



Who's Driving Who?

Data-Informed Decision Making in Education



AUTHORS:

Jarrett Laughlin

CEO and Founder, Sprig Learning

Vince Hill

Principal, Grasslands School Division

Introduction

Over the past decade, there has been a growing emphasis on moving education and learning towards a more evidence-based and data-informed practice. Education administrators, teachers and parents have more access to data about their students than ever before. But with all this data at our finger-tips, **there is a need to make sense of what the data means and how it can be used.** There is a need for educators and parents to distill the thousands of data fields, charts and tables into meaningful chunks of information—and to somehow use this data to make more informed decisions that support student learning and well-being.

While educators may strive to make data-informed decisions in the school and in the classroom, many do not know where to start. Throughout the day, teachers are pulled in a thousand different directions, so further time-intensive tasks (like data collection and reporting) often cause a drain on teachers both professionally and emotionally.

The purpose of this report is to highlight how teachers and education administrators can take a hold over all of this data, manage their daily workload and create a school culture that supports **data-informed** decision making.

What is Data-Informed Decision Making?

Data-informed decision making in education is the process when educators use and interpret a myriad of data sources in order to enhance student performance and address student learning needs.¹ For the classroom teacher, this requires interpreting data to identify students' strengths, weaknesses and interests in learning and using this information to more accurately inform instruction.

When used well, data-informed decision making provides us with **a clearer picture of what is happening—and why.** Kristen DiCerbo, Vice-President of Education Research at Pearson, describes different purposes for data in education.² For example, we have 'data of learning' and 'data about learning' that support analytics of the broader system and school performance. Then we have 'data for learning' (the ultimate focus of this report), which helps teachers, education administrators and parents better understand the learning that is going on in the school and at home. When used properly 'data for learning' helps teachers appreciate what the data can do for them and their students. In this way, data then becomes a tool that supports teachers to make informed decisions in their classrooms.

Ultimately, teachers are looking for data and tools that make their lives easier—and not increase their daily workload. In Houghton Mifflin Harcourt's most recent annual survey, the Educator Confidence Report, more than 1,200

Approximately 96% of educators identified they have realized benefits from the use of educational technology.

teachers and administrators across the United States were asked about their current experiences with education technology and data. Approximately 96% of educators identified they have realized benefits from the use of educational technology. A further 44% of educators said they have experienced time savings because of technology. Yet 72% identified that the potential for technology to improve daily workflows was not yet fully realized.³

1 <https://www.citejournal.org/volume-14/issue-4-14/science/data-driven-decision-making-facilitating-teacher-use-of-student-data-to-inform-classroom-instruction/>

2 The EdTech Podast. ([Making Data Work for Teachers](#)). (Episode 109). [The EdTech Podcast].

3 Houghton Mifflin Harcourt (2018). [Educator Confidence Report](#).

How Can Data-Informed Decision Making Improve Early Learning?

Data can be especially helpful to schools and educators supporting students aged three to eight years old. Data can support early learning in many ways such as:

- Improving child outcomes;
- Improving teachers' skills;
- Realigning resources;
- Facilitating parental engagement; and
- Improving program quality;

When we look to data to inform early learning, it is important to take a holistic approach to both learning and assessment. Collecting and analyzing data from a diverse number of sources, and looking at learning beyond the walls of the classroom, provides a more comprehensive understanding of the early learners' shared experiences, interests, successes and challenges. A holistic approach uses data from a variety of formative assessment tools to identify and understand the multitude of early learning experiences in the home, school, and community.⁴

Especially in the early years, it is important for teachers to utilize data that goes beyond analyzing student performance results. Educators need holistic datasets to be able to paint a full picture of their students, including their behaviours, characteristics, attitudes, motivations, interests, family contexts, language skills and cultural backgrounds. **All of which ultimately impacts student success.**

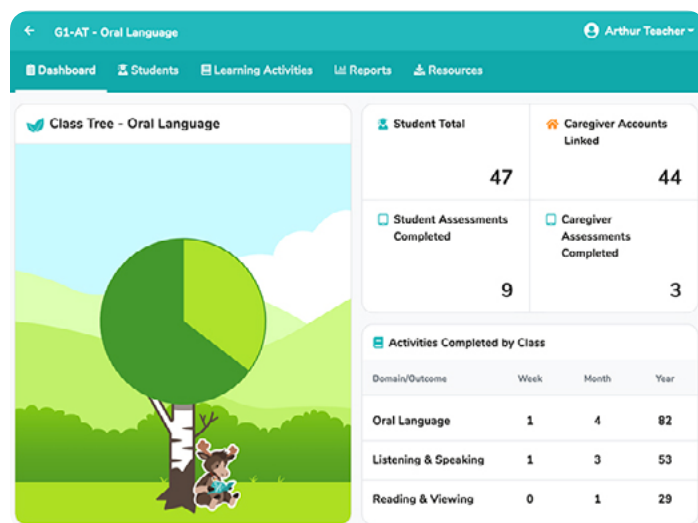
Making Data-Informed Decisions at the School Level

It is generally accepted that education systems, schools and educators need data. However, data collection and reporting for many educators is becoming unnecessarily time-consuming. Furthermore, the benefits of all this data collection are not being fully realized in many schools as education administration often are not creating enough opportunities for teachers to use all this data to help inform classroom instruction.

