AN OBSERVATIONAL COMPARISON OF THE TEACCH AND THE VBA CLASSROOM MODELS FOR CHILDREN
WITH AUTISM SPECTRUM DISORDERS

by

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Introduction

Autism tends to be one of the most misunderstood developmental disorders of society. It was first labeled as a disorder in the 1940s (Health, 2005). The word "autism" is derived from the Greek word "autos," which means "self." Originally patients who exhibited symptoms of autism were considered to be schizophrenic. Leo Kanner is credited as the first person to clearly define autism by realizing that those symptoms were completely different from usual schizophrenic symptoms (Scott, Clark, & Brady, What is Autism, 2000). However, not much was known about the condition until the 1990s. But to this day, there is still a lot to be learned about the troubling disorder (Health, 2005).

Autism is a complex neurobiological disorder of development. When a child develops autism, they will have it for their entire lives. It is often referred to as a developmental disorder for two reasons. One is because symptoms usually occur in the developmental stages of a child's life (before the age of three). The other reason is because it can cause delays and/or issues with many skills that develop between infancy to adulthood (Health, 2005). Autism is also considered a spectrum disorder. This means that despite the fact that people with autism consistently have difficulties with certain things (such as communication skills), there are still extreme differences in how the disorder may affect people individually (Scott, Clark, & Brady, What is Autism, 2000). Typically children with autism tend to have developmental problems in three specific categories: social interaction, behavior, and language. Some examples would be, having trouble making/maintaining eye contact, delayed speech, abnormal eating habits (like eating only yellow foods), appearing very distant or disconnected, etc. Symptoms may develop early on during infancy; however, it is possible for children to develop normally but then later on in life abruptly begin to lose skills they've learned and become more withdrawn.

Children with autism usually have specific learning characteristics that make it very difficult for teachers to teach them. One of the more common characteristics is the children's dependency on visual input as opposed to auditory input. Teachers who ask lots of questions, utilize discussion groups in class, and/or teach in a lecture based style find it very difficult to teach children who learn new information primarily in a visual manner. Because of this most teachers who work with children with autism should incorporate sufficient visual structure and visual cues in their lesson plans (Scott, Clark, & Brady, Learning Characteristics of Students With Autism, 2000). Providing an effectively structured environment helps children transition around the classroom with minimal distractions and disruptions. Visual structure usually involves organizing furniture, materials, and information in such a way that the instructions for completing a certain task are clearly deductible without necessarily needing any verbal prompting or verbal directions (Scott, Clark, & Brady, Using Visual Structure, 2000). Visual cues usually include methods such as a picture-based communication system and picture sequencing in order to show routines or rules (Autism Society, 2009).

Children with autism normally attend special education programs so that their unique needs are addressed. In North Carolina, the TEACCH program is the one that most parents who have children with autism turn to for help. TEACCH typically uses an applied behavioral analysis (ABA) approach when working with children. The TEACCH program is an intervention program geared towards helping children with autism and their relatives cope with the condition. The program, which was developed at the University of North Carolina at Chapel Hill, has helped thousands of affected individuals. TEACCH stands for Treatment and Education of Autistic and Communication Handicapped Children. The TEACCH program is built on five core values: "Understanding and appreciating people with autism spectrum disorder are our highest

priorities; We are committed to excellence and have a strong work ethic; TEACCH professionals don't stand on ceremony or become overly impressed with their status, discipline or position; A spirit of cooperation and collaboration characterizes all of our work; We look for the best in others and in ourselves." One great aspect of the TEACCH program is that the strategies used can be adjusted to fit an individual's unique developmental and functional level. There are no age restrictions for the program. Anyone from preschool children to adults can be introduced to the program. A TEACCH classroom is generally very structured; different areas of the classroom are designated for different activities, such as an area for playing, an area for individual activities and an area for group activities. The children adhere to schedules made with pictures and/or words to help them transition throughout the day. Usually, social interacting and verbal communicating isn't focused on as much as other programs (Mesibov, Shea, & Schopler, 2004).

A second program model that is often used with young children with autism is Verbal Behavioral Analysis (VBA). This program model was developed by B.F. Skinner. VBA is a language intervention strategy used to address the language deficits of children with Autism Spectrum Disorders (Skinner, 1957). The teachers use different styles of speech known as "mands," "tacts," and "intraverbals" to help the children. "Manding" is when the child demands or commands for a desired object or activity. For example, if a teacher presents a child with a certain object, the child will not receive the object until he/she has requested the item. "Tacting" is identifying and naming objects. Tacting is the next step after manding, because the children have to specifically name the activity or object they are requesting. "Intraverbals" involve identifying relationships. "For example: "Jeremy, where is the hat?" "The hat is under the chair."" (Webster).

