CERA 2018 - DRAFT
Due June 1

Title (79 out of 200 characters max): Ready to Learn: Interactive Development of Educational Media for K-2nd graders

Session Description with participant goals (100 characters max):
Early collaboration between educational researchers and producers of educational media provides an important platform for formative evaluation. Formative evaluation of educational media can potentially help improve the quality and academic impact of the educational media in the classroom. Funded by the Ready to Learn grant, WestEd conducted a series of formative tests of newly developed educational media designed to integrate Next Generation Science Standards for Kindergarten to 2nd graders. Participants will learn formative evaluation techniques utilized when testing newly created educational products including storybooks, mobile applications, and television show characters.

Relevance Statement
Using 500 words or fewer (including any and all references, footnotes, etc.), describe the relevance and importance of your proposal to the field of evaluation, specifying its implications for evaluation theory or practice, and value to the audience - **do not exceed 500 words in this box.** State how the presentation described in the abstract adds to knowledge in the evaluation field and reflects relevant standards of quality in evaluation theory, methods, or practice.

With the majority of teachers incorporating digital content into their day-to-day lessons, there is a growing need to provide educationally valuable digital content that is aligned to Next Generation Science Standards, pedagogically accurate, and technically usable and engaging for young children in the classroom. Early collaboration between educational researchers and producers of educational media provides an important platform for formative evaluation. Formative evaluation can potentially help to improve the quality and academic impact of the educational media in the classroom.

Our research team partnered with a large public television network to evaluate its educational media content related to an upcoming science television show. This educational media content was intentionally designed as a suite of early science materials and included science storybooks, mobile applications in varying stages of product development ranging from alpha to beta versions, and character designs. The goals of formatively evaluating the products in development included: identifying early evidence of students' science understanding and engagement with the scientific content, determining usability and technical issues of the alpha and/or beta versions of the digital products, providing recommendations for the next round of product development, and understanding how different types of educational media fit into the classroom environment. Lastly, tests on the appeal of the characters featured in the television show were also conducted in order to ensure

that the television show would be engaging and interesting to its target audience of young children.

The presentation will focus on the formative evaluation techniques utilized when testing newly created educational media. The type of formative technique is often dependent on the type of educational product and specific research questions from the developer. The session will cover our most utilized formative techniques including expert teacher reviews, student feedback session, student user testing, and classroom feasibility studies.

The student feedback sessions provide developers with feedback about how students engage with the science storybooks and characters and gauge students' understanding of the major plotlines and scientific content. Researchers conducted student focus groups to gauge how students understood the story plotlines and scientific content and how students reacted to newly designed animated characters. The student user testing provides the developer feedback about the student gaming experience and overall usability of the game. Students played the game in a lab setting with a facilitator and researcher. The students' problem-solving strategies and observed usability problems with the games are recorded.

Overarching themes relevant to the newly created educational media were uncovered through the series of formative evaluations. Incorporating formative evaluation early and often in the iterative design process of educational products will help ensure that the academic content, pedagogy and embedded scaffolding is incorporated accurately, assess whether the tone and context of the product is appropriate for the targeted age group, and identify usability issues related to the game mechanics and user interface.