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Emotional Self-Regulation in Children with Autism Spectrum Disorder

Evan Moring

A Capstone Project for the Bachelor of Science in Human Development and Family Science

Introduction

The focus of this project is teaching 2nd and 3rd-grade children with autism spectrum disorder (ASD) how to develop emotional regulation skills. Emotion regulation is the ability to evaluate and change one's emotional state in the moment. The problem is that these students have difficulty with emotion regulation and frequently experience emotional outbursts. An emotional outburst could be a child throwing a toy across the classroom because the teacher asked them to stay seated at their desk over three times. The child does not realize they cannot throw toys across the classroom. This happens because children with ASD cannot always recognize their feelings and others' feelings (McHugh et al., 2011). These children do not realize how upset they are until it is too late to regulate themselves on their own. There is a need for services that teach these students how to regulate their emotions independently. Because of this need, I developed a workshop that teaches the children facial awareness of the three emotions happy, sad, and mad. I will also teach them how to demonstrate two strategies for calming down when feeling negative emotions. Lastly, I will teach them two positive ways to ask the teacher for help when feeling negative emotions. I will teach the lessons at Rio Del Mar Elementary School in Aptos, CA, and will teach 13 special needs students at the second to third-grade level.

Needs Statement

The focal point of this project is teaching 2nd and 3rd-grade children with autism spectrum disorder (ASD) how to develop emotional self-regulation skills. It is important to investigate this focal point for children to be able to calm their emotional feelings. The problem is children with (ASD) have difficulty with emotion regulation and frequently experience

emotional outbursts; like throwing a toy across the classroom. For the project, I taught the students three different lessons and gave them an assessment after each lesson.

Autism spectrum disorder (ASD) is the most common neurodevelopmental disorder that causes difficulty with communication, motor skills, and social skills(Oligbo et al., 2023). In the United States, 1 in 44 children is diagnosed with (ASD). There are many other challenges and the article stated that 80% of children with (ASD) need to receive speech and language therapy. Developing fine motor skills and gross are important for a child's daily life activities. If a child can not develop those skills they will have a hard time participating in physical activities with other children. Not being able to participate in active play with other children can make the child with (ASD) feel isolated and might get upset at the other children. That is an example of why children with (ASD) need to be taught how to self-regulate their emotions.

Children with autism spectrum disorder have a hard time self-regulating themselves when feeling any type of emotion. Emotional self-regulation (ESR) “refers to a developmental capacity of individuals to monitor, evaluate, and modify their emotional state and arousal level to maintain engagement and accomplish objectives” (Laurent et al., 2017). ESR can be linked to positive pro-social engagement and social competence in early childhood. The negatives in ESR are unmodulated emotion, difficulties that can heighten physiological reactivity, and poor impulse control. These correspond with externalizing behaviors throughout childhood and reactive aggression. Typically ESR develops for children in a complex way as children's cognitive, attentional, and language development (Laurent et al. 2017). A child can also experience responsive exchanges with caregivers or parents that help ESR develop properly. Children with Autism Spectrum Disorder (ASD) have many challenges with emotional self-regulation. In particular, they show difficulties controlling emotions, tolerating transitions,

inhibiting reactions, and delaying enjoyment. Compared to development in other children, children with ASD tend to use less effortful control during a frustrating task and use ESR characteristics of more verbal and physical expression (Laurent et al., 2017). They have been shown to use less repeated use of ESR strategies compared to other developing children. Sensory processing and social communication are both negatives that have been involved with ESR differences in children with Autism Spectrum Disorder.

The topic that was addressed in the project was children with autism will have a facial understanding of what happy, sad, and mad emotions feel like and they will show me what each of the three emotions looks like. People with autism spectrum disorder (ASD) have a hard time recognizing emotions in others and themselves (McHugh et al., 2011). Three male children with ASD were in a study that trained them to notice situation-based emotions which are “sad”, “afraid”, “happy”, and “angry”. To accomplish this they used novel video scenarios and showed them what each emotion looked like. The study also had children listen to a story and had them explain what emotional expression the character was showing. The results of the study were that 75% of all three participants were able to correctly respond to the novel situation-based emotions. Both tactics are important in helping children with autism spectrum disorder recognize other's emotions and their own.

