



Using Computer-Assisted Instruction to Teach Food Preparation and Cooking Skills

What is the evidence base?

- This is a research-based practice for **students with disabilities** based on three methodologically sound single subject studies across ten participants with disabilities.
- This is an research-based practice for **students with intellectual disability** based on three methodologically sound single subject studies across ten 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 computer-assisted instruction (CAI) to teach food preparation and cooking skills is through the following research to practice lesson plan starters:

- Using CAI to teach food preparation and cooking skills
 - [Computer Assisted Instruction – Food Preparation and Cooking Skills – Lesson 1](#)
 - [Computer Assisted Instruction – Food Preparation and Cooking Skills – Lesson 2](#)
 - [Computer Assisted Instruction – Food Preparation and Cooking Skills – Lesson 3](#)

With who was it implemented?

- Students with
 - **Mild to moderate intellectual disability (1 study, n=3)**
 - **Moderate intellectual disability (2 studies, n=7)**
- Ages ranged from 5-22
- Males (n=5), females (n=5)
- Ethnicity
 - None reported (n=10)

What is the practice?

Computer-assisted instruction (CAI) has been defined as “the use of a computer and other associated technology with the intention of improving students’ skills, knowledge, or academic performance” (Okolo, Bahr, & Rieth, 1993, p. 1) and is synonymous with terms such as computer-based instruction, computer-mediated instruction, interactive hyper-media instruction, and multimedia instruction. CAI offers an interactive format that can provide

examples and feedback to students, while including multiple components, such as graphics, photographs, audio, text, and video (Hutcherson, Langone, Ayres, & Clees, 2004).

In the studies used to establish the evidence base for using CAI to teach food preparation and cooking skills, CAI included using a:

- Portable DVD player displaying video and audio prompts (Mechling, Gast, & Fields, 2008; Mechling & Stephens, 2009)
- Computer software package that incorporated video modeling (Ayers & Cihak, 2010)

Where has it been implemented?

- Resource classroom (1 study)
- School affiliated apartment (2 studies)

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?

- Review safety and sanitation procedures applicable to the work area to ensure a safe and healthy work environment. (Hospitality and Tourism Cluster)
 - Examine overall safety procedures to maintain safe work areas in hospitality and tourism workplaces.

References used to establish this evidence base:

- Ayers, K., & Cihak, D. (2010). Computer and video based instruction of food preparation skills: Acquisition, generalization, and maintenance. *Intellectual and Developmental Disabilities, 48*, 195-208.
- Mechling, L. C., Gast, D. L., & Fields, E. A. (2008). Evaluation of a portable DVD player and system of least prompts to self-prompt cooking task completion by young adults with moderate intellectual disabilities. *Journal of Special Education, 42*, 179-190.
- Mechling, L. C., & Stephens, E. (2009). Comparison of self-prompting of cooking skills via picture-based cookbooks and video recipes. *Education and Training in developmental Disabilities, 44*, 218-236.

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