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Performance Assessments

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PERFORMANCE ASSESSMENTS

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Technology-based learning interventions have a complex history of varied results, ranging from the surprising benefits of action games for the perceptual system (Green & Bevalier, 2007) to the depressing decrease in language skills documented in two-year-olds who watched the *Teletubbies* television show (Linebarger & Walker, 2005). Designers are intentionally aiming for certain types of learning in such interventions, but are not always able to achieve their goals. Our poster will briefly share the process of designing a performance assessment to measure the mathematical learning of pre-school children who participated in a *Kinect Sesame Street TV* Number episode designed to support counting activities.

The Kinect technology, when connected to the Xbox 360 game console and a television, essentially allows interaction between digital media and the person(s) in front of the television. This technology is quite new, and most frequently used during action-related games (such as *Dance Central 3*, which teaches players dance steps, and then evaluates the accuracy of their moves). However, a partnership between Microsoft and Sesame Street has begun developing interactive and educative episodes for the Kinect and very young children.

Both the Common Core State Standards for Mathematics (2010) and the National Council of Teachers of Mathematics standards (2000) emphasize the importance of counting for young children. Counting—and connecting the abstract to the concrete by counting objects in the world—is a crucial component to advancing in mathematical learning. Consequently, the *Kinect Sesame Street TV* episode designers developed an interactive session during which children assist Grover in picking up fallen coconuts, and are encouraged to count with him. The intervention was followed by a performance-based assessment, where the children were asked to complete various counting tasks. In our poster, we will report fully on the process of developing, implementing, and analyzing the assessment activities—and the inferences about learning we are consequently able to make.

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References

- Dance Central 3* [computer software]. Harmonix. Redmond, WA: Microsoft Studios.
- Green, C. S., & Bavelier, D. (2007). Action-video-game experience alters the spatial resolution of vision. *Psychological Science, 18*(1), 88–94. doi:10.1111/j.1467-9280.2007.01853.x.Action-Video-Game
- Kinect Sesame Street TV* [computer software]. (2012). Redmond, WA: Microsoft Studios.
- Linebarger, D.L., & Walker, D. (2005). Infants' and toddlers' television viewing and language outcomes. *American Behavioral Sciences, 48*, 624–645.
- National Council of Teachers of Mathematics (2000). *Principles and Standards for School Mathematics*. Reston, VA: Author.
- National Governors Association Center (2010). *Common Core State Standards: Mathematics*. Washington D.C.: National Governors Association Center for Best Practices, Council of Chief State School Officers.