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INSTRUCTIONAL MANAGEMENT SOLUTIONS:
Creating a High-Performing School
Climate by Capturing, Analyzing and
Acting Upon 360-Degree Student Data

EXECUTIVE SUMMARY

Students' learning is affected by nonacademic as well as academic factors. Enabling them to achieve their full potential requires integrating learning outcome data with information about special needs, interventions, and social/emotional factors. This paper explores the variety of data points that educators should collect and analyze so as to make instructional decisions based on a "360-degree" understanding of the whole child. It also examines the obstacles to acquiring and understanding those data points, and how instructional management solutions can simplify the process by integrating and organizing the data to make it easy to understand, act upon and share.

INTRODUCTION

To create a high-performing school culture, educators need to create an environment that is truly conducive to learning. Three pillars of positive, learning-intensive and smoothly-functioning classrooms and schools are: classroom management, data-driven instruction, and special education data management.

First and foremost is effective classroom management, which is cited as having the largest impact on student achievement. Once a framework for effective classroom management has been established, the use of data can strengthen educators' understanding of how best to address their students' needs. It can help administrators gain insight into what faculty members require in terms of staff development. Additionally, it can help parents become highly engaged to provide home support for educators' efforts.

To achieve all this, educators must know what questions to ask, what data to collect, how to analyze it, and how to use it. Since each of the three pillars consists of multiple elements, all of which require data collection and analysis, the use of technology is essential. With an instructional management solution, educators can simplify the processes to collect, analyze and share student progress information to improve academic and behavioral outcomes in general education, Response to Intervention (RTI) and special education programs.

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CLASSROOM MANAGEMENT

Thirty years of research has confirmed that classroom management plays the most critical role in influencing student achievement (Marzano, Marzano & Pickering, 2003). Well-managed classrooms allow both teachers and students to stay on task and facilitate lesson delivery, learning, and constructive communication between teachers and students. Conversely, a poorly-managed classroom is prone to disruptions and disciplinary incidents, which interrupt instructional delivery, produce stressed and distracted individuals, and adversely affect the amount of learning that occurs.

Three factors that contribute to successful classroom management are: high-quality teacher-student relationships, school-wide positive behavior intervention and support programs, and teacher training.

High-Quality Teacher-Student Relationships

Positive teacher-student relationships form the basis for all other aspects of classroom management. In fact, researchers found that “on average, teachers who had high-quality relationships with their students had 31 percent fewer discipline problems, rule violations, and related problems over a year’s time than did teachers who did not have high-quality relationships with their students (Marzano & Marzano, 2003).”

To nurture these relationships, teachers require information that provides a “360-degree” view of students. These details enable educators to truly understand what drives, motivates, and impacts each child’s behavior and performance, while ensuring their students feel respected and valued.

In addition to understanding students, teacher-student relationships depend on multiple teacher behaviors and practices, which include the clear communication of behavioral expectations and the consistent and equitable application of consequences (Marzano & Marzano, 2003). The latter proves difficult for teachers when they work isolated in their classrooms or are in danger of losing objectivity due to intense or sustained disruptions. Thus, teachers and administrators must establish protocols to provide consistent and fair consequences.

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School-wide Positive Behavior Intervention and Support Programs

Also vital to effective classroom management is an awareness of high-need students and how to appropriately address their needs. Over a year's time, classes that employ disciplinary interventions will have about 980 disruptions, whereas classes that do not will have about 1,800 (Marzano, Marzano & Pickering, 2003).

Positive Behavior Intervention and Support (PBIS) programs constitute the framework specifically mentioned in the 1997 amendment of the Individuals with Disabilities Education Act (IDEA) for providing students with the support needed to prevent and reduce problem behaviors.

The PBIS framework emphasizes that classroom management and preventive school discipline must be integrated with effectual academic instruction in a positive and safe school climate to maximize success for all students. Applying one PBIS program school-wide, rather than allowing different teachers to make their own selections of behavioral management plans, allows for a continuum of positive behavior support for all students within a school from the classroom to non-classroom settings such as hallways, buses, and restrooms (OSEP Technical Assistance Center on PBIS, n.d.).

The core principles of PBIS are as follows:

1. Understand that appropriate behavior can be taught to all children
2. Intervene early before undesirable behaviors escalate
3. Adopt a multi-tiered model of service delivery
4. Employ research-based, scientifically validated interventions to the extent available
5. Monitor student progress to inform interventions
6. Use data to make decisions
7. Apply assessment for three different purposes

Just as the “360-degree” view of a student for teacher-student relationships requires student data, so too do the majority of PBIS principles in the above list (principles 3, 5, 6 and 7). As shown in Table 1, the multi-tiered service delivery model (principle 3) requires data-based decision making, monitoring of at-risk students' progress as well as functional behavior and team-based comprehensive assessments.