Methodology

Purpose

The purpose of this research project was to compare and analyze two different classroom models used to help with the education of children with Autism, TEACCH and VBA, in order to provide insight on the strengths and weaknesses of each model which could assist with placement decisions. Specific characteristics in children could be used to predict which type of program would be more beneficial and promote progress. Three basic questions helped to guide the research:

What are the similarities and differences between the TEACCH and the VBA classroom models?

How are the IEP goals implemented within the classrooms?

Can certain characteristics of children with autism be identified to help improve program placement?

Participants

Two classrooms were selected from a self-contained preschool program for children with autism in the local school district; one based on the TEACCH model and the other based on VBA. In order to preserve confidentiality, the TEACCH based classroom is referred to as Classroom A and the VBA based classroom is referred to as Classroom B. Each class had one head teacher, referred to throughout the study as TA and TB. Two children from each class were selected to be specifically observed, in order to identify specific child characteristics and how the IEP goals were being implemented. Children are referred to as child A1, A2, B1, and B2.

Materials

The materials selected for use in the study were an environmental rating scale, APERS, and an observational data collection instrument designed by the researchers.

APERS

The Autism Program Environment Rating Scale (APERS) developed by Dr. Samuel L. Odom (2013) was used to assess the classroom environments. The APERS is environmental rating tool that focuses specifically on environments for children who have autism spectrum disorders (both inclusive and self-contained). Scoring from the APERS is used to determine overall strengths and areas for improvement. The APERS has 69 items grouped into 11 different domains. Two different versions of the scale have been developed; one for preschool/elementary and one for middle/high school. The *Learning Environment, Structure/Schedule, Positive Learning Climate, Assessment and IEP Development*, and *Curriculum and Instruction* domains from the preschool/elementary school scale for self-contained settings were the domains used in the current research study. Because the APERS had not been officially published at the time of the research, a draft version of the tool was used.

Observational Chart

An Observational Chart developed by the researchers was used when observing IEP implementation with the selected children and to identify child characteristics. The chart was used to document the activities being used and the success/challenges each child faced during completion of the assigned tasks. (Table 2)

Procedure

Permission was received from the local school district to implement the research study which allowed researchers to use two self-contained classrooms for preschool children with autism spectrum disorders. Classrooms were selected by the special education program. After receiving permission from the school board, Institutional Review Board (IRB) proposal forms were submitted. Approval from both the school district and the IRB were necessary in order to conduct the research study. Dr. Samuel Odom also gave consent via email for the use of the APERS scale.

Two classrooms were selected; one based on the TEACCH model and the other based on VBA. The teachers from each class were contacted and asked to select two children from their class to be observed. A permission form was sent home with each of the children to their parents to acquire consent for participation and consent to review selected children's Individual Education Plans (IEP).

An APERS trial assessment was completed on a third classroom in order to establish inter-rater reliability between researchers. Researchers assessed the classroom individually and discussed/compared their results afterwards. Weekly classroom observations were conducted for the duration of the semester in order to complete the APERS subdomains and to gain an insight into each instructional method (TEACCH and VBA). The subdomains selected were the *Learning Environment, Structure/Schedule, Positive Learning Climate, Assessment and IEP Development, and Curriculum and Instruction* domains. They were selected because they focused on the classroom and helped to answer the questions posed for the study.

The IEPs of the four children were thoroughly examined and two goals and objectives were selected for each. Then additional classroom observations were made in order to see how

the selected goals and objectives were being implemented in the classrooms. The observational data was compiled using the observational record designed, and analyzed for any possible conclusions to be drawn.

Analysis

This section includes an analysis of the data collected from the classroom observations with APERS environmental rating tool. Of the 11 domains that the scale includes, only five were used for this study: were the *Learning Environment, Structure/Schedule, Positive Learning Climate, Assessment and IEP Development, and Curriculum and Instruction*. Each of the domains are divided into several subdomains which are scored on a scale of 1 to 5; with 5 being the highest possible score and 1 being the lowest. This analysis will examine the strengths and areas for improvement of each classroom in each of the five domains, as well as how the two classrooms' results compare to each other. Table 1 includes overall scoring on the APERS across domains.

