Putnam County: Successful Use of Best Practice Strategies With Children With Autism

by Omar Tabb, Dave Whiting, and Tonya Wheeler*

The awareness and knowledge of autism has increased over the last 20 years. Research suggests that this is due, in part, to the increase in the number of diagnosed cases (Pasco, 2011), which have risen from four per 10,000 in 1966 to 30 to 60 per 10,000 today (Rutter, 2005). Other reasons for the increase in awareness are an improved understanding of the general needs of individuals diagnosed with autism and effective instructional practices born out of an impressive body of research (Iovannone et al., 2003; Pasco, 2011).

The current definition of autism is being examined, and changes are being proposed by an expert panel appointed by the American Psychiatric Association that would reduce the disorder’s increasing rates of diagnosis by excluding those who are higher functioning (Benedict, 2012). There is growing objection to the change due to concern over its implications for individuals currently diagnosed. Mary Meyer of New Jersey, whose daughter’s Asperger’s syndrome diagnosis helped her gain access to important support services, states:

“I’m very concerned about the change in diagnosis, because I wonder if my daughter would even qualify … She’s on disability, which is partly based on the Asperger’s; and I’m hoping to get her into supportive housing, which also depends on her diagnosis (Benedict, 2012).

Whether the definition remains the same, and the diagnosed rate of autism continues to increase, or the definition changes, one fact is clear. The challenge facing teachers in the classroom remains constant. Practical, effective, and efficient strategies ensure the success of students with autism while managing to provide proper support for mainstream students. Putnam County (Tennessee) has developed a comprehensive program that addresses these points.

Putnam County: Responding to Autism

Background. Putnam County, Tennessee, located halfway between Nashville and Knoxville, has a school population of about 10,700 students. A decade or so ago, Putnam County was no different from hundreds of other school districts across the country, dealing with the same challenges in trying to meet the needs of its students. Faced with a lawsuit brought by the parent of a child with autism, however, the county began looking for solutions to the question almost every educator is asking today: How do we better serve children with autism?

Over the next several years, the number of students with autism in Putnam County schools grew tremendously. Currently, in pre-K through the 12th grade, the number of students with autism totals 109.

Putnam County, like many districts across the country faced a multitude of challenges. These included:

- There was a lack of appropriately trained professionals and a paucity of needed professional development opportunities.
- There was a lack of understanding of the unique social and academic needs of autistic students.

In addition to the classroom challenges were issues outside the classroom that affected student learning. Parents were struggling to cope with the myriad of questions all parents of autistic children encounter:

- What causes autism?
- Is it my fault?
- What information can I find online?
- What can my pediatrician tell me?
- How can the local school district help my child?
- How can I make it better?
- Who can make it better?
- How do we afford specialized help?

Parents began networking and becoming more knowledgeable about how to access services for their children. Putnam County tried a wide range of programs before arriving at its present research-based best practices program.

State Assessment of Students. In the State of Tennessee, student assessment begins in the third grade. Pre-K through second-grade students are evaluated with benchmark assessments to track the individual progress of each student. Students with an Individualized Education Plan (IEP) have allowable accommodations determined by the IEP team. Examples of accommodations are individualized testing, extra time for testing and tasks, being read to aloud, small group settings, and others. Accommodations must be applied in the classroom setting throughout the school year in order to be used on the state assessment.

The Tennessee Comprehensive Assessment Program (TCAP) is a criterion-referenced exam taken each spring in four content areas (Math, Reading/Language Arts, Science, and Social Studies) in kindergarten through eighth grade and in an end-of-course exam at the high school level. There are two alternate forms of the state.
assessment for students with disabilities: the Portfolio and the TCAP Modified Academic Achievement Standards:

1. The Portfolio is a collection of the student’s individual work throughout the school year in all content areas and is assessed individually by state personnel.

2. The TCAP Modified Academic Achievement Standards (MAAS) is an alternative to the regular TCAP assessment given in grades three through eight. It is intended to evaluate individual learning needs of students with disabilities based on the core state curriculum for the average student. This type of assessment allows for a more accurate reflection of student academic progress while also guiding instruction based on individual student needs (TDOE, 2011).

