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Abstract

Having a special or highly focused area of interest is a characteristic that is commonly found in many children with autism. These interests include a wide range of fascinations and can be highly motivating for students with autism. Although recognized as an inherent characteristic of autism, special interests and their role in motivating children and youth to learn is an understudied issue. This study was designed to replicate a previous study (Keeling, Myles, Gagnon, & Simpson, 2003) that used the Power Card Strategy to teach sportsmanship skills to a 10-year old girl with autism. The strategy incorporates the special interests of children with autism to teach a variety of social, academic, and behavioral skills. Using the Power Card Strategy, a five year old boy with autism was taught to increase his time on the playground and his social interactions with a large number of 2nd grade students. Because of the success of the strategy, it will be generalized into the child's home and will also be used for a variety of activities and settings.

Keywords

autism, intervention, social skills

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Having a special or highly focused area of interest is a characteristic that is commonly found in many children with autism (American Psychiatric Association, 2000). Attwood (1998) states that these special interest areas (SIAs) “dominate the person’s time and conversation and the imposition of routines that must be completed” (p.89). These interests include a wide range of fascinations and can be highly motivating for students with autism as stated so clearly in Winter-Messiers’ study (2007), titled “From Tarantulas to Toilet Brushes.”

Although much of the autism research has referred to these special interest areas, a literature search of peer-reviewed journals revealed a limited number of studies focusing on using the SIAs of individuals with autism to teach a targeted behavior (e.g. Attwood; Baker, 2000; Dunlap, Foster-Johnson, Clarke, Kern, & Childs, 1995; Winter-Messiers, 2007). Keeling, Myles, Gagnon and Simpson (2003) noted that although recognized as an inherent characteristic of autism, special interests and their role in motivating children and youth to learn is an understudied issue.

In 2003, Keeling et al. used a technique called the Power Card Strategy (Gagnon, 2001) to teach sportsmanship behavior to a 10 year old girl with autism. Although similar to Carol Gray’s Social Stories™ which are short simple stories written from the child’s perspective that describes a social situation and provides instruction on positive, appropriate social behaviors through text and visual supports (Gray & Gerand, 1993), the Power Card

Strategy uses a similar format but incorporates a child’s special interest to teach and reinforce an acceptable behavior or skill. By incorporating her SIA, the *Power Puff Girls*, they were able to teach the appropriate behaviors to use when placed in game situations. Findings showed a decrease in whining and screaming when she lost a game, and the behaviors generalized across multiple settings. Expanding on the work of Gagnon (2001), this study was designed to teach a five year-old boy with autism to engage in socially appropriate behavior on the playground using the Power Card Strategy and his own special interest area.

Method

Participants

Owen, a five year-old boy with a diagnosis of autism was the participant in this study. He attended a public elementary school and spent his day in a Severe Communication Disorder (SCD) self-contained classroom which included children from kindergarten to second grade with similar

disabilities. Owen received speech therapy for 60 minutes a week and occupational therapy for 30 minutes a week within the classroom setting. In addition to the academic goals and objectives present in Owens’ individualized education plan (IEP), there were also objectives that focused on social skills. Specifically, Owen had poor social skills and did not play on the playground with any other students. Owen would remain on the playground with his five classmates but would not play or interact with them. However, when approximately 110 second grade students came to the playground, he

Owen spent more time on the playground going down the slide, climbing, and participating in reciprocal communication with his own classmates.

would leave the playground and hide behind a tree or under a bench and stay there for the remainder of the recess period. He would also cover his eyes so that he could not see them.

Materials

The Power Card Strategy is a visually based strategy used to connect an appropriate behavior or social skill to an individual's special interest (Keeling et al., 2003, p. 104) and consists of two parts: a personalized script and a Power Card. Following the guidelines established by Gagnon (2001) and Keeling et al., the script is typically read prior to an event that is problematic for the child or youth and contains the following elements:

- a brief scenario written at the child's comprehension level that centers on the child's individual hero or special interest and the problem behavior or situation;

- pictures or graphics about the special interest;
- a brief scenario about the child's hero or model attempting a solution to the problem similar to the one the child is experiencing;
- a rationale for why the hero or model should use a positive behavior
- a brief three to five step strategy outlining the hero's problem solving method, including a description of how the hero experiences success with the strategy;
- a note of encouragement for the child to try the new behavior

A Power Card is then written that is a small card that synthesizes the strategy based on the Power Card script and can be easily carried between settings.

Figure 1: Lightning McQueen Goes to the Playground

Lightning McQueen likes to go to the playground.