Another topic of my project is students who have autism will be able to demonstrate two strategies for calming down when feeling negative emotions. In early childhood, the development of self-regulation represents an important step for children. The first task that could help a child with self-regulation is maternal scaffolding which involves toys and time. Practicing using toys and stopping when playtime is up helps the child's effortful control become stronger (Erdmann et al., 2019). The second task that has been shown in studies to help special needs

children with self-regulation is digital learning. There were seven different studies done and all of them showed that digital learning helped improve emotional regulation in children (Stalmach et al., 2023). Children with autism can get overwhelmed easily and this study found that when the children used headphones to listen to writing instructions they were able to understand and not get emotionally overwhelmed. Using digital technology can be a tool for a child with special needs to self-regulate their emotions.

The last topic I focused on was children with autism who will demonstrate two positive ways to ask the teacher for help when feeling negative emotions. Children with autism need to try and use their words when they are upset instead of reacting with a possible scream. A child could ask the teacher for a break or a walk around the building if feeling negative emotions. If emotions and the feelings of emotions are not taught to children they might not understand how to deal with them. When children with (ASD) feel negative emotions they act poorly toward the teacher. The children need to be taught how to approach the teacher calmly instead of expressing their negative emotions toward them. Aggression has been shown to have consequences for the aggressors and the victims (Navas-Casado et al., 2023). There was a study that was conducted that stated, “The general aggression model explains the process that results in aggressive outcomes, and it emphasizes the role of emotion regulation”(Navas-Casado et al., 2023). In order for children with (ASD) to not act aggressively towards their teachers they need to be taught the strategies of asking for help calmly. Using emotion regulation strategies can help children not be aggressive toward others or teachers.

Emotional regulation is important for children with autism spectrum disorder to learn in their early developmental years. Children with (ASD) have a hard time understanding their feelings and others. To help improve emotional regulation in children I created three

twenty-minute lessons that focused on the awareness of the three emotions happy, sad, and mad. The children also learned about two strategies for calming down when feeling negative emotions and two positive ways to ask the teacher for help when feeling negative emotions. I conducted these lessons with children who are in 2nd and 3rd grade in a special education classroom at Rio Del Mar Elementary School in Aptos, CA.

Theory

Jean Piaget was a psychologist who created the theory of cognitive development in 1952. He created this theory to explain how children cognitively learn and deal with the surroundings around them. Cognitive development includes the ability to identify, solve problems, and make decisions. There are four stages of cognitive development in Piaget's theory (Gahzi et al., 2014). The first stage happens at the ages 0-2 years old and is called the sensorimotor stage. During this stage, infants gain knowledge through sensory practices and using different toys. Piaget broke this stage up into six sub-stages and the actions of hearing, seeing, visualization, investigation, and physical and motor practices are what the children should be developing. The ability to count numbers is an additional feature of the sensorimotor stage. The second stage happens at ages 2-7 years old which is preoperational and during this stage, children understand games and categorization. They also learn through imaginary play use their senses and acquire their own opinion about people. The third stage happens at ages 7-11 years old called concrete operations and during this stage, children start to think more logically. They also start to make an effort with theoretical thought and abstract thoughts. The last stage happens at ages 12-16 years old called formal operations. During this stage their cognitive development increases in intellect and understanding of conceptual thoughts.

Jean Piaget's theory and the preoperational stage relate to my age group because my participants fall in the 2-7 age range. During this stage, the children are learning from imaginary play and learning how to use their senses to create their own opinion of an individual. They also work with concrete objects and manipulatives which helps them learn better during this stage. I incorporated manipulatives during my lessons like a stress ball for the children to squeeze when feeling overwhelmed. During this stage, Piaget also talked about children being egocentric and having trouble understanding the emotions of others. Children with autism spectrum disorder have trouble using their senses and can not always form their own opinion of someone else (Gahzi et al., 2014). They also have trouble with social interactions and communicating with others. If they can not play and interact with other children they are not able to practice imaginary play which leads to not developing socially as fast as other children. Emotional expression and self-regulation are challenging for children with (ASD) and if a child can not express their emotions to others they won't be able to develop their social and imaginary play skills(Guevara et al., 2024). To help children with (ASD) exceed this stage of Jean Piaget's theory they need to be taught about emotions and feelings and understand that other children have feelings.

