

Abstract Title Page
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Title: Examining the effectiveness of a train-the-trainer model: Training teachers to use Pivotal Response Training

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Abstract Body

Limit 5 pages single spaced.

Background / Context:

Description of prior research and its intellectual context.

The increase in the diagnosis of autism has led to growing demand on service providers to improve programming for children with autism. Nationwide, enrollment of children served under the autism educational category grew from 94,000 in the 2000-2001 school year (U.S. Department of Education, 2002) to 258,000, or 5% of the total special education student population, in the 2006-2007 school year (U.S. Department of Education, 2009). Since public education systems are required to provide appropriate care for children with autism, there is a growing need for teachers to be trained to adequately educate these children (California Health and Human Services Agency, 2003). Preparing qualified teachers of children with autism is one of the most significant challenges facing the field (Simpson, 2003). There is a clear need for effective models for training teachers to use evidence-based practices (EBP) for children with autism.

Although it is common to use outside consultants to provide training to teachers, their services are often expensive and their time commitment to trainees may be limited. Therefore, outside consultants may not provide a long-term cost-effective solution to training teachers. As an alternative, equipping existing school district staff members to train and support teachers should provide substantial benefits to teachers with no additional cost. School district personnel in roles as Autism Specialists or Behavior Specialists often lend support and training to classroom teachers. These specialists are in schools on a regular basis and can provide long-term training and support to teachers. High-quality in-service training provided by existing school staff is likely the most cost-effective and sustainable method for educating teachers in EBP. However, school district staff may need specific training in management skills, because often they have entered their supervisory role with only their clinical training (Reid, Parsons, & Green, 1989).

The train-the-trainer (TTT) model, which has also been called pyramidal training, triadic training, and helper model training, focuses on initially training a person or people who, in turn, train other people at their home agency. The TTT model has promise of being both efficient and cost-effective (LaVigna, Christian, & Willis, 2005). The TTT model may be especially useful in addressing issues of translating interventions from research to practice and providing ongoing support to trainees. The TTT model has a sound body of literature supporting its effectiveness in a variety of contexts, including residential centers (Page, Iwata, & Reid, 1982; Parsons & Reid, 1995; Shore, Iwata, Vollmer, Lerman, & Zarcone, 1995), hospitals for the mentally disabled (Whalen & Henker, 1971), experimental laboratories (Hester, Kaiser, Alpert, & Whiteman, 1995), and schools (Jones et al., 1977). TTT has also involved multiple types of trainees, including direct care providers (Page et al., 1982; Parsons & Reid, 1995; Shore et al., 1995), university students (Fremouw & Hartz, 1975), parents (Hester et al., 1995; Kuhn, Lerman, & Vorndran, 2003; Neef, 1994), and teachers (Jones et al., 1977; LaVigna et al., 2005). The broad scope of these studies demonstrating the effectiveness of TTT highlights the strong potential for applicability of TTT methods to translating EBP for children with autism into school environments.

One EBP for children with autism is Pivotal Response Training (PRT). PRT is a naturalistic behavior intervention that was developed to facilitate generalization, increase

spontaneity, reduce prompt dependency, and increase motivation. Specific components of PRT include providing clear and appropriate cues, allowing for child choice of and within an activity, turn-taking, interspersing maintenance tasks with acquisition tasks, reinforcing attempts, responding to multiple cues, and providing contingent reinforcement that is directly related to the child's response. A review of the research base for use of PRT concludes that it is an efficacious EBP for children with autism (Humphries, 2003).

