Developing Structured Work Systems for Students with ASD

An important achievement for all students is the ability to function independently throughout the school day. For students with autism spectrum disorders (ASD), activities that other students may find easy, such as transitioning from one location to the next, organizing their learning materials, and completing assigned activities, can be very challenging. Independent organizational skills, such as completing a task independently, are one of eight recommended educational goals for students with autism. Researchers at FPG studied work systems as one effective approach educators can use to address the unique learning styles and challenges experienced by students with ASD.

Independently moving through the school day is a crucial skill for students with ASD.

A structured work system is a visually organized system designed to promote understanding and clarity for individuals with ASD, giving specific directions about what to do while also providing a systematic work routine. It emphasizes visual supports that increase independent functioning and reduce the need for teacher correction or reprimand. The work system approach is one component of TEACCH (Treatment and Education of Autistic and Related Handicapped Children), a comprehensive statewide program based at the University of North Carolina at Chapel Hill that serves children and adults on the autism spectrum.

FPG researchers studied the effects of a work system on the independent work and play skills of students with autism. Several studies have investigated different interventions to promote independent academic and play skills, but FPG's research was unique because it used the same intervention to address both independent work and play skills. A single subject withdrawal of treatment design, with replications across three participants, was used to assess the on-task behavior and work completion skills of the students in classroom settings as a result of the intervention. Observational data indicated that all students showed increases in on-task behavior, increases in the number of tasks completed or play materials utilized, and reduction of teacher prompts. The results were maintained through the one-month follow-up.

The goal of a work system is to organize tasks and activities in ways that students with ASD can easily understand. Many individuals with autism are unable to attend to multiple stimuli or environmental clues. They may only be able to pay attention to a limited number of environmental cues at once. Work systems rely on predictability and clarity to promote students' understanding of the environment and expectations. They are designed to help student focus on important details, maintain attention to tasks, and transfer skills learned in one setting to new environments. This systematic and organized presentation of tasks and materials visually answers four key questions:

1) What task do I need to complete?
2) How much work will it take to complete it?
3) How will I know when I am finished?
4) What should I do when I am finished?

All work systems tell the student what to do first, next and last. However, the unique needs of each student guide decisions about the type of system to use. The design of an individual work system for a student who does not yet read or write will be different for someone who is able to read and understand written directions. Similarly, the work systems of students who are able to travel from one area to another without adult support will differ from work systems designed for students who need adult prompts to move from one area to another.

The following steps offer educators a framework for implementing work systems:

- **Prioritize student needs:** Determine what activities or routines require independence. These activities could include going through the cafeteria line, using a vending machine, or completing academic tasks independently.
- **Choose a work system:** For a student with beginning-level skills, a left-to-right work system will likely be most appropriate. The system teaches the student to move items from left to right as they are completed. All of the items needed to complete the activity should be arranged before the student arrives to the assigned location, and organized in containers, folders, envelopes, trays or shelves. On the student's right should be a location for completed or finished materials.

> Work systems organize tasks and activities in ways that students with ASD easily understand.

- **Teach the work system:** Once the work system is set up, staff should teach the students how to use them, and enable them to eventually work independently without prompts.
- **Collect data:** Make careful observations and collect data on student performance. Data allows staff to evaluate students' progress and, if necessary, modify their work system strategy.

Work systems provide meaningful and concrete information for students with ASD, and may increase engagement and independence, decrease anxiety, and ultimately help students experience more success across settings. Research has indicated that practitioners feel that they are easy to implement and make a positive change in a student's independence. Researchers are now looking into projects that would extend the usage of work systems to employment settings, residential settings, and across a range of ages. Work systems are deemed to be an evidence-based practice by the National Professional Development Center on ASD (an FPG project) and an Established Practice by the National Standards Project.

To Learn More

To view the "Structured Work Systems" module, please visit
    www.autisminternetmodules.org
More information about TEACCH can be found at
    www.teacch.com
National Professional Development Center on ASD:
    www.fpg.unc.edu/~autismPDC/resources
National Standards Project:
    www.nationalautismcenter.org/affiliates/model.php

Hume, K., & Odom, S. (2007). Effects of an individual work system on the independent functioning of students with autism. *Journal of Autism and Developmental Disorders, 37,* 1166-1180.