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The Effect of General Instruction Paired with a Pictorial Prompt for Everyday Tasks with Students with Disabilities

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The Effect of General Instruction Paired with a Pictorial Prompt for Everyday Tasks with Students with Disabilities

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By

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ABSTRACT

The purpose of this study was to find if students were able to follow a verbal general instruction more successfully when paired with a visual prompt versus instruction given with only a verbal prompt. This study looked at students with cognitive disabilities, specifically students who have an IQ of 70 or lower. The study looks to see if pairing a visual with a verbal prompt will increase the understanding of the request from staff. With the research that was conducted, the researcher wanted to obtain a better understanding of students with disabilities' aptitude when given a simple direction verbally versus a simple direction given verbally paired with a known visual. The researcher analyzed successfulness of direction being requested along with the degree and quantity of unwanted behaviors performed during tasks. The number of tasks presented to participants is analyzed throughout a portion of the study to obtain an understanding of how often a participant is directed to complete any daily task. The results of this research study is to provide assistance to the researcher to better her teachings with students with disabilities. The study also provided the motivation to discover more strategies to assist in completion of functional tasks for students with disabilities.

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CHAPTER ONE

General Problem/Issue

I never imagined I would wear a waitress apron while working as a teacher or that I would find such a great use for binder rings. In my five years as a Developmental Cognitive Disability teacher I've learned that nothing I've pictured or seen in movies describes what I do in my profession. I was also never told that providing a safe and predictable place for students with disabilities would make both me and the students gratified at school.

How do you provide a safe and predictable place for students? I have had many discussions revolving around this question during my years as a professional. Most colleagues I've contemplated with, have agreed on the same answer. Use the following strategies provided by Volmer, 1995:

1. Use visuals.
2. Provide predictability.
3. Incorporate positive reinforcement.

These conversations are what struck my idea for my research topic. I have set my teaching philosophy to revolve around these three strategies stated above. Each year I have set my classroom to provide predictability and enhance motivation for students. How have I done this? I've used visuals. Visuals are a large part of my classroom set up and many of my activities and organization revolve around them.

Visuals are also known in the special education world as using the Picture Exchange Communication System, or PECS. The PECS approach is a modified applied behavior analysis

program that is designed for nonverbal symbolic communication training. Students who use the PECS system are not limited by age but by criteria. It was originally made for young children who are nonverbal but it is now being used with all ages of people with disabilities that effect their cognitive or speech production (Vicker, 2017). According to Vicker 2017, the pictures used with the program may include photographs, colored, or black and white line drawings. Whatever the person learns with originally, is what the trainer should continue with to provide the best understanding.

With the research I conducted, I tried to obtain a better understanding of students with disabilities ability to understand when a simple direction is given verbally versus a simple direction given verbally and paired with a known visual. I looked at processing time of the student and successfulness of direction being requested. By doing this, I hoped to decrease processing time and provide a better understanding for students with disabilities.

Subjects and Settings

Description of subjects

Seven participants in this study were selected from a population of fifth through eighth grade middle school students with mild-moderate and moderate-severe developmental cognitive disabilities. The participants for this study ranged in abilities and verbal communication skills. The middle school has 1,818 students with 92.9% of the student population is Caucasian, 1.2% Hispanic, 1% Asian, 1.6% Black and 1.3% American Indian. About 27% of students qualify for free and reduced lunch (Minnesota Department of Education, 2016).

Selection criteria

At the start of the year, seven students were chosen to be studied. Students chosen all had some pervious knowledge of the PECS system. Knowledge ranged with participants in Phase I to

Phase V of the PECS system. Participants will also fall under the qualification for the Developmental Cognitive Disability category. As stated previously, students ranged in disability levels and severity. All participants had been exposed to PECS since a young age. However, due to each participant's cognitive levels they were at different phases in the system.

Table 1 indicates each participants specific disability including a primary and secondary disability if appropriate. The third column specifies the current PECS phase each participant had mastered.

