Preparing Teachers in Evidence-Based Practices for Young Children With Autism:

A Review

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Introduction

Overall Statement of the Problem

The authors defined two current issues when teaching children with developmental disabilities, and, in particular autism. There is a high demand from parents for teachers to have experience in Applied Behavior Analysis (ABA) as research has shown that ABA is highly effective for remediating deficits associated with autism (Lerman, Vorndran, Addison, & Kuhn, 2004). However, teachers are receiving little, if any, formal training in evidence-based practices such as ABA (Lerman et al., 2004). While there is much research occurring in the area of special education and effective practices, the findings are not being transferred to the classroom.

Evidence-based practices are so important because research has supported their effectiveness in improving student outcomes (Cook & Cook, 2011). When teachers use other strategies or methods in their classroom, it does not guarantee outcomes, especially when children with special needs are involved.

Previous Research and Findings

Some research has been conducted on the training of teachers to work with individuals with developmental disabilities. One point of view is that there are not many specialized preparation programs in autism offered at colleges/universities due to the low incidence of the disorder. However, we know that enrollment of children with autism has been and will continue to be on the rise (Lerman et al, 2004). Therefore, colleges and universities will need to implement or expand on their specialized preparation programs. Other research has concluded that since the education system is driven by current dogma and theory, research on best practices,
and therefore evidence-based practices have not been adopted (Lerman et al., 2004). Numerous authors believe that we should be in favor of more “direct school-based behavioral consultation models” (Lerman et al., 2004, p.511). These models would include: performance-based measurement to ensure teacher skills are mastered, improved child behavior as a result of teacher preparation, and continued feedback to ensure targeted skills are maintained and generalized (Lerman et al., 2004).

**Summarization of the Study**

**Research Purpose**

The authors described three purposes to evaluate teachers. First they wanted to know if teachers would be able to learn a variety of strategies in a short amount of time. Second, they wanted to determine if acquisition of certain skills would be faster than others. Third, they were interested to see if teachers would show a preference for using certain strategies when given a choice. In addition to the purpose outlined previously, Lerman et al. (2004), also chose to evaluate the extent of generalization of skills taught to other children and in different settings.

**Intervention**

The five participants were taught numerous specific skills within three areas – preference assessment, direct teaching and incidental teaching. These areas were chosen because they have been the focus of extensive study for children with developmental disabilities. For each of the areas, different approaches were taught in order to allow teachers the flexibility to choose strategies that they liked best (Lerman et al., 2004).
Research Method and Design

Lerman et al. (2004) identified the main dependent variable as “the number of skill components performed correctly by the teacher during the role-play with an experimenter (initial workshop) or with a child (follow-up and generalization)” (p.512).

The quantitative study involved a number of phase conditions. First was baseline (pre-instruction) and post – instruction role-play that occurred in the form of a consecutive five day workshop. The authors employed a multiple baseline across subjects (teachers) design to evaluate the effects of the instruction on teacher behavior. The second phase occurred in the main classroom in the form of post-instruction observations, with and without feedback. The last phase was generalization. Teacher’ skills were evaluated across multiple children and tasks (Lerman et al., 2004).

The participants were the first five individuals who responded to an announcement about the program and included four certified public school teachers and one student teacher. The six children involved in the study were enrolled in an early intervention summer program. The first author as well as three doctoral students educated the teacher participants (Lerman et al., 2004).

A trial-by-trial basis was used to evaluate skill components. Each session was videotaped and a trained observer later scored the occurrence of a correct, incorrect or no opportunity for each skill component per trial. During generalization sessions, child behaviors were measured using frequency data. Interobserver reliability was conducted on 25% of the sessions, which produced a mean interobserver agreement exceeding 80% for all teacher and child behaviors (Lerman et al., 2004).
The results indicate that the participants were able to master multiple skills in a short period of time. This shows that a direct, behavioral consultation model, incorporating both didactic and performance–based instruction, is effective in acquisition, short-term maintenance, and generalization of specific skills taught within a short timeframe (Lerman et al., 2004).