Table 1: APERS scores

	Number of Items Scored	Highest Possible Score	Sum of Scores		Subdomain Score	
Learning Environment			Class A	Class B	Class A	Class B
Safety	3	15	7	11	2.33	3.67
Organization	3	15	11	11	3.67	3.67
Materials	2	10	9	9	4.5	4.5
Total Domain	8	40	27	31	3.38	3.88
Structure/Schedule						
Visual Schedule	1	5	1	1	1	1
Transitions	1	4	4	4	4	4
Interaction	1	5	5	5	5	5
Total Domain	3	14	10	10	3.33	3.33
Positive Learning Climate						
Staff-Student Interactions	1	5	5	5	5	5
Staff Behaviors	2	10	10	10	5	5
Promoting Diversity	1	5	5	5	5	5
Total Domain	4	20	20	20	5	5
Assesment and IEP Development						
Assessing Student Progress	1	5	4	4	4	4
Assesment Process	1	5	4	5	4	5
IEP Goals	3	15	14	14	4.67	4.67
Transition Planning	1	5	5	5	5	5
Total Domain	6	30	27	28	4.5	4.67
Curriculum						
Instructional Strategies	9	45	36	36	4	4
Total Domain	9	45	36	36	4	4

<u>Learning Environment</u>

The first domain examined was the Learning Environment. The Learning Environment section is divided into Safety, Organization, and Materials.

Safety: Class A had an average score of 2.33. Overall strengths include distributing team members across the classroom so that children are monitored at all times and promoting a hygienic environment by providing an adequate amount of tissue boxes and hand sanitizer bottles around the classroom as well as encouraging students to independently wash their hands, wipe their nose etc. Areas for improvement include uncovered electrical outlets and too many high barriers and objects on top of shelves that could potentially block children from view. Class

B had an average score of 3.67. Overall strengths include distributing team members across the classroom so that children are monitored at all times, less than two high barriers and objects on top of shelves, and promoting a hygienic environment by providing an adequate amount of tissue boxes and hand sanitizer bottles around the classroom as well as encouraging students to independently wash their hands, wipe their nose etc. Areas for improvement include uncovered electrical outlets.

Organization: Class A had an average score of 3.67. Overall strengths include providing a sufficient amount of personal space, clearly defining expectations of certain spaces (e.g. computer station, reading corner, etc.), and maintaining proper use and storage of materials as a priority. Areas for improvement include labeling each personal space with picture symbols either instead of or in addition to written words. Class B had an average score of 3.67. Overall strengths include providing a sufficient amount of personal space and clearly defining expectations of certain spaces (e.g. computer station, reading corner, etc.). Areas for improvement include maintaining proper use and storage of materials as a priority and labeling each personal space with picture symbols either instead of or in addition to written words.

Materials: Class A had an average score of 4.5. Overall strengths include all materials being organized and stored in appropriate locations. Areas for improvement include using the same materials that are used in natural environments (e.g. real money instead of plastic coins). Even though natural environment materials were used in some activities, APERS recommends that they be used in all activities. Class B had an average score of 4.5. Overall strengths include all materials being organized and stored in appropriate locations. Areas for improvement include using the same materials that are used in natural environments.

Structure/Schedule

The next domain examined was Structure/Schedule. This domain is further divided into Visual Schedule, Transitions and Interaction.

Visual Schedules: Class A had an average score of 1. Overall strengths include posting schedules in the classroom in a variety of formats and using schedules that are appropriate to the children's developmental abilities. Areas of improvement include providing children with personal portable schedules. Class B had an average score of 1. Overall strengths include posting schedules in the classroom in a variety of formats and using schedules that are appropriate to the children's developmental abilities. Areas of improvement include providing children with personal portable schedules.

Transition: Class A had an average score of 4.Overall strengths include children are regularly prepared for transitions or disruptions and children use transition cards to move from one activity to the next. Class B had an average score of 4. Overall strengths include children are regularly prepared for transitions or disruptions and transition cue cards are available for use in case any children have problems transitioning. The only reason they both classrooms did not score a 5 is because certain unobservable conditions had to be met. For example, one of the categories involves how much instruction is provided during an unexpected transition such as a fire alarm or a power outage. Because none of those things occurred during observations, the highest score both classrooms could receive was 4.

