulator of vocational education and training in NSW.

Our collaboration with TS NSW has resulted in three trials. The first trial, Employer Support, began in late 2015 and final results were delivered in July 2018. That trial included fieldwork with 50 learners, employers, registered training organisations (including TAFE NSW) and other stakeholders. We also tested an intervention on goal setting and meeting contractual obligations. This report describes the second trial, Strengthening Connections, which builds on Employer Support. Strengthening Connections began in November 2016 and was finalised in July 2018. The trial was run in partnership with TAFE NSW. The third trial began in October 2017 and is presently ongoing.

TAFE NSW and TS NSW run multiple initiatives to improve apprenticeship and traineeship completions, including training programs for employers, subsidies for learners, as well as various support resources. Our partnership on this trial was to complement these extensive efforts using behavioural insights.

Barriers to completion

Our previous fieldwork revealed two key barriers to apprenticeship and traineeship completion: a disconnect between formal study and on-the-job learning, and insufficient employer support (Behavioural Insights Unit, 2019).

1. Significant disconnect between what happens at TAFE and what happens at work

- At work, learners often do not communicate what they are learning to their employers. Consequently, employers do not value the training their learners received.
- Employers are also often unaware of what their learners study at TAFE so they cannot give them a chance to practice their skills at work. Due to this disconnect, both employers and learners have negative perceptions about the value of the training they receive at TAFE.

2. Insufficient employer support

- While some employers strongly support their learners, others are not providing adequate support.
- We found that some employers are reluctant to invest time and training for their learners until the learners can prove that they will be valuable employees. The lack of employer support may have reduced the opportunity for the learners to apply the skills that they have learnt at work. As such, they may not value their learning at TAFE NSW and hence quit early.

We also conducted a literature review to identify key barriers and drivers of attendance and completions.

SMS can improve communication with learners

Relevant research in relation to school attendance shows that improving communication between teachers and parents has increased benefits for students, from preschool to high school (Burgess, Metcalfe, & Sadoff, 2016; Fryer, Levitt, & List, 2015; Groot, Sanders, Rogers, & Bloomenthal, 2017; Jeynes, 2007; Miller et al., 2016). These studies show that incentivising student behaviour, and getting parents involved in their children's study, progresses educational engagement and reduces absenteeism. Text messaging has enriched outcomes when parents were informed about dates of upcoming assessments (tests and exams), homework, and what children are learning at school (Education Endowment Foundation, 2016; Groot et al., 2017). Our trial sought to apply these empirical insights into a new setting for a different cohort: vocational learners and their employers.

2. Trial aim

The aim of our trial was to test whether a behavioural intervention to expand communication about TAFE courses could positively improve apprentice and trainees' class attendance. Our secondary interests were to see if this would enhance interactions between learners and employers, and advance completions.

3. Trial design and interventions

We ran an RCT with one set of learners in the Treatment group - the group who received our behavioural intervention. Their employers received text messages for one semester. They were

encouraged to have conversations about what the students were learning in class, or to let students apply this learning at work.

Each week, TAFE NSW teachers and head teachers wrote to our project team with a brief summary of what they taught in class. We then used this content to craft a message, either prompting employers to give the apprentice a chance to practice that skill on the job, or to talk to their apprentice about that topic. These messages were designed to:

- reinforce the value of the formal training
- remind the employer that it is critical for the apprentice to be in class each week
- encourage employers to connect the formal training with the on-the-job training, and to rotate the work program of their learners.

The other set of students were in the Control group. They benefited from the same level of service all students already receive, but without these text messages.

We included 48 classes in four fields: electro-technology, plumbing, carpentry, and allied timber trades. Students in our trial were randomly allocated into Treatment or Control based on the classes they were enrolled in.