Consideration of Diversity

I gave my lessons at Rio Del Mar Elementary School in Aptos in their 2nd and 3rd-grade special education classroom. The Elementary school also has two other special education classrooms and all three classrooms have a majority of children with autism. The other children in the classroom are on the severe spectrum and three are nonverbal. There are 47% females and 53% males at the school. The ethnic diversity of the entire school is 64.2% White, 22.2%

Hispanic, 4% Asian, 7.8% Multiracial, and 1.4% African American(Niche, 2024). The ethnic diversity and diversity of males and females changed the way I created my lessons.

Children with autism spectrum disorder and any other disorder have different ways of communicating. Some of them are nonverbal and some can speak but can't write. They have many diverse ways of communicating with each other and the teachers by either using sign language or pointing to the images on their desks. While creating my lesson plans I decided to include pictures of boy children and girl children for each gender student to see themselves represented in the lesson. I only included circling pictures and matching pictures so the students who could not write would be able to participate. Lastly, my photos included ethnic diversity so the children could see a child that looked like them crying and showing emotions. They might understand that if other children of their same ethnicity show emotions they can as well.

Learning Outcomes

I created three 30-minute lessons that were completed over two days for children with ASD that taught them about emotional regulation. This project consists of three learning outcomes.

1. The children will have facial awareness of the three emotions of happy, sad, and mad, and will say what the emotions feel like.
2. The children will be able to demonstrate two strategies for calming down when feeling negative emotions.
3. The children will be able to demonstrate two positive ways to ask the teacher for help when feeling negative emotions.

Methods

Location and Participants

The three lessons about emotional regulation took place at Rio Del Mar Elementary School in Aptos, CA. These lessons were conducted in a special needs classroom and there were six participants who all have autism. I volunteered for my service learning hours at the school during the first semester, and I asked if they would let me come back to conduct my lessons. The six participants are in second and third grade and are 7 and 8 years old. Four of the participants were boys and two of them were girls. One of the participants was nonverbal and the other five were verbal.

Procedures and Materials

The lessons were presented to the six special needs children during a two-day period. The lessons were on Tuesday and Thursday during the same week. The week before, I volunteered and asked the teacher when the best time would be for me to give the lessons during their schedule. She said the best times were during their small groups after recess, which was from 11 am to 11:30. I taught the lessons to two children at a time at a table off to the side. On Tuesday I taught them the first two lessons and on Thursday I taught them the last lesson and gave them an assessment after each lesson.

The first lesson was about teaching the children facial awareness of the three emotions of happy, sad, and mad, and teaching them how each emotion makes them feel. I first asked the children if they knew what happy, sad, and mad emotions were. After that, I explained how each emotion feels by showing the children different photos of children showing emotions. I then asked the children to point to the photo that showed the emotion of happiness. Then I asked them to point to the emotions of sadness and anger. There were six photos of each emotion and they

were slightly different in order for the children to be challenged. If the child was non-verbal I had them point to each emotion after I asked them to point to the emotion of happy, sad, or mad. If the child was verbal I had them explain back to me what each emotion feels like. Lastly, in order to assess their knowledge of what they learned I had them make the facial expressions of each emotion, and each student pointed to the emotion on the paper after they demonstrated it on their own face.

My second lesson was conducted right after the first lesson on the same day and it focused on teaching the children two strategies for calming down when feeling negative emotions. First I read them a book called “Kind Hands Don’t Hurt” which teaches children how to hold their hands together when feeling upset. Then I talked to the children about when they would use safe hands and the emotion they would be feeling when needing to use safe hands. After that, I gave them a stress ball and taught them to squeeze it if they were feeling negative feelings. Then to end the lesson I had them show me how they squeeze the stress ball and I asked them the question “What emotion are you feeling when you need to use the stress ball”? The children answered my question to the best of their ability.

The third lesson was conducted two days later and it was based on teaching the children two positive ways to ask the teacher for help when feeling negative thoughts. I first taught the children that when they are feeling negative feelings they can raise their hand and stay seated at their desk or they can also say “Excuse me” to get the teacher's attention. Then I gave them a worksheet where they had to circle all the pictures that showed children raising their hands and saying “Excuse me”. I also explained to them why it’s important to use the two strategies when they are feeling negative feelings. Lastly, I gave the children a worksheet where they had to match the words to the photos for their assessment.

