

Winter 12-9-2021

## Strategies for Teaching Based on Autism Research (STAR Program) Curriculum Review and Implementation

Cassidy Harrington  
charrington1697@gmail.com

Follow this and additional works at: <https://red.mnstate.edu/thesis>



Part of the [Early Childhood Education Commons](#), and the [Special Education and Teaching Commons](#)

Researchers wishing to request an accessible version of this PDF may [complete this form](#).

---

### Recommended Citation

Harrington, Cassidy, "Strategies for Teaching Based on Autism Research (STAR Program) Curriculum Review and Implementation" (2021). *Dissertations, Theses, and Projects*. 581.  
<https://red.mnstate.edu/thesis/581>

This Project Abstract (696 or 796 registration) is brought to you for free and open access by the Graduate Studies at RED: a Repository of Digital Collections. It has been accepted for inclusion in Dissertations, Theses, and Projects by an authorized administrator of RED: a Repository of Digital Collections. For more information, please contact [RED@mnstate.edu](mailto:RED@mnstate.edu).

**Strategies for Teaching Based on Autism Research (STAR Program)  
Curriculum Review and Implementation**

By: Cassidy Harrington

Minnesota State University Moorhead  
SPED 696: Special Education Capstone  
December 9, 2021

## **Strategies for Teaching Based on Autism Research (STAR Program) Curriculum Review and Implementation**

### **Abstract**

Autism Spectrum Disorder (ASD) is becoming more prevalent in school systems. Researchers began tracking the prevalence of ASD in the year 2000. It is estimated that 1 in 68 children have ASD in the United States of America (1 in 42 prevalence for boys and 1 in 189 prevalence for girls) (Landa, 2018). Medically a child can be diagnosed with ASD but school systems themselves are not able to formally diagnose ASD in children. (ECTA, 2012). ASD can be hard to diagnose as some cases are more severe than others and the earlier that a child is found to have ASD, the better supported they will be both at home and in the classroom. Furthermore, the earlier the identification, the more able we are to give parents and students early access to early intervention services to aid in the success of the child and family as a unit (Boyd et al., 2010). Beginning in early intervention, the Strategies for Teaching based on Autism Research (STAR) Program has been found to be effective for students with ASD while using the following strategies: discrete trial training (DTT), pivotal response training (PRT), and functional routines (Stahmer et al., 2015). These skills can be taught to students that do not have ASD but are primarily using evidence-based strategies designed to aid students with ASD in day-to-day school activities.

### **What is Autism Spectrum Disorder?**

Autism Spectrum Disorder (ASD) is becoming more and more present in our world as we know it today. ASD is a developmental disorder that is caused by differences in the brain and affects individuals from the time they are born, or early childhood. It can last throughout a person's lifetime, but symptoms may improve over time. It is diagnosed through these items: social deficits, impaired language, restricted interests, and repetitive behaviors. Typically, when an individual has ASD, they communicate, interact, behave, and learn in different ways than the general population (Bajko & Baxgan, 2017).

Social communication and interaction skills that may be challenging for children with ASD include avoiding eye contact, not showing facial expressions (ie. happy, sad, angry) by 9 months in age, no playing simple interaction games (ie. pat-a-cake), using few or no gestures by

the age of 12 months, not engaging in pretend play, and showing little interest in their peers. Along with social communication and interaction skills, children with ASD also show repetitive behaviors and interests. These may include lining up their toys and being upset when they are moved or the order is changed, repeating words or phrases repeatedly, focusing on parts of objects (ie. wheels), having to follow a certain schedule, and flapping their hands, rocking their body, or spinning themselves in circles. Finally, there are usually additional characteristics that may accompany an ASD diagnosis in a child. They are as follows, hyperactivity, unusual eating/sleeping habits, unusual mood and emotional reactions, excessive worry, gastrointestinal issues (ie. constipation), and seizure disorders.

It should be noted that children with ASD may not have all or any of these behaviors listed, but these are the most common signs, symptoms, and characteristics of children with ASD. ASD is known to be able to appear around the ages of 2 or 3 years old, and to frequent in boys more often than girls. It is thought that around 1% of the world population has ASD (Bajko & Baxgan, 2017).

### **Early Identification and Surveillance of Autism Spectrum Disorder**

Early identification and warning signs of ASD can be noticed as young as 1 to 2 years of age depending upon the child (Boyd et al., 2010). According to a study done by A.-S. Bajko and M. Bazgan, establishing a diagnosis early and getting appropriate interventions for a child are the most important part of research that has been done on the subject. Also, in this study it was noted that the first signs of ASD under the age of 2, were often found by parents, home videos, and case studies of children that were diagnosed with ASD later on in their life (Bajko & Baxgan, 2017).

ASD has warning signs that providers and parents can look for. Some of the early behavioral, communication, and play signs that a child may lack include social smiling, looking at faces, responding to their name, using a variety of gestures, producing vocalizations, eye contact, engaging in motor behaviors, broad interests, or limited use of toys or manipulatives (Woods, Wetherby, 2003).

