

Introduction:

Millions of children are currently exhibiting challenging behaviors that will impact their ability to access the general education curriculum and develop strong relationships with peers. It is critical that preschool teachers discover research-based interventions to address these challenging behaviors before students transition into kindergarten. Students who do not receive interventions for these challenging behaviors in preschool are at risk for continuing these behaviors throughout their school aged years which will greatly impact their ability to access the curriculum (Zimmerman et al., 2017). Students with developmental delay (DD) and Autism (ASD) require higher levels of support in the classroom to generalize new skills and complete tasks independently (Goldman et al., 2017). These students struggle when transitioning to the kindergarten classroom because there are not enough teachers or support staff to provide one on one support throughout the day (Goldman et al., 2017). This is why it is extremely important for preschool teachers to discover interventions that increase students' independence so that less adult support is needed to access the curriculum (Macdonald et al., 2018).

A visual schedule is an intervention that is used to increase students' independence in the classroom by providing a visual cue to signal when an activity starts and ends as well as when another activity begins (Cohen & Demchak, 2018). The purpose of this study is to determine if the use of visual activity schedules will improve students' independence in the general education classroom throughout the school day . This literature review will discuss what independence in the classroom looks like and why it is important, what visual schedules are, benefits of a visual schedule, limitations, and how to implement visual schedules in the preschool classroom.

Independence:

Students who have developed independence in the classroom are able to complete tasks, transition between tasks, and stay on-task with little to no adult support. Students with ASD and DD are at greater risk for becoming dependent on adults to perform tasks in the classroom (Van Dijk & Gage, 2018). In preschool these students are often paired with a paraeducator to assist in removing barriers for the student so they can fully participate in the curriculum (Foster-Cohen & Mirfin-Veitch, 2015). However, in order for educators to fully remove barriers they need to provide specialized interventions to increase students' independence in transitions, staying on-task, and completing tasks (Foster-Cohen & Mirfin-Veitch, 2015). Increasing students' independence in preschool will greatly benefit them when transitioning to kindergarten (Van Dijk & Gage, 2018). Students who have developed independence are more likely to explore their environment, experiment with different learning materials, develop strong relationships with peers and adults, and increase their confidence (Foster-Cohen & Mirfin-Veitch, 2015).

According to Sammi Kalin, a special education preschool teacher, students are able to focus on the academic content when they are able to be independent in the classroom environment.

Increasing students' independence also provides students with more opportunities to develop relationships with their peers (Sammi Kalin, personal communication, December 7, 2020).

Visual schedules is a researched based intervention proven to increase students independence in the areas of on task behavior and transitioning between activities (Van Dijk & Gage, 2018).

What is a Visual Schedule?

According to Pierce et al. (2013), "Visual schedules are a series of pictures or icons used to depict a sequence of events" (p.153). Visual schedules are non-intrusive prompts that ease students anxiety and challenging behaviors during transitions and activities (Pierce et al., 2013). The purpose of a visual schedule is to prepare students for the next activity or next step within an

activity or chain of activities by showing an image, picture, or a line drawing (Knight et al., 2014). Visual schedules are considered an environmental adaptation or modification that facilitates independence and engagement in the classroom. These visuals can be used with-in an activity to teach the next steps or between an activity to provide support during transitions (Goldman et al., 2017). Providing students a more structured and predictable classroom environment will decrease challenging behaviors and increase students independence (Macdonald et al., 2018).

Benefits of a Visual Schedule:

Pictures in general are significantly more likely to be stored and retrieved from students' memories. The pictorial superiority effect is the idea that visuals are better than text or oral presentations in delivering information that needs to be learned by students (Foster-Cohen & Mirfin-Veitch, 2015). Visual supports such as visual schedules harness the idea of the pictorial superiority effect by providing students a visual representation to assist children when working on increasing their independence (Macdonald et al., 2018). Visuals are especially effective to use with students in preschool because they have not yet learned to read (Cohen & Demchak, 2018). Students with ASD and DD who have difficulty with auditory processing are usually at a disadvantage in the classroom because the majority of the information is communicated verbally. Visual schedules allow students to hear and see information leading to a more successful transition or activity (Knight et al., 2014).

