



## ***Using Simultaneous Prompting to Teach Math***

### **What is the evidence base?**

- This is a promising practice for students with disabilities based on one methodologically sound single-subject study across four students with disabilities and two single-subject studies with weak designs and positive effects across four students with disabilities.

### **Where is the best place to find out how to do this practice?**

The best place to find out how to implement simultaneous prompting is through the following research to practice lesson plan starters:

- [Using Simultaneous Prompting to Teach Pythagorean Theorem](#)

### **With who was it implemented?**

- Disability Category
  - Intellectual Disability (3 studies, n=8)
- Age Range= 11-17
- Males (n=5), Females (n=3)
- Ethnicity
  - Not reported (n=8)

### **What is the practice?**

Simultaneous Prompting has been defined as “a systematic and errorless instructional strategy in which probe trials to determine when acquisition of a behavior has occurred are conducted before training trials using a controlling prompt and 0-second delay interval” (Collins, 2012, p.211). Simultaneous Prompting includes giving a student a direction immediately followed by the prompt to complete a task (e.g., say “What word is this?” immediately after say, “Apple”).

- This practice was implemented using an iPad with a prerecorded math problem requiring students to use Pythagorean Theorem to solve it. The instructor gave the student time to watch the video and then prompted them using the simultaneous prompting procedure through the steps of a task analysis in order to solve the problem (Creech-Galloway, Collins, Knight, & Bausch, 2013).

- This practice was implemented using flash cards to teach multiplication facts (Rao & Mallow, 2009)
- This was practice implemented using a task analysis to teach the subtraction of decimals to the hundredths place using regrouping (Rao & Kane, 2009)

### **Where has it been implemented?**

- Self-Contained classroom (3 studies)

### **How does this practice relate to Common Core Standards?**

- Math (Geometry, High School)
  - CCSS.MATH.CONTENT.HSG.SRT.B.4- Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.

### **How does this practice relate to the Common Career Technical Core?**

- Science and Mathematics Career Pathway (ST-SM)
  - Apply science and mathematics concepts to the development of plans, processes and projects that address real world problems.

### **References used to establish this evidence base:**

- Collins, B.C. (2012). *Moderate to Severe Disabilities: A Foundational Approach*. Upper Saddle River, NJ: Merrill/Prentice Hall.
- Creech-Galloway, C., Collins, B. C., Knight, V., & Bausch, M. (2013). Using a simultaneous prompting procedure with an iPad to teach the Pythagorean Theorem to adolescents with moderate intellectual disability. *Research and Practice for Persons with Severe Disabilities, 38*, 222-232. doi:10.1177/154079691303800402
- Rao, S., & Kane, M. T. (2009). Teaching students with cognitive impairment chained mathematical task of decimal subtraction using simultaneous prompting. *Education and Training in Developmental Disabilities, 44*, 244-256.
- Rao, S., & Mallow, L. (2009). Using simultaneous prompting procedure to promote recall of multiplication facts by middle school students with cognitive impairment. *Education and Training in Developmental Disabilities, 44*, 80-90.

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