Table 1

Description of Diagnosis for Participants

Participant Number	Diagnosis	Current Phase in PECS
1	Primary: Developmental Cognitive Disability Severe-Profound (Fragile X) Secondary: Autism Spectrum Disorder	Phase I
2	Primary: Autism Spectrum Disorder	Phase I
3	Primary: Developmental Cognitive Disability Mild-Moderate (Down Syndrome) Secondary: Speech/Language Impaired	Phase IV
4	Primary: Developmental Cognitive Disability Mild-Moderate Secondary: Speech/Language Impaired	Phase IV

Description of setting

This study took place in a central Midwestern city with the population of about 14,000 people (Economic Development, 2010). That does not include the surrounding areas that make up another 8,000-10,000 people more that are free to join the school district. According to a

recent study, the average income is about 31,000 dollars per year. The growth rate in the area is about 21% (Economic Development, 2010).

Informed consent

Permission for this study was obtained from the Institutional Review Board (IRB) at the Minnesota State University Moorhead location and from the school district in which the study was conducted. This also included permission from the building principal. The district's IRB procedures were explored and carried out correctly.

Protection of human subjects that are participating in the research study were assured. Participants were informed of the research and any procedures involved in the research, as well as any foreseeable risks or benefits. Along with that, parents were provided with a parental consent form to learn the nature of the study and provided permission for their child to participate in the study. It was communicated that participants can withdraw at any time during the study. This was also provided both verbally and within the written consent. Four participants signed up for the study.

Review of Literature

Introduction

In the special education world there has been an ongoing research about the Picture Exchange Communication System. This research includes using PECS with families (Cooper, 2017), trainings to teach the implementation of PECS (Martocchio & Rosales, 2016), and exploring different approaches for success with students using PECS (Ayres, 2017). For the most part, professionals agree they benefit children, however, there is some debate about when and

how to use them to effectively communicate. As Harris (2016) states, visual supports are tools to use to increase the understanding of language, expectations, and provide structure and support.

Definition of terms

For the purpose of this study, the following are relevant terms:

- PECS – Picture Exchange Communication System, otherwise known as a system used in cross environments to provide visuals.
- Autism – Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by deficits in social, communication, and patterns of behaviors.
- Developmental Cognitive Disability (DCD)– A condition that results in intellectual functioning significantly below average and is associated with concurrent deficits in adaptive behavior. Classifications can range from Mild-Moderate and Severe-Profound.
- Prompt or Cue – A prompt or cue is to assist or encourage a person to carry out an action or task that is desired. Versions of prompts or cues may be verbal, physical, or gesture. Throughout my review I will use both prompt and cue to mean the same.
- Generalize- The process of taking a skill in one setting and applying it in another setting.
- Task direction- Work that is to be completed with guidance to a participant.
- Alternative/Augmentative communication- Communication methods used to supplement or replace speech for those with impairments in the production or comprehension of spoken (or written) language.

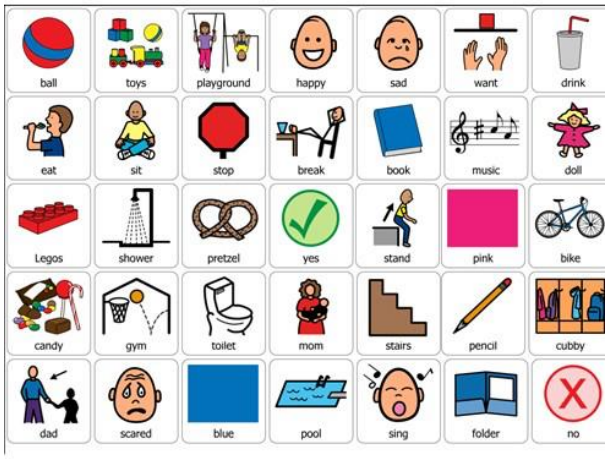
Picture Communication System: The effect on children with limited verbal skills

The Picture Exchange Communication System (PECS) is a form of augmentative and alternative communication that is used by children and adults with autism spectrum disorders and intellectual disabilities. This is often used when speech development is delayed or does not develop (Bondy & Frost 1994). The Picture Exchange Communication System (PECS) was originally created to teach young children with Autism, spontaneous and functional communication through picture symbol prompts (Thiemann-Bourque & Brady, 2016). According to these authors, in order to teach the PECS system, there are six phases which are listed below.