PRT has been shown to improve a variety of language functions including speech imitation (Koegel, Camarata, Valdez, Menchaca, & Koegel, 1998; Laski, Charlop, & Schreibman, 1988), labeling (Koegel et al. 1998), question asking (Koegel et al. 1998), spontaneous speech (Laski et al., 1988), conversational communication (Koegel et al. 1998), and rapid acquisition of functional speech in previously nonverbal children (Sze, Koegel, Brookman, & Koegel, 2003). PRT has also been adapted to teach symbolic play (e.g., Stahmer 1995), sociodramatic play (e.g., Thorp, Stahmer, & Schreibman, 1995), peer social interaction (e.g., Pierce & Schreibman, 1997), self-initiations (Koegel, Carter, & Koegel, 2003), and joint attention (e.g., Rocha, Schreibman, & Stahmer, 2007; Whalen & Schreibman, 2003). The various skills that have been taught through PRT suggest that it is an appropriate intervention for teachers of children with autism. Additionally, because PRT was developed for use in the natural environment, school classrooms are an appropriate setting for PRT implementation. To increase the availability and sustainability of training in PRT in public school settings, this study employed a train-the-trainer model with school district staff and classroom teachers.

Purpose / Objective / Research Question / Focus of Study:

The purpose of the study was to assess the effectiveness of a train-the-trainer protocol for using PRT with community teachers.

Setting:

Two urban school districts in Southern California

Population / Participants / Subjects:

Trainers

Three school staff participated as trainers in this investigation. School staff participants met the following inclusion criteria: (a) a primary job description that allowed them to provide training to special education teachers (e.g., Behavior Specialist, Autism Specialist), (b) no prior training in teaching others to use PRT, (c) direct contact with at least 3 teachers willing to participate in this study as trainees. Staff participants will be referred to as Trainers A, B and C. All three trainers were female with an age range of 29 to 32 years. Trainers A and C were Caucasian and Trainer B was Latino. Trainers A and B completed a Master's degree in Special Education with a specialization in autism, and Trainer C held a Bachelor's degree in Special Education. All trainers had some specialized training in autism and some exposure to or training in PRT. Each trainer worked with three teachers for the purposes of the current study.

Teachers

Nine special education teachers participated in this investigation. Teachers met the following inclusion criteria: (a) a full or part-time position as lead teacher in a special education classroom, (b) at least two students with a primary educational classification of autism who had parental consent to participate in this study.

All nine teachers were female with an age range of 25 to 55 years. Six teachers were Caucasian, one teacher was Filipino, one teacher was Native American, and one teacher chose not to report ethnicity. One teacher (A2) had a Master's degree in education technology and elementary science, whereas the other teachers all had Bachelor's degrees. Number of years teaching children with autism ranged from 1 to 13. All teachers reported having some training on how to educate children with autism, described as either "on the job" or through university coursework. Additionally, five teachers (A2, B1, B2, B3, and C3) reported having received some "on the job" training specifically in PRT.

Students

Twenty-one students participated in this investigation. Students met the following inclusion criteria: (a) a primary educational classification of autism, and (b) a chronological age of three to eight years. This age group was chosen because the majority of the evidence supporting PRT in children with autism focuses on this age group. Each teacher selected two students, and parental consent was gathered.

Intervention / Program / Practice:

Description of the intervention, program or practice, including details of administration and duration.

A train-the-trainer model of training teachers to use PRT. During the treatment phase: 1) trainers attended a 15 hr training workshop with the author on how to implement PRT, assess PRT implementation and provide feedback to others, 2) staff trainers conducted a 6 hr workshop with the three teachers in their training group, and 3) staff trainers, teachers, and students participated in 6 additional classroom observations.

Research Design:

Description of research design (e.g., qualitative case study, quasi-experimental design, secondary analysis, analytic essay, randomized field trial).

This study employed a single-subject, multiple baseline design across training groups. This type of design has the advantage of controlling for developmental maturation and exposure to the treatment (Kazdin, 1982). Each group, consisting of one trainer, three teachers and six students, participated in a baseline condition for three to seven weeks, according to the multiple baseline design. Baseline durations were three, five, and seven weeks, with seven weeks being about equal to the length of the intervention.

Data Collection and Analysis:

Description of the methods for collecting and analyzing data.