**Critical Analysis**

**Strengths and Weaknesses of the Study**

Lerman et al. (2004) noted that research in this area has been limited thus far with minimal transfer of research findings to teacher preparation models. While it is encouraging that these authors saw a gap in the research and therefore tried to bridge it, their study could be improved upon, as some aspects of it are weak.

The studied focused solely on implementation of certain skills when teaching students with severe disabilities. For the majority of teachers, the classroom is made up of students with a variety of educational needs and they may only have one or two children (present) with severe disabilities. Therefore, some of the skills that the participant teachers were taught would not be required for the general population. It would have been interesting if Lerman et al. (2004) had studied the effectiveness of implementation when teachers were in a general classroom with one or two individuals with severe disabilities. In this way, the feasibility of implementing the specific strategies to a select few in a general classroom could be studied.

As the authors noted, baseline conditions, along with number of post-instruction trials to measure teachers’ behaviors were limited. This may not have provided a true representation of
the positive effects of the intervention. A longer period during baseline conditions and a greater number of post-instruction trials would have provided a better representation of the effects.

Also to note was that follow-up observations did not occur. Therefore, we do not know if a) the teachers continued to implement the skills learned or b) if implementation occurred correctly and matched the study’s results. Perhaps not all the skills were maintained over time. If this were the case, booster-training sessions would have been useful.

A weakness with the participant selection was that the teachers volunteered for the study after viewing an announcement. This shows a bias as the teachers were obviously invested in learning and applying these new skills. A better selection would have been a random sampling where each subject has an equal chance of being selected (Hittleman & Simon, 2006). While the participant selection was not ideal, the authors chose a popular experiment design.

The authors employed a multiple baseline across subjects design which demonstrates experimental control when the behavior changes only after the independent variable is applied (Cooper, Heron & Heward, 2007). It is a popular design because effective treatment does not need to be removed and it is relatively easy to implement. While it is not as strong at demonstrating experimental control when compared to a reversal design, it shows the independent variable’s general effectiveness (Cooper, Heron & Heward, 2007).

**Conclusion**

I was drawn to the article by its title. While there were areas of the study that could definitely have been improved upon, the authors brought forth some valid points.
The authors saw a need to transfer what has been found useful in research to practice in the classroom. Too often, teachers are bombarded with complex needs without being given the knowledge and resources to serve their students with special needs. Rather than looking to the research, teachers seem to draw upon past experiences, what other teachers have taught them, or opinion from individuals who provide workshops (Cook & Cook, 2011).

I agreed with how the authors provided didactic and performance-based instruction. One without the other would not give the teacher participants a thorough education. It is important to have the background knowledge when performance of skills is required.

While the skills taught to the participants have been proven effective for those with autism, a common theme in this course has been that what is beneficial for an individual with special needs, may also be beneficial for the whole class. This is a principle that models such as Universal Design for Learning and Response to Intervention follow (McIntosh et al., 2007; Rose & Gravel, 2010). The participants in the study learned many things that could benefit typically developing children such as the basic principles of learning, preference assessments and prompting (Lerman et al., 2004).

Validity of findings

Implications for Research to Practice

This article links to class discussion and readings, as it is evident that teachers are not adequately prepared to teach individuals with unique learning needs or behavioral challenges. Literature also supports this view as McIntosh et al. (2011) reported that the three biggest
concerns that teachers surveyed identified were: insufficient levels of support to meet needs, minimal collaboration, and feelings of being unqualified to deal with unique challenges.

Lerman et al., 2004 provided a suggestion to build teachers’ special education knowledge. Continuing education programs may be useful and have been shown to be effective. However, teachers have limited time to participate in such courses as they receive little class release time (Lerman et al., 2004). Teachers would have to be willing and able to attend programs outside of school hours. Another barrier to continuing education programs is that it has been shown that didactic instruction alone is not as effective as when combined with practical experience (Lerman et al., 2004). Therefore, these programs would need to have a practical component that could pose logistical issues.

As there are many interventions pertaining to special needs, teachers may not be able to differentiate between what constitutes an evidence-based practice and what does not. This would be a valuable and critical topic to include in a training program.

The needs of our students are increasing and so it is only logical, that teachers’ skillset also expand. Continuing to bridge the gap between research and practice will be essential.
References