- Phase I: Physical Exchange. The child exchanges a picture symbol for a desired item. During this phase a communicative partner, can be a teacher or practitioner, is sitting directly in front of the learner. Another communicative partner (physical prompter) is sitting behind the learner and will be used to assist with physical prompts for desired response. Collet-Klingenberg (2008) provides these steps within phase I:
    - Step 1. The teacher/practitioner arranges the training environment by providing one picture at a time, positioning the communication partner appropriately, and displaying the reinforcer in view of the learner.
    - Step 2. The communicative partner entices the learner by interacting with the reinforcing item in front of him/her.
    - Step 3. The communication partner opens his/her hand after the learner initiates the request.

- Step 4. The learner reaches toward the desired item. The physical prompter (sitting behind the learner) interrupts the reach and redirects the learner to pick up the picture/symbol by providing a physical prompt.
- Step 5. The learner picks up the picture/symbol. The physical prompter assists the learner by helping him/her place the picture in the open hand of the communicative partner.
- Step 6. The communicative partner immediately hands the item to the learner and names the item as the exchange is made.
- Step 7. The physical prompter and communicative partner do not provide any verbal prompts during this phase.
- Step 8. The learner is immediately rewarded with the item after the exchange.

- Phase II: Expanding Spontaneity. A variety of communicative partners are added and the distance the child must go to communicate request of the preferred item increases.
- Phase III: Picture Discrimination. Child picks preferred and non-preferred items from a large range of symbols. Figure 1 provides examples of pictures used with the PECS using the Boardmaker software.



- Phase IV: Sentence Building. The child selects multiple symbols together on a sentence strip ("I need + object).
- Phase V: Child responds to, "What do you want?" with appropriate symbol(s).
- Phase VI: Responding to spontaneous interaction. An example would include, "What do you see?" with a child's response.

Information reported by Theimann-Bourque & Brady, showed that the PECS system had a significant impact on communication between adult and child with limited verbal communication skills. Results support the notion that, "PECS can improve functional communication such as initiating requests." (p. 1134). According to Theimann-Bourque & Brady (2016), PECS research rarely includes outcomes with child-centered play with same-age peers or interactions with anyone other than an adult. Therefore, one downfall of the Picture Exchange Communication System can be that the interactions will possibly only take place with an adult familiar with the system.

Successful use of PECS with children with disabilities

Many educators who are familiar with the PECS program or implement it in their classroom often ask, should every child with ASD, other disabilities, or those who are nonverbal use the PECS system? Vicker (2010) answers this question by stating the qualifications for children who may benefit from the program by stating that children who do not speak, unintelligible, or who minimally communicate with their current or past communication systems are seen as good candidates for the PECS program. Students who may struggle to be successful with the PECS

program are ones who are not motivated to communicate or who are already effective communicators.

One study looked at participants with severe disabilities using the PECS to increase social interactions. Cannella-Malone, Fant, & Tullis (2010) created social interaction situations for two participants with severe communication delays and developmental disabilities. The participant social peers included a participant with developmental delays and one without. The students used PECS in attempt to be more successful with communicating in social interactions such as greeting, requests, and responses. Both participants were successful in increasing their social interactions and demonstrated a preference to then verbalize communication.

Chai & Lieberman-Betz (2016) emphasize the importance of consistency between home and school when using the PECS to minimize unwanted behaviors. These authors conducted a study on a 3-year-old girl with significant developmental delays. This child was using pointing and crying to express her needs at both school and home. This child received intervention using PECS and other positive behavior strategies in school and this was then carried over at home. Within months, both home and school saw improvement in the child's behavior now that she had a means of communicating her wants and needs.