In order to create a data-driven culture within schools, innovative education technology solutions are required that provide easy-to-collect, easy-to-visualize, and easy-to-understand data management tools. Such data tools ensure individualized student data is easily accessible and available in a timely manner with little effort. Many school districts and schools have created staffing positions like chief information officer or data specialist, to support teachers to make sense of and utilize data effectively.

Of course, there is such a thing as too much data. Schools and education administration need to be mindful of collecting only the data they truly need, and to regularly support teachers in making data-informed decisions. One popular approach used in schools is the Data Dashboard. These can be digital (or physical) walls of data that not only highlight scores and results, but also 'what has been done' by students in the classroom. Data dashboards are helpful for administrators and educators to reflect together on how to support students in the days, weeks and months ahead of learning.

Schools and education administrators can also provide 'Data Days' within the school. These data days provide the time and space for teachers to review, interpret and use data to improve and differentiate instruction.



An example of a Data Dashboard for teachers.

Source: Sprig Learning (2018), www.spriglearning.com

4 Sprig Learning (2018). [Holistic Education: How Holistic Assessment Enables True Personalized Learning.](https://www.spriglearning.com/insights/holistic-education)

Principals must instill a culture where data are the focus of regular principal-teacher discussions with the goal of supporting and improving student learning. Overall, it is important to remember to **celebrate the successes** when looking at data. Principals should always start their data discussions with teachers by recognizing the successes and achievements for individual students. This can be especially true when using data to analyze student IEPs (Individualized Educational Program) or IPPs (Individualized Program Plan).

Making Data-Informed Decisions in the Classroom

Teachers use different types of data in different ways to improve teaching and learning in their classroom. In a recent survey of more than 763 full-time teachers across the United States, **94% of teachers** indicated they use data to trigger early support when students are struggling and to guide them back on track. Of those teachers polled, more than 8 of 10 indicated they use data to plan and enhance their instruction.⁵

Teachers face a multitude of challenges that limit their ability to use data effectively in the classroom. The most pressing challenge for teachers is undoubtedly a lack of time. In fact, more than half (57%) of teachers cite not having “time during the school day to access and use data effectively.”⁶



Time saved by using educational technology can be spent working one-on-one with students.

If educators do not know how to use data both effectively and responsibly, the investment in education technology and data will be for naught. Schools need to provide consistent and comprehensive professional development for teachers to support real-time data informed decision making.

Schools and education administrators need to look towards supporting teachers to use data effectively and efficiently in their classrooms. Educational technology tools have the ability to distill the many data elements and provide teachers with understandable chunks of information regarding how a student is currently achieving, how they are progressing, and how they fared on current projects and assessments. Visual and interactive charts and graphs that show each child's information are extremely helpful for busy teachers.

If educators do not know how to use data both *effectively* and *responsibly*, the investment in education technology and data will be for naught.

Ultimately, when we talk about data-informed decisions in the classroom, it is important to ask: “What are the decisions that teachers need to make?” and “What are the decisions that teachers need data to inform?” Kristen DiCerbo, Vice-President of Education Research at Pearson describes three major decisions that teachers are generally looking for data to help with.⁷ These are:

- What should I do with my whole class?
- How can I group students to support their shared learning on a particular topic or competency?
- What specific students are struggling in a particular topic/competency, and how can I support them?

Educational technology tools should also be able to personalize information, providing individualized data about each student. This might mean offering specific assignments or just general information on areas where each student needs greater assistance. The data should be actionable with recommendations, making it easier than ever for teachers to help students accelerate their learning.

⁵ Data Quality Campaign (2018). [Parents and Teachers Agree: Data is Key to Supporting Students.](#)

⁶ Data Quality Campaign (2018). [Parents and Teachers Agree: Data is Key to Supporting Students.](#)

⁷ Kristen DiCerbo (2018). [Data Visualization for Education.](#) (accessed on December 12, 2018)

When done well, personalized learning has the potential to **radically transform** how we teach and learn and how we create more equitable opportunities for students. Differentiation and individualization have both proven their merit, but true personalization for every student, powered by adaptive learning technology, now allows us to deliver it more efficiently and effectively.

