**Preschool Research to Practice** is a newsletter designed to help translate new research findings into useable information for preschool teachers and others who work with young children. In each issue, we summarize four new research articles and identify the key findings that can be used in preschool classrooms to enhance children’s learning experiences. There are three stable topics (literacy, mathematics, and social-emotional skills) and a fourth rotating topic. If you have questions about the newsletter or would like to be added to the email distribution list, please contact us at PreR2P@purdue.edu.

### Mathematics


**Summary** | Learning to count and knowing “how many” items are in a set (called cardinal number knowledge) are two of the main numeracy skills children need to learn in preschool. There are many ways that parents and teachers can teach children cardinal number knowledge; however, the best method to do so was previously unclear. In this study, researchers conducted an intervention to see which of five instructional strategies was most effective in helping 3 ½ year-old children understand cardinal number knowledge. Children were randomly assigned to one of five groups (four intervention and one comparison). The interventions consisted of counting four sets of each quantity 1 to 9 (36 sets for each session). In each intervention group, children were taught using a different common strategy once a week for six weeks. Of the five conditions, only one group outperformed the others at posttest. In this group, the instructor first named the quantity, then counted the set (emphasizing the final number), then asked the child to count the set, and provided feedback on the child’s response. The method separates the cardinal value from the count sequence and essentially allows children to use the count sequence to verify the cardinal value.

**Suggestions for teachers**

To help your students learn cardinal number knowledge, you should start by identifying the total number in the set, then count the set, emphasize the last number while counting, and finally ask the child to identify the total number (e.g., “There are four ducks here. 1-2-3-4. How many ducks are there?”). This practice is an effective strategy in one-on-one settings.

**Author of Summary**

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### Literacy


**Summary** | Learning letter names and sounds is foundational to children’s academic development. However, teachers often have questions about best practices in this area, such as: What is the best way to teach children their letter names and sounds? Should children learn letter names and sounds separately or together? To answer these questions, researchers conducted an intervention study with preschoolers (2-5 years old). Students were assigned to one of three intervention groups and they engaged in 10-15 minute lessons daily for 8 weeks. In one group, students were taught letter sounds only. In another group, they were taught letter names and letter sounds together. The third group was the control/comparison group. In the first two groups, students were taught one letter each day for four days each week and on the fifth day all the letters from the week were reviewed. Students were tested on their alphabet knowledge both before and after the intervention. For the same amount of instructional time, students in the name/sound combination group learned more letter sounds and letter names than students in the letter sound only group.

**Suggestions for teachers**

Preschoolers benefit most from learning letter names and letter sounds simultaneously. Not only does teaching both letter names and sounds together result in improvement in letter name knowledge, it also helps children learn letter sounds better than when they are taught letter sounds alone. Also, dedicating a small, but regular, amount of class time to alphabet skills each day can improve preschoolers’ print knowledge.

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SOCIAL-EMOTIONAL


Summary | Self-regulation emerges during preschool and is an important predictor of children’s success in school. Self-regulation includes skills (e.g., focusing and shifting attention, persistence) that are necessary for planning and executing goal-directed activities. Children with strong self-regulation better adapt to different settings in school environments and have better math and literacy skills. Children’s self-regulation not only predicts their academic outcomes in preschool but also in elementary and high school and college. Therefore, strengthening children’s self-regulation during preschool is critical for later development. In this study, several popular children’s games were redesigned to promote self-regulation in preschool children. These games were easy to implement in a circle time with children who have different levels of regulation. Implementation lasted 8 weeks with a total of 16, 30 minute playgroups. Red Light-Purple Light is one of the circle games modified from the popular Red Light, Green Light game. Teachers acted as a stoplight and held up construction papers with different colors to represent whether to stop or go (e.g., purple is stop; orange is go). As the intervention progressed, rules changed (e.g., purple is go; orange is stop) and became more complex (e.g., shapes were added). Results showed that children who had low self-regulation improved their regulatory skills after participation. In addition, children who participated in these games had higher literacy scores. Therefore, it is possible to improve preschoolers’ self-regulation and literacy with easy-to-administer games, especially for children who are low in these skills.

Suggestions for teachers

Circle time games are efficient in improving children's self-regulation. Implementing daily or weekly 20-30 minute music and movement activities might help preschoolers to improve their behavioral self-regulation. While implementing these kinds of games in your classroom, it is important to include increasingly complicated versions of the games. By learning and practicing both the basic and complicated rules of the games, children in your classrooms can develop better self-regulation during preschool that in turn may improve school readiness and later academic achievement.

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Rotating Topic: Division of Early Childhood Recommended Practices

The Division for Early Childhood (DEC) is a membership organization dedicated to policies, practices, and advocacy for children ages birth through eight who have or are at risk for developmental delays and/or disabilities. The DEC website, http://www.dec-sped.org/, offers many resources for supporting young children of varying abilities. One helpful resource is the DEC Recommended Practices document found at http://www.dec-sped.org/recommendedpractices. These practices bridge the gap of research to practice by offering techniques and guidance for providers to enrich services to ensure optimal development and strong outcomes for all children. The topic areas include: Leadership, Assessment, Environment, Family, Instruction, Interaction, Teaming / Collaboration, and Transition.

How might you use the DEC Recommended Practices? Providers, teachers, and family members can review the practices in one particular topic area or across areas to enhance services for children with specific needs. For example, the Instruction area may offer a teacher guidance on how to plan for and implement effective instructional practices as a child with a disability is included into a classroom of children without disabilities. Instruction practice INS5 states “Practitioners embed instruction within and across routines, activities, and environments to provide contextually relevant learning opportunities.” With this, a teacher may review the routines of the classroom and identify logical times of the day in which to build specific skills for a child with disabilities. Such as, a child with disabilities passes out the math practice worksheet to each of the other children as she works on 1:1 correspondence. Or, she may work on mobility skills as she walks with the rest of her classmates to the cafeteria. The DEC Recommended Practices are designed to be a useful tool for someone at any level of experience. Hence, they are an exceptional tool to assist with professional development and supporting growth in professional practice to see the best outcomes possible for children.

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