Interaction: Class A had an average score of 5. Overall strengths include all team members appear to be positively engaging children and using language that is both age appropriate and individually appropriate. Class B had an average score of 5. Overall strengths

include all team members appear to be positively engaging children and using language that is both age appropriate and individually appropriate.

Positive Learning Climate

The next domain examined was Positive Learning Climate. This domain was further divided into Staff-Student Interactions, Staff Behaviors, and Promoting Diversity.

Staff-Student Interactions: Classrooms A and B both had average scores of 5 in this area. Overall strengths include all team members positively engaging children and being respectful of children's cultural/linguistic diversity.

Staff Behaviors: Classrooms A and B both had average scores of 5 in this area. Overall strengths include team members consistently acknowledging children's efforts and responding to off-task behavior in a timely manner.

Promoting Diversity: Classrooms A and B both had average scores of 5 in this area. Overall strengths include involving diversity in a variety of activities (e.g. books, class assignments, posters etc.).

Assessment and IEP Development

The next domain was Assessment and IEP Development. This domain was further divided into Assessing Student Progress, Assessment Process, IEP Goals, and Transition Planning.

Assessing Student Progress: Classrooms A and B had average scores of 4 in this year. Overall strengths include data are collected on IEP goals in multiple formats based on school

district guidelines, and data are collected during at least two activities. Areas for improvement include, involving the children in monitoring IEP goals.

Assessment Process: Classroom A had an average score of 4. Overall strengths include team members invite family members to be actively involved throughout the assessment process. Areas for improvement include assessment information is not collected in a culturally and linguistically appropriate way for the families. Classroom B had an average score of 5. Overall strengths include team members invite family members to be actively involved throughout the assessment process and assessment information is collected in a culturally and linguistically appropriate way for the families.

IEP Goals: Classrooms A and B had average scores of 4.67 in this area. Overall strengths include team members invite families to participate in all aspects of the development of IEP goals, IEP addresses co-morbid disorders of ASD, and all team members have easy access to the IEP information for each student. Areas for improvement include are not collected in a manner consistent with the family's cultural beliefs/norms and children don't participate in any aspect of the IEP development process (e.g. writing goals and objectives, etc.).

Transition Planning: Classrooms A and B had average scores of 5 in this area. Overall strengths include team members make consistent efforts to involve families in transition planning and assessment results are shared with the child's next educational program.

Curriculum and Instruction

The last domain examined was Curriculum and Instruction. The domain only had one subdomain and that was Instructional Strategies.

Instructional Strategies: Classrooms A and B had average scores of 4 in this area. Overall strengths include team members implement instruction that directly targets IEP goals, give instructions in multiple ways, address distractions in a timely manner, match instructional formats to individual child needs, and use positive reinforcement. Areas for improvement include having all team members consistently do all of these things.

Classroom Observations

Classroom observations were scheduled with each of the two classrooms using the Observational Chart that was created by the researchers. Data analysis is provided in this section.

Table 2: Observational Chart

Child A1							
Date	Goal	Objective	Obs. Time	Activities	Obs.	Successes	Challenges
4/15	Increase ability to follow verbal directions, initiate and respond to interactions with adult and peers, and establish a core receptive and expressive vocabulary with 80% occurrence across campus setting	Follow directions in familiar context: one-step and two-step. Answer "Who, What, Where" questions about certain topics. Identify objects' functions when presented with an object or picture	10:10	Naming object function Sequencing story cards	Worked fairly independently in most of his activities	Sequenced stories on the front and then flip cards over and sequence pictures	Had a little bit of trouble with new instructions, quickly adapted

Date	Goal	Objective	Obs. Time	Activity	Obs.	Successes	Challenges
4/15	Increase classroom competencies by improving his/her attending, organizational skills, mathematical concepts, and tool use to an independent level with 80% accuracy	Match/sort items by 2 attributes (ex. Color & Shape), size (small, medium, and large), and category (animals, foods, etc). Replicate a repeated pattern using a variety of mediums such as blocks or legos.	10:10	Pattern matching with shapes

Sorted objects

Matching letters | Worked fairly independently in most of his activities | Sorted the objects by category first and not randomly | At first, had a little bit of trouble understanding the word "vehicles" |
Child A2							
Date	Goal	Objective	Obs. Time	Activity	Obs.	Successes	Challenges
4/15	Increase classroom competencies by improving organizational strategies, attending skills, and discriminatory skills	Match/sort items by 2 attributes (ex. Color & Shape), size (small, medium, and large), and category (animals, foods, etc). Replicate a repeated pattern using a variety of mediums such as blocks or legos.	10:30	Recreate Pattern

Sorting sock sizes

Organizing matryoshka doll | A little bit overwhelmed by work load.