Data were obtained during baseline, treatment and at a 3-month follow-up visit via classroom observations. During each classroom observation, the teacher worked with each student, individually, for 10 minutes while the trainer observed. Then the trainer provided feedback to the teacher for 10 minutes. Each classroom observation was videotaped and later coded to examine teacher implementation of PRT, trainer assessment of PRT implementation, trainer feedback to teachers, and student behavior.

Findings / Results:

Description of the main findings with specific details.

All three trainers successfully completed the trainer training, including correctly implementing all PRT components themselves (see Figure 1), assessing correct use of PRT (see Figure 2) and providing feedback to others in the training setting. After completion of the training, the trainers' implementation of these procedures at their school sites was more varied. Six teachers learned to correctly implement all components of PRT while the other three teachers made more limited progress (see Figure 4). Teachers demonstrated consistent patterns of learning with some PRT components being implemented correctly more often than others. Seven of the nine teachers completed the follow-up procedures and six of these teachers maintained or improved their accuracy of PRT implementation.

Conclusions:

Description of conclusions, recommendations, and limitations based on findings.

The train-the-trainer method resulted in notable gains by the participants. However, specific adaptations to the training model would likely lead to further effectiveness. The train-the-trainer model shows promise as a cost-effective and sustainable method for improving the access to and accuracy of teacher-implemented PRT.

Appendices

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Appendix A. References

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Appendix B. Tables and Figures

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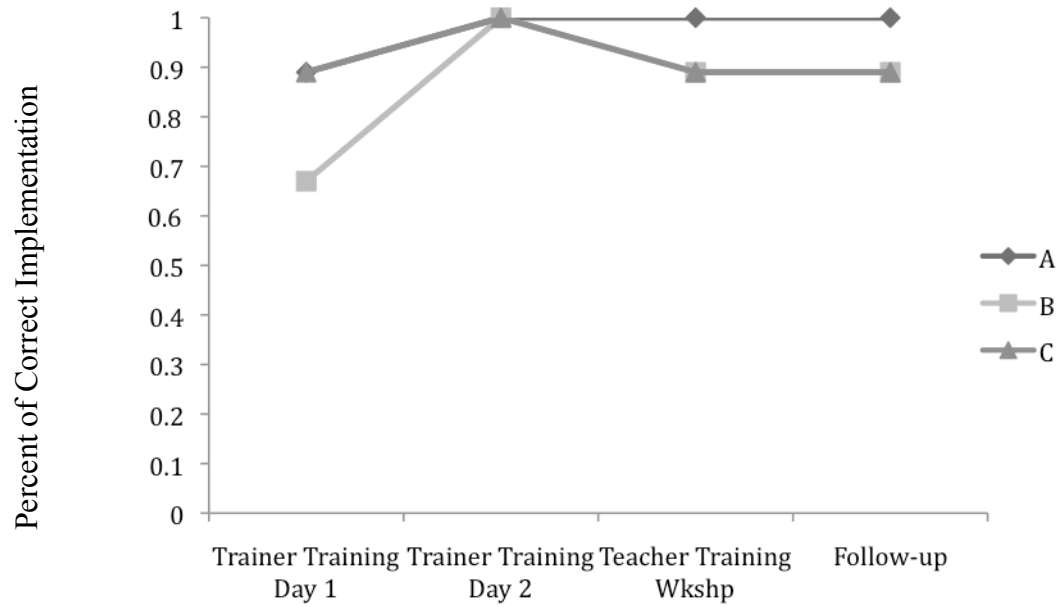