Surveillance and screening assessments of a child do not give us an ASD diagnosis, but it will tell us if further assessment is needed as well as ensuring that we document what we are seeing in the child for areas of concern. Surveillance may be conducted on a child starting at the

## STAR Curriculum Implementation & Review

age of 9 months and screening a child for ASD, using ASD specific screening material, may begin at the age of 18-24 months during well-being checkups at a doctor's office. Screeners that these practitioners may use include broadband screeners (used to find out developmental concerns) and ASD-specific screeners (used to find specific behaviors that are identified with ASD) (Towle et al., 2020).

In the past 10 years, early diagnosis has been found to be beneficial for students that were diagnosed with ASD. In the past, professionals were told to “wait and see” when it came to early screening and diagnosing ASD because there were not validated measures that could be trusted to diagnose a child. Now, there are many tools that are available to clinicians and that can be used in day-to-day practices with students, such as the STAR Program. Even though early intervention teachers are not formally able to diagnose a child with ASD, they can still be involved in the process through screenings and early identification. Early screening tools are used often with teachers and other service providers (ie. speech and language pathologists, occupational therapists) and are used to find areas of deficit or areas of need for an individual child. The need for early screening and diagnosis is needed, but this must be combined with intervention approaches to help the children in the areas of need they showed through the screening/evaluation process (Boyd et al., 2010). The STAR Program Curriculum that is reviewed below can be one of the intervention approaches to best help students with ASD.

### **STAR Curriculum Background**

The Strategies for Teaching Based on Autism Research (STAR) Program has the goal of developing children's skills in a highly structured environment and then taking those skills and using them in the child's natural environments (Stahmer et al., 2015). The curriculum is divided into 6 main areas: expressive language, receptive language, spontaneous language, functional routines, pre-academics concepts, and play and social interaction skills (Pellecchia et al., 2015). The three different teaching strategies that STAR uses include discrete trial training (DTT), pivotal response training (PRT), and functional routines. These are basic ABA-based teaching strategies that are evidenced based to work with students with ASD (STAR Autism Support, n.d.).

DTT uses highly structured, teacher-directed, and one-on-one interactions between the teacher the student to enforce skills. The teacher will often initiate a specific stimulus to see the

## STAR Curriculum Implementation & Review

child's response. This strategy is used to teach the pre-academic and receptive language skills, when the desired behavior has a very specific form of learning (Stahmer et al., 2015).

PRT occurs in both one-on-one interactions and small group interactions with the teacher. It is student directed because it is done in the classroom environment with highly preferred activities/toys that the student will be motivated to receive. The student initiates the teaching by showing interest in an item or activity to work for. The materials chosen for reward are varied to get the best motivation from the student. Once the student displays the appropriate behavior that is being worked on, they will receive their reward (Pellecchia et al., 2015).

FR are the least structured of the STAR instructional strategies. These are routines that can occur throughout the day and include items such as schooltime arrival, school time dismissal, toileting, mealtimes, and transitions between classroom activities and recreational activities. Each routine is broken down into task analysis and then chained together to create the full routine using stimulus prompts as well as reinforcement of each task (Stahmer et al., 2015).

### **STAR Research**

Two prominent research studies showed up when researching this curriculum, but not many beyond that unfortunately. The first research study was from the *Journal of Autism & Developmental Disorder* in 2015. This study investigated the fidelity of the STAR program. The results indicated that the fidelity to pivotal response training (PRT) was associated with a significant increase in cognitive ability after 1 academic year in students from this study. The findings were small, but consistent with other community-based trials that they had found (Pellecchia et al., 2015).

The second article was from *Psychology in the Schools* in 2015. This study examined the extent to which teachers implemented evidenced based instruction for students with autism, the STAR program being one of those instructional interventions. This study did note some limitations because it only offered limited insight as to how well the strategy was well implemented and consistent. Nevertheless, the study showed that teachers and staff in public schools can learn to implement structured strategies, especially with autism intervention programs. However, they do require a great deal of training, coaching, and time in order for them to be effective and reach and maintain fidelity of the curriculum (Stahmer et al., 2015).

## STAR Curriculum Implementation & Review

The STAR Curriculum website highlighted a few more studies that they have pulled research from in making their case as to the curriculum being beneficial for students with autism. The Autism Instructional Methods Study (AIMS) showed that a large urban school district saw gains in students using the STAR program, especially when training was implemented over the 3-year experimental period (STAR Autism Support, n.d.). The site also noted the research surrounding the research article from Autism Research and Treatment in 2014. This article's results showed that students who were provided early intervention using the STAR program made significant progress over a two-year period of time. It also found that the STAR Student Learning Profile aligned well with other standardized measures (Bacon et al., 2014).

### **Reflection of Implementation of STAR Program**

Within my center-based program, I have a wide variety of students that range in abilities cognitively, socially, and physically. This program could be used to help most of these students with different task completion, skills gained, and functional skills. For the purpose of this project, I chose to use the daily behavioral data collection forms for a student that was having behaviors off and on every school day, as well as doing 2 different lessons from the receptive language set with two different students.

