ABA in the Classroom: Acceptability of a Remote Educator Training to Increase the Use of Evidence-Based Practices for School Professionals

Nikkolina Prueitt, M.Ed., BCBA, LBA, Lynne Hyman, M.Ed., BCBA, LBA, Jennifer Hamrick, PhD, BCBA-D, LBA, and Jongpil Cheon, Ed.D

TEXAS TECH UNIVERSITY
The Burkhart Center *for* Autism Education & Research

Introduction

According to the National Center for Education Statistics, the number of students ages 3-21 receiving special education services in the United States during the 2021-2022 school year was 7.3 million, a 13-15% increase since 2010-2011. Due to this escalation, teachers are expected to support this growing need. *ABA in the Classroom* is an asynchronous training curriculum that provides the foundational skills of Applied Behavior Analysis (ABA) needed to work with students in educational settings. This training specifically targets the use of evidence-based practices (EBP) when working with students who have autism. In addition, coaching and feedback sessions are supplemental synchronous trainings that provide further understanding of content and individualized applications. The current project assessed the benefits and effectiveness of a remote education training modality for attendance, attrition, increasing or maintaining educator competency in ABA, and overall acceptability across all training formats.

Research Questions

Question 1: Does the *rate of completion* differ for school professionals who participate in an asynchronous training in comparison to an asynchronous training with the addition of synchronous coaching and feedback?
Question 2: Does the *knowledge acquired or maintained* differ for school professionals who participate in an asynchronous training in comparison to an asynchronous training with the addition of synchronous coaching and feedback?
Question 3: Does the *level of acceptability* differ for school professionals who participate in an asynchronous training in comparison to an asynchronous training with the addition of synchronous coaching and feedback?

Methods

Participants:
186 school professionals consisting of teachers, paraprofessionals, administrators, and support staff (figure 1)
Setting:
- Training: Asynchronous training through a computer-based CIEL training platform
- Coaching and feedback: Synchronous training through a HIPAA-compliant Zoom platform

Measures:
- Multiple choice and short answer quizzes
- Social validity surveys (i.e., Likert scale 1-4, Likert scale 1-5, short answer)

Intervention:
- *School district 1*: ABA in the Classroom asynchronous training *only*
- *School district 2*: ABA in the Classroom asynchronous training + synchronous coaching and feedback

Dependent Variable:
- Completion/ attrition rates
- Post-test scores
- Acceptability of:
  - Training
  - Coaching and feedback
- Attendance: coaching and feedback

Data Analysis:
- Average scores/ standard deviation
- Independent *t*-tests/ statistical significance
- Visual analysis

Results

Participants:
- School district 1: N=77
- School district 2: N=109
- Job roles: Majority of participants (i.e., 75%) were special education teachers and paraprofessionals

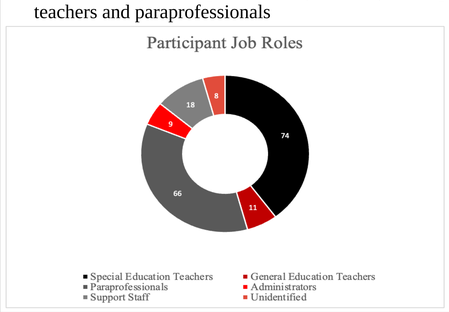

Figure 1: School professionals job roles for school district 1 and school district 2

Progress monitoring and social validity measures indicate that *ABA in the Classroom* is an effective intervention with high acceptability for increasing or maintaining the acquisition of evidence-based practices for school professionals across multiple districts. With the addition of synchronous coaching and feedback, completion rates and acceptability were significantly higher.

Results

Question 1

Completion rates:
- School district 1: 70% (see figure 2)
- School district 2: 82% (see figure 3)
- Completion rate was higher for school district 2

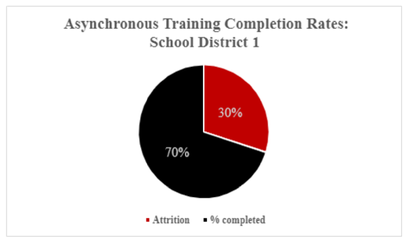

Figure 2: School District 1's completion and attrition percentage across the asynchronous training platform

Figure 3: School District 2's completion and attrition percentage across the asynchronous training platform

Question 2

Post-test training scores (see figure 4):
- School district 1: Overall *training* average: 92.4%
- School district 2: Overall *training* average: 93.4%
  - Knowledge acquired or maintained was *not* significantly different across districts, except in Module 2 (i.e., module 1 p= 0.0195, module 2 p= 0.0171*, module 3 p= 0.1810, module 4 p= 0.2050, module 5 p= 0.4133)

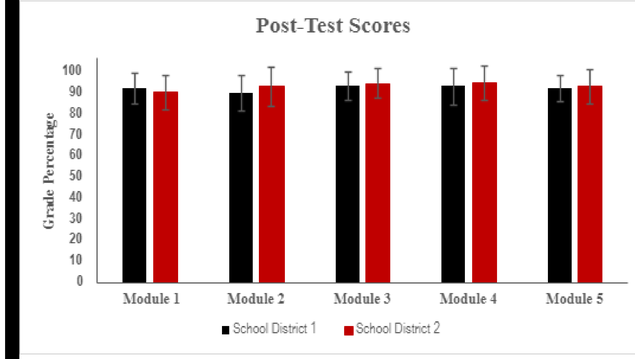

Figure 4: The average post test scores for Modules 1-5 across both districts for the asynchronous training platform with standard deviation error bars.