Lightning McQueen likes to play with boys and girls at the playground.

Lightning McQueen goes down the slide with the boys and girls.

Lightning McQueen climbs on the playground with the boys and girls.

When the boys and girls say "Hi", Lightning McQueen says "Hi."

When Lightning McQueen plays with the boys and girls, he feels happy.

Lightning McQueen wants you to have fun on the playground. He wants you to remember these 3 things at the playground.

1. Play with the boys and girls on the playground.
2. When a boy or girls says "Hi", you say "Hi."
3. If you feel scared, squeeze your hands together.

Play with the boys and girls like Lightning McQueen and you will feel happy.

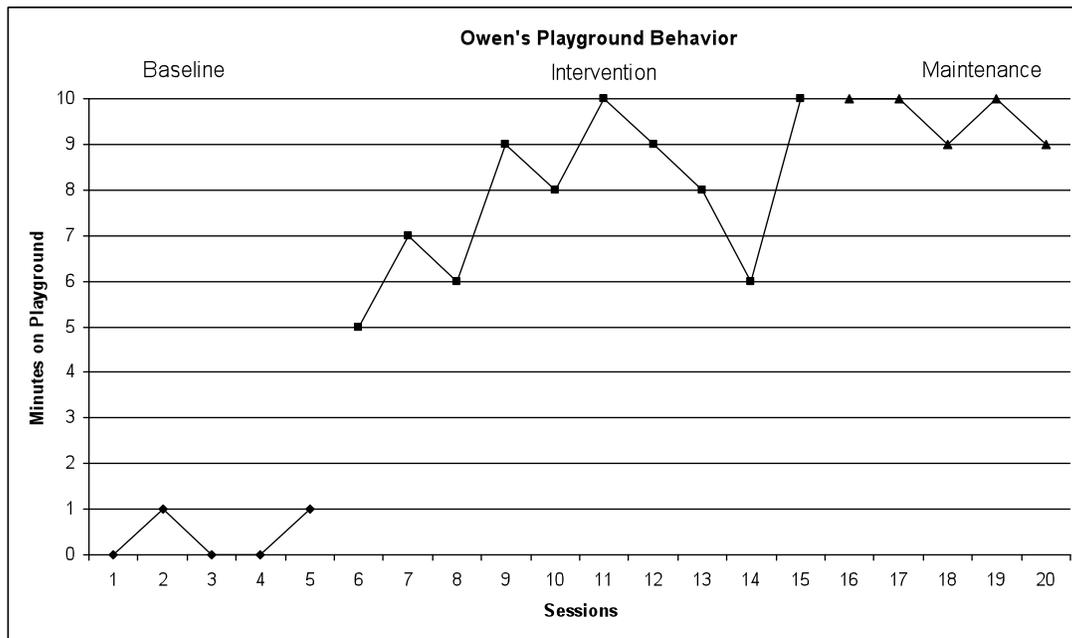
One of Owen's interests was Lightning McQueen, a character from the Disney movie *CARS*, so the teacher used this

interest for the script. The Power Card script was written by Owen and his teacher at a level in which he could understand and

follow. The Power Card script was on an 8 X 11 piece of paper and included a brief scenario of Lightening McQueen attempting a solution to the problem similar to the one Owen was having in hiding from his peers at recess. It also included a brief three step strategy outlining the problem-solving method used by Lightening McQueen, including a description of how Lightening McQueen experiences success with this strategy. It ended with a note of

encouragement for Owen to try the new behavior. The social skills that were focused on in the script were playing with other children on the playground, going down the slide, climbing, and responding to greetings with children. Because of Owen's young age, the teacher did not use a separate Power Card, but chose to use the Power Card script as the visual prompt for the strategy. The script can be seen in Figure 1.

Figure 2: Time Owen spent on the playground during baseline, intervention, and maintenance phase.



Procedures

An AB design with maintenance was used in the study and consisted of a five day baseline, a ten day intervention and five day maintenance. The playground schedule included 10 minutes with only five SCD classmates present and an additional 10 minutes with the second grade students for a total playground time of 20 minutes. Baseline

data were taken from 10:55 a.m. to 11:15 a.m. on the playground for five days with Owen's five classmates on the playground. At 11:05 a.m. approximately 110 second grade students joined them on the playground for the remaining 10 minutes. The special education teacher recorded the time Owen spent on and off of the playground with and without the presence of the second grade students.

