



Functional communication training

School Based Research Project 2017 Interim Report Woodbury Autism Education and Research

Project overview

This project aims to examine the efficacy of functional communication training (FCT) — one of the proactive research based strategies of Applied Behaviour Analysis (ABA) used for decreasing challenging behaviours and increasing effective communication for children with autism (Heath, Ganz, Parker, Burke, & Ninci, 2015). Specifically, the project aims to provide:

- further evidence for the efficacy of FCT within the Australian context
- new evidence for the use of FCT with students in school environments
- new evidence regarding treatment integrity for the implementation of FCT
- new evidence regarding what specific components of FCT must have high treatment integrity in order to be maximally effective.

Treatment integrity, or adherence, is the degree to which treatment is implemented as intended. Evidence suggests that treatment integrity can be directly related to intervention outcomes (Fiske, 2008). Establishing reliable treatment integrity is important to student outcomes and behaviour change when using ABA with students with autism. In light of this, the project addresses the following questions:

- What are the measurable outcomes of students when receiving FCT?
- Is treatment integrity in FCT implementation important to these student outcomes?
- If treatment integrity is important to student outcomes, which dimensions of treatment integrity seem most important?

The research team will examine the use of a new data collection tool used to measure instructors' adherence to FCT implementation. In addition, they will describe how the adherence to this intervention impacts on specific student outcomes and which aspects of the intervention require higher integrity in order to produce positive results.

The research team

The research team is led by Sonja de Boer, Executive Director, who also acts as the project mentor. The team is supported by academic mentor Associate Professor Michael Faggella-Luby (Texas Christian University).

Project design

The project design includes a mini pilot study and two phases of data collection:

- phase 1: 26 April to 23 September, 2016
- phase 2: 31 January to 30 June, 2017.

In these two phases, the research team will gather evidence against two (null) hypotheses:

- FCT does not affect student outcomes at all
- treatment integrity, or instructor fidelity, has no measurable effect in the successful implementation of an FCT program.

Data relevant to each research question will be collected and analysed to see if they support or contradict the above hypotheses. If results of data analysis contradict either hypothesis, this will enable the team to confirm that they have contributed evidence supporting the effective use of FCT for children with autism, and/or the importance of treatment integrity in the implementation of an FCT program.



Progress to date

Initially, a mini pilot study was conducted in order for the research team to finalise the definitions of target behaviours and topics for training teachers. This helped the team realise that the strategy of breaking down the target behaviours into specific units of measurement enabled them to effectively define the behaviours, and to collect data on each individual learning unit that occurs during FCT implementation.

Specific theory training was provided on a Professional Development Day regarding the specifics of FCT, the different teaching phases and its use with children with autism. Videos examples were used, and time to practice collecting data on student behaviour were part of this training. The research team developed a specific format

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for the FCT procedure sheets, and then each student's FCT procedures were reviewed during class meetings.

In phase 1 of the project, nine staff took part in a 20-week intervention phase. Each week, specific instructors were assigned to work with specific students on their current linguistic FCT phrase being taught, and to video this learning session. Over the 20-week period, each instructor completed two learning sessions for each phase of the FCT process. Each instructor video-taped their learning session with the assigned student and then returned that video to the research team for review and data collection.



An overall adherence percentage score for each learning session regarding the instructor's treatment integrity was calculated and recorded. An overall percentage score was also calculated and recorded for the student responses. These scores were used to review the overall progress of student learning and overall progress and/or maintenance of treatment integrity by instructors. Quality factors were also taken into consideration and scored. These factors were considered to be of value to the overall implementation of ABA strategies during the intervention. After each video review, the instructor was provided with feedback regarding their performance.

At this point, the team has done some preliminary analysis of data collected in phase 1. The overall data for two students have been graphed as examples of specific FCT phrases and target behaviours that were worked on during phase 1.

Throughout the research project, most instructors demonstrated high quality and high adherence. Most students were consistently improving their functional communication and appropriate behaviours, while decreasing inappropriate behaviours. Ultimately, the team will determine what should be the cut-off score for instructor adherence and overall quality at which FCT needs to be implemented in order to ensure that student will improve functional communication and appropriate

behaviour. This will be determined after all the data from phase 2 are collected and analysed.

Where to next?

Results of the project to date indicate that while some students may be more difficult to work with (possibly resulting in lower adherence and/or lower quality scores), the student may still continue to progress with their skills and learning. This may be explained by the fact that differences in autism characteristics among students could have been an important factor determining whether or not the student will improve. While it may be impossible to parse out all the variables effecting students' progress, it is possible to determine the causal relationships between FCT interventions and a student's progress. This requires the team to continue their work to provide more evidence of this within the Woodbury setting.

It has been challenging for the team to find another school site to implement a smaller version of this FCT study during Terms 2 and 3 of 2016. In order to address this, the team has developed an alternative plan — providing revised FCT training and coaching to Woodbury staff who are part of phase 2 and examining if there is a difference in instructor treatment integrity and student progress.

Woodbury staff have been very supportive of this project and look forward to further implementing it in 2017. The team will be presenting this research at the annual *ABA International Convention* in May, 2017 in Denver, Colorado, USA.

References

- Fiske K.E. (2008). Treatment integrity of school based behaviour analytic interventions: A review of research. *Behaviour Analysis in Practice*, 1(2), 19-25.
- Heath, A. K., Ganz, J. B., Parker, R., Burke, M., & Ninci, J. (2015). A meta-analytic review of functional communication training across mode of communication, age, and disability. *Review Journal of Autism and Developmental Disorders*, 2(2), 155-166.

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