Using visual cues to improve classroom instruction

According to Heflin and Alaimo (2007), visual cue instruction consists of the use of pictures, symbols, photographs, and written language as an instructional support in both structured and natural environments. This enhances children's organizational skills, general skill development, communication, learning, socialization, and self-control (Davies, 2008). Reasons to use visually cued instruction include teaching students to become independent rather than

prompt-dependent, increases communication skills and reduces negative behaviors, and allows students access to their environment (Helfin and Alaimo, 2007). Along with following the PECS program phases to teach visuals, these authors suggest also using Matching Objects with Symbols game to enhance the learning process of students. I've conducted this activity with students by playing a BINGO game. I will have pictures of objects on a board. I will show students a symbol that matches an object on their board. In my experience, this helped students broaden their knowledge and aide in the understanding of symbols.

Visual schedules within the classroom provide independence, relieve anxiety, communicate with students, and provide a permanent visual reminder ("Visual Schedule Series," 2013). Schedules can be made up of visuals, symbols, or written language depending on the student's level of abilities (Davies, 2008). The National Professional Development Center (NPDC) on ASD provide information that visual schedules also increase student engagement. The NPDC also recognizes visual cues support play skill development, increase on-task behavior, and decrease transition time.

Hypothesis Statement

Students successfully execute more functional task directions and engage in fewer unwanted behaviors during the treatment condition than during the baseline condition.

CHAPTER TWO

Research Questions

During my five years of teaching middle school students with Developmental Cognitive Disabilities (DCD), I have had the opportunity to observe other classrooms and

collaborate with other DCD teachers. Many DCD classrooms that I have observed display visuals in different ways. In some cases, there are many behaviors in one classroom, staff are giving verbal directions repeatedly without response from the student, and students are unable to carry out tasks independently. After noticing this, it arose questions:

1. Do students display more unwanted or otherwise disruptive behaviors during "No Visuals" versus "Visuals" condition?
2. Are students able to generalize their ability to independently carry out a functional task more reliably during "No Visuals" or "Visuals" condition?
3. How many times a day is a student given a direction to complete a task throughout a school day using both visuals and no visuals?

Research Plan

Participants were grouped as a whole. Throughout the study there were three conditions. Condition A consisted of participants receiving a task direction verbally paired with a visual (PEC). Participant specific positive reinforcement was included to promote motivation of completion of tasks. In condition B, visuals were removed and task direction was given with verbal direction only. Participant specific positive reinforcements continued through the condition as they did in condition A. Condition A was then implemented again by adding visuals to the verbal direction. Both presentations of condition A was identical. Data collection for this study was created by the researcher. Reason being, I had not found a specific test or data collection tool that connects the areas I wanted to focus on in this research study. The data collection focused on the behavior and successfulness (ability to carry out task) of the participant in all three conditions of the study. Example, when a participant was given the direction and

he/she reacted with unwanted behavior (unwanted behaviors identified for each specific participant) the description of behavior was documented.

Including a summarization of observation along with a definitive answer on success, helped the researcher and readers better understand how each individual was reacting. In education, simply reading a checklist of student's abilities does not truly represent what and how a child demonstrates those abilities. Each child with a disability is unique in how they validate knowledge and communication, which made me feel obligated to focus on an observation type data for this research study.

The table below shows the different unwanted behaviors specific to each participant. The behaviors shown are common behaviors that have been displayed by that participant through the 2017-2018 school year. Table 3 shows commonly used positive reinforcements used specific to each participant. These reinforcements may change throughout the study as student preference changes. However, the reinforcements listed are currently used and most popular for the participants.