Results

The first learning outcome is that children with autism will have facial awareness of the three emotions happy, sad, and mad, and will say what they feel like. The assessment was a matching activity where they had to match the facial emotion to pictures of children showing the same emotion. There were six points possible, and if they matched four of them correctly they got a passing score. Based on the question, ‘Which emotion matches the six different pictures of emotions and show me the correct facial expression on your face?’, 4 out of 6 children matched the emotions and showed the right facial expression and therefore passed the assessment. The most frequent thing that happened was the children not being able to show emotion on their faces at the same time as doing the matching worksheet. This lesson was partially met because 4 out of the 6 participants passed the learning outcome.

The second learning outcome is that children with autism will be able to demonstrate one strategy for calming down when feeling negative feelings. I gave the children the assessment right after lesson 2 and they had to squeeze the ball for me and answer the question “What emotion would make you need to use the stress ball”? There were six points possible for the children to receive a passing score and if they could squeeze the stress ball and answer my question they got a passing score. Based on the question, ‘What emotion would make you need to use the stress ball?’, 4 out of 6 children answered the question correctly. The most frequent answer was them stating the emotion mad. The two participants who couldn’t answer said they didn’t know which emotion to say. This lesson was partially met because 4 out of the 6 participants passed the learning outcome.

The third learning outcome is that children with autism will be able to demonstrate two positive ways to ask the teacher for help when feeling negative emotions. I gave the children the assessment right after the third lesson and they had to match the words and photos to the pictures of children raising their hands and saying “Excuse me”. There were six points possible for the children to receive a passing score and if they could match all six questions correctly they got a passing score. Based on the matching activity, 5 out of the 6 children matched all six of them correctly. Therefore, This lesson was considered fully met.

Discussion

Children with autism spectrum disorder have difficulty with emotion regulation and frequently experience emotional outbursts like throwing a toy across the classroom when feeling mad. For my project, I created engaging lessons for children to learn how to calm their emotional feelings. My project was successful in many different ways. For LO 1 almost all the participants were able to explain the three emotions and show me the emotion on their faces. This learning outcome was partially met because 4 out of 6 participants received all the points. I found this to be successful because the participants understood my lessons and passed the assessment. For LO 2 almost all the participants could answer my question ‘What emotion would make you need to use the stress ball?’, and 4 out of 6 participants answered it correctly. I found that to be successful because it meant they were listening to me and understood what I taught them. For LO 3 almost all the participants were able to understand the two ways to ask the teacher for help. Five out of six participants matched all six matching cards and I found that successful because they remembered everything I taught them. Besides the learning outcomes being successful I also found it successful that all the participants were smiling and laughing during my lessons.

This showed that they thought my lesson was engaging and interesting. They were also engaged through communicating and pointing at the worksheets in front of them.

I had a few limitations throughout all three of my lessons. One of them was being interrupted by other students who were not participating in my lesson. The children completing my lessons were distracted by those students but I got them to quickly focus again. Another distraction was when a child's father came into the room unexpectedly, which had the participant looking at their father while trying to complete my lessons. I kept reminding the participant to stay focused on me and they eventually stopped looking at their father. Lastly, I had a non-verbal participant who could not answer my question for LO 2. Instead, I had them point to a picture as their answer. In the future, I will make my lessons not have an answer that needs to be spoken. Overall, I am happy with how my lessons went and I am glad that my participants understood almost everything.

