

# Instructional Strategies for Preschoolers with TBI

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## Reading

**Sound Boxes** were first suggested by D.B. Elkonin, a colleague of A.R. Luria (the father of Neuropsychology). Elkonin found that sound boxes helped preschoolers become aware that words are made up of individual sounds. Here is how they work:

Preschoolers use a token to mark the sound they are saying. They slide the token from left to right as they say each sound. The use of the token is believed to help the child become aware of the individual sounds and their position in the word.



Sound boxes were compared to sound sorting (sorting pictures by initial, medial or ending sounds) in a study by Maslanka and Joseph in 2002. They found that both groups improved, children performed significantly better on phoneme segmentation and identification of middle sounds when they used sound boxes.

## Learning Facts

### Incremental Rehearsal (Tucker, 1989)

Incremental Rehearsal is a systematic way of introducing any new fact (numbers, letters, etc.) into a group of known facts using flash cards. Using the 90% known to 10% unknown ratio is the most effective way to introduce new knowledge while maintaining retention of the previously known facts. Here is how it works:

1. Student has 9 facts they know and 1 new fact in a stack of 10
  2. Teach new fact first
  3. Then review new fact mixed with 9 known facts
  4. When new fact is correctly identified by student, it becomes one of the known facts and oldest (or best known) fact in the stack is omitted
  5. Add in a new fact and repeat the steps
    - Always maintain 10 facts in the stack of cards
- The 90% known to 10% unknown ratio was compared to several more challenging ratios by MacQuarrie, Tucker, Burns & Hartman in 2002. The results: Stick to 9 known to 1 unknown for best retention of information in preschoolers.

## Teaching Planning

Planning is a difficult concept to teach any young child. For students with brain injury it requires even more instructional opportunities. Keep in mind the developmental progression of any executive functioning strategy (i.e. planning, organizing) when directly teaching it. This sequence is designed for older pre-school students.

The “Goal Plan Predict Do Review” sequence is an evidence-based approach for helping older students with TBI learn how to make plans. For preschool children, the Reggio Emilia approach uses the same sequence to teach planning to young children, using similar steps in a context of self-directed learning.

Here is an adaptation that gives some structure to free play while teaching young children beginning planning skills. It is a good idea for the teacher to model each step first alongside the student while thinking out loud, then provide enough prompts and structure to assist the student in learning the sequence.

1. The student sets a **goal**: The student makes a choice of what free time activity they will play. Some students may need to choose between 2-3 options in the beginning
2. The student **plans**: The student plans what they will do with the materials: build a house with bricks, draw with markers etc.
3. The student draws their plan on a piece of paper folded in half:

Plan	
Picture	

4. Student tells plan to teacher. Teacher writes it down in a sentence on the bottom of the picture
5. The student thinks about and **predicts** how their plan will work
  - a. For more structure students can choose between smiley faces 😊 😞
  - b. Or use words to tell the teacher
  - c. Or this step may be omitted if the student is not ready
6. The **Do** step: The student carries out their plan during a free-play activity (for a short time)
7. Immediately after free play, the student draws what they did during free play

Plan	Result
Picture	Picture

8. Student **Reviews** the activity by telling the teacher what happened and how well it worked. The teacher writes this down below the Result Picture
9. Teacher asks if the plan worked or talks about the plan with the student and what they might do differently the next time
10. The next day, the student revisits their plan and reviews on the previous day’s goal before making the new plan for the day
  - o Classroom rules about materials use should be followed
  - o Encourage adults to ask questions like: “Are you following your plan?” or “What is your plan?” During free play time and guide the child back to the plan if they are not following it at all. Afterward, questions such as “What did you do?” “Tell me about your picture?” “Did you follow your plan?” “Did your plan work?”

Start this activity in the classroom where the child can be observed easily and interventions made if need be. Then, try using the “goal plan predict do review” in new settings, gradually working up to the playground.

Adapted from:

Cadwell, Louise B. *Bringing Learning to Life: A Reggio Approach to Early Childhood Education*. New York, NY: Teachers College Press, 2002.