Table 2

Behaviors of Students

Participant	Unwanted Behavior
1	Screaming/Swearing, hitting/kicking, dropping to the floor, refusal, inappropriate laughing
2	Swearing, repeating words/phrases, flapping hands, crying, running from staff, requesting staff to spell various words
3	Walks away, refuses to make eye contact, disrespectful to staff, refusal
4	Acts silly, refusal to respond verbally, hangs head, argues with staff, swears, cries

Table 3

Positive Reinforcement

Participant	Positive Reinforcement
1	Positive attention from staff, time to play with ball, dinosaur book
2	Time to play with participant's DVDs, News2You on Ipad, skittles
3	Pretzels, Ipad, coloring, positive attention from staff, BINGO dots
4	Ipad, BINGO dots, prize box

*BINGO dots refer to ongoing positive reinforcement plan. Students earn BINGO dots when being observed carrying out wanted behaviors. Once BINGO card is full, students earn a positive reinforcement of their choosing. Wanted behaviors include, but are not limited to being kind, working hard, following directions, completing tasks. BINGO dots are given at staff discretion.

Schedule

This research study was conducted during a six-week time period broken into three conditions. This research followed an ABA conditional format of research. Condition A was conducted for two weeks and will consisted of students being observed when given a verbal task direction paired with a visual prompt. Condition B was conducted for two weeks of students being observed when given a task direction without a visual prompt. Condition A was implemented again for two weeks.

Changes were not made to the type of visual given in condition A or how many visuals were given. Direction tasks varied but all were functional and none consisted of academics.

Ethical issues

An anticipated ethical issue with the study could have been frustration level increased during the time when only a verbal direction was given. Changes in the way a child approached with a task may have elevated confusion.

Anticipated response

If the above ethical issue would have arose, each participant would have been addressed on an individual basis. Students were provided rewards and confirmation of approval from the researcher to ensure continued participation. Each frustration level or confusion was handled based on individual need.

CHAPTER THREE

This study used an ABA style research to determine the effects of participant behavior and success when completing functional work tasks with the aid of visuals. The researcher's goal was to determine if the use of visuals helped students become more successful in completing functional work tasks and decreased behavior. Data was taken on both conditions of visual use and no visual use and was then compared to determine a difference.

Research Questions

Do students display more unwanted or otherwise disruptive behaviors during "No Visuals" versus "Visuals" condition?

My data was analyzed to determine if there was a correlation between increased unwanted behaviors when visuals were removed. Each participant was looked at individually to determine if unwanted behaviors increased and each unwanted behavior that was shown was defined. Data was also studied to conclude if there was a repetitive unwanted behavior expressed by each participant.

Table 4 compares the amount of tasks a participant was directed to complete and the amount of unwanted behaviors displayed by participant when visuals were being presented. This table shows the first condition "A" data collection.

Participant	Number of Tasks	Number of Unwanted Behaviors
1	20	15
2	20	12
3	20	3
4	20	1

Table 5 compares the amount of tasks a participant was directed to complete and the amount of unwanted behaviors displayed by participant when visuals were not presented (“B” condition).

Table 5

Participant	Number of Tasks	Number of Unwanted Behaviors
1	20	18
2	20	16
3	20	2
4	20	1

Table 6 compares the amount of tasks a participant was directed to complete and the amount of unwanted behaviors displayed by each participant when visuals were presented. This table represents the second condition “A”.

Table 6

Participant	Number of Tasks	Number of Unwanted Behaviors
1	20	16
2	20	10
3	20	2
4	20	2

Data was collected during all three conditional phases. Data was collected at the same time each day. Visuals were consistent with what the participants are familiar with and were requested to conduct functional tasks participants have completed in the past. All functional tasks are part of each participant's daily routine in the school day. The twenty tasks that participants were accounted for are not all different. Some of the tasks within the twenty are repeated.

Results showed that there was a slight increase in unwanted behavior by two of the four participants (participants 1 and 2) during condition "B" when visuals were removed from functional task directions . Participants 1 and 2 are prompt and visual dependent throughout a majority of the school day. Participants 3 and 4 do not typically rely on visuals to complete tasks throughout the school day. They do benefit from visuals when daily routine changes or new activities are introduced. Participant 3 decreased unwanted behavior display by one behavior when visuals were removed.