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Likewise, monitoring student responses to interventions or to established consequences for specific behaviors (principle 5) involves daily tracking of their behavior in order to identify even small changes. As educators verify whether or not a particular intervention is working, they engage in the next step of making decisions regarding that intervention (principle 6). This sixth principle is central to PBIS practice and requires systems for ongoing data collection so the resulting data can be used to inform behavioral intervention planning decisions.

Finally, in the seventh core principle of PBIS, three types of assessments are used:

1. Screening of data comparison per day per month for total office discipline referrals
2. Diagnostic determination of data by time of day, problem behavior, and location
3. Progress monitoring to determine if the behavioral interventions are producing the desired effects

Table 1

PBIS Prevention Tiers		
Primary	Secondary	Tertiary
<ul style="list-style-type: none"> • Behavioral expectations defined • Behavioral expectations taught • Reward system for appropriate behavior • Continuum of consequences for problem behavior • Continuous collection and use of data for decision-making 	<ul style="list-style-type: none"> • Universal screening • Progress monitoring for at risk students • System for increasing structure and predictability • System for increasing contingent adult feedback • System for linking academic and behavioral performance • System for increasing home/school communication • Collection and use of data for decision-making 	<ul style="list-style-type: none"> • Functional Behavioral Assessment • Team-based comprehensive assessment • Linking of academic and behavior supports • Individualized intervention based on assessment information focusing on (a) prevention of problem contexts, (b) instruction on functionally equivalent skills, and instruction on desired performance skills, (c) strategies for placing problem behavior on extinction, (d) strategies for enhancing contingency reward of desired behavior, and (e) use of negative or safety consequences if needed. • Collection and use of data for decision-making

Teacher Training and Support

While some instructors are innately good classroom managers, most teachers will acquire some or all of the necessary skills via professional development. After initially gaining skills through training, teachers can provide each other with peer support through collaboration and the sharing of best practices that promote student success. Schools and districts that invest in helping their faculty members identify and develop the aptitude and behaviors required to implement the components of successful classroom management are creating a supportive culture focused on improvement.

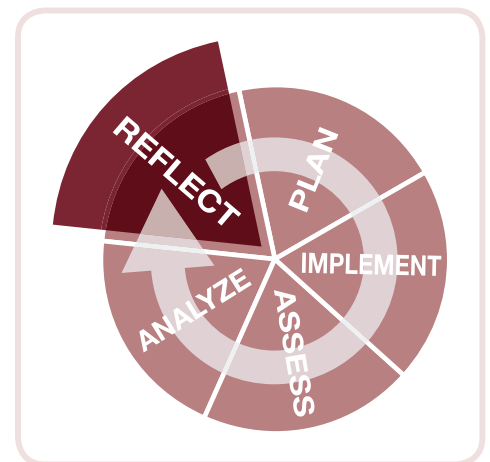
DATA-DRIVEN INSTRUCTION

In addition to requiring data for effective classroom management, teachers also need data that enables them to determine which students are demonstrating mastery in a particular academic topic and which individuals are performing below the desired proficiency level and thus need additional support. One of the advantages of data-driven decision making is that it ensures that objective criteria, rather than intuition or demographic stereotypes, are the basis for instructional decisions. Educators also need to be able to monitor student progress on a topic or skill at individual, group or class-wide levels to make decisions on what pedagogical techniques are the most suitable for achieving desired outcomes.

The No Child Left Behind (NCLB) Act of 2001's reporting requirements significantly expanded educators' use of accountability systems and data management. Educators had to comply with the federal mandate for data-driven decision making. This, in turn, amplified their appreciation of the value of data for guiding teachers' choices of instructional tactics in the classroom and helping district administrators allocate resources. Now, with the Common Core State Standards mandating students' deeper understanding of academic content and the application of their knowledge and skills, educators face an intensified need to know as soon as possible whether students are progressing, and if teachers and the curriculum measure up to the demands of these standards.

Advocates of data-driven instruction state that teachers must engage in a cycle of continuous improvement consisting of the following steps:

- Reflect
- Plan
- Implement
- Assess
- Analyze
- Reflect



This cycle requires teachers to reflect on the methods and processes they use, relate those methods and processes to students' learning goal, plan and conduct implementation, and assess student outcomes by collecting data through tests or other evaluations. After the data collection, teachers must perform analyses to determine where their instruction is not producing the desired outcomes or to identify students who have not attained the targeted level of proficiency. Finally, educators reflect on the aspects of their practice that may contribute to students' struggling and generate ideas for how they could refine their practice in ways that would produce better student outcomes (Means, Chen, DeBarger & Padilla, 2011).