The daily behavioral data sheets were actually very helpful to use with a number of different students to help pinpoint exactly what parts of the day they were struggling with. Before this, I had found an ABC form to try to help track behaviors and what was causing them, but I found this form to be more friendly to fill out quickly and see exactly what areas were overlapping in behaviors. This student was struggling with certain transitions as well as circle time when we went back to look through the forms. I had an inkling that that was where he was struggling but having it all laid out in front of me made it crystal clear.

One of the two lessons that I formally tracked and went through was Receptive Language Lesson 14: One Step Commands. This lesson was used for a student that was struggling with listening to simple instructions all through the school day. The second lesson that I formally tracked was Receptive Language Lesson 2: Attending. This lesson was used for a student that was struggling with attending during circle time and most group instruction tasks. Both of these lessons were based on discrete trial training.

## STAR Curriculum Implementation & Review

I liked the core of the lessons that are available through STAR, and I have been through the training both in person and via Zoom during the pandemic. But I found the lessons to be hard to implement at times during the regular school day on top of meeting their IEP goals, classroom goals, and basic preschool goals as well. Maybe once I had spent more time with the curriculum and building it into the classroom, it would feel more natural. But to begin with, it is a lot to take on even with training.

Overall, I do think the core of the program is great and that it has great lessons that build off of prior skills. Even though not all of my students are diagnosed with ASD, I can see using lessons with each of them to teach basic functional skills which I believe important to note. This curriculum has the potential to use outside of students with ASD. The downfall to this curriculum is trying to fit it into the classroom overall on top of everything else that teachers have to maintain and do on a daily basis. There are so many components to teach yourself after the training as you go through the do the lessons with students that it takes quite a bit of time right away to get started. This curriculum does have the potential to be a great tool to help students.

### **Future Studies Considerations**

Future studies should continue to address the development of training methods that can be used to address the complexities of using this curriculum and strategies in the classroom settings. Using these strategies throughout the school day, for functional routines, and for academic tasks may be challenging for some teachers, but they can be effective practices for students with autism as well as students without autism. Another component to look at, would be examining what may be necessary to make the interventions effective in the classroom. This would include items that may aid in clarifying and simplifying the interventions for classrooms to use effectively with students. Future studies overall of the STAR curriculum are widely needed, there were few studies to note when researching the curriculum. Most research in any and all areas will aid in making sure we know more about the curriculum and how it effects students when it is used and implemented correctly.



## References

- Bacon, E. C., Dufek, S., Schreibman, L., Stahmer, A. C., Pierce, K., & Courchesne, E. (2014). Measuring Outcomes in an Early Intervention Program for Toddlers with Autism Spectrum Disorder: Use of a Curriculum - Based Assessment. *Autism Research and Treatment*.
- Bajko, A. S., & Baxgan, M. (2017). The Importance of Early Diagnosis and Intervention for Children with Autism Spectrum Disorders. *Transilvania University of Brasov, 10(2)*.
- Boyd, B. A., Odom, S. L., Humphreys, B. P., & Sam, A. M. (2010). Infants and Toddlers with Autism Spectrum Disorder: Early Identification and Early Intervention. *Journal of Early Intervention, 32(2)*, 75–98.
- Evidence-based Practices in the Schools for Students with Autism Spectrum Disorders* . Research | STAR Autism Support. (n.d.). Retrieved from <https://starautismsupport.com/curriculum/research>.
- Landa, R. J. (2018). Efficacy of Early Intervention for Infants and Young Children with, and at Risk for, Autism Spectrum Disorders. *International Review of Psychiatry, 30(1)*, 25–39.
- Part C of IDEA*. ECTA Center. (2012). <https://ectacenter.org/partc/partc.asp>.
- Pellecchia , M., Connell, J. E., Beidas, R. S., Xie, M. S., Marcus, S. C., & Mandell, D. S. (2015). Dismantling the Active Ingredients of an Intervention for Children with Autism . *Journal of Autism & Developmental Disorders, 45(9)*, 2917–2927.
- Stahmer, A. C., Reed, S., Lee, E., Reisinger, E. M., Connell, J. E., & Mandell, D. S. (2015). Training Teachers to use Evidence-Based Practices for Autism: Examining Procedural Implementation Fidelity. *Psychology in the Schools, 52(2)*, 181–195.
- Towle, P. O., Patrick, P. A., Ridgard, T., Pham, S., & Marrus, J. (2020). Is Earlier Better? The Relationship between Age When Starting Early Intervention and Outcomes for Children with Autism Spectrum Disorder: A Selective Review. *Autism Research and Treatment, 1–17*.
- Woods, J. J., & Wetherby, A. M. (2003). Early Identification of and Intervention for Infants and Toddlers Who Are at Risk for Autism Spectrum Disorder. *Language, Speech, and Hearing in Schools, 34*, 180–193.