In 2010, Tennessee reinvented its curriculum standards and assessment. As a result, the state developed more appropriate Annual Measurable Objectives (AMOs) in order to meet the federal requirements of the No Child Left Behind Act of 2001. Table 1 shows the new AMOs for the K-8 and high school levels.

**Analysis of Achievement Results.** In the 2010–2011 school year, 70 of the 109 students with autism took the state assessment in grades three through 12. Table 2 shows the number of students assessed with each of the three forms of assessment in Reading/Language Arts (R/L) and Math, along with the percentage of students who scored as “proficient” or “advanced” (P/A).

As shown in Table 2, all students given the Portfolio assessment option met Adequate Yearly Progress (AYP) goals. Students who took the TCAP MAAS in Reading/Language Arts (R/L) did not meet AYP; however, they were within nine percentage points of meeting the AMOs (Table 2). Table 3 shows a comparison of 2011 assessment scores with 2010 scores.

The results show that students assessed using the Portfolio increased from 71% and 57% proficiency in Reading and Math, respectively, in 2010 to 100% proficiency in both Reading and Math in 2011. Students who took the TCAP MAAS also showed significant gains. In 2010, 9% of students demonstrated proficiency in Math, and 15.8% demonstrated proficiency in Reading. In 2011, 25% demonstrated proficiency in Math, and 25% demonstrated proficiency in Reading, increases of 16% and a little more than 9%, respectively. Students who took the TCAP demonstrated the least percentage increase in proficiency. However, the results provided valuable information to inform future practice.

Putnam County’s ability to handle the unique needs of students with autism puts it in a very different position from where it was a decade ago. As illustrated, the results have been more than noteworthy. In fact, the program has shown so much success that families with children diagnosed with autism spectrum disorder (ASD) are moving into the area. With the vision of district- and site-based leadership, the best practices program consistently grows as an effective tool in providing a high-quality education to students diagnosed with ASD.

**Putnam County’s Best Practices Program**

The success of Putnam County’s ability to educate children with autism is based on its best practices program. The program is composed of several elements, all designed with the individual student’s educational needs in mind. All efforts focus on identifying the best course of action for each

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**Table 1: Adjusted Annual Measurable Objectives for Tennessee**

<table>
<thead>
<tr>
<th>Year</th>
<th>Math K-8</th>
<th>R/L K-8</th>
<th>Alg. 1 High</th>
<th>Eng. II High</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008–2009</td>
<td>86%</td>
<td>89%</td>
<td>83%</td>
<td>93%</td>
</tr>
<tr>
<td>2009–2010</td>
<td>20%</td>
<td>32%</td>
<td>25%</td>
<td>49%</td>
</tr>
<tr>
<td>2010–2011</td>
<td>40%</td>
<td>49%</td>
<td>44%</td>
<td>61%</td>
</tr>
<tr>
<td>2011–2012</td>
<td>60%</td>
<td>66%</td>
<td>74%</td>
<td>63%</td>
</tr>
<tr>
<td>2012–2013</td>
<td>80%</td>
<td>83%</td>
<td>81%</td>
<td>87%</td>
</tr>
<tr>
<td>2013–2014</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Table 2: Number of Students Tested and Percent That Met Adequate Yearly Progress, 2010–2011**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Number of Students</th>
<th>Percent P/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Math</td>
<td>R/L</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Portfolio</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>TCAP MAAS</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>TCAP Achievement</td>
<td>33</td>
<td>25</td>
</tr>
<tr>
<td>K-8</td>
<td>33</td>
<td>25</td>
</tr>
<tr>
<td>TCAP EOC Exams HS</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

**Table 3: Comparison of 2010 and 2011 State Assessment Results**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Percent P/A 2010</th>
<th>Percent P/A 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Math R/L</td>
<td>Math R/L</td>
</tr>
<tr>
<td>Portfolio</td>
<td>71.4% 57.1%</td>
<td>100% 100%</td>
</tr>
<tr>
<td>MAAS</td>
<td>9.0% 15.8%</td>
<td>25% 25%</td>
</tr>
<tr>
<td>TCAP</td>
<td>20.0% 24.1%</td>
<td>21% 21%</td>
</tr>
</tbody>
</table>

Note: Adapted from Tennessee Value-Added Assessment System restricted website, 2011 (http://www.state.tn.us/education).
individual student, regardless of the level of need. The overriding philosophy is that “no one size fits all.” The program begins with three year olds identified as needing special assistance. Students diagnosed with autism who are not high school graduates can remain in the program until the age of 22 through participation in vocational and transitional activities. The program actively involves input from all stakeholders, including students, parents, teachers, supervisors, and administrators. Its foundation is dependent on three key components: (1) professional development, (2) parents; and (3) students.