Data included which unwanted behaviors participants displayed. Table 2 displays each participants common unwanted behaviors. Table 7 shows which unwanted behaviors were recorded during “A” conditions.

Table 7

Participant	Unwanted Behaviors
1	Swearing, loud screaming, and refusal.
2	Repeated phrases, crying, and requests to spell words.
3	Refusal to make eye contact.
4	Refusal to respond to staff verbally.

Table 8 shows which unwanted behaviors were recorded during “B” condition.

Table 8

Participant	Unwanted Behaviors
1	Swearing, loud screaming, hitting and kicking, dropping to the floor, inappropriate laughing, and refusal.
2	Repeated phrases, crying, requests to spell words, and flapping hands.
3	Refusal to make eye contact.
4	Refusal to respond to staff verbally.

Overall, results show that half the participants increased unwanted behavior display when visuals were removed. Participant 1 shows an increase of three unwanted behaviors from the first condition “A” (use of visuals) when visuals were removed. When visuals were reintroduced in the second condition “A”, participant 1 decreased unwanted behaviors by two. Participant 2 increased unwanted behaviors from the first condition “A” when visuals were removed. The participant then decreased unwanted behaviors by six when visuals were reestablished. Participant 3 had a different outcome. This particular participant decreased unwanted behaviors by one when visuals were removed. When visuals were reinstated, participant 3’s unwanted behaviors stayed equal by displaying two unwanted behaviors. Participant 4 had the same number of unwanted behaviors when visuals were given and when they were removed. When visuals were reintroduced, participant 4 displayed one more behavior than the previous conditions.

My results are what I expected for participant 1 and 2. I did not predict the results seen from participants 3 and 4. The reason I am unalarmed by results for participants 1 and 2 is because of the severity of their disabilities and their dependency on visuals throughout their entire school day. Both participant 1 and 2 use visuals to communicate due to inability to always verbalize their wants and needs. Participant 3 and 4 are much more verbal and have a larger range of vocabulary to express themselves. Their understanding of task directions has shown to be more advanced than participants 1 and 2. As I stated previously, Volmer (1995) states that PECS was designed as a modified applied behavior analysis program for nonverbal communication. With that being said, I feel the results for participant 1 and 2 agree with the

literature I've reviewed in that visuals presented to aid instruction can decrease unwanted behaviors.

One issue that may have effected results is a week-long break from school. Spring break landed in the middle of the last condition where visuals were reinstated. I have to believe that effected participant's abilities to get back on track. However, I cannot say it did, in fact, alter my data collection. The number of unwanted behaviors I observed was not out of the ordinary and very expected. I kept my data collection sheets simple and that helped me quickly write as I observed.

Are students able to generalize their ability to independently carry out a functional task more reliably during "No Visuals" or "Visuals" condition?

Participants are required to complete a total of four to five different functional task directions during functional work skills time. The functional tasks change each day on a rotation basis. For this specific study, two functional tasks were focused on to analyze if participants could complete tasks outside of functional work skills class. The two tasks include cleaning a table and sweeping. These tasks were chosen due to the probable use in everyday life in and outside of the school day. All participants were presented these tasks after lunch and after snack on varying days. Data was collected on each task and if the participant was successful at completing the task. Standards for successfully completing each task are displayed in the table below.

Table 9

Functional Task	Requirements to Successfully Complete
Cleaning a table	1. Put on gloves

	2. Use disinfecting wipes or paper towel 3. Clean entire mess on table
Sweeping	1. Retrieve broom 2. Sweep food into pile or line 3. Sweep 90% of food onto dust pan 4. Empty dust pan

Data was examined and the table below shows each participant's ability to complete each task based on a majority display. Majority is 60% successful or higher, completing all steps listed in table 9, to receive a "yes" on the table and deemed able to generalize the skill. Table 10 shows data with visuals, table 11 shows data when visuals are removed.