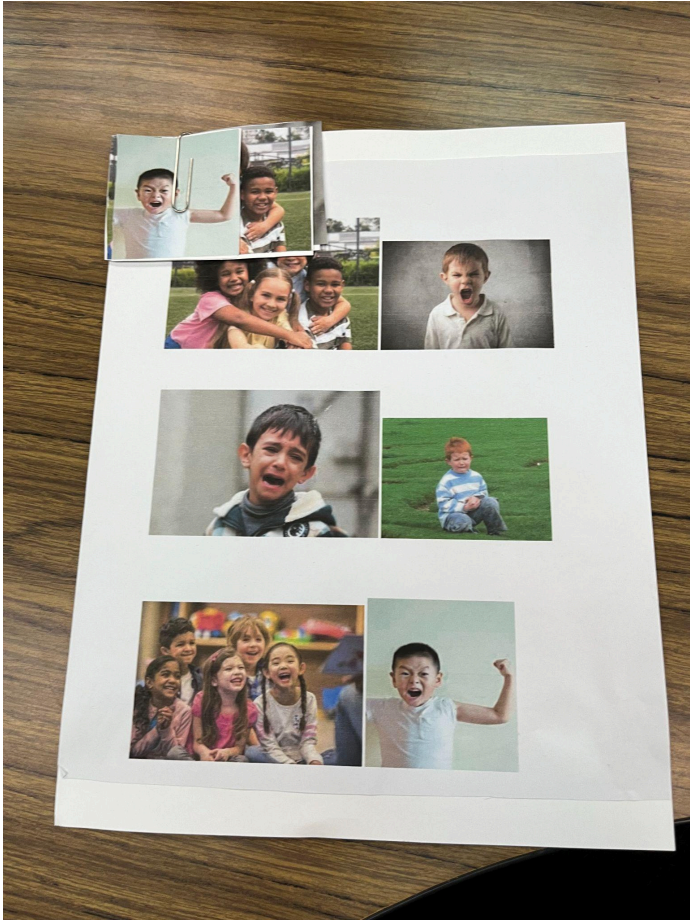
In the future, if I were to present my lessons again I would like there to be parents present in the classroom. I could have them stand in the back of the room in order for the participants to not get distracted. I would like parents to be present because I believe it's important to understand why their child needs to know about emotions. I would also like to change my lessons for children who are non-verbal. I would like to not ask the participants questions but instead, have them point or circle the answer for the non-verbal students to fully participate. Lastly, I would have the participants come into a different classroom with me for there to be no distractions from other students. Even though my project was not fully successful, I believe that my participants walked away with new knowledge of how to handle their emotions. In the future, I hope that children will keep using the lessons that I taught them, and I hope children with autism spectrum disorder will keep improving in regulating their emotions.

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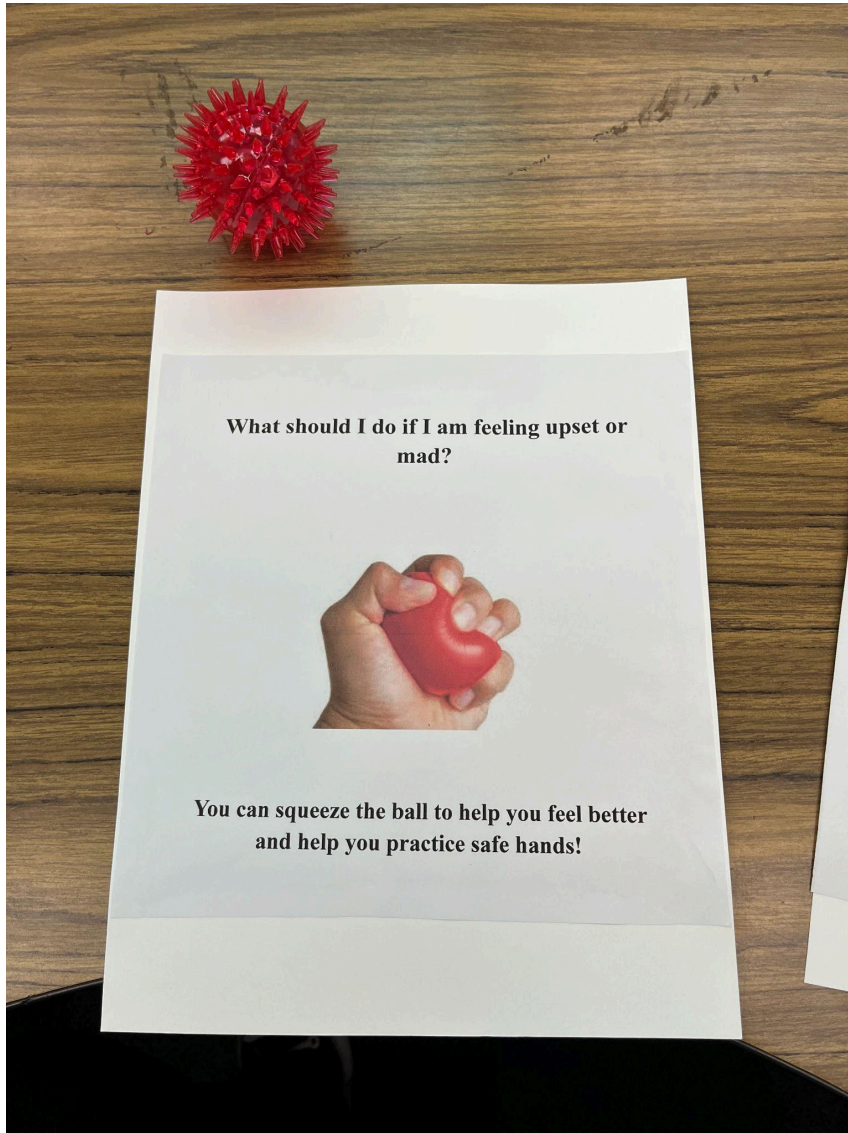
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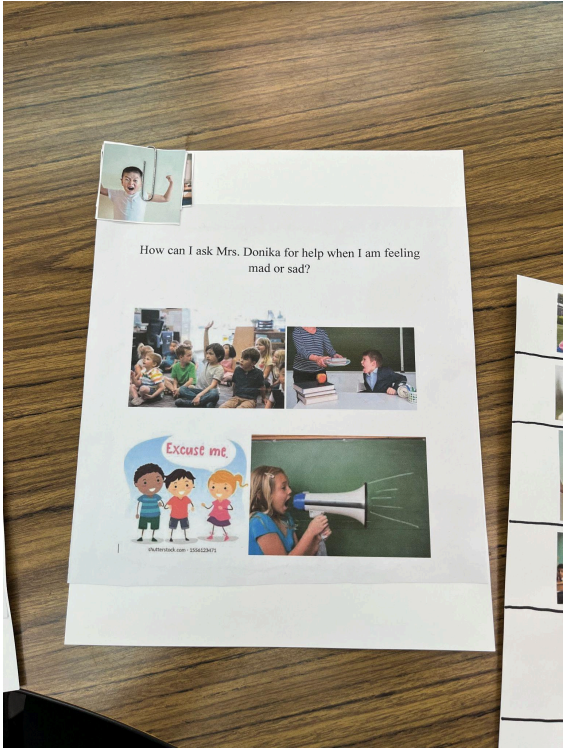
Appendix A

