



KEEPING IT REAL:

**TAKING DATA &
ANALYTICS TO
THE NEXT LEVEL**

INTRODUCTION

The 2017-18 school year marks the full implementation of the Every Student Succeeds Act (ESSA) and its new models of accountability. Analytics are a critical component not only for ESSA reporting requirements, but also for assessing and making decisions about student outcomes. In other words, it's time to "get real."

In 2016, we examined the importance of data analytics and how to build an effective data analytics program in "Unlocking the Power of Data." That paper was intended to be instructive and educational; this year we take the next step and examine schools that are using analytics programs to improve learning outcomes through data-driven decision-making.

The Center for Digital Education (CDE) partnered with Technology Integration Group (TIG) to host a series of roundtable discussions during the 2017 International Society for Technology in Education (ISTE) Conference and Expo. During two roundtable sessions, we engaged policy and technology leaders from districts of varying sizes and geographic locations. This paper is guided by the experiences, challenges and solutions identified by our roundtable participants. Our intention is to provide practical advice for meeting real-world analytics demands, share examples of schools that have built and effectively leveraged analytics programs, and offer lessons learned.

MOVING FROM IMPLEMENTATION TO PRACTICAL USE

Our ISTE roundtables confirmed that while every school and district is unique, there are common practices that can help them move from the beginning phases of an analytics project to a point where they can utilize data to make decisions related to student achievement. To do this, educational institutions should take the following steps:

1 CLEARLY DEFINE THE DATA AND THE GOAL School districts can gather data from many sources and use it in a variety of ways. But data doesn't always tell teachers or administrators what they need to know to improve student success. Roundtable participants agreed that defining different data categories and determining how that data can be used for decision-making is paramount. In other words, outline a clear objective and then collect the right data to reach that goal.

CASE IN POINT: Tacoma Public Schools, the second-largest school district in Washington state, wanted to improve graduation rates, which hovered around 54 percent in 2012.

"Tacoma was identified as a dropout factory and that wasn't OK," says Dave Davis, the district's director of instructional technology.

Tacoma Public Schools was an early adopter of Microsoft Power BI, Azure and Office 365, but the district wasn't putting its data or those tools to their best use. When a new superintendent came on board, that all changed.

"The superintendent realized that data and analytics tools could provide insights into what was happening in the classrooms," says Davis. "Using

Microsoft Office 365, Azure and Power BI, he helped get real-time data into the hands of teachers and began contacting and working directly with principals, counselors and teachers to track student progress. It changed the conversation."

Today, Microsoft tools are integrated with Tacoma's student information system, and the district keeps a close eye on student progress, intervening early and often when students get off track. As a result, Tacoma Public Schools has improved graduation rates to more than 86 percent in 2017.

Although the district is happy with the improvements, Davis says, it remains focused on getting the last 15 percent over the line. The district is committed to teaching teachers, interventionists and instructional coaches how to interpret data and be more prescriptive and proactive. This year, Tacoma Public Schools also added a data assessment team that will work directly with teachers and counselors to move toward predictive analytics.

2 CLEARLY DEFINE ROLES AND RESPONSIBILITIES (AGAIN)

Identifying talent that can help get a data analytics program up and running was an emphasis in last year's "Unlocking the Power of Data" paper. But as a school or district moves forward with an analytics initiative, it's important to reconfirm that data-related roles and responsibilities are clearly defined. Some districts tackle this challenge by hiring personnel — often with titles like data steward or chief data officer — specifically to head data analytics initiatives and act as a point of contact for all data analytics efforts.

CASE IN POINT: When Tisha Mesa, campus instructional technologist and formative assessment coordinator at Houston-based Heights High School, realized she couldn't dedicate enough time to manage her school's growing data needs, the campus added a part-time data tracking assessment specialist role to a current teacher's job. The teacher now splits her time between teaching and examining the school's assessment data, looking for changes and patterns, and identifying students who may be falling behind.

"Using that data, we can figure out if there is something going on in a student's life and perhaps make changes before that student gets too far behind," says Mesa.

This was of particular concern after Hurricane Harvey hit Houston in September and displaced some students from their homes. "It's important for schools to have someone dedicated to looking at all the data, because you have to have those deeper conversations now," says Mesa. "Instead of just teaching to the standards, you have to see the whole student."

