

## Chapter 3

# Cooking with “App-titude”: Suggestions to Help Educators Promote Positive Kitchen Skills with Preschool and Elementary School Students

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### ABSTRACT

*Food preparation for preschool and elementary school children is described from the perspective of enhancing cognition and learning through the use of mobile devices. While most children are too young to use a stove or slice with a knife, with proper guidance and simulated experiences through mobile devices, children can actively contribute to food choice, preparation, and knowledge while educators contribute knowledge from various academic areas. The kitchen can be a positive learning environment for the educator; the student; and, potentially, people in the student’s household, as part of an effort to develop a positive attitude toward food preparation. Learning implications and cooking curriculum suggestions are provided, along with future research recommendations. Educators have the potential to foster culinary mobile device interactivity when given guidelines for acceptable mobile-device application, or app, selection. Such a curriculum requires healthful food preparation practices, including cooking methods, nutritious ingredients, and practical problem-solving opportunities.*

### INTRODUCTION

Considerable evidence supports the hypothesis that cooking can enhance one’s health and well-being (Brown et al., 2006; Kruger et al., 2006; Larson et al., 2006; Olvera et al., 2008; Rosenkranz, 2008). Li-quori et al. (1998) showed that when children cooked with vegetables and whole grains in the classroom, they consumed the same kind of food when it was served in school lunches. (Children who received only nutritional education did not eat the new food.) In addition, evidence supports the hypothesis that nutritional television programs increase public awareness and food knowledge (Chew et al., 1995, 1998; Smith & George, 2001), yet these research studies were conducted with adults and young adults (Larson

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et al., 2006) and not with preschool or elementary school students. Thus, a curriculum that includes apps, targeted specifically to young children, about healthful eating choices will undoubtedly promote changes in cooking skills and overall healthful food choices, a difficult task in today’s home (Fildes et al., 2014; Martinez et al., 2014; Peters et al., 2014; Russell et al., 2015; Wiggins, 2014; Woodruff & Kirby, 2013). Traditionally, a child learns to cook at home. In some homes there may be limited exposure to quality food, and school-based recipe presentation and mobile-device applications may be useful for learning (Norman et al., 2015). Therefore, much of this chapter offers valuable transferable mobile learning lessons for Computer Assisted and Mobile Assisted Language Learning related to fostering culinary skills in young children.

Time is valuable. Especially time spent out of the classroom. It is difficult for caregivers to allocate time to teach children about cooking skills as a transferable knowledge source to nutrition practices. When looking at today’s world, one cannot help but observe the increased demands placed on caregivers. These demands include working, raising children, and preparing daily meals. In fact, some families settle for fast food or other preprocessed alternatives, not only for the sake of “nutrition” but also to have more time to spend with loved ones. Children spend a lot of time in classrooms, so educators can be the conduit between food appreciation and preparation in the mobile “app-filled” world and be role models for new cooking skills.

Mobile devices are a portable way for educators to learn and share information that may support children in developing kitchen skills—the very skills that caregivers may not have time to work on with their children. A mobile device supports the user’s ability to learn from multimedia presentations and illustrations (for example, visual and auditory representations) through instructional messages (Mayer & Moreno, 2003), such as recipes, videos, or ingredient lessons. These “anytime, anywhere learning” (Schuler, 2009) illustrations are usually enhanced by proper tactile feedback and motion-detecting functions, thereby increasing feedback to the user on the basis of real-time responses (Attewell & Savill-Smith, 2004; Williams, 2003).

Computer tablets and smartphones can also freely enter the kitchen. They promote play exploration when young learners navigate a game or conduct a browser search, thereby constructing new knowledge through symbolic representations (Ainsworth, 1999). Play Discovery can help children stay interested in a cooking task, which some often put in the “mundane” or “chore” category. Having a positive play attitude about food and food preparation, as learned from an educator, can only help children build lasting, positive relationships to cooking. Children then have effective constructive attitudes, rather than negative ones, which they may bring into the home. By promoting discovery through unlimited possible recipes, cooking goals and attempts to model these, serve as an untapped draw for educators and developers to harness as well as apply to mobile cooking interaction and executions.

The design and production of downloadable apps for children move as swiftly as the technology changes. Correspondingly, theories of learning and cognition have recently evolved to incorporate these innovations. The transformations in mobile-media technology, and its learning theories, has led to changes in how learning is defined and how cognitive skills relate to multimedia processing. There are devices with applications that house numerous sophisticated animations and imagery, all of which is generated with help from educational consultants, allowing educators to receive these devices and apps more positively. The ease of use and availability have made these applications less overwhelming for educators and young learners (Schuler, 2009). Many educators now use portable-device applications for supplementary classroom lessons. Thus, teachers can teach young children about a new area of learning by combining food preparation and cognitive skill sets and by making connections to various academic areas, such

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