Often looked to teacher for approval | Did a good job organizing socks, matryoshka doll, and identifying pattern | Struggled continuing pattern independently |
| 4/15 | Expand vocabulary, reading, writing and comprehension skills and comprehension of numeric concept to an independent level with 80% accuracy. | Identify upper case letters independently. Sequence story cards in realistic progression independently | 10:30 | Sequencing numbers

Number puzzle

Putting numbers in order | A little bit overwhelmed by work load.

Often looked to teacher for approval | Would say the numbers out loud in order | Focusing on matching colors not numbers. Sometimes grabbed the wrong number |

Child B1							
Date	Goal	Objective	Obs. Time	Activity	Observations	Successes	Challenges
4/8	Increase understanding of verbally-presented information, build a consistent receptive/expressive vocabulary, increase expressive/receptive communication skills, imitate actions	Follow 1-2 step directions involving attributes and prepositions to expand ability to follow directions. Use word/phrases to complete carrier phrases, express greeting and exit language, request or protest, given verbal, visual, and/or tactile prompts	10:40	Repeat pattern/imitate actions Dress a bear 1 step direction, identify colors	Would repeat instructions out loud. Got to pick activities	Repeated pattern well Would request certain things Identified colors well	Had trouble with the bear's overalls
4/8	Increase early learning and fine motor skills throughout the classroom by completing rote counting 1-30, counting 1-15 with items that are not in a line, matching/sorting concepts.	Match/sort items by size (big or little) and categorically (animals, foods, vehicles, etc).	10:40	Sorting objects categorically Sort by colors Put sticks in basket with a tool Identify numbers	Corrected own mistakes. Would repeat instructions out loud.	Sorted well	Fixated on the little objects Struggled using one hand

Child B2							
Date	Goal	Objective	Obs. Time	Activity	Observations	Successes	Challenges
4/8	Increase understanding of verbally-presented information involving 1-2 complex directions with concepts such as categories and size, imitate actions and verbally presented information, and use 2-3 word phrases to request items.	Follow complex 1-2 step directions. Imitate an adult with objects (bean bags, stack blocks etc), with body parts (touch nose, pat head, etc), and with sounds and words. Answer yes/no questions and simple who/what/when questions, given verbal, visual, and/or tactile prompts.	11:05	Sort/count chips 1-2 step directions with chips Pickup sticks with a tool Imitate pattern	Would celebrate a little after doing something right Looked at teacher for approval	Did very well with most of the activities	Sometimes needed very specific instructions Struggled using tool to pick up sticks

4/8	Increase early learning and fine motor skills throughout the classroom by completing rote counting 1-30, counting 1-15 with items that are not in a line, matching/sorting concepts.	Match/sort items by size (big or little) and categorically (animals, foods, vehicles, etc).	11:05	Sort objects categorically Identify numbers	Would look at teacher for approval	Did pretty well with most of the activities	Made a couple of mistakes sorting objects

Through my observations I noticed that Classroom A is a very structured, teacher oriented class. Children transition from one activity to the next, where for the most part tasks are specifically delegated by team members. During the day there is a period of time where the children go to different centers. This is the main portion of the day when IEP goals are implemented.

Child A1 was very independent with his work. Some of the activities he completed included: Naming the function of certain objects pictured on cards, sequencing events on story cards (e.g. 1st a picture of a child putting on rain boots, 2nd the child putting on a rain jacket, 3rd, child grabbing an umbrella, etc.), pattern matching with shapes, sorting different miniature objects into baskets categorically (all the vehicles in one basket, all of the fruits in another basket etc.), and matching lowercase letters to uppercase letters. Child A1 worked very independently with very little prompting. After sequencing the story cards, the child would flip the cards over and sequence the pictures on the back (something other children at that level would not do without being instructed to), and complete all of the object sorting by category (sort all of the vehicles first, then sort all of the fruit, etc.). Challenges that were observed include difficulty understanding the word "vehicles." The child understood that all the cars, planes, boats, etc.

belong in the same category but had difficulty understanding that they are categorized as vehicles. Also the cards used to name object functions are normally used in a matching activity, where pictures of objects are matched essentially with their function (e.g. a picture of an umbrella matched with a picture of rain). This was confusing for the child because initially when showed a card, child A1 would look around for the matching card instead of simply naming the function.

