



Using Constant Time Delay to Teach Food Preparation and Cooking Skills

What is the evidence base?

- This is an evidence-based practice for **students with disabilities** based on six methodologically sound single subject studies across 23 participants with disabilities.
- This is an evidence-based practice for **students with intellectual disability** based on six methodologically sound single subject studies across 23 participants with intellectual disability.

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

The best place to find out how to implement constant delay to teach food preparation and cooking skills is through the following research to practice lesson plan starters:

- [Constant Time Delay – Food Preparation and Cooking Skills – \(Bozkurt & Gursel, 2005\)](#)

With who was it implemented?

- Students with
 - Intellectual disability (6 studies, n=23)
 - Ages ranged from 9-18
 - Males (n=9), females (n=14)
 - Ethnicity
 - None reported (n=23)

What is the practice?

Constant time delay is a variation of time delay, a prompting procedure that uses variations in the time intervals between presentation of the natural stimulus and the response prompt. Time delay transfers stimulus control from a prompt to the natural stimulus by delaying the presentation of the prompt following the presentation of the natural stimulus. Constant time delay is implemented by presenting several trials using a 0-second delay between the presentation of the natural stimulus and the response prompt. The trials that follow

the simultaneous prompt condition apply a fixed time delay (e.g., 3 seconds or 5 seconds; Cooper, Heron, & Heward, 2007).

In the studies used to establish the evidence base for using CTD to teach banking skills, CTD included using a:

- Five second constant time delay (Griffen, Wolery, & Schuster, 1992; Schuster, Gast, & Wolery, 1988; Schuster & Griffen, Wolery, Ault, Gast, Doyle, & Griffen, 1991)
- Four second constant time delay (Bozkurt & Gursel, 2005; Hall, Schuster, Wolery, Gast, & Doyle, 1992)

Where has it been implemented?

- Five second constant time delay in combination with total task chaining was used to teach
 - making a sandwich, boiling an egg, baking canned biscuits (Schuster, Gast, & Wolery, 1988)
 - making a milkshake, scrambling eggs, and making pudding (Griffen, Wolery, & Schuster, 1992)
 - making eggnog and making a fudge shake (Wolery, Ault, Gast, Doyle, & Griffen, 1991)
- Five second constant time delay was used to teach
 - Making Kool-Aid (Schuster & Griffen, 1991)
- Four second constant time delay in combination with a reinforcement schedule was used to teach
 - Making a sandwich and preparing a hot drink (Bozkurt & Gursel, 2005)
- Four second constant time delay in combination with differential reinforcement was used to teach
 - Making a Spanish omelet, microwave cake, and tuna casserole (Hall, Schuster, Wolery, Gast, & Doyle, 1992)

How does this practice relate to Common Core Standards?

- Understand ratio concepts and use ratio reasoning to solve problems (Ratios and Proportional Relationships, Grade 6)
 - Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations
- Reason quantitatively and use units to solve problems (Number and Quantity, High school)
 - Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; and interpret the scale and the origin in graphs and data displays
- Comprehension and Collaboration (Speaking and Listening, Grade 8)

- Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally
- Knowledge of Language (Language, Grade 8)
 - Use knowledge of language and its conventions when writing, speaking, reading, or listening

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

- Demonstrate language arts knowledge and skills required to pursue the full range of post-secondary education and career opportunities (Academic Foundations)
 - Comprehend key elements of oral and written information
- Employ emergency procedures as necessary to provide aid in workplace accidents (Safety, Health, and Environmental)
 - Use safety equipment as necessary

References used to establish this evidence base:

Bozkurt, F., & Gursel, O. (2005). Effectiveness of constant time delay on teaching snack and drink preparation skills to children with mental retardation. *Education and training in Developmental Disabilities, 40*, 390-400.

Griffen, A. K., Wolery, M., & Schuster, J. W. (1992). Triadic instruction of chained food preparation responses: Acquisition and observational learning. *Journal of Applied Behavior Analysis, 25*, 193-204.

Hall, M. G., Schuster, J. W., Wolery, M., Gast, D. L., & Doyle, P. M. (1992). Teaching chained skills in a non-school setting using a divided half instructional format. *Journal of Behavioral Education, 2*, 257-279.

Schuster, J. W., Gast, D. L., & Wolery, M. (1988). The effectiveness of a constant time- delay procedure to teach chained responses to adolescents with mental retardation. *Journal of Applied Behavior Analysis, 2*, 169-178.

Schuster, J. W., & Griffen, A. K. (1991). Using constant time delay to teach recipe following skills. *Education and Training in Mental Retardation, 26*, 411-419.

Wolery, M., Ault, M. J., Gast, D. L., Doyle, P. M., & Griffen, A. K. (1991). Teaching chained tasks in dyads: Acquisition of target and observational behaviors. *The Journal of Special Education, 25*, 198-220.

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