Unified Technology to Revolutionize Classrooms

SIS • ASSESSMENT • ANALYTICS • LMS • SPECIAL EDUCATION • GRADEBOOK • BEHAVIOR

Today's K-12 educators are leveraging technology to inspire and engage students every day. As technology rapidly evolves, it continues to change the way teachers teach, students learn, and parents parent. The education policy focus has shifted from a state, district, and school compliance mindset, and with the help of technology innovation, to a focus on the classroom and the growth of individual learners. The recent adoption of ESSA will likely change the face of how we are currently using data in this country. "We're at the beginning of the data use era in education," explains Maureen Wentworth, Director of Education Data and Information Systems, Council of Chief State School Officers (Toner, 2016). This article explores ideas about how integrated technology solutions have the potential to revolutionize the way we are going about education in the U.S.

The accountability requirements outlined in NCLB legislation created a pervasive culture of compliance in K-12 education. Districts sought technology systems that would aid them in meeting federal and state reporting requirements. They needed powerful data management solutions that produced highly accurate reports. Ed-tech companies responded to district needs predominantly by creating largely independent solutions targeting specific reporting requirements. For example, districts needed a formative assessment system to help them prepare students for achievement expectations outlined in NCLB. Districts needed a student information system that provided solutions tailored to state and federal compliance reporting requirements detailed in NCLB.

Twenty years later, districts are loaded with incredibly powerful systems that have partially or fully automated compliance and accountability reporting tasks. All districts have software that helps them manage student data, schedules, and gradebooks that produce report cards. Most larger, urban, and suburban districts also have strong formative assessment systems to tell them which students need more assistance to pass state tests. Many districts also have learning management systems to engage students, teachers, and parents in ways never imagined before. Some districts are fortunate to have special education and response to intervention solutions that provide teachers with the information they need to improve educational outcomes for students with disabilities.

These systems may be brand new or in desperate need of replacement. They may work well or poorly, or they may be too expensive or difficult to maintain and not used at all. Annually, districts and schools purchase software and systems to do everything from calculating average daily attendance, to run payroll, to assess kids and provide parents access to their child's homework assignments on their cell phones. The CIO of Katy school district in Texas explained,

"A lot of our teachers are accessing hundreds of external resources, from Google to digital textbooks to resources all over the Web. They have usernames and passwords for each. It's very challenging, but there's potential for a good solution." (Herold, 2014)

Most districts, like Katy, TX, have disparate systems all requiring separate logins forcing users to toggle among several windows to get the information they need. This issue has frustrated students, schools, districts, and most of all, teachers for years. While Single Sign-On (SSO) technology has ameliorated the login challenges, not all districts have the money or staff to implement it. Also, in some instances, SSO solutions may not meet all of the security protocols necessary to protect student data. "IT decision-makers should realize the security risk that comes with the convenience of SSO. Most problems we discovered actually can be fixed through correct integration on the website part. In other words, if the developer of these websites incorporate such SSO services carefully, SSO can be more secure," said Dr. XiaoFeng Wang, Associate Professor of Computer Science at Indiana University at Bloomington (Wang, 2012). Protecting student data and easing access to programs will remain top district priorities. Existing technologies address these needs and are improving all of the time.

Over the past eight years, K-12 technology companies have been able to successfully get districts' separate systems to communicate and share data with each other. The groundbreaking news is now teachers can access a single system with one data model. This single system eliminates the need for disparate programs to talk to each other. A single unified platform, driven by innovative integrations, eliminates delays caused by nightly, weekly, or monthly syncs.

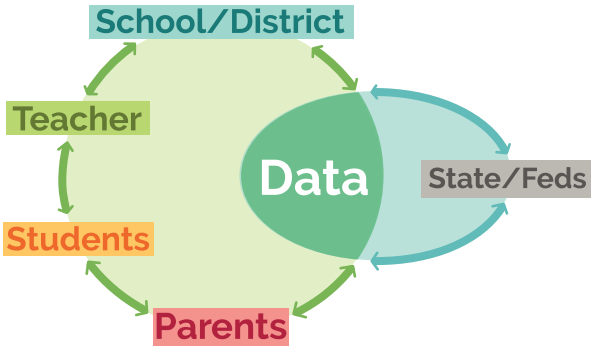
Within this single system, data is available everywhere and in real time. To appreciate the power of a single system, imagine all of a district's technology solutions communicating seamlessly with each other: student information system (SIS), learning management system (LMS), analytics, assessment, special education, and student behavior. This unification of systems on a single platform is a game changer.

A unified system allows data to be generated in one solution and immediately used in another solution all within a single user experience.

For example, a teacher can create, assign, proctor, and view assessment results immediately. The scores from this assessment can be automatically posted to the gradebook and the SIS. Also, parents can instantly access the grades via their mobile devices. K-12 ed-tech becomes more efficient, easier to use, and, the teaching-learning cycle shortens considerably. Teachers can respond immediately to provide corrective or advanced instruction to students based on their demonstrated needs.