Child A2 was slightly overwhelmed by the workload. When working, the children sit at a table where they have both a task box and a finished box. Child A2 became overwhelmed when he saw the task box for the day and would constantly sigh and shake his head. Child A2 would also often look at the teacher for approval on whether an activity was being completed correctly. Some of the tasks completed included: recreating patterns using colored blocks, sorting socks by sizes, putting together a matryoshka doll, sequencing numbers, and a number puzzle. Child A's successful activities included organizing socks, setting up the matryoshk doll, identifying the intended pattern on the model, and sequencing numbers out loud. Challenges included recreating the pattern, focusing on matching the colors and not the numbers with the number puzzle, and sometimes sequencing the numbers out of order despite verbally identifying them correctly (for example, out loud the child would count "1, 2, 3, 4" but would put the numbers in the wrong order).

Classroom B was a much more child orientated, verbal focused classroom. Children have a lot more freedom to choose the activities. Even with IEP implementation, the teacher might select the activities, but the child normally picks the order in which the activities are completed.

Child B1 was fairly verbal and had no problem selecting activities for completion. Some of the activities completed included repeating a certain pattern by imitating the teacher's actions, dressing a toy bear, 1-2-step directions identifying colors, sorting objects categorically, sorting by color, identifying numbers and picking up sticks using a tool similar to tweezers. Child B1 was successful with the following activities: repeating patterns, requesting materials, and correcting mistakes without being told. Challenges included difficulty with a few of the bear's clothing items (like buttoning his overalls), using the tweezers tool with one hand, and fixating on the miniature objects that needed to be sorted. The objects are toys that child B1 usually plays with so this could be why the child had been distracted by them.

Child B2 was less verbal and often looked at the teacher for approval on whether an activity was being completed. The child would also celebrate a little after doing something right. Some of the activities observed were sorting/counting colored chips, 1-2 step directions with chips, picking up sticks using a tool similar to tweezers, repeating patterns/imitating actions, sorting objects categorically, identifying numbers. Most of the activities were completed fairly well. Challenges included the improper use of the tweezers tool (the child would hold them upside down or had difficulty squeezing them), a couple objects were not sorted correctly (mistakes were corrected after being notified), and sometimes needed extra prompting and demonstrations on how to complete activities.

Discussion

This section includes a more in depth discussion of the APERS scores and the observations made in the classroom. This section will also discuss the limitations of the research study and some recommendations/future research suggestions.

Class B scored higher than Class A in terms of safety; with Class B scoring 3.67 and Class A scoring 2.33. This is mainly because Class A had a few high barriers and objects on top of shelves that could potentially block children from view. The distribution of team members across the classroom causes this problem to have minimal issues, but it is still perceived as a potential safety issue. Both classrooms had at least one electrical outlet uncovered. Class A had one in the far back corner of the classroom and Class B had all of the electrical outlets covered with the exception of two spots on a surge protector. Surge protectors are just as dangerous as wall outlets and as a result should be covered as well. Both classrooms promoted a hygienic environment by providing an adequate amount of tissue boxes and hand sanitizer bottles around the classroom as well as encouraging students to independently wash their hands, wipe their nose etc.

Both classes scored 3.67 in terms of organization. The biggest issue was the children's personal spaces (lockers/cubbies). According to APERS, each individual space should be labeled with picture symbols either instead of or in addition to written words.

Both classrooms scored a 4.5 in terms of materials, which is relatively high. The only thing keeping both of these classrooms from a perfect score was the fact that real life materials are not used in every single activity; for example, using real money for an activity instead of plastic coins. It is important to note that real materials were used in some activities in both classrooms but in order to obtain a 5, every activity has to use real life materials.

Both classrooms scored a 1 for visual schedules. This is because according to APERS all of the children should be provided with portable schedules. It is important to note that both classrooms have visible schedules posted around the classroom and transition cards to help

students transition around the classroom but because none of the children had portable schedules, both classes are scored with a 1.

Both classrooms scored a 4 in the transition subdomain. Due to certain unobservable conditions, a 4 was the highest score for this category. For example, one of the categories involves how much instruction is provided during an unexpected transition such as a fire alarm or a power outage. None of those things occurred during my observations and as a result both classrooms could only score a 4.

