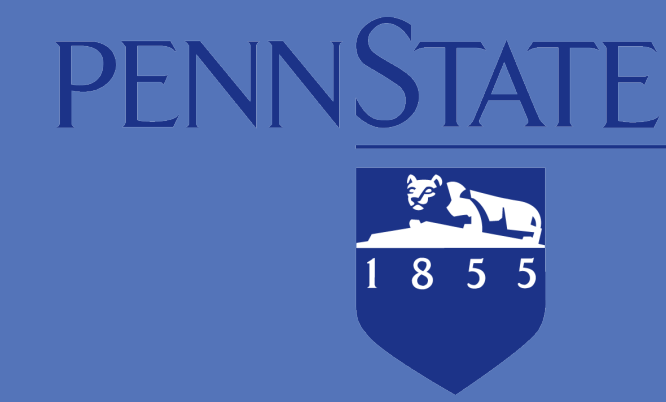


Teaching PECS Communication Partners: A Review of the Literature



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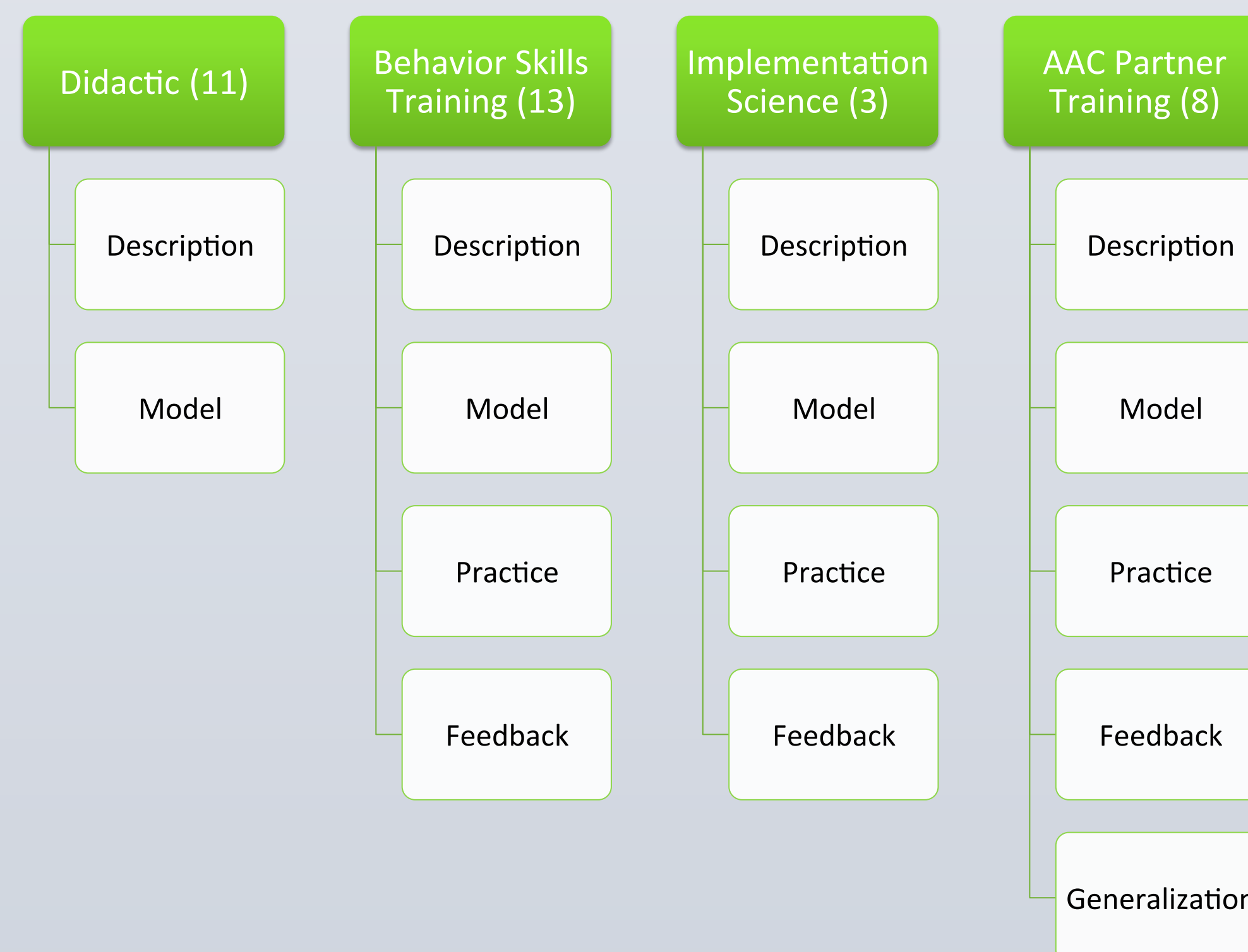
BACKGROUND

