

Chapter 10

Guiding Kindergarten to Grade 12 Students to Mastery with Next Generation Digital Assessments



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As technology rapidly advances, learning dynamics also evolve in terms of curricula, pedagogy and teacher–student dynamics. Education technologies that emerged over the course of the last couple of decades enable teachers to make instruction and learning more efficient and effective. Edulastic, for example, is an online assessment tool with interactive question types that provides teachers real-time data on student understanding of the lessons. Through Edulastic, teachers and school leaders can create a plan of action to effectively teach based on what still needs to be learned, depending on individual student progress. Such digital assessment platforms with instant feedback and interactive formative assessments encourage to learn, grow and improve every single day, helping them to reach their full learning potential.

Technology has changed society, without a doubt, and we are now more interconnected than ever. Education has seen this trend through the education technology (EdTech) that has emerged over the course of the last couple decades. Teachers now guide their instruction with technology; this makes them teach more efficiently, and their students learn more thoroughly. Schools across the United States and world are moving closer to 1:1 technology. This means that every student will eventually have a personal technological device to learn from and research on. EdTech is prevalent in schools and this prevalence will only continue to grow.

With new technology comes new dynamics between teachers and students, new curricula, and new ways to learn. The world is rapidly developing, and so is EdTech. One of the ways technology is positively affecting learning is through online assessments. Now, students can take a quiz or test online instead of with pencil and paper. These online platforms grade assessments automatically, giving students immediate results and relieving teachers from grading work. Beyond this, online testing platforms produce powerful data. School leaders, district administrators, and teachers

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can review reports in real-time to understand where their students are finding success and where they need to intervene and reteach.

These online assessments are effective for both summative (end of unit) and formative (informal, quick) assessments. When a teacher does not want to wait until the end of a unit to give an assessment, he or she can use various tactics like formative assessment to “check in” with students and see how they are progressing. Together the words “formative” and “assessment” refer to a guiding evaluation that helps to shape something. With formative assessment, teachers mold or form instruction to better suit student learning. To glean actionable insights, the best formative assessments are generally easy to implement and offer immediate results that lead to instant intervention or instructional adjustments (Tookoian 2017).

While most educators are rapidly accepting this move to technology and toward online formative assessments, others are slower to adopt this new way of instructing. Formative assessments allow teachers to focus on individual student learning. The results from these quizzes help teachers differentiate their instruction to guide individual students toward overarching understanding. That said, giving individual attention to students can be especially difficult when there are large class sizes. Large class sizes tend to result in less personalized learning. Oftentimes, students in large classes move onto the next lesson (and the next level) without acquiring some kind of mastery of the skills they need. It is challenging to solve the problems associated with large class sizes, so many schools are turning to technology as a solution. Technology helps educators create such personalized learning environments that begin with formative assessments.

One of the most popular formative assessment tools is Edulastic, an online assessment tool with interactive question types that provides teachers real-time data on student understanding. Edulastic empowers educators to proactively intervene with their students and to guide their instruction based on immediate and powerful reports.

Edulastic is easy to use and is readily available for teachers in classes of all sizes. Because Edulastic is a cloud-based application, it is effective all over the world. More than 400,000 teachers use Edulastic to gauge student learning and effectively differentiate their instruction. Since Edulastic was launched in 2014, more than 1.4 billion technology-enhanced items have been answered on the platform. Teachers can create their own teacher education institutions, mix and match and/or collaborate with colleagues in the school or district. All questions, including sophisticated equation response, graphing, etc., are auto-graded, resulting in instant data with minimal teacher effort at manual grading.

Once a formative assessment is under way, the Edulastic Live Class board gives teachers real-time data on student performance. Figure 10.1 indicates how the class is performing per question. The blue line running through the bar graph shows the average time spent on each question by the class. This type of data allows teachers to evaluate student performance not only after the fact, but *while students are taking the assessment* (Edulastic 2019).

The Edulastic team of dedicated engineers consistently works to make Edulastic available and helpful to everyone in the education community. Not all schools have 1:1 technology, and it is important to be able to cater to all different communities around the world. In schools that do not yet have 1:1 devices, or even computer

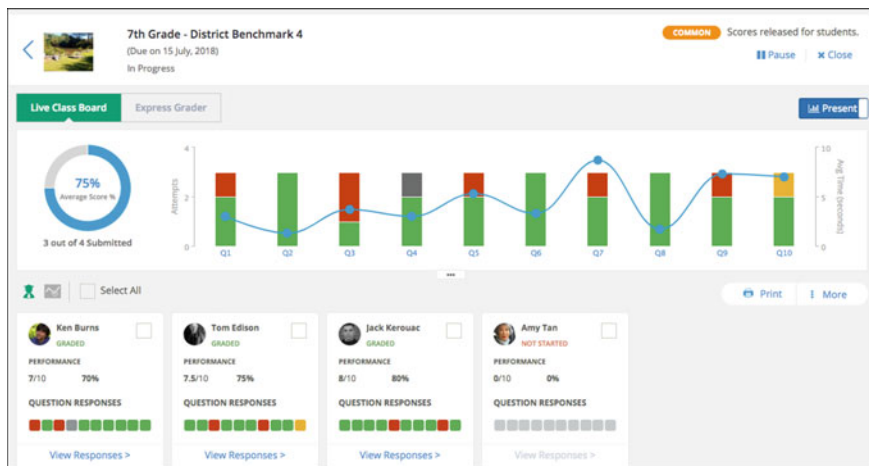


Figure 10.1 Edulastic live class board: teachers see real-time assessment results

laboratories, teachers can use Edulastic’s SnapScore to track student progress. After creating an assessment in Edulastic, teachers can easily and conveniently print bubble sheets and open ended questions for students to complete on paper. When students have completed the assessment, a teacher uses the SnapScore app on a smartphone to scan and capture student responses via the phone camera for purposes of scoring and analyzing results (Edulastic 2018). SnapScore has taken the advantages of online assessment and creatively mixed them with the offline world—bringing forward solutions that have increased performance and efficiency in grading and teaching in all areas of the world.