In terms of interaction, both classrooms scored a perfect 5. All team members appear to be positively engaging children and using language that is both age appropriate and individually appropriate.

Both classrooms scored perfect 5s in each of the subdomains for Positive Learning Climate. All team members were positive and engaging to the children; all team members consistently acknowledged children's efforts (with those acknowledgements being individualized), all team members responded to off-task behaviors in a timely manner, and both classrooms had a variety of activities and materials promoting diversity.

IEP data collection is done with the same method for every child admitted into the school. As a result, both classrooms had identical subdomain scores with the exception of Assessment Process. The reason why Class A scored lower in this category is because one of the children in that class is from a native Spanish speaking family. That child's IEP records did not have any Spanish on it.

Both classes scored a 4 in Instructional Strategies. Most team members implement instruction that directly targets IEP goals; give instructions in multiple ways, address distractions

in a timely manner. The only thing keeping both classrooms from scoring a 5 would be having all team members consistently do all of these things.

Children and Classrooms

As mentioned earlier, Classroom A appeared to be a very structured, teacher oriented classroom. Tasks are specifically laid out for children. Children are prompted a lot and teacher instruction is very involved. Whereas Classroom B appeared to be a much more child orientated, verbal focused classroom. Children have a lot more freedom to pick the activities they engage in. Because of these differences I feel that children who are more independent and also possibly socially under developed would benefit more from a Classroom B type of setting; whereas children who need a lot more guidance with their tasks and thrive in heavily structured environments would benefit more from a Classroom A type of setting. For example child A1 worked well fairly independently with minimal prompting or additional instructions. The child would benefit more from a classroom setting like Classroom B where social skills could further be developed. Child A2 would often look to the teacher for reassurance and needed additional support to complete tasks. This child would benefit more from a Classroom A type of setting where that extra direct assistance is provided. Child B1 was fairly verbal and was quickly able to identify and correct mistakes made. This child would benefit more from a Classroom B type of setting, where there is more opportunity for independence. Child B2 would often look to the teacher for reassurance and needed more hands on assistance from the teacher. This child would benefit more from a Classroom A type of setting, where that extra assistance is provided. There are also a few similarities between the classrooms. For example, they both had allotted time during the day for direct IEP goal implementation, group circle time, and self-care. Also each classroom had three team members: an official teacher and two assistants.

IEP Goal Implementation

The way the IEP goals were implemented in both classes was very similar. A certain part of the day is allotted specifically for IEP development. During this time, teachers work with students, usually independently, to complete certain tasks directed at helping students achieve those goals. Some of the activities used in the two classrooms were the same, if not very similar. For example, the categorically sorting objects activity was the same in both classes and the identifying numbers activities were similar. The main difference between the two classrooms in terms of IEP goal implementation is that in Classroom B the children got to choose the order in which they completed their activities.

Limitations

There were a few limitations to the research study. One limitation would be that because of the time frame of the study and the number of researchers, only two children from each of the classes could be observed. With more time and researchers, the sample size could be increased. Another limitation comes from the APERS. For each item, APERS uses three different options (options 1, 3, and 5) to give a score of 1-5. If any of the indicators in option 1 are seen in the classroom then that category receives a 1. If none of the indicators in option 1 are seen and at least one of the indicators in option 3 is observed, then that category receives a 2. If all none of the indicators in option 1 are seen and all of the indicators in option 3 are observed than that category gets a 3. If none of the indicators in option 1, all of the indicators in option 3 and at least one of the indicators in option 5 are seen then that category receives a 4. If all of the indicators in option 3 and 5 are seen and none of the indicators in option 1 are seen then the category receives a score of one. So if all of the indicators in options 3 and 5 are seen and only

one of the indicators in option 1 are seen than the category still receives a score of one. This is an issue that occurred while scoring the classrooms, specifically in the organization subdomain. All of the indicators in option 5 were seen and all but one of the indicators in option 3 was observed. Because not all of option 3 was observed the category received a score of 2 instead of possibly a 3, 4, or 5.

Recommendations

Replication of this with an increased sample size would better validate the results. Possible future research ideas would include using the child characteristics to assist with classroom placements and document how well the children develop and progress. Another possible future research idea would be to provide options for transitioning from the structured teacher oriented classroom to the language based classroom model for those children who would benefit from additional communication and social interaction. This would give some valuable insight as to which classroom model works better based the needs of the children and their particular characteristics.

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