Table 10 – With Visuals

Participant	Task	Yes or No	Task	Yes or No
1	Clean table	No	Sweep	No
2	Clean table	Yes	Sweep	Yes
3	Clean table	Yes	Sweep	Yes
4	Clean table	Yes	Sweep	Yes

Table 11 – Visuals Removed

Participant	Task	Yes or No	Task	Yes or No

1	Clean table	No	Sweep	No
2	Clean table	Yes	Sweep	No
3	Clean table	Yes	Sweep	Yes
4	Clean table	Yes	Sweep	Yes

The results show that a majority of participants are able to generalize the skills of cleaning a table and sweeping. Participant 1 has difficulty completing most tasks independently. Therefore, the participant was unable to complete all steps required. Participant 2 was successful with both visuals being presented and removed with cleaning a table. The participant was unsuccessful with completing all steps with sweeping without the visual support. I had anticipated this outcome due to the participant's abilities of following multiple step directions. Participants 3 and 4 completed all steps required with both conditions.

One problem with the data collecting tool is the range of abilities of the participants. I came to realize the tool did not allow for success for all the individuals. Shortly into data collection participant 1 would complete a portion of the steps which were at his ability level. Participant 1 does not have the motor control to successfully complete all steps required for sweeping. In a sense, this set him up to fail as it was not appropriate to his level. However, the requirements were set up with the intention of demonstrating the proper way to clean a table and sweep, participant 1 is just not at the level to carry the steps out.

How many times a day is a student given a direction to complete a task throughout a school day using both visuals and no visuals?

The reason I chose this topic to add to my research is because I wanted to get a better understanding of how many requests a participant is directed to complete, successful or not. I focused only on the directions I gave personally and not directions from other school staff as that is difficult to track accurately. Data was collected on 15 of the 30 days of the study. Task directions included a wide range of requests. A few examples include sharpen your pencil, go to your locker, bring your lunch tray back, clean up the books. The final result of how many times a participant was given a task direction throughout the school day averages to 21. The table below shows the data that was taken. The number of task directions given is a daily average of all the participants combined.

Table 12

Day	Number of Task Directions Given
1	21
2	19
3	15
4	19
5	25
6	28
7	22
8	21
9	18
10	16
11	21

12	26
13	24
14	25
15	22

I found the results interesting, I did not realize how many times a participant is directed to complete a task. This data is only directions from me, I cannot imagine the results of other staff directions as well. I found it difficult to keep track of how many times a direction was given, even when I was only measuring myself. I found that some days I would focus more on one participant and give many more directions to them than the others. That is why I'm content using an average, each day varied on need for direction.

Conclusions

After conducting this study my hope was to find ways to better communicate with my students to decrease unwanted behaviors, help students generalize skills, and make myself aware how much I request of students on a daily basis. The participants in this study helped me obtain a better realization of expectations. Overall, I feel confident that visuals help students with disabilities of all kinds. I did expect there to be a larger gap of success between using visuals and not, but any success with decreasing unwanted behaviors and promoting completion of tasks is a step in the right direction. One thing to take into consideration was that I did not have a physical prompter present for participant's one and two who were both in phase I of PECS. This may have had a impact on my data for both participants. I did not realize

this until after data was taken and the study was over, this is something that should be changed in the future.

In my teaching experience I've learned to celebrate the smaller victories as well as the big ones because if you don't, you forget where you started from. For example, participant 1 decreased unwanted behaviors by two when visuals were reinstated! Going down in any number of screaming, hitting, or swearing incidents helps that participant be a better student and is something to celebrate.

CHAPTER FOUR

This research study motivated me as a teacher. At the start of the study, I implemented visuals in my classroom and was familiar with PECS. However, I was not always consistent with it and did not track the success for each individual student. I continued the same visual routine for checking schedules, lunch choices, or functional routines for all students no matter the level. This study made me analyze how I was conducting my classroom with visuals and helped me realize I am not implementing them based on individual need. Therefore, I don't feel that I am being as effective as I'd like to be.