Teachers, schools, and districts find the most success with Edulastic when they start with a diagnostic assessment. Diagnostic assessments are pretests. They usually serve as a barometer for how much preloaded information a student has about a topic. Diagnostic tests help to tell the teacher (and the student) know how much they know and do not know about an upcoming topic. This helps to inform the teacher’s lesson planning. Though both diagnostic assessments and formative assessments aim to inform teachers to instruct more effectively, they emphasize different aspects of teaching. Formative assessments are taken during a unit to assess how students are learning the material that the teacher has been teaching. Diagnostic assessments come before this, analyzing what students have learned in the past, many times from different teachers or classes (Tookoian 2018a, b). Based on the results of diagnostic tests given on Edulastic, teachers and school leaders can create a plan of action to effectively teach based on what still needs to be learned.

Take the example of the Paragould School District in the State of Arkansas, United States (Tookoian 2019). In 2015, educators there received discouraging news: Their test scores on the ACT Aspire, their state’s standardized test, were significantly below the state average. For example, just 27% of Paragould’s middle school students scored proficient in mathematics, compared with a statewide average higher than 40%. These

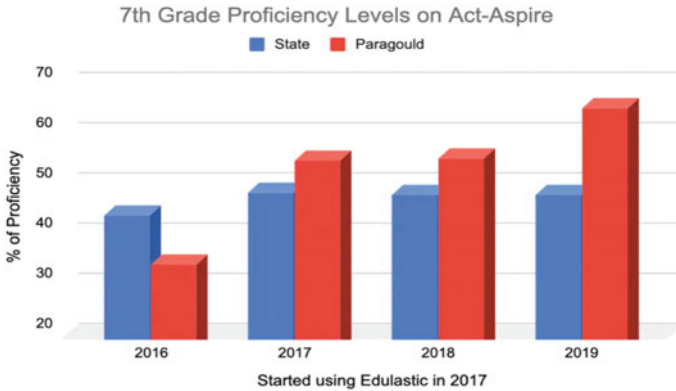


Figure 10.2 ACT Aspire data, Paragould school district

test results served as diagnostic information for Paragould leaders. They were able to understand where their students stood on essential mathematics, social studies, and science assessments. With this information, teachers and administrators came together to set a growth goal and create a structured program to monitor and support students’ daily, weekly, and monthly progress.

They turned to Edulastic for help, and their efforts have paid off tremendously. Teachers in the Paragould School District use Edulastic to administer common formative assessments. Because these custom assessments are administered online, teachers and administrators get immediate feedback on skill gaps. These insights not only allow for better conversations among educators, they also promote collaboration and identify areas where support or instructional adjustments are needed. This, in turn, sets the stage for targeted remediation for those students most in need of assistance (Tookoian 2019).

“Without the common assessments we wouldn’t know where our students are standing throughout the school year and what we need to do to get them to where they need to be,” says Melissa McPherson, a Paragould 8th grade mathematics teacher. “The common assessments just open our eyes much earlier than if we waited until the ACT Aspire at the end of the year.”

Teachers share goals, strengths, and areas for improvement with students as well. This transparency gives students ownership of their learning and motivates them to do their best. If students demonstrate standards proficiency on their assessments, designated remediation time becomes free time where they can choose to do art or read. Otherwise, students spend the remediation period working on understanding and mastering the standards (Tookoian 2019).

When results came out for the 2017–2018 school year, middle school mathematics proficiency jumped 10 percentage points, surpassing the statewide average and earning the district recognition for top growth scores in the state (Figure 10.2).

This success has started to change the culture in the district, adding momentum to the upward learning trajectory. “Any time your test scores go up, and any time you

start seeing success, it changes the culture of the building.” Technology Integration and Math Specialist at Paragould School District Matt McGowan says. “We’ve seen that in two or three of our buildings so far. Teachers are wanting to push the kids a little bit further because they want to keep getting better” (Tookoian 2019).

This success story is representative of the power of digital formative assessment. With that in mind, it is important to also recognize that not all schools have access to the type of technology that the Paragould School District has. Regardless, this should not act as a roadblock to using Edulastic to drive instruction.

There are several ways schools around the world are mainstreaming Edulastic. Edulastic can be taken to scale even in schools without 1:1 technology in their classrooms. SnapScore, as described above, is one of these ways. Teachers in Asia, Africa, Europe, and around the world use Edulastic to advance their teaching through SnapScore. This provides data and accurate student reports to those teaching in the offline world. With these data, teachers in all academic settings are able to inform their instruction accordingly. Beyond this, teachers who do not have access to 1:1 technology can quickly and easily manually enter their scores into Edulastic and leverage the data for more personalized instruction. The information collected through Edulastic can feed to a bigger database for analysis purposes of school development and planning of provincial, regional, and national education systems.

Edulastic is also used by universities in India for computer science programming. With Edulastic, professors can track student data and monitor progress in real-time, so they can take action and see growth.

This is the way forward. Digital assessment platforms like Edulastic can help all students reach their potential. With instant feedback and interactive formative assessments, students are encouraged to learn, grow, and develop every single day. A positive and collaborative learning environment can be achieved as education systems around the world move toward online formative assessments.

Link to the presentation material: <https://events.development.asia/materials/20190829/empower-educators-proactively-intervene>.

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