Visual schedules make communication less stressful and challenging for both teachers and students. Visual schedules assist students in learning how to manage their time and build self-regulation skills (Thelen & Killman, 2011). Visual schedules that lay out the steps of the activity that needs to be completed allows students to learn new skills with less adult support,

thus leading to increased independence (Thelen & Killman, 2011). Both home and school environments can benefit from the use of visual schedules for transitions and breaking down tasks. (Zimmerman et al., 2017). Developing independence in a variety of environments is a skill that will be beneficial for the students entire life (Goldman et al., 2017).

Limitations of a Visual Schedule:

Although there are a vast amount of benefits from utilizing visual schedules, there are also some limitations. One limitation is the amount of time and adult support it takes to begin implementing the visual schedule. Oftentimes in a public preschool classroom there is one teacher and two paraeducators with half of the students on an individualized education plan (IEP). It may be challenging for the teacher and paraeducators to find time to provide multiple students with the one on one support needed to begin an individualized visual schedule (Zimmerman et al., 2017). Another limitation is the need to differentiate each visual schedule used based on the students' needs and IEP goals (Cohen & Demchak, 2018). Each student is unique and the visual schedules that are implemented in the classroom need to be differentiated to meet each individual student's needs. For example, a student may struggle to complete the morning routine where another student in the same class struggles to transition between activities throughout the entire day. Both students would benefit from visual schedules however, the teacher would need to find time to differentiate the visuals used and provide explicit instruction for how the student can use the visual schedule.

How to Implement In The Classroom:

Graduated guidance is a procedure that is used to teach visual schedules to students. Graduate guidance is when an adult is in close proximity to the student from the start of an activity to the end (Zimmerman et al., 2017). During the graduated guidance teachers must

constantly be evaluating the students behavior to determine if a prompt is needed and if so what level of prompt is needed (Zimmerman et al., 2017). The teacher will model and explain to the student how the visual schedule will be used. When first implementing a visual schedule using graduated release a teacher may need to use both visual, verbal, gesterial and physical prompts (Pierce et al., 2013). Graduated release may be challenging to use in inclusive early childhood settings because of the need for one on one physical support and proximity to the student (Zimmerman et al., 2017).

Constant time delay is another procedure that can be used to implement and teach visual schedules to students. Constant time delay is when a teacher prompt occurs after a designated delay interval with a single prompt. When implementing a visual schedule using a constant time delay, the times to prompt and ways to prompt are determined before initiating the visual schedule rather than constantly assessing the students behavior. When beginning to use this strategy teachers can provide prompts right after a direction is given. After the child receives a prompt immediately after a direction a few times the teacher can begin increasing the amount of time between the direction and the prompt (Zimmerman et al., 2017). Both graduated guidance and constant time delay require the use of fading.

Fading is when the teacher slowly decreases the amount and level of prompting needed to perform a task. By using visual schedules teachers are encouraging students to increase their independence, so it is important that educators do not let students become reliant on the prompts given in order to use the visual. When using graduated guidance teachers can begin to fade by using the most intrusive prompting to the least intrusive prompts. When using constant time delay teachers can begin to fade by slowly increasing the amount of time between the direction given and the prompt. Teachers need to keep track of students' progress in order to begin fading

before they become reliant on the level of prompts initially presented (Zimmerman et al., 2017).

Both graduate guidance and constant time delay procedures ultimate goal is to get students to become independent by using visual schedules in a variety of classroom settings and activities.

Conclusion:

Independence is an important skill for students to develop that will affect the rest of their educational career. A visual schedule is a researched based intervention proven to increase students independence in the classroom. They can be used to improve students ability to transition, stay-on task, and complete tasks in the classroom. They also allow teachers the opportunity to fade out prompting eventually allowing the student to independently rely on the schedule without adult support. Visual schedules allow teachers to provide students a more structured predictable classroom environment that promotes success and independence.

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