The results from the data for this study have helped me form a plan to create visuals based on more individual need. My action plan is to begin each school year with more individual routine needs. For example, not all students benefit from a visual schedule. Some may do better with written or a schedule they can carry with them instead of it being concrete in the classroom. Focusing on each student need for visuals instead of creating a general use will give students the opportunity to succeed more based on the information I obtained from this study.

The study showed me that not all participants, PECS users or not, changed their behavior or success rate based on visuals being present. My plan is to explore other strategies to better help students who may not need visual support. I will do this by collaborating more with other special education teachers and research on the topic.

CHAPTER FIVE

My plan for sharing includes strategies I used during this study such as positive reinforcement and the visuals I created. I would also share the outcomes of student success and level of unwanted behaviors displayed. Others may also be interested in the amount of directions students are given in one single school day.

I am willing to share these results with my professional learning community (PLC) which consists of middle school special education teachers as well as any parents interested in the study. Child study would be another group to share my findings with other teachers who may be interested. I feel I would be able to use the results to help guide new teachers or provide advice to other teachers who may need it.

REFERENCES

Ayres, K., Cagliani, R., Ringdahl, J., Whiteside, E. (2017). Picture exchange communication system and delay to reinforcement. *Journal of Developmental & Physical Disabilities, 29(6),* 925-939.

Cannella-Malone, H., Fant, J., Tullis, C. (2010). Using the picture exchange communication system to increase the social communication of two individuals with severe developmental disabilities. *Journal of Developmental & Physical Disabilities. 22(2)* 149-163.

Chai, Z., Lieberman-Betz, R. (2016). Strageties for helping parents of young children address challenging behaviors in the home. *Teaching Exceptional Children. 48(4)* 186-194.

Collet-Klingenberg, L. (2008). PECS: Steps for implementation. Madison, WI: The National Professional Development Center on Autism Spectrum Disorders, The Waisman Center, The University of Wisconsin.

Cooper, L. (2017). Using the picture exchange communication system with families of children with autism. *Learning Disability Practice. 20(4),* 22-25.

Bondy and Frost 1994 in Focus on Autism and Other Developmental Disabilities, 9, 1-19; Sunberg and Partington 1998

Davies, C. (2008). Using visual schedules: A guide for parents. *The Reporter.* 14(1), 18-22.

Economic Development (2010). Retrieved from http://www.growbrainerdlakes.org/THE-AREA/Demographics.aspx

Harris, A., (2016). Visual supports for students with autism. Retrieved from http://education.jhu.edu/PD/newhorizons/Journals/specialedjournal/Harris.

Heflin, L. J., & Alaimo D. F. (2007). Students with Autism Spectrum Disorders: Effective Instructional Practices. Saddle River, NJ: Pearson.

Martocchio, N., Rosales, R. (2016). An evaluation of pyramidal training to teach implementation of the picture exchange communication system. University of Massachusetts Lowell, MA.

Minnesota report card. (m.n.) Retrieved from http://rc.education.state.mn.us/#mySchool/orgId--10181022000__p--1

Thiemann-Bourque, K., Brady, N., McGuff, S., Stump, K., & Naylor, A., (2016). Picture exchange communication system and pals: a peer-mediated augmentative and alternative communication intervention for minimally verbal preschoolers with autism. *Journal of Speech, Language & Hearing Research, 59 (5) 1133-1145.*

Vicker, B., (2010). Successfully using PECS with children with ASD. The Reporter, 15(3). Retrieved from https://www.iidc.indiana.edu/index.php!pageID=3285

Visual schedule series: 7 reasons to use schedules. (2018). Autism Consulting, LLCFONTS.

Volmer, L., (1995). Best practices in working with students with autism. In A. Thomas & Grimes (Eds.), Best practices in school psychologys (3rd ed., pp. 1031-1038). New York: Wiley and Sons.