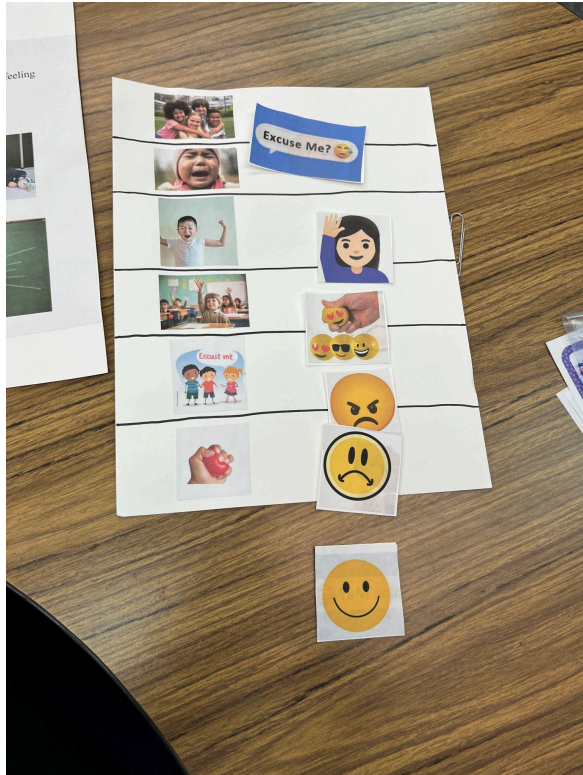


Appendix B



Appendix C





Emotional Self-Regulation In Children With Autism Spectrum Disorder

Evan Moring
Human Development and Family Science

Introduction

- Autism spectrum disorder (ASD) is the most common neurodevelopmental disorder that causes difficulty with communication, motor skills, and social skills
- Emotional regulation is the ability to evaluate and change one's emotional state in the moment
- I focused on this topic because I am passionate about helping children understand theirs and others emotions and have always loved helping children with special needs



Needs Statement

- **Problem:** Children with ASD have difficulty with emotion regulation and frequently experience emotional outbursts; like throwing a toy across the classroom
- Children with ASD tend to use less effortful control during a frustrating task and use ESR characteristics of more verbal and physical expression(Laurent et al., 2017).
- **Need:** Create engaging lessons for children to learn how to calm their emotional feelings
- Practicing using toys and stopping when playtime is up helps the child's effortful control become stronger (Erdmann et al., 2019).