Picture Exchange Communication System (PECS) is a frequently used AAC technique for individuals with autism (ASD) and is classified as an emergent intervention for individuals under age 22 (National Standards Project, 12).

Much of the early work on PECS involves researchers acting as communication partners, directly teaching PECS to individuals with disabilities. However, in practice, education professionals are common, natural communication partners who implement PECS.

“The continued success of PECS also will depend on the quality of training provided by those implementing the system” (2, p. 742) necessitating effective training for communication partners.

Targeted Training Components Across Approaches



OBJECTIVES

This systematic search of the literature sought to answer the following questions:

1. Which education professionals (EPs) have been trained to deliver PECS interventions?
2. What phases of the PECS intervention have EPs been taught to support?
3. What instructional procedures have been used to train EPs in the use of the PECS protocol with individuals ASD, and to what extent do these activities incorporate BST components?
4. What has been the observed impact of these training procedures?

RESULTS

Education Professionals

- 80 EPs across 7 studies
- Minimal to no prior experience with PECS and a range of experience with individuals with severe disabilities (4 months to 6 years)

Communicators

- Majority were young children (i.e., 2 to 8 years old) with ASD
- Two studies included adult communicators with ASD or multiple disabilities
- PECS Phases 1-3/1-4

Instructional Procedures

- Researchers provided PECS training (71%), two use PECS consultants
- Instructional materials: videos, portions of PECS manual, PECS phase summary handout, checklist of responses, review forms with behavior definitions, self-monitoring forms, written summary of goals
- Average training time of 17 hours (range: 9-21 hours)

Outcomes

- Immediate increase in quality and quantity of PECS opportunities (86% of studies, 6 of 7)
 - One study that did not see an immediate increase did not include practice or feedback opportunities
- Maintenance reported in 43% of studies (n=3)
- EPs maintained quality in all studies

Generalization

- Across people & settings: 2 studies (6, 15) trained EP to implement PECS with an adult confederate to mastery criteria before asking the EP to generalize to an individual with ASD
- Across activities: 1 study (4) EPs were trained to implement PECS in two target activities (art and gross motor). Generalization probes were conducted on the number of PECS opportunities created by the EP in a novel activity (e.g., center activities). Results suggest that independent transfer of PECS to untrained activities did not occur



CONCLUSIONS & IMPLICATIONS



EPs provided with opportunities to practice and receive feedback demonstrated increased communication partner behavior (i.e., quality & quantity of PECS opportunities)

There presently exists within the field a need for training that is effective and efficient, for both the PECS trainer and the EP. Interventionists and researchers are encouraged to consider how technology may increase efficacy.

Another possible approach to enhance efficiency is *pyramidal training*: an advanced professional first teaches a small group of individuals, who then teach another group of practitioners (10, 14).

Interventionists and researchers are encouraged to consider other training models that actively promote long-term use and generalization of communication partner behaviors (e.g.8) across settings, people, and novel opportunities.

Interventionists and researchers are encouraged to identify strategies to support EPs in providing PECS opportunities for a wider range of communication behaviors, in both the PECS protocol and beyond.