Professional Development. Professional development is a critical component of the program. Teachers and paraprofessionals who have a student with ASD are offered pre-service training. During pre-service training, the relationship between teachers and paraprofessionals, and their respective responsibilities, are clearly defined. Teachers are also provided with training in concrete materials to use with students with autism. The county’s Summer Social Skills Academy provides Putnam County school personnel with the opportunity to receive in-depth training and “hands on” practical experience while working with students with various degrees of ASD. Teachers are videotaped to enable them to observe and analyze themselves.

Coaching is an integral part of professional development. Following pre-service training, each student’s IEP is monitored by a consulting teacher with extensive experience, who makes classroom visits to observe and make recommendations. This ongoing support is provided throughout the school.

Parents. Putnam County’s schools recognize that all children present challenges to parents; however, they know parents of children with ASD face unique challenges that frequently result in angst between parents and their children, and between parents and the school system. The best practices’ program facilitates close contact between the school and the parents of children with autism. Parents are given information in a number of ways and many opportunities to discuss their child’s program with school personnel. Each IEP meeting is planned, keeping in mind how difficult both the setting and content of the meeting may be for the parents, and the impact the proposed plan may have on the family. Other meetings are given the same consideration. The program requires that additional progress reports are made available to parents throughout the year, reporting both successes and challenges.

Students. The Best Practices program involves a combination of child-directed and adult-directed teaching activities using a variety of best practices for working with individuals with ASD. The IEP team is the driving force that determines which approaches will be used with individual students. Strategies include:

- **Structured teaching**: a set of teaching techniques that are based on physical structure, schedule, work systems, routines, visual strategies, and visual structure of materials (Hume, 2011);
- **Visual cuing**: visual reinforcements that clarify information, foster independence from adult prompting, and reassure students through familiarity;
- **Direct instruction**: explicit academic or social instruction that emphasizes the use of carefully sequenced steps;
- **Work-reward routines**: behavior modification strategies in which children are rewarded after completing a certain amount of work;
- **Cueing and prompt fading procedures**: the use and cessation of physical, gestural, or verbal assistance;
- **Video self-modeling**: helping children identify the presence of behavior through observing themselves;
- **Peer training**: social skills training of peers who interact with students; and
- **Social Stories**: a way to share or describe a situation, skill, or concept using stories.

Students are taught routines that help them deal with personal frustrations both in the classroom and outside the classroom without interrupting other students. The program never loses sight of the fact that developing social skills presents unique challenges to students with autism, even those who have the ability to perform well academically.

Assisting students with autism through transitional periods is another focus. Putnam County gives particular consideration to post-secondary transition. It provides students who are unable to graduate with a high school diploma the opportunity to practice independent living skills on the campus of a local university. The Summer Social Skills Academy provides a similar opportunity for students who are 14 years of age and working toward a high school diploma.

Peer relations between students with autism and those without are encouraged, beginning in the preschool program. Blended classrooms provide a great opportunity for peers to develop an understanding of others who are different, and foster long-term friendships, character, and leadership skills. As students get older, these relationships become very important in social situations—the lunchroom, playground, sports activities, even high school dances. The Summer Social Skills Academy provides an important growth opportunity for peers as they help develop the social skills of their autistic counterparts. Putnam County’s ability to handle the unique needs of students with autism puts them in a very different position from where they were a decade ago.

A Best Practices Success Story: Joe

Joe came to Putnam County at the beginning of his freshman year of high school and was assigned a one-on-one paraprofessional who was with him full time. By his senior year, his support had been reduced to someone checking with his teachers once or twice a week to ensure that his academic needs were being met.

