

IBM Watson, Sesame Workshop launch cognitive vocabulary learning app for kids

In Georgia, US, IBM Watson and Sesame Workshop have piloted their first intelligent play and learning platform on IBM cloud at the Gwinnett County Public Schools, designed to establish evidence of learning at scale.



Source: Still from YouTube IBM Watson video on YouTube

In the initial phase, Gwinnett kindergartners and teachers in six classrooms engaged with a tablet-based, cognitive vocabulary app, built on the Watson-powered platform to enhance vocabulary development of students. Fuelled by Sesame content and learning design, this adaptive app features Sesame Street characters, alongside educational videos and word games.

The new platform enables an ecosystem of software developers, researchers, educational toy companies and educators to tap IBM Watson cognitive capabilities and content from Sesame Workshop's early childhood research to build engaging experiences to help advance children's education and learning. The cognitive vocabulary app is one of the first of many cognitive apps, games and educational toys that will be built over time on this new platform, because of the two companies' collaboration announced last year.

Pilot shows good results

"Sesame and IBM share a belief that cognitive computing can enhance and spark excitement for learning in children everywhere," said Harriet Green, GM, IBM Watson IoT, Customer Engagement and Education. "Together, we are combining Watson capabilities and Sesame's rich educational knowledge to give teachers new insights about their students' vocabulary development and ultimately, create a unique learning experience personalised to each child."

Based on the initial Gwinnett pilot, with an expanded pilot currently being planned for this Fall, IBM and Sesame collected 18,000 assessments from multiple choice questions that helped to measure progression of words students were exposed to over a two-week period.

In the pilot, students learned words that are deemed difficult for kindergarteners, including 'arachnid', 'amplify', 'camouflage' and 'applause', with initial observations showing that many students appeared to acquire new vocabulary because of the app.

One teacher noted, "We are studying animals and children were able to notice various forms of 'camouflage' among animal skin patterns." Another teacher said, "When we found a spider in the classroom, a student yelled, 'an arachnid!'" Participating teachers agreed that the app was a valuable addition to their class.

Watson's augmented intelligence capabilities are designed to enable the app to provide digital assistance in the classroom. Teachers can monitor children's vocabulary development in real-time through a secure dashboard and adjust lessons, pacing and curriculum to each child's needs. The app will use adaptive assessments to determine a child's current vocabulary range, and then deliver vocabulary-learning experiences that focus on specific words. Continuously learning as a child engages with the app, words and areas that require additional focus are refined to deliver content and experiences that are engaging, fun and inspiring.

Global adoption soon

The pilot of the cognitive vocabulary learning app is only the beginning of what is possible with this technology. IBM and Sesame are customising Watson for early childhood as well as developing new capabilities for it. Educational toys, apps and games enabled with Watson's speech- and image-recognition capabilities are expected to take the platform's personalised learning beyond the classroom. These products will be designed to engage directly with children and caregivers to deliver context-rich play experiences around literacy, emotional learning, and school preparedness, all adapted to each child's preferences and learning patterns.

"Sesame Workshop is committed to reaching and teaching children in the critical years between ages 0-5, meeting them wherever they are and adapting to the ways they learn best," said Jeffrey D Dunn, CEO of Sesame Workshop.

"Educational technology, such as the platform we have created with IBM Watson is a promising new channel for learning opportunities inside and outside the classroom, and we are excited to explore it further."

The current pilot is the first phase of a process to understand whether multi-modal learning experiences can improve vocabulary and literacy. This app and others like it will soon be available on the IBM Cloud for wide adoption in schools

globally. These and other educational experiences being developed on the new platform will be modular and easy to customise, built with the needs of educators and administrators in mind.

“We know that each child has unique educational needs that are difficult to address fully in a classroom, even with the kinds of differentiation strategies available to teachers today,” said Dr Todd Rose, one of the project’s advisors and director of Mind, Brain and Education at the Harvard Graduate School of Education. “Sesame Workshop and IBM Watson are developing a technology platform that has the potential to help teachers meet their students’ individual needs in entirely new ways, using data from playful learning activities that adapt to each student’s knowledge of a topic, interests and approaches to learning. I am encouraged by the program’s progress in just one year, and their attention to learning both in and out of schools. By including students, teachers and administrators in the design of the platform, this pilot program can move quickly towards becoming a resource that will be available to many more children who will benefit from it.”

Program partner is top of county schools

Located in the metro Atlanta area, Gwinnett County Public Schools (GCPS) is the largest school system in Georgia and the 13th largest in the US. GCPS is a three-time finalist (2009, 2010 and 2014) and two-time winner (2010 and 2014) of the Broad Prize for Urban Education, designating GCPS as one of the nation’s top urban school districts.

As a key partner in this unique co-design process, it has offered insights and feedback as joint research and development teams from IBM and Sesame Workshop evolve the app.

Gwinnett County Public Schools CEO/Superintendent J Alvin Wilbanks was excited about the opportunity to participate in this pilot with Sesame and long time strategic technology partner IBM. “This vocabulary learning app complements our efforts to transform the classroom, actively engaging students in a fun and interactive way. Technology is a basic tool for today’s learner and with this app, our very youngest learners had the opportunity to learn new words and expand their vocabulary.”

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