METHOD

Peer-reviewed PECS communication partner training studies were identified by searching three databases with varying combinations of the terms: *Picture Exchange Communication System, train(ing), teach(ing), implement(ation), communication partner, teacher, parent, and staff*

Articles were screened with the following criteria:

- An experimental study was conducted and data were reported on communication partner behavior
- At least one paragraph outlined training procedures that included three of the five instructional variables: description of trainer, format of training, location of training, materials used, duration
- The target population included individuals with severe developmental disabilities as communicators during intervention and/or generalization phases; no specific exceptionality was excluded

Reference lists as well as articles that cited included studies were examined for any additional studies



REFERENCES

1. Barnes, C. S., Dunning, J. L., & Rehfeldt, R. A. (2011). An evaluation of strategies for training staff to implement the picture exchange communication system. *Research in Autism Spectrum Disorders, 5*, 1574-1583.
2. Bondy, A., & Frost, L. (2001). The picture exchange communication system. *Behavior Modification, 25*, 725-744.
3. Dunst, C. J., & Trivette, C. M. (2012b). Moderators of the effectiveness of adult learning method practices. *Journal of Social Sciences, 8*, 143-148.
4. Ganz, J. B., Goodwyn F. D., Boles, M. M., Hong, E. R., Rispoli, M. J., Lund, E. M., & Kite, E. (2013). Impacts of PECS instructional coaching intervention on practitioners and children with autism. *Augmentative and Alternative Communication, 29*, 210-221.
5. Hill, D. A., Flores, M. A., & Kearley, R. F. (2014). Maximizing ESY services: Teaching pre-service teachers to assess communication skills and implement picture exchange with students with autism spectrum disorder and developmental disabilities. *Teacher Education and Special Education, 37*, 241-254.
6. Homlitias, C., Rosales, R., & Candel, L. (2014). A further evaluation of behavioral skills training for implementation of the picture exchange communication system. *Journal of Applied Behavior Analysis, 47*, 198-203.
7. Howlin, P., Gordon, P. K., Pasco, G., Wade, A., & Charman, T. (2007). The effectiveness of picture exchange communication system (PECS) training for teachers of children with autism: a pragmatic, group randomised controlled trial. *Journal of Child Psychology and Psychiatry, 48*, 473-481.
8. Kent-Walsh, J., & McNaughton, D. (2005). Communication partner instruction in AAC: Present practices and future directions. *Augmentative and Alternative Communication, 21*, 195-204.
9. Magiati, I., & Howlin, P. (2003). A pilot evaluation study of the picture exchange communication system for children with autism spectrum disorders. *Autism, 7*, 297-320.
10. Martocchio, N., & Rosales, R. (2016). An evaluation of pyramidal training to teach implementation of the picture exchange communication system. *Behavioral Interventions, 31*, 265-282.
11. Morrier, M. J., Hess, K. L., & Heflin, J. L. (2011). Teacher Training for Implementation of Teaching Strategies for Students With Autism Spectrum Disorders. *Teacher Education and Special Education, 34*, 119-132.
12. National Autism Center. (2015). *Findings and conclusions: National standards project, addressing the need for evidence-based practice guidelines for autism spectrum disorders (2nd ed.)*. Randolph, MA.
13. Parsons, M.B., Rollyson, J.H., & Reid, D.H. (2012). Evidence-based staff training: A guide for practitioners. *Behavior Analysis in Practice, 5*, 2-11.
14. Pence, S. T., Peter, C. C., & Giles, A. F. (2014). Teacher acquisition of functional analysis methods using pyramidal training. *Journal of Behavioral Education, 23*, 132-149.
15. Rosales, R., Stone, K., & Rehfeldt, R. A. (2009). The effects of behavioral skills training on implementation of the picture exchange communication system. *Journal of Applied Behavior Analysis, 42*, 541-549.

For additional information on this study, please visit aac.psu.edu

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