Despite his success, Joe was not satisfied with his social skills. He attended social skills group once a week to work on his interaction skills and learn how to be aware of the body language of his peers.
games to help increase his self-esteem and social acceptability through group membership. The assistant coach for the team encouraged social interaction between Joe and the basketball players. After learning to respect his differences and understanding how hard he had worked on his social skills, his senior peers voted him onto the basketball homecoming court.

Toward the end of his senior year, one special education teacher took him under her wing and coached him on how to ask a girl to his senior prom. Every day the teacher rehearsed his script with him as they took their lunch walk together. When Joe finally asked the girl to the prom, he was delighted when she accepted. Then he began making plans for the big night. The teacher and Joe practiced how prom night would go. They discussed the restaurant, the flowers, the curfew, and the events following prom. The night of the prom turned out to be everything Joe hoped it would be.

At his exit IEP meeting, the team of professionals, paraprofessionals, and Joe's family celebrated all his accomplishments in high school. Joe's mom read the poem "Never Quit." Tears streamed down the faces of the team members, who felt mixed emotions as they realized Joe was finishing a chapter of his life in which they had been such a big part. The tears were joyful because he had achieved so much success, yet sad because they did not want to part with such a wonderful young man.

To educate students with autism, it takes a team dedicated to an agreed-to plan. There are many people who have to buy into the plan, and the autism specialist, Joe would be where he is today.

Best Practice Program Strategies Used to Help Joe

A major component of Putnam County's best practices program is the understanding that improving the academic performance of students with autism requires improving their social skills. Joe's story illustrates two selected best practices for helping improve social skills: (1) antecedent packages, and (2) modeling.

Antecedent Packages and Scripts. Antecedent packages involve the modification of situational events that typically precede the occurrence of a target behavior. Treatments falling into this category reflect research representing the fields of applied behavior analysis, behavioral psychology, and positive behavior supports. These alterations increase the likelihood of success or reduce the likelihood of problems occurring. In Joe's case, having a "script" for what to say when asking a girl to the prom is an example of an antecedent package (National Autism Center, 2009).

McClannahan and Krantz (2005, p. 5) define scripts as "audio taped, videotaped, or written words/phrases/sentences that enable young people to start or continue conversation." Scripts can be used with all cognitive abilities. Reading is not a prerequisite skill necessary for this strategy. Scripts can be used to expand conversational skills or teach creative and spontaneous pretend play. Krantz and McClanahan (1993) found that introducing and fading the script increased the initiation of social interaction in children diagnosed with ASD. Procedures used in developing a script include:

- **Develop and teach the script using words the student understands:** Students with ASD have difficulty with social language as it relates to initiating conversation; using words the student knows pre-corrects this issue;
- **Use age-appropriate topics:** Topics should focus on special interests of the student, peers, and family members;
- **Consider how and where the student will use the script:** Determine at what points the student is prompted to use the script throughout the school day, for instance, a script created for classroom activities that require a student to raise his or her hand to call out an answer;
- **Fade scripts as quickly as possible:** Fade scripts by removing the last word, then the next-to-last word, and so on, until there are no words remaining. Fade them as quickly as possible;
- **Use reinforcers:** Provide various types of reinforcers: Edible (e.g., food, drink), activity (e.g., computer, watch a video), social (e.g., praise, hug), material (favorite toy, game), generalized (tokens, tickets, check mark) (Aspy & Grossman, 2008). Natural reinforcers should be used as the script is faded.

As the student uses scripts, be aware of how the student is incorporating other social elements (eye contact, proximity, tone of voice). To promote generalization, teach multiple scripts for each situation. After scripts have been faded, students may begin to combine parts of scripts to produce spontaneous language.

**Modeling.** Modeling relies on an adult or peer to provide a demonstration of the target behavior, which results in an imitation of the target behavior by the individual with ASD. Modeling can include simple and complex behaviors (National Autism Center, 2009). In the best practices program, this intervention is often combined with other strategies such as prompting and reinforcement. In Joe's case, modeling occurred during his interaction with girls on the basketball team. Anecdotal evidence suggests peer relationships have two positive effects on typical students. First, particularly in middle school and high school, bullying incidents decrease. Second, peers tend to understand their important role, take pride in their responsibilities, and develop leadership skills. In recognition of these effects, Putnam County created the Summer Social Skills Academy, where social behavior and interaction between students with autism and their peers is the focus.