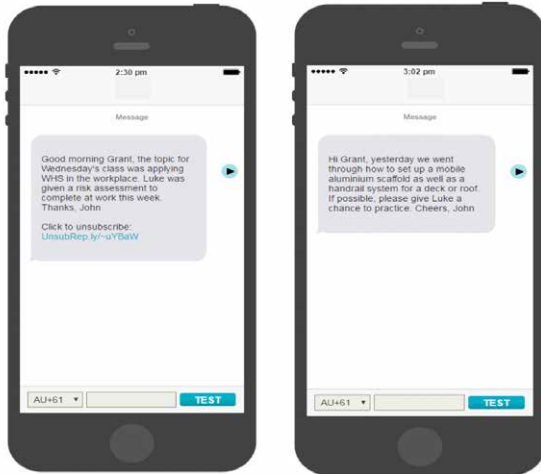


Figure 1 - Sample text messages we sent during our trial



Figure 2 - Overview of the intervention

4. Results

Text messages had a positive effect on class attendance (Primary outcome measure)

Our results showed that learners in both the Treatment and Control groups generally attended their classes at TAFE NSW and did not withdraw from their courses within the first semester of their course (Behavioural Insights Unit, 2018). This low withdrawal rate could be due to a lag in updating the withdrawal or because it takes longer than one semester for these first year learners to decide whether to stay in the course or not.

The text messages to employers were effective in increasing the students' class attendance (3.1 percentage points). This effect was mainly driven by attendance in the last two weeks of Term 2. This finding translates to 147 out of 966 (15.2%) extra classes that students attend as a result of our treatment.

The impact of our trial may be understated because of the possibility of spillover. This refers to the possibility that learners in the Control group who worked with employers who also had students in the Treatment group (the Spillover group) may have also benefited from the treatment, as employers may have changed the way they treated all of their employees as a result of our treatment. For example, receiving a message encouraging conversations with one of their learners, employers may have improved engagement with their other learners, leading to increased class attendance for both sets of learners.

The treatment did not encourage more interaction (Secondary outcome measure)

To better understand the experience of receiving additional communication (in the form of the text message) versus the standard business as usual communications, learners in both Treatment and Control groups, as well as their employers, were invited to complete a survey. The response rates for both surveys were low and while we could not draw strong conclusions from them, some interesting findings are worth exploring further.

Learners in the Treatment group did not report more frequent interactions with their employers or more opportunities to practice what they learnt at TAFE on the job than those in the Control group. Similarly, employers with learners in the Treatment group were not more likely to agree with the statement that they knew what their learners were learning at TAFE than employers with learners in the Control group.

