

## **Innovations in Assessment and Learning: Insights from recent conferences**

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Are students learning? It's a question that has drawn a lot of discussion and debate. The only way we can answer this monumental question is by assessing what students know in a valid and reliable way..

The World Bank's [World Development Report 2018](#) highlights the need to put learning at the center of schooling to ensure that children gain the knowledge and skills they need to lead fulfilling and productive lives. While there is a broad consensus that assessing learning is crucial for success in today's world and that of tomorrow, it is often easier said than done. Different hurdles – from technical constraints to limitations on fiscal and human resources – stand in the way of policymakers, teachers, parents, and students engaging in effective assessment of learning.

Since 2008, the [World Bank's Russia Education Aid for Development \(READ\) Trust Fund program](#) has worked to help countries strengthen their capacity to assess student learning, enhance tools for collecting information on learning outcomes, and maximize the value of assessment data. The READ Trust Fund's global products and country-specific solutions have supported student assessment systems in more than 70 countries, and over 61 million children have already benefitted from targeted activities, numbers that are growing as the Program continues.

To keep up with cutting-edge research and innovative solutions that can inform dialogue and decisions aimed at improving student learning, the READ Trust Fund team has recently participated in three noteworthy learning events. At [SXSW EDU 2018](#), we presented on the contributions of the READ Trust Fund Program to the area of student assessment over the past decade, and discussed with fellow policymakers and practitioners innovations in learning, teaching, and assessment. Our participation in the [Society for Research on Educational Effectiveness \(SREE\) Conference](#) and the [Innovations in Testing Conference](#) added to our collected body of evidence on the latest research and tools in assessment and related education topics. Below we summarize interesting insights and innovations from these events.

### ***The educational technology (EdTech) brings many innovations, but these solutions must be carefully evaluated prior to application and use***

- *Online tools can help teachers determine what students have learned and identify students that need additional help while reducing the grading burden.* Such tools, including [Inq-ITS](#) (for science), [Zinc](#) (for improving literacy), [Revision Assistant](#) (for improving writing), and [Quizalize](#) (for many subjects in several countries), allow students and teachers to receive real-time feedback.
- *Bringing together student assessment and computer science can address limitations of existing assessment approaches.* “[SmartItems](#)” are multiple-choice examination questions that are generated (based on an algorithm) each time a test taker sees them. They assess knowledge and skills while eliminating cheating, reducing cost, and increasing fairness of multiple-choice examinations.
- *Innovative methods help gather assessment data, however thorough review is necessary prior to adoption.* Technologies, such as auto-scoring engines, facial recognition linked to socio-emotional

constructs, game simulations that collect data on student performance, neural networks and deep learning algorithms, and large-scale data mining to deliver individualized learning, are quite innovative; however, for many of these solutions, issues related to validity, reliability, price, user experience, and ethics still need to be addressed and resolved.

***Even with rapid technological advancements, educators must remain actively involved in instruction and assessment to ensure alignment between what is taught, what is learned, and what is assessed***

- *Supporting classroom assessments can yield better learning outcomes.* A [USAID project in Honduras](#) provided materials and teacher training to support formative and summative classroom assessment, resulting in improved instructional practices and a relatively cost-efficient increase in EGRA/EGMA test scores.
- *Assessing students' sophistication in solving math problems can help teachers tailor instruction to students' learning trajectories.* In mathematics, the solution may be achieved via strategies of varying degrees of sophistication. The Ongoing Assessment Project ([OGAP](#)) has developed a tool to assess students' learning trajectory in mathematics.
- *Highly-trained scorers are still key to assessing constructed responses, even when technology provides support.* The Canadian CPA Common Final Exam (CFE) assesses candidates' professional skills by eliciting constructed responses to questions based on a real-world case study. Scoring of these exams by highly-trained scorers, using secure online platforms, has been the gold standard even with the advent of automated scoring solutions.

***With the growing demand for 21<sup>st</sup> century skills (critical thinking, willingness to learn, perseverance, and ability to work well in teams), how these skills are taught and assessed at different levels of education has become crucial, with many promising approaches awaiting comprehensive evaluation and replication in various settings.***

- *Performance assessments allow test takers to show what they would do in a particular situation.* Technology facilitates the creation of assessments that are more closely aligned with “showing” and “doing” through games, responsive scenarios, interactive simulations, and automated conversations. US states of Ohio and Texas have relied on a [resource bank of performance assessments](#) in experimenting with testing of the 21<sup>st</sup> century skills. Universities are also partnering with private companies to develop targeted games, such as [Pediatric Sim](#), which allows residents to apply what they know and show what they would do when faced with pediatric cases in an emergency room setting.
- *Using age-appropriate Socio-Emotional Learning (SEL) concepts and measures is key.* Given the optimal ages for developing different skills, assessments need to be tailored to children's age. There is a variety of SEL measures and resources, such as [Parenting Across Cultures](#), Rapid Assessment of Cognitive and Emotional Regulation ([RACER](#)), and Austin's Independent School District's [SEL Skills Survey, that can be used for different ages and in different settings](#).
- *A new suite of brief, low-cost SEL interventions aiming to build executive function can be adapted to different settings and age groups.* [Brain Games, for example](#), are a card deck of 31 games, each

taking 5-10 minutes, that can be easily integrated into classroom activities and daily routines. In the US , the use of these games has shown to [increase children's self-regulation and reduce disciplinary problems](#). This intervention has been adapted and implemented in two settings with large refugee populations (in Niger and Lebanon), however with mixed results.

***Teacher quality is the single most important input in student learning; therefore, they need to be well equipped to help students learn***

- *Self-assessment tools can help teachers identify and maximize their competencies.* Finland's new [skills-based curriculum](#) led to the development of [a self-assessment tool](#) to identify what competencies teachers possess, where they need additional support, and how schools can best utilize these competencies. Such tools are being [piloted in low-resource areas](#) to ensure that student learning is not hindered by lack of trained teachers.
- *Simulated classrooms can help prepare "learner-ready" teachers.* A [suite of measures using simulated classrooms](#) has been developed to assess teachers' ability to model and explain content, elicit student thinking, and lead discussion.
- *New measure assesses math teachers' ability to analyze students' math learning.* The Teacher Analysis of Student Knowledge ([TASK](#)) is an online tool that uses student responses to assess teachers' instructional skills.. Teachers performing well on this measure are better at understanding their students' math learning trajectory and adapt their instruction accordingly.

As we continue to develop cutting-edge tools and resources that help countries build and improve assessment systems in support of their learning agendas, we aim to incorporate the best approaches shared by innovators and practitioners at these and many other learning events.