Table 1. Baseline

Baseline – Only SCD Students

Baseline – with 2nd Grade Students

	On Playground	Off Playground	On Playground	Off Playground
Day 1	10	0	0	10
Day 2	10	0	1	9
Day 3	10	0	0	10
Day 4	10	0	0	10
Day 5	10	0	1	9

Table 2. Intervention

Intervention – Only SCD Students

Intervention – with 2nd Grade Students

On Playground	Off Playground	On Playground	Off Playground
10	0	5	5
10	0	7	3
10	0	6	4
10	0	9	1
10	0	8	2
10	0	10	0
10	0	9	1
10	0	8	2
10	0	6	4
10	0	10	0

Table 3. Return to Baseline

Return to Baseline – Only SCD Students

Return to Baseline– 2nd Grade Students

On Playground	Off Playground	On Playground	Off Playground
10	0	10	0
10	0	10	0
10	0	9	1
10	0	10	0
10	0	9	1

On day six, Monday, the special education teacher introduced the Power Card script to Owen in the classroom. The teacher read and discussed the Power Card script with Owen. Next, they went outside for recess. If Owen hid behind a tree or under the bench, the teacher would provide a visual prompt by showing him the Power Card and giving him time to read the script to himself. The teacher charted the amount of time Owen spent on and off of the playground with and without the second grade students present for 10 consecutive days.

Data Collection

Owen's special education teacher used a data sheet that consisted of two T charts. The first T chart was used to record time on and off of the playground with only his five classmates present (see Table 1). The second T chart was used to record time on and off of the playground with the second grade students present. Time off of the playground consisted of time Owen was hiding behind a tree or laying under a bench (see Table 2). Data was collected for 10 days. On day 16, the teacher charted the amount of time spent on and off of the playground with and without the second grade students present and without the use of the Power Card script (see Table 3) in order to evaluate maintenance of Owen's new skills. These results are also shown in Figure 2.

Results

The study was designed to determine the impact of the Power Card strategy on increasing appropriate social skills on the

playground. During baseline, Owen spent an average of ten minutes on the playground without the second grade students present. However, when the second grade students were on the playground, he did not remain on the playground at all.

During the ten day intervention, Owen spent an average of eight minutes on the playground and two minutes off of the playground with his classmates and the second grade students present. Activities included playing on the slide and going up a climbing wall. He also listened to the other children talk to him without running away as he had previously done.

During maintenance, Owen spent an average of nine minutes on the playground with his classmates and the second grade students present and one minute off of the playground. During his time on the playground, he started playing tag with some of the children and seemed to enjoy saying "You're it, come get me." He also continued taking turns on the slide and climbing on the climbing wall. He even attempted the monkey bars a few times with the second graders present. His one minute off of the playground occurred when the second graders first ran out to the playground. Once all of the children arrived, he joined the students on the playground without any prompting.

The results of this study indicate that the Power Card strategy was effective in increasing appropriate social skills on the playground. Specifically, Owen spent more time on the playground going down the slide, climbing, and participating in reciprocal communication with his own classmates as

The Power Card strategy was effective in increasing appropriate social skills on the playground.

well as 110 second grade students from general education classrooms. When Owen would go hide behind a tree or lay under the bench, he would quickly return to the playground when the Power Card script was used as a visual prompt. Even more encouraging, was the increased time he remained on the playground after the intervention ended and the addition of a new activity, tag.

Based on the effectiveness of this strategy for Owen, the Power Card strategy will be generalized into the child's home and will be used for a variety of activities and settings. The teacher noted that one of the benefits to the strategy was the minimal time it took to develop and implement, and the outcomes were significant. The implementation can easily be generalized across settings and with those who are implementing the strategy with the student. Although no single management method is universally effective with students with autism, the Power Card Strategy appears to offer a flexible and creative means of managing problem behaviors by teaching appropriate replacement options (Winter-Meissiers, 2007) while using the child's SIA as a positive change agent. The results of this study suggest that a child's special interest could be used to produce a positive behavior change, but this is only one of a few studies as previously noted. Fortunately, it appears that this line of research addressing the benefits of using SIAs as a teaching tool is continuing. Winter-Messiers et al., (2007) examined a strength-based model which focused on incorporating a students' SIA into school, home, and community activities in order to produce positive changes in attitude, motivation, skills, engagement, and compliance, thus, moving away from viewing these obsessive interests as a deficit area.

Clearly, researchers are now beginning to examine the potential of using a child's SIA's to teach a variety of skills, and this alone could potentially have far reaching implications for teachers who for so long, have tried to reduce or even extinguish these obsessive behaviors.

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