Figure 1. Trainer Implementation of PRT

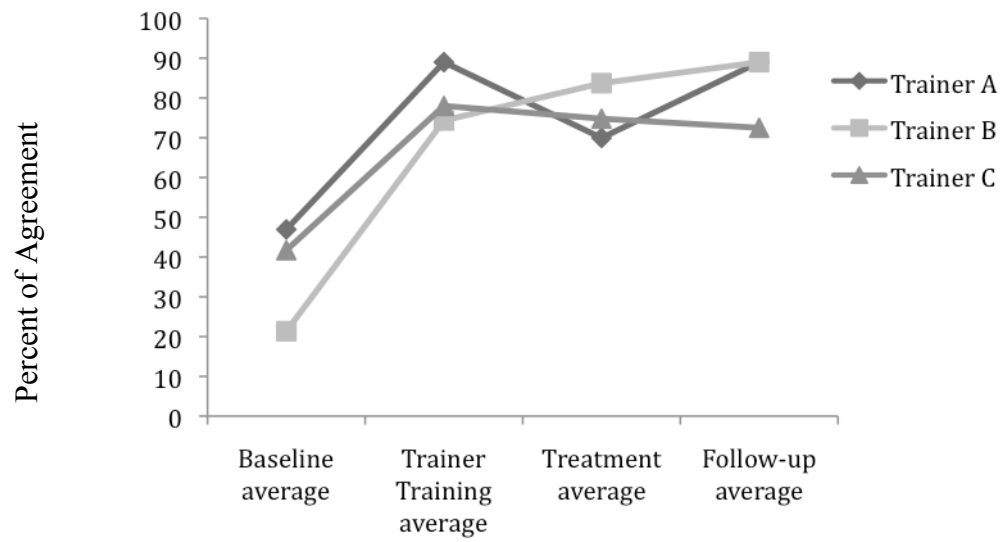


Figure 2. Percent agreement between research assistants' scoring and each trainer's scoring of the PRT Assessment form.

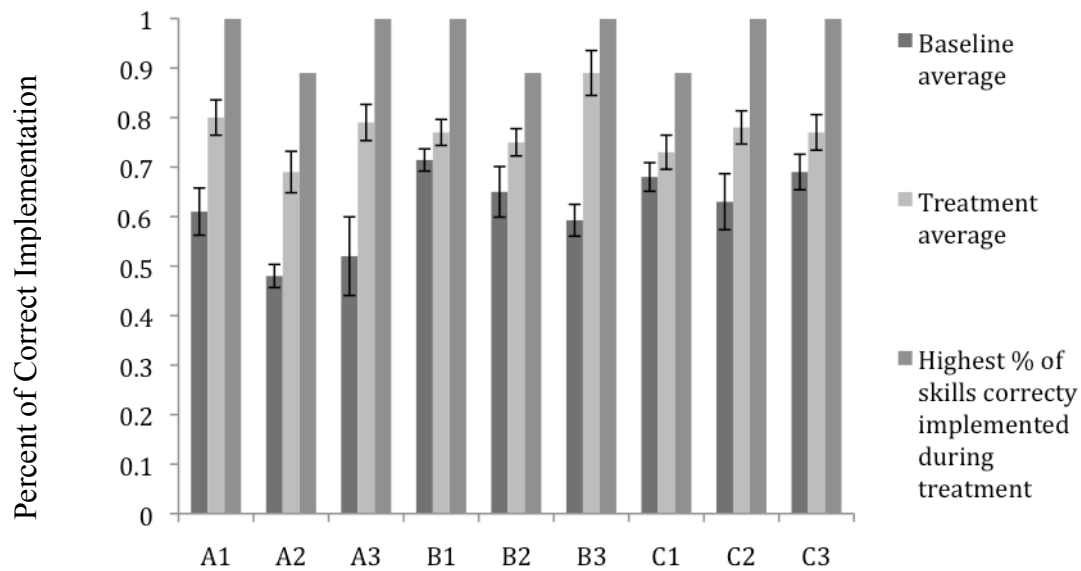


Figure 3. Teachers' average percent of PRT components correctly implemented during baseline and highest percent of PRT components correctly implemented during treatment. Error bars represent plus or minus one standard error of the mean.