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# How Data and Dashboards Make Learning Visible

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Assessment

Have you seen those ads showing people walking around with "text" bubbles floating over their heads, revealing what they're thinking? Imagine if a teacher could look up and see text bubbles over her students' heads as they worked through problems. The bubbles would show where they were struggling, where they were understanding, and give suggestions of what to do next. Imagine if students' learning could be that immediate and accessible to teachers.

At GlassLab, our goal is to make the deep learning that happens in games visible to both the student and the educator. Since our initial launch as a game developer in 2012, we've been hard at work to elicit students' learning in the context of digital games -- whether those we create from scratch, like Mars Generation One, or games we "mod" to enhance their educational value, like SimCityEDU. Today, we're generating meaningful reports for teachers through our new Playfully dashboard.



In collaboration with our partners at ETS and Pearson, we've developed approaches for extracting key information from gameplay. We provide teachers with the "big picture" of student learning and useful, actionable insights to inform instruction on the fly.

Here are three game features that can help you and your students zero in on specific areas for strength and improvements:

### **1. An actionable dashboard.**

*Why not just watch students as they play games?* Educational games provide feedback for different purposes. Sometimes, players get feedback -- like stars -- that support players' continued engagement; other times, stars denote that learning has happened. It can be challenging for a teacher to know what feedback a game is giving and if it's saying something about student learning. Moreover, game feedback often "evaporates"; for instance, a student might finish a level and get a summary that disappears forever when the student moves on to the next level.

Dashboards address these challenges by providing a "one-stop shop" for information relevant to student progress and instruction, capturing key information for teachers to view when it's convenient, and calling out clear connections between a game and the teacher's curriculum. Our rule of thumb is that for the assessment engine to be useful, the information has to be accessible and actionable.

We spend a lot of time talking with teachers and gathering their feedback on our dashboard features. In response, we've evolved our reports to target short-term, actionable information, as well as the "long view" of student progress.

### **2. Real-time reports that support instructional decisions.**

The short-term reports, which we call "Shout Out, Watch Out, Now What" are updated continuously as students play and learn. The "Shout Outs" allow teachers to identify and celebrate successes. This enables teachers to be facilitators of learning, moving about the class freely as a "coach" while still having access to critical learning information. The "Watch Outs" help teachers to focus on pain points in real time, as the learning is happening. They also assist in identifying off-task behavior. It's hard to know what students are up to when they're on so many computers. Are they playing the assigned game or watching the latest music video? The "Watch Outs" provide that information to the teacher, so they can spend their time coaching rather than "policing." Finally, even if a game provides great information, it can be tough to know what to do with it. "What Nows" offer suggestions for how to adjust instruction to best serve students' learning needs.

### **3. Competency reports that visualize long-term progress.**

In classrooms, it's not enough to know that students can beat a game. Educators have to be sure that students are learning knowledge and skills that have meaning outside the game, especially when it comes to critical standards. But whether it's mathematics knowledge or collaboration, it's important for teachers to know not only what a student has done in a game, but how they have grown over the course of their experience. Game progress does not always mean learning progress, so we design our games in a way that allows us to analyze and deliver data that demonstrates students' overall growth. Competency reports allow teachers to understand students' learning paths as they pertain to specific skills and standards. We strive to give teachers the information they need to both make instructional decisions and enrich the learning experience.

## What Are the Perks?

Making student learning visible truly supports teacher-friendly implementation of digital learning experiences in the classroom. Digital worlds are, well, digital, and sometimes it isn't all that obvious to another person in the room how a student is using his or her personalized technology. GlassLab visualizations make student progress transparent, eliminating the need to hover or merely assume how on-track students are during play.

The "Shout Outs" and "Watch Outs," for example, allow teachers to act as facilitators (not policing hoverers), so they know exactly when to give students individualized support on a case-by-case, real-time basis.

Learning Reports add to the richness of Shout Outs and Watch Outs, giving the same to-the-minute updates about student progress. These learning reports translate gameplay into learning progression, and tie play to content standards like the Common Core, 21st Century Skills, and Next Generation Science Standards. As a result, teachers know how students are connecting with content, and administrators can see standards-based learning. In making learning visible, GlassLab aligns game-based learning with administrators' need for visibility, teachers' need for instruction and assessment support, and students' need for individualization.

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