Unfortunately, a study by the U.S. Department of Education revealed that teachers are generally not well prepared to use many data skills required to inform instruction. The skills in question involved retrieving relevant information from an electronic data system through the following tasks:

- Properly framing a question (ask questions that could eliminate rival hypotheses) and expressing it as a data query
- Making sense of differences or trends
- Reasoning about data when multiple calculations were required
- Interpreting a contingency table
- Distinguishing a histogram from a bar graph
- Recognizing differences between longitudinal and cross-sectional data

A 2011 federal report stated, "Particularly in dealing with scenarios involving grade- or school-level data, some case study teachers appeared to lose track of what they were trying to figure out. Other teachers started making calculations but then ceased using a numerical approach, instead relying on their general impression to answer the question if the calculation became at all complicated (Means, Chen, DeBarger & Padilla, 2011)."



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SPECIAL EDUCATION DATA MANAGEMENT

Early identification of challenges or issues in special education students increases the efficacy of interventions and reduces the potential for disruptive behavior. Therefore, teachers need to quickly identify students in need of extra support and effectively cluster students into groups for targeted instruction and interventions. Effective response to intervention (RTI) and individualized education programs (IEP) progress monitoring help students remain engaged and encouraged.

To achieve this level of understanding, educators need to sort and organize student data to facilitate progress monitoring and drive decisions at the school, class, group or individual student levels. However, managing the details of each student’s recommended supports and interventions — and their responses — for RTI and special education programs can be an overwhelming task. A configurable instructional management solution provides schools with a systematic process for progress monitoring, identifying patterns and trends, establishing early warning indicators based on academic and behavioral benchmarks, and evaluating flagged issues for further action.

An electronic system also enables educators to quickly and effectively collect, analyze, and share information on each child’s unique intervention activities, and track the delivery and impact of interventions to identify what is working and what needs to be revisited. With this information, educators effectively direct school and district resources to interventions that are proven to impact student performance.

HINDRANCES IN CLASSROOM SYSTEMS

The majority of classroom systems perform tasks associated with one or more of the functions mentioned above, but not all of them together. Consequently, districts and schools often employ multiple data systems and educators move from one system to another to retrieve needed information. This situation has caused many experts to suggest striving for interoperability among disparate education data systems, allowing for routine sharing or transfers of data from one to the other (Means, Padilla, DeBarger & Bakia, 2009).

Several data interoperability initiatives are currently occurring within the education marketplace. Interoperability standards such as SIF (Schools Interoperability Framework), initiatives such as the Common Education Data Standard (CEDS), Ed-Fi and InBloom are vying to be adopted by districts or states. However, it is uncertain what number of commercial vendors will cooperate in any initiative and to what extent (Goff & Goldberg, 2012).

In the eventuality that mechanisms for the secure, smooth, and easy transfer of data between systems become possible in the near future, moving back and forth between data systems would still hamper the ability to achieve the 360-degree view of a school, class or even individual students. Educators would have to determine which data sets to display alongside each other, and in light of teachers’ previously-mentioned difficulty with data skills, adding extra steps to the data collection and analysis process is extremely likely to compromise the process.



By tracking student grades, standards mastery, reading growth, prescribed interventions, rubric observations, attendance, and behavior within a single, secure application, schools not only save time but also create a more transparent, collaborative environment.

A federal report revealed that teachers' likelihood of using data in decision making is affected by their level of confidence in their ability to conduct data analysis and data interpretation (Means, Chen, DeBarger & Padillas, 2011). Therefore, requiring educators to engage in a process of transferring data between systems will most likely result in less confident teachers either avoiding the practice whenever possible or increasing data manipulation or analysis errors in their anxiety.

Another obstacle to the 360-degree view of students is the fact that few behavior tracking systems are available. The concept of identifying and flagging behavioral issues before they become actual problems is gaining acceptance but is still far from being universally adopted across the United States. Therefore, an important stream of data is currently missing from the analyses of many educators.

INSTRUCTIONAL MANAGEMENT SOLUTION

Rather than attempting to connect an array of diverse systems, educators would be better served by an instructional management solution that integrates the various streams of data needed to holistically track student outcomes and organizes the information in a way that is easy to understand. By tracking student grades, standards mastery, reading growth, prescribed interventions, rubric observations, attendance, and behavior within a single, secure application, schools not only save time but also create a more transparent, collaborative environment.

User-Friendly Data Integration Technology

An intuitive interface supports teachers' reviews of student performance on a specific assessment or across multiple assessments by converting the raw data into charts and graphs for easier interpretation. Users are able to disaggregate class data into records for specific students or teacher-created sub-groups to facilitate interpretation and analysis. The result is proactive identification of students' academic and behavioral needs and the timely, informed delivery of targeted instruction and interventions so that the most is made of instructional time.