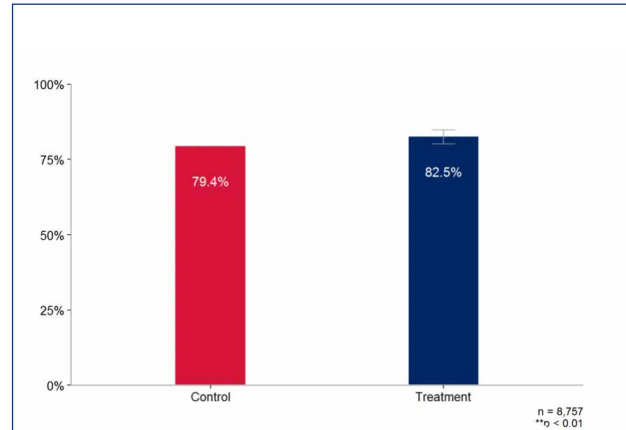


Figure 3 - Attendance rate by conditions

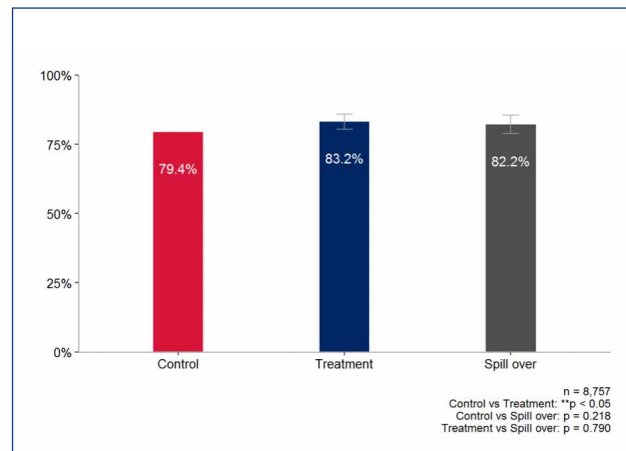


Figure 4 - Spillover group - attendance rate by conditions

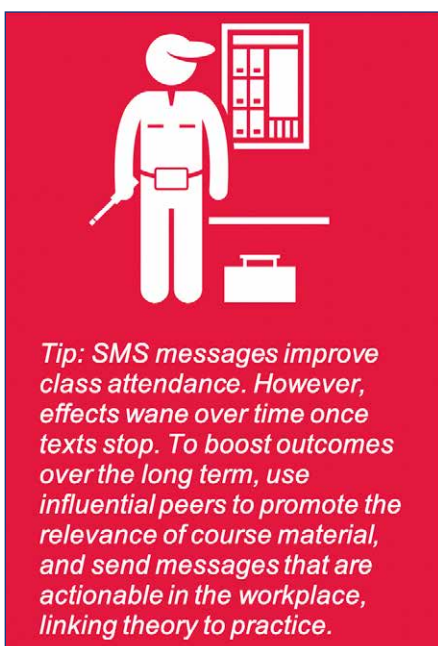
It could be that receiving text messages increased class attendance simply due to greater perceived social pressure from employers to learners, rather than the specific content of the messages.

LEARNERS AND EMPLOYERS RECOMMEND TAFE

Nevertheless, our survey suggests all learners and employers were likely to recommend studying at TAFE; with the main exception of carpentry employers. For example, during our trial, carpentry courses were focused on mathematics, and such messages may have confused employers who did not see the immediate relevance to the workplace. For example, a typical example was: 'This week we learned about Pythagoras' theorem.' We suggest reviewing relevance of carpentry courses with employers and include actionable messages to show the link between theory and practice. For example, 'This week we learned about Pythagoras' theorem to show how to accurately lay out footing for a new building. Here's a quick tip on how you can get Sarah to try this at work <include hyperlink to five-minute exercise easily achieved at work>.'

Electro-technology employers were more likely to promote the importance of studying at TAFE than electro-technology learners. The messenger effect might be used with electro-technology learners, by inviting electro-technology graduates or employers into the classroom to talk about how theory ends up being useful to daily work as a successful business owner.

IMPRACTICAL INFORMATION MAY CONFUSE EMPLOYERS



Our survey also showed that employers who received a text about what their learners were studying were less likely to agree that the course helps their learners on the job than those who had no such information. This may be due to information bias, where too much information becomes overwhelming when it is not immediately actionable. Information about course content alone may not be strong enough to encourage interactions between employers and learners, or to create opportunities for learners to practice what they study on the job. Showing practical applications of course content could combat this information bias.

No impact on cancellation but 1/5 of learners who leave keep studying (Secondary outcome measure)

Looking at TAFE NSW contracts, we found that our treatment had no lasting impact on contract cancellation. The treatment ran for only three months in the first semester. Both the Treatment and Control groups showed similar levels of TAFE NSW contract cancellation rates 12 months after the trial. When we analysed the status of the individual-level latest contracts, we also found no significant differences in the contract cancellation rates between the Treatment and Control groups. This suggests the benefits of messages to class attendance wear off without ongoing reinforcement.

Although the treatments have no impact on either the TAFE NSW contract or the individual-level contract cancellation rates, a comparison of the two types of analyses reveals an interesting pattern: the individual-level cancellation rates are much smaller. This implies that cancelling a contract does not mean that the learner drops out of their apprenticeship or traineeship. We suggest that the individual-level analysis may be more meaningful than the TAFE NSW contract analysis because learners persevere in their journey through subsequent contracts.

POSSIBLE IMPACTS AND FUTURE ENHANCEMENTS

These results may have been impacted by our treatment assumptions based on other trials with different cohorts. Other RCTs focused on enhanced communication between teachers and parents to improve outcomes for young, full-time learners. Our trial targeted communication between teachers and employers, to improve interactions and on-the-job learning for older learners who were studying full-time as well as working full-time. In our RCT, it was the workplace context that had the greatest impact on cancellation, not the learning environment as was the case with other RCTs.