Question 3

Acceptability of training (see figure 5)*:*
- School district 1: N= 51
  - Goals: M= 4.25, SD= 0.75
  - Intervention: M= 3.99, SD= 0.95
  - Effectiveness: M= 4.12, SD= 0.89
- School district 2: N= 78
  - Goals: M= 4.42, SD= 0.72
  - Intervention: M= 4.28, SD= 0.79
  - Effectiveness: M= 4.42, SD= 0.77
- High acceptability across all 3 categories. 2 of the 3 categories yielded statistically significant results (i.e., goals p= 0.0693, intervention p= 0.0012*, effectiveness p= 0.0001*)
  - School district 2 reported significantly more acceptability across intervention and effectiveness
- Content was reported as useful *(4-point Likert scale, p= 0.1108)*
- The participants learned a moderate amount to a lot as a result of the training *(4-point Likert scale, p= 0.0025*)*
  - School district 2 reported learning significantly more than district 1
- Participants reported the training as organized, easy to navigate, and minimal video quality and platform issues
  - School district 1 reported increased technology fatigue

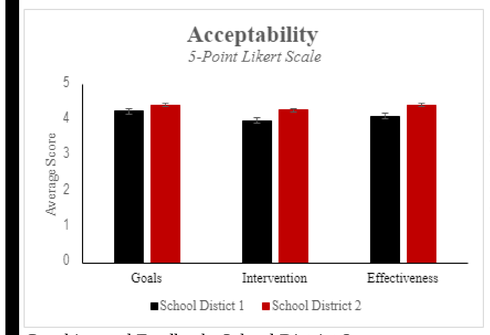

Figure 5: The average social validity scores across goals, intervention, and effectiveness for both school districts with standard deviation error bars.

Coaching and Feedback: School District 2

Acceptability of coaching and feedback:
- School district 2 (see figure 6): N= 109
  - Goals: M= 4.61, SD= 0.17
  - Intervention: M= 4.54, SD= 0.16
  - Effectiveness: M= 4.56, SD= 0.17
  - Average social validity was 4.5 or higher across all 3 categories, indicating high levels of acceptability

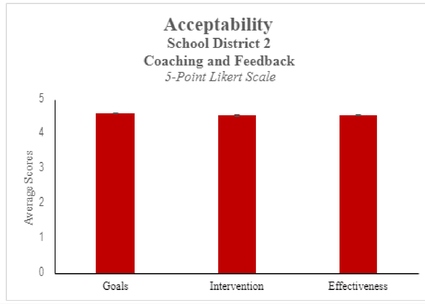

Figure 6: The average acceptability scores across goals, intervention, and effectiveness for coaching and feedback for school district 2 with standard deviation error bars.

Acceptability of coaching and feedback: Special education and general education cohorts
- School district 2 (see figure 7):
  - Special education: N= 45
    - Goals: M= 4.45, SD= 0.77
    - Intervention: M= 4.11, SD= 0.84
    - Effectiveness: M= 4.49, SD= 0.66
  - General education: N= 11
    - Goals: M= 4.78, SD= 0.49
    - Intervention: M= 4.56, SD= 0.61
    - Effectiveness: M= 4.74, SD= 0.48
  - All 3 categories yielded statistically significant results (i.e., goals p= 0.0272*, intervention p= 0.0064*, effectiveness p= 0.0050*).
    - While both groups indicated high acceptability, general education teachers reported significantly more acceptability across all 3 categories.

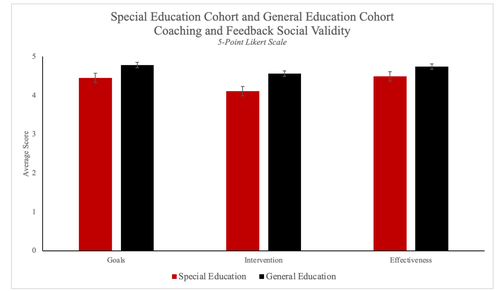

Figure 7: School district 2's coaching and feedback average social validity scores for the special education and general education cohorts with standard deviation error bars.

Attendance:
- School district 2 (see figure 8):
  - Incentive-based attendance average: 85 participants
  - No incentive-based attendance average: 47 participants
  - Incentive-based attendance resulted in an increase in participation

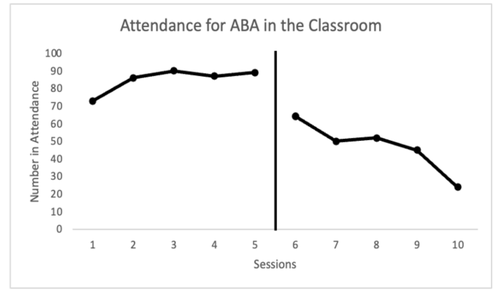

Figure 8: School district 2 provided a monetary bonus for participation in a minimum of 5 coaching and feedback sessions. This figure shows the drop-off rate after session 5.

Impact of Training

- Improved school professional knowledge and competency to work with special education students
- Acceptability within the curriculum and supplemental sessions was high
- Providing incentives results in higher rates of attendance
- Long term professional development may lead to decreased feelings of educator inadequacy and stress, increased effectiveness of classroom management strategies, and increased student learning outcomes

Limitations

- Limited demographic data present for school professionals
- Assessing validity and reliability of social validity surveys across all 3 categories (i.e., goals, intervention, effectiveness) and training formats
- Lack of a pre-test measure to assess baseline of school professional knowledge

Future Research

- Continued expansion to various school professional roles
- Replication of this training with the addition of a pre-test measure
- Expansion of the curriculum to include caregiver training and support