**Another Best Practice Success Story: Johnny**

At the age of two, Johnny was able to speak only six words and rarely responded to anyone socially. Representatives from the Putnam County school system attended his transitional meeting, just before his third birthday. Johnny had not been diagnosed with autism (he was diagnosed at age four); however, Putnam County representatives recognized his limited speech and placed him in a developmental preschool class structured for children with autism. The speech pathologist and the preschool teacher worked together using the Picture Exchange Communication System (PECS) to help Johnny and others with communication. Social situations were staged so the children would acquire the skills needed to interact on the playground and in circle time. Picture schedules were used to teach the children how to transition from one activity to another without anxiety. As a result, Johnny gained skills and progressed well.

When Johnny turned five and it was time to transition to kindergarten, the IEP team came together to discuss the best options for him. Although the data indicated Johnny could transition, his parents believed that he needed one more year in the preschool setting. Based on his parents’ wishes, Johnny stayed in preschool. His parents were
grateful their opinion counted. After spring break of that year, the team took action and worked out a plan to help Johnny transition to kindergarten. He attended the regular kindergarten class for calendar, work session, and playground time to gain insight on needs for a successful transition. The team used the data to determine the type of support and the kind of program Johnny would need as a full-time kindergarten student. As result of this process, Johnny successfully transitioned to a regular kindergarten class. His IEP was implemented, including the use of a daily notebook that was established for communication between his teacher and his parents. Johnny’s parents endorsed this strategy and agreed that this communication was not only instrumental, but crucial to Johnny’s success at home as well as in the inclusion class.

**Best Practice Program Strategies Used to Help Johnny**

Johnny’s story illustrates two selected best practices to help improve social skills: (1) naturalistic teaching strategies, and (2) schedules.

**Naturalistic Teaching Strategies.**

Naturalistic teaching strategies are interventions that use primarily child-directed interactions to teach functional skills in the natural environment. These interventions often involve providing a stimulating environment, modeling how to play, encouraging conversation, providing choices and direct/natural reinforcers, and rewarding reasonable attempts. Examples of instructional strategies include focused stimulation, incidental teaching, milieu teaching, and embedded teaching (National Autism Center, 2009, p. 54).

**Schedules.** Schedules are interventions involving the presentation of a list of tasks that communicate a series of activities or steps required to complete a specific activity and are often supplemented by other interventions such as reinforcement (National Autism Center, 2009). Schedules can take several forms, including written words, pictures or photographs, or workstations. They help children prepare for activities because they communicate transitions and changes to the daily routine. According to the National Autism Center (2009), schedules:

- Take advantage of visual strengths;
- Encourage independence;
- Limit time for special interests;
- Shape vocational skills; and
- Provide information in a manner that can be quickly and easily understood.

Developing a schedule involves:

- **Selecting a symbol:** Identify symbols the student can use effortlessly (e.g. photos, pictures, or written);
- **Determining the sequence:** Identify how many activities to include and in what order they should occur; and
- **Choosing a format:** Determine how the schedule will be organized, where it will be located, whether it should include specific times, and other classroom structural considerations (JP Associates Inc, 2012).

**Conclusion**

Increased diagnosis of autism and the resulting public awareness have contributed to an increase in practical knowledge of the disorder. This has resulted in an increasing bank of best practice strategies that assist schools and communities in helping children diagnosed with autism to be socially and academically successful. Putnam County is a radiant example of this phenomenon as it dedicates its resources toward the creation of a program with strategies that are generalizable to the wide range of ASD characteristics. The professional development focus ensures that teachers are more than prepared to meet the needs of students from a holistic perspective. Parental involvement, which is an important component for all students, is imperative to the success of children diagnosed with autism because parental support is crucial to their emotional, social, and intellectual well-being. The individualized, student-centered focus ensures that students diagnosed with autism get everything they need. Although there is much to be discovered about the disorder, the aforementioned strategies add to an increasingly growing knowledge and strategy base that can only be strengthened with research efforts.

**References**


Tennessee Value-Added Assessment System (TVAAS), (2011). Available at [http://www.state.tn.us/education](http://www.state.tn.us/education) [restricted website]