Incentivised actions, measuring the impact of messages ('feedback loop') and a focus on actionable information might improve these outcomes in future trials.

Given that cancellation is not the end of the journey, we recommend increasing understanding of different pathways for learners to complete their apprenticeship. This might include transitioning to another employer contract, or changing their course, mediation or other support offered by TAFE NSW and its partners. We also recommend continuing to use timely messages to encourage class attendance, with improved content focusing on simple, behaviourally-informed actions that employers can easily deliver in the workplace.

5. Policy implications

Based on the findings from our trial, we proposed the following policy recommendations:



1. Continue timely messages with actions employers can take.

We recommend creating stronger links to translate curriculum (including theory) to on-the-job-learning. We recommend that TAFE NSW enhances communication with employers using SMS at optimum times, detailing what learners are learning and providing succinct tips, 'cheat-sheets,' checklists and other actionable SMS for employers to boost class attendance.



2. Use behavioural insights to disseminate best practice to employers

- Make behaviour change easy. Reduce the hassle for employers to learn better communication and supervision skills, with mobile-accessible resources and support.
- Design attractive rewards and sanctions. Boost enhanced communication between learners and employers using incentives, while disincentivising poor practices. For example, some professional associations require practitioners to maintain Continual Professional Development (CPD). TAFE NSW could partner with these professional bodies to offer supervisor training workshops to employers as part of their CPD points.
- Reinforce social norms of best practice. Disseminate best practice from employers with high completion rates. Make completions data available from top employers, using social comparison methods from behavioural science. This will stimulate peer influence and promote changed behaviour among low-performing employers.
- The messenger effect shows that people will be most receptive to information when it comes from a person close to their social circle that they admire. In this case, having high-performing employers reach out to low-performing employers might help them adopt 'best practice' and boost awareness of the business benefits of keeping learners on to completion. Most employers are not aware how their completion rates fare in comparison to other employers. A message at the point of signing up a new apprentice might include a comparison to establish their base rate (for example, 'Most employers in your area have a completion rate of 60%, and you're currently at 35%'). Leaderboards that publish information on best performing employers in different local areas (those with high completion rates) might lift public accountability and inspire other employers to improve their outcomes.
- Maintain timeliness of messages. Effects of messages are short-lived and require ongoing reinforcement during difficult periods where learners may be considering quitting. Our previous trial ('Employer Support') found that learners are most likely to leave during the first three to six months of their first year. The default setting for learners who are struggling is to quit. We need to create a new default that opens up new pathways to keep studying. The first six-month period would be an ideal time to send timely messages with actionable advice or links to TAFE NSW resources that can help learners navigate problems, change employers without dropping out of their apprenticeship or traineeship, and persevere



3. Apply lessons from the trial to better use data on completions.

As TAFE NSW has moved to the 'One TAFE' model, it looks to standardise course content and systems in 2019. Our methods would complement these aims. Our treatment was resource intensive, and faced many delivery challenges, such as cleaning data (for example, some teachers used the symbol 'A' to mean 'attended class' while others used 'A' to mean 'absent'). Our trial showed that achieving consistency in reporting attendance and cancellations and getting access to data early would benefit the enhancements being implemented by One TAFE. Better use of data allows for enhanced monitoring of negative patterns, targeting and timing of treatments.

Proactively support learners using machine learning to identify problem patterns in class attendance and target interventions. Support employers' supervision capability using electronic prompts via SMS. SMS can be used to update records and inform employers on learners' ongoing outcomes and class attendance.

6. What's next?

We are working with our partners at TAFE NSW and TS NSW to disseminate the treatment outcomes on class attendance and other lessons from our trial to improve vocational education planning and policy.

We are supporting TAFE NSW and TS NSW to continue testing SMS messages to boost attendance and on-the-job learning. We have also provided our partners with advice about how to improve data collection and technology to enhance apprentice and trainee retention. We will produce a practical guide for how to use SMS technology to boost communication, support and outcomes of learners. TAFE NSW will be incorporating this body of recommendations into broader activities that the organisation is undertaking to enhance customer experience.

Our trial would be of interest to other jurisdictions currently working on improving apprenticeship and traineeship attendance and completion rates.

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