ISTE roundtable attendees also stressed the importance of having a succession plan should the employee charged with overseeing data within a school or district resign. One roundtable participant discussed the challenges she faced when the employee who managed her district's data suddenly left to pursue another opportunity. Fortunately, district leaders turned the challenge into an opportunity by ensuring the new person hired into the role was exactly what they wanted — a data specialist who could take their analytics program to the next level.

“INSTEAD OF JUST TEACHING TO THE STANDARDS, YOU HAVE TO SEE THE WHOLE STUDENT.”

— Tisha Mesa, Heights High School

3 STAY ON TRACK

Last year's paper recommended schools and districts create a project charter — a working document that defines the goals, resources, risks and timeline of an analytics project. As schools or districts move forward, it's important to continually ensure the project stays aligned with the charter. In some cases, schools and districts dedicate a group specifically to that purpose.

CASE IN POINT: The Newcastle County School District in Delaware launched a consortium to help develop and guide its data analytics plans. Regular meetings ensure the project moves forward and remains true to the district's original goals. The consortium is now in its fifth year, with a new cohort added each year to maintain project interest and enthusiasm.

4 KEEP IT REAL

ISTE roundtable participants reiterated the importance of including teachers in analytics plans and training them to use analytics tools and data. Teachers also must understand the ultimate goals of analytics initiatives. By setting specific goals and then aligning data analytics efforts with those goals, administrators can “keep it real” for teachers.

CASE IN POINT: Fort Worth Independent School District (ISD) in Texas recently set a goal of having 100 percent of third graders read at grade level by 2025. Dr. Becky Navarre, assistant superintendent of technology at Fort Worth ISD, says using data and analytics helped teachers shape personalized learning for students and directed the activities of five new leadership academies designed to assist students who are struggling. The district also reset its bell schedules to allocate more time for leadership academy activities.

“We have a data dashboard for our principals and teachers where they can look at the reading scores and then use that data to determine how they're going to personalize learning,” says Navarre. “It helps guide how and what they teach and how they leverage the leadership academies.”

Navarre says the key was involving teachers in the effort without overwhelming them.

“We focused on providing teachers the most minute amount of data they need so they can easily see and understand the most important information,” says Navarre. “We don't want them to have to make sense of it or manipulate it. We want them to be informed and involved but also give them more time to focus on what they do best.”

Elsewhere, personnel at Heights High School in Houston regularly meet with personnel from three other area high schools to examine their collective data with the goal of improving state assessment scores. The teachers and administrators collaboratively examine assessment data down to the

teacher level, uncover patterns, discuss best practices and identify where improvements can be made in advance of state assessments.

5 WORK TOWARD BECOMING PREDICTIVE

Roundtable participants agreed their ultimate goal is to create a data-driven culture that enables schools and districts to predict issues and problems early. For many schools, implementing predictive analytics will require them to manage a broader range of structured and unstructured data. For example, several schools are trying to figure out how to include data about external factors like bullying, changes in living situation and nutritional challenges that are more difficult to track than test scores but can play a big part in student performance. Participants said such data could be part of an “early warning system” that teachers can use to better understand student academic performance.

CASE IN POINT: Last year, we looked at how Katy Independent School District (ISD) in Texas uses data to make better decisions and gain a deeper understanding of campus performance. Principals in the district's 61 schools now use data dashboards — populated by information from business, student information and learning management systems. Moving forward, Katy ISD plans to add teacher dashboards as part of its journey toward predictive analytics.

Fort Worth ISD also is working toward a predictive analytics goal with a data dashboard for administrators and principals that will show absences, tardies, grades, etc., and a parent portal that requires teachers to input grades sooner so parents and teachers can flag problems before kids are too far into a semester.

FINAL THOUGHTS

An enormous amount of data is now available to schools and districts, but data doesn't always tell teachers and administrators everything they need to know to enable student success. Schools and districts need to extract meaning from data to improve outcomes. Data governance becomes a critical success factor — setting standards and policy, monitoring data quality, addressing data security and privacy, architecting and integrating platforms, and empowering teachers.

Data governance addresses three basic questions regarding a school's data: Where is the data coming from? How was the data prepared or transformed? Who did the work? Answers to these questions provide confidence in analysis and increase the likelihood that insights gained will drive better results. Data governance is a process and thus a journey that is key to a district's successful analytics program.

Ultimately, ESSA will demand growing sophistication in how districts measure student achievement and assess their own performance. An analytics program that meets the mandates of ESSA and uses data to improve student outcomes can help, but getting there takes planning, time and diligence.

This piece was developed and written by the Center for Digital Education Content Studio, with information and input from TIG.



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