Jean Piaget's Theory

Jean Piaget was a psychologist who created the theory of cognitive development in 1952.

Stage 1: Sensorimotor (0-2)

Stage 2: Preoperational (2-7)

Stage 3: Concrete Operations (7-11)

Stage 4: Formal Operations (12-16)

My participants fall under stage 2 preoperational ages 2-7

To succeed in this stage children need many visuals and manipulatives

My lessons contained these in order to help them feel emotions

Learning Outcomes

I designed a workshop on teaching children with autism spectrum disorder(ASD) what emotions are and how to develop emotional self-regulation skills. It focused on the following learning outcomes...

1. Children will have facial awareness of the three emotions happy, sad, and mad, and say what they feel like.

2. Children will demonstrate one strategy for calming down when feeling negative emotions.

3. Children will be able to demonstrate two positive ways to ask the teacher for help when feeling negative emotions.

Method (Location & Participants)

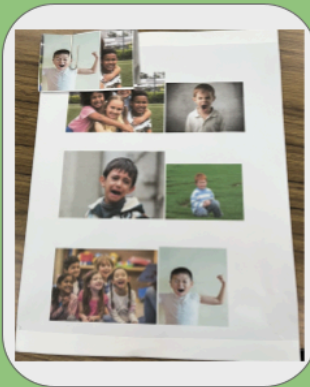


- Rio Del Mar Elementary School, Aptos CA
- Service Learning Site

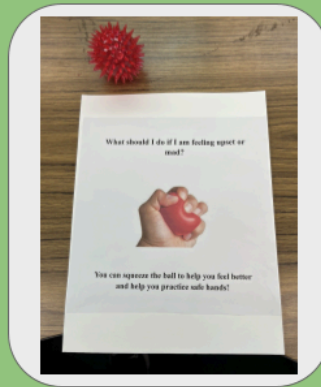
- 6 Participants, ages 7 & 8
- 4 boys and 2 girls
- 1 non-verbal student
- 2 Hispanic & 4 Caucasian

Method: Procedures & Materials

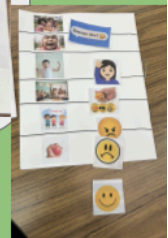
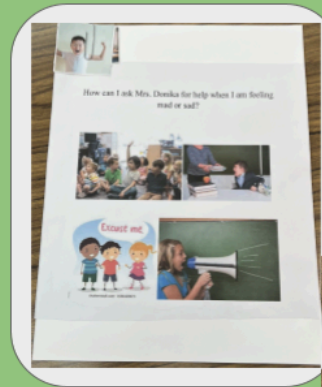
Lesson 1



Lesson 2



Lesson 3



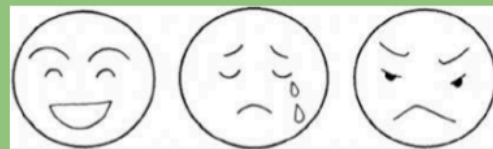
Assessment Results LO 1

LO 1: Children with autism will have facial awareness of the three emotions happy, sad, and mad, and say what they feel like

- Matching the emotion to correct scenario/making the correct facial expression

Results: 4 out of 6 participants matched scenario and gave facial expressions

LO 1 Was Partially Met



Assessment Results LO 2

LO 2: Children with autism will be able to demonstrate two strategies for calming down when feeling negative emotions.

- Had to squeeze ball & answer my question

Results: 4 out of 6 participants could squeeze ball & answer question

LO 2 Was Partially Met



Assessment Results LO 3

LO 3: Children with autism will be able to demonstrate two positive ways to ask the teacher for help when feeling negative emotions.

- Had to match the words to the emotions

Results: 5 out of 6 participants matched scenario correctly

LO 3 Was Fully Met



Discussion

Successes:

- LO 3 was fully met
- Most students showed engagement through communication and pointing
- Students listened to my directions



Discussion

Limitations & Challenges:

- Interrupted by other students
- LO 1 was partially met
- LO 2 was partially met
- Non-verbal student couldn't repeat answer

Discussion

Future Direction:

- Make the lessons longer
- Have parents be present
- ASD children are capable of doing anything!