With advancements in educational technology tools and data analytics, teachers can use data to match curricular resources and instructional activities to students' needs and strengths. In 2018, 45% of teachers were optimistic about actually being able to use data to inform and

improve instruction, and 52% have already experienced ways in which technology helped them deliver differentiated, individualized instruction.⁸

Additionally, teachers have identified how they may use their potential time savings that technology has provided them. The majority of teachers report that they would take this extra time and spend it back on the students. For example, 3 of 4 teachers say they will use any extra time to work with students that need classroom interventions, and more than half plan to increase their one-on-one time with students in their classroom.⁹

Using Data to Connect the Home and the School

As our education systems move towards data-informed decision-making, schools need to also remain regularly connected to the families and homes of their students. Families are critical stakeholders for learning, and they need to understand how data are being used to inform the decisions regarding their child. Families also need access to data and information that allows them to support their own child's learning at home.

In actual fact, teachers can use data and information as a door-opener to parents. In a 2018 survey, more than 8 of 10 teachers agreed that data provides an objective place to start a conversation with parents, while nearly 9 of 10 teachers felt data helps them communicate with parents about their child's performance. Overall, 3 of 4 teachers wanted their school to do a better job sharing information with parents about their child's performance.¹⁰

The majority of families want to dig into data as well. In a recent survey, 95% of parents support teachers' use of data to make sure that their child is getting the support they need, while 93% of parents identified that they also need data so they can support their child at home.

Yet, similar to teachers, parents do not want to see columns and rows of data in a spreadsheet or complicated diagrams and charts. Schools need to provide parents with **simple, understandable and engaging tools** that focus on the relevant data that's important for parents to know. More importantly, data should reflect the lived experiences of parents and children, so they have the context for how to use that data to support learning in the home.

Families are critical stakeholders for learning, and they need to understand how data are being used to inform the decisions regarding their child.

Ultimately, parents need the tools and data that allow them to see what they need to know about their child's learning—when they need to know it. When data is easily accessible for parents, they are able to support their child at home with learning that directly complements the learning in the classroom – not just that month, or week, but reinforcing what was learnt that day. Using data to support a school-home partnership like this one can immediately accelerate learning outcomes.

⁸ Data Quality Campaign (2018). [Parents and Teachers Agree: Data is Key to Supporting Students.](#)

⁹ Data Quality Campaign (2018). [Parents and Teachers Agree: Data is Key to Supporting Students.](#)

¹⁰ Data Quality Campaign (2018). [Parents and Teachers Agree: Data is Key to Supporting Students.](#)

Conclusion

Schools now have more data than ever before about their students. Ultimately, that should translate into making more informed decisions about curriculum and instruction. The greatest barrier to realizing true data-informed decision making, it seems, is that educators need the time and direction to analyze this overabundance of data.

Like anything, the solution lies with finding the right balance. Schools need to balance the role of the education administrator, teacher, education technology, family and student to ensure that data is not driving the agenda, but becoming a regular and effective tool that supports learning.

In order for schools to effectively use data to inform real-time decision making, education administrators and teachers can look to implement the following:

- *Make data part of an ongoing cycle of instructional improvement in your school.*
- *Establish a clear vision for schoolwide data use that moves towards data dashboards and individualized data, rather than data collection and warehouses.*
- *Provide regular support and professional development to teachers in order to foster a data-driven culture within the school.*

- *Develop and maintain intuitive and engaging education technology tools that allows for effective and timely data interpretation.*
- *Manage and respect teacher workload by investing in technology that automates the monotonous tasks, and supports differentiated learning in the classroom.*
- *Support teachers to use data and technology as a vehicle to connect the home and the school.*
- *Provide parents with access to data and the understanding of how data can support their child's learning at home.*

Ultimately, the starting point for any school should be asking their teachers what specific data will help them do their jobs more effectively. This conversation will ensure education administrators and teachers can build the tools required to support data-informed decisions and student success.

We are still in the early stages of education technology and data-informed decision making. However, we all need to reflect upon and ensure that schools and teachers are driving the agenda –not the data or technology. Collaboratively, we have the ability to collect, visualize and interpret real-time classroom data, monitor student progress and make the best instructional decisions for students.

About the Authors



Jarrett Laughlin, CEO and Founder, Sprig Learning

Jarrett has worked with educational organizations across the world developing holistic and innovative approaches to measuring success in education. His recent passion involves mobilizing research into action through socially innovative, community-based projects through his educational technology company, Sprig Learning.



Vince Hill, Principal, Grasslands School Division

Vince Hill has been involved in Indigenous education since 1991. His experiences have ranged from working in First Nation communities in the Northwest Territories and Northern Saskatchewan. Currently, he is principal in rural Alberta at Bassano School, where they have a partnership agreement with Siksika First Nation.



Nurturing the roots of every student.

Sprig Learning is a personalized learning platform built with holistic education in mind. Sprig's mission is to provide every student, educator, and parent with access to the tools they need to build a foundation for lifelong learning.

Learn more at: www.spriglearning.com

If you have any inquiries, please contact us at: letstalk@spriglearning.com