Unlike typical RTI or special education data systems, an instructional management system tracks the progress of general education students alongside peers with special needs. With this data, teachers can spot academic or behavioral warning signs early and immediately address areas of concern, reducing the need for more intensive interventions, eliminating unnecessary referrals to special education and creating more accurate documentation to support compliance requirements.



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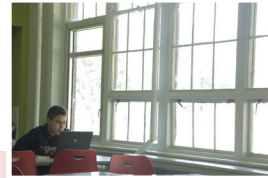
The 360-degree student view means that educators have the capacity to track students' positive, neutral, and negative behavior on a daily basis. Users are also able to review other teachers' observations and supplementary notes so that all educators involved can share insight into a student's behavior. Teachers and administrators are able to track behavior trends or broader classroom management trends across the school or by groups, grade levels, teachers, or individual students to determine problem areas or strengths within the school climate.

Additionally, an instructional management solution incorporates triggers that support a school's PBIS program; a student displaying a certain behavior is automatically placed on a designated roster, depending on the behavior. Automatic placement enhances the consistency with which alerts are applied, and the system allows educators to customize alerts to better accommodate the intervention and supports of their specific program.

Student profiles display general information such as age, birthday, any school-defined groups and subgroups of which that student is a member, plus a summary of academic performance in each course, links to the assessment data, and views of student mastery by assessment or by standard (Common Core or state). The personal information in the profile supports teachers' efforts to build positive teacher-student relations, while the academic data provides more clarification of what areas require remediation. Additionally, the system produces an amalgamated report of a student's academic progress and behavioral performance, which can aid instructional planning and also serve as a report to be sent to parents or caregivers.

Administrators receive a comprehensive overview of the academic and behavioral climate at a school, across multiple schools, or by grade level. The system also allows them to customize functions to meet school or district needs (for example, flagging certain behaviors for staff-only communication or color-coding behavior reports for easier interpretation), PBIS programs, disciplinary interventions, grading formulas, parental reports and so on.

Since many families now have some form of online access, educators may also opt to activate a parent-student portal where parents or caregivers can see their children's most recent academic and behavioral progress. This system feature enables educators to see which caregiver has accessed the portal, giving schools an opportunity to follow up with caregivers who do not use the portal.



An instructional management solution provides the 360-degree data analysis that educators need to address classroom management, data-driven instruction and special education data management.

Coaching and Professional Development Supplement

Although the instructional management solution streamlines and simplifies the collection, interpretation and analysis of data, educators will still benefit from professional learning to help them master data analysis and action planning. Once they have received initial training, educators will be able to filter and organize data to identify problems and successes.

According to the U.S. Department of Education, working in small groups has been found to promote several aspects of teachers' engagement with student data. The federal report stated that "in the more challenging skill areas of data comprehension, data interpretation, and data query, teachers performed better when interpreting classroom-level data or in interpreting school- or district-level data with the input from their colleagues (Means, Chen, DeBarger, Padilla, 2011)." Therefore, professional learning communities and other staff development groups are best positioned to take advantage of the instructional management solution's integrated data and share best practices school- or district-wide.

CONCLUSION

To create a successful classroom, educators must be aware of and respond to the multiple elements that affect learning within that environment. Managing these elements means that educators must handle and analyze an amount of data that would be overwhelming as a manual task or hampered by the storage of data in disparate systems. An instructional management solution provides the 360-degree data analysis that educators need to address classroom management, data-driven instruction and special education data management.

ABOUT KICKBOARD

Kickboard is a next-generation instructional management solution. It gives K-12 educators the tools to quickly establish consistent practices for effective classroom management school- and district-wide. Using this web-based platform, educators can create a performance-based climate that leads to sustainable school improvement and long-term student success.

Going far beyond typical classroom management systems or online gradebooks, Kickboard is the hub of classroom decision making. It gives educators a configurable framework to develop 360-degree profiles of student performance, including grades, standards mastery, reading growth, prescribed interventions, rubric observations, attendance and, most uniquely, student behavior and character strengths. Kickboard's dashboard-to-detail reporting provides real-time data to better inform decisions at the district, school, class and individual student levels.

With Kickboard, educators can easily collect, analyze and share student progress information to improve academic and behavioral outcomes in general education, Response to Intervention (RTI) and special education programs. The end result is a high-performing, data-driven culture where teachers make instructional decisions based on an understanding of the whole child, principals provide targeted professional development to improve teacher effectiveness, and parents become highly engaged in their child's education.

Kickboard began with a small pilot during the 2009-10 school year and is now utilized on the campuses of more than 500 schools across 36 states, plus the District of Columbia. Schools of all types — district schools and charter schools, kindergarten through 12th grade — use Kickboard to provide easy-to-understand, actionable information to better drive instructional decisions. With real-time data and a global, holistic view of each child, teachers can directly impact students' academic performance and behavior, and create more effective, engaged learning environments.

For more information, visit www.KickboardForTeachers.com.

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