Furthermore, teachers can have the freedom to meet virtually whenever it is most convenient, as frequently or infrequently as is necessary and for as much time as it takes to get the work done. Teachers tend to engage with each other and their students more when it is on their time and easy to do. Collaboration among teachers with the goal of improving instruction has been proven to increase student achievement and outcomes. Through research, Matthew Ronfeldt, Assistant Professor at the University of Michigan School of Education, found that schools in which teachers reported better quality collaboration – regardless of the content of the collaboration – had better average achievement gains in math and reading (Ronfeldt, 2016)

One way to think about how it works is the student information system acts as the engine or brain that accepts data and distributes it to the various solutions. Districts can decide which solutions they want to be part of the single system.



Once technology barriers among systems are removed, and data pathways allow information to flow unhindered, teacher and student workflows can be streamlined. The teacher and student classroom time can shift away from inefficiently hopping in and out different systems to access and input data and move toward classrooms in which teachers' workflow and instruction are enhanced rather than disrupted by technology. Teachers can remain focused on instruction and teaching rather than grapple with technology that interrupts their essential job function.

A unified platform gives teachers what they want the most: TIME. Christina Kostaras, a bilingual ESL Math & Science teacher at the Lilla G. Frederick Pilot Middle School in Boston wrote an article about the importance of teachers having more time. "What we need is time," said Frederick. "Time to be thoughtful about how to modify and make curriculum accessible for ELLs and Students with Special Needs. Time to work with our colleagues to make our plans better. Time during our work day to write, edit, and revise our plans collaboratively." (Kostaras, 2015).

With a single platform, educators can revolutionize their classrooms by having access to all of the technology tools they need with a single login. Teachers will no longer need to switch between systems to do their work. They can move easily among assessment, learning, behavior, and analytics solutions.

Contact PowerSchool to learn more about implementing the Unified Classroom experience at your school.

Below is an example of a typical day:

TYPICAL TEACHER WORK DAY	UNIFIED SYSTEM	DISPARATE SYSTEMS
Daily Bell Ringer Activity	Students are immediately engaged in learning the moment they enter the classroom.	Poll Everywhere, Today's Meet
Take Attendance	Teachers quickly and efficiently mark students present or absent.	SIS
Listen to/Read Announcements	The entire school community has instant access to the latest school announcements and information.	PA System or paper
Language Arts Lesson	Teachers can provide students with highly engaging assignments, resources, and tools that incorporate technology in learning.	Literacy vendor system Phonics vendor system YouTube video
Language Arts Assessment	Teachers can create test sessions, proctor assessments and view results in one place.	Assessment vendor system Manually enter grades into gradebook Manually enter grades into SIS
Language Arts Assignment	Students and parents can access class assignments and assessments in one place	Have students write their assignment, to be completed using an online English/Language Arts program, in their planners.
IEP Meeting	Up to date, accurate IEP data is instantly accessible to all those with permissions.	IEP tracking system or Paper filled student-specific binder
Lunch	Teachers can enter discipline incident data directly into their mobile device.	Enter discipline incident that occurred in the cafeteria into SIS and behavior management system and add a paper copy to student's 504 file in SPED office.
Mathematics Lesson	Teachers can provide students with highly engaging assignments, resources, and tools that incorporate technology in learning.	Mathematics textbook (printed or online) Manipulatives
Mathematics Assignment	Students and parents can access class assignments and assessments in one place	Have students write the assignment to be completed using an online mathematics platform, in their planners
Grade Level Planning Meeting	LMS allows teachers to collaborate using a shared lesson plan to improve the quality of and outcomes from their teaching.	Manually enter into a school or district specific lesson plan template or system. Lessons incorporate data from formative assessment system. Teachers use data from analytics system to assign students to intervention groups.
Distribute Behavior Rewards	Teachers enter positive behavior reward points into the PBIS system. Students can select rewards in an online store.	Teachers keep track of student behavior on paper or use a spreadsheet to distribute paper tickets to students and they use tickets to select from a class supply of rewards.
Dismissal	Teachers view formative assessment results and incorporate them into tomorrow's lessons.	Ensure bus list is accurate, and all children are where they are supposed to be.
Evening Hours - Grading	Scores from assessment management or learning management solutions are already posted in the grade book and SIS.	Hours of correcting and writing feedback on paper assignments and assessments. Manually transferring grades from papers into the gradebook.
Evening Hours - Communicating with Parents	Parents and students can be automatically notified of assignments and grades via their mobile devices.	Sending emails to parents to inform them about assignments and update them on their student's academic progress or behavior.

SOURCES

Toner, Mark. (2016) "ESSA's Long Game." Converge Magazine: ESSA's Long Game. Converge and the Center for Digital Education, a Division of E.Republic, Inc., http://www.centerdigitaled.com/k-12/ESSAs-Long-Game.html

Ronfeldt, M. (2016) “Improving Teaching Through Collaboration” Albert Shanker Institute http://www.shankerinstitute.org/blog/Ronfeldt

Kostaras, C. (2015) “What Teachers Really Need: More Collaborative Planning Time” LDC https://ldc.org/blog/posts/what-teachers-really-need-more-collaborative-planning-time

Web Services’ Single Sign Ons Contain Big Flaws (2012) Dark Reading http://www.darkreading.com/risk-management/web-services-single-sign-ons-contain-big-flaws/d/d-id/1103454

Herold, B. (2014) “Student-Login Chaos Fueling Software Password Upgrades” Education Week http://www.edweek.org/ew/articles/2014/06/04/33signin_ep.h33.html