



# DATA STORYTELLING IN SCHOOLS

A resource for teachers and school leaders seeking to leverage their student data.

[www.selenafisk.com](http://www.selenafisk.com)



## ABOUT THE AUTHOR:



Dr Selena Fisk is a teacher and a researcher who specialises in data storytelling.

As a school data coach and consultant, Selena is as enthusiastic about building data storytelling skills in educators as she is in building her own understanding of the evolving ways data can support school communities to flourish and thrive.

For Selena, using data in a way that benefits young people is the only way to use data. Almost nothing will accelerate individualised and targeted teaching practice like having great data on your students as learners.

Selena has mentored system, senior, and middle leaders, as well as hundreds of teachers in data storytelling, which has positively impacted teaching and learning in classrooms. She is the author of an online self-paced course “Data storytelling for educators” and two books “Using and analysing data in Australian schools” and “Leading data-informed change in schools”.

## The lost opportunity

“LOVE NUMBERS FOR WHAT THEY TELL YOU ABOUT REAL LIVES” HANS ROSLING, AUTHOR OF “FACTFULNESS”.

Teachers are the most significant in-school impact on student achievement. <sup>ii</sup> Despite socio-economic status, family contexts, and learner needs, teachers have the potential to improve student outcomes more than any other factor.<sup>iii</sup>

Schools and teachers have more data available on their students than ever before, and what is available is incredibly rich and useful. There are summative assessment results, standardised assessments, in-class formative assessments, and demographic, behaviour, and wellbeing data. However, much of the data is not used to its full potential, meaning that some teachers and leaders miss out on a huge opportunity to be more tailored and targeted in their teaching approach for students.





## The challenge

YOU DIDN'T BECOME A TEACHER TO TRACK STUDENTS IN SPREADSHEETS - YOU BECAME A TEACHER BECAUSE YOU WANT TO MAKE A DIFFERENCE FOR YOUNG PEOPLE.

Over the past two decades there has been an increase in the expectation of educators to use data in their roles. This is, in some ways, unsurprising, given the prevalence of data in the rest of our lives and the fact that schools are a microcosm of our broader society. The importance of, and use of data, are increasing everywhere else in our worlds, and educators are experiencing the same in our schools.

Unfortunately, most teachers have not been trained on how to use the data they are being asked to collect, they do not necessarily know how data should be shifting their practice, and they often do not have the opportunity for professional learning to upskill. Teachers who are confident in collecting and talking about data are largely self-taught - they have generally established a system that works for them through trial and error, and have learned different approaches from their colleagues.

Adding to this challenge is the way that student and school data is represented and discussed in the media. When newspapers and online sources rank and compare schools based on their achievement in standardised assessments or university entrance ranks, it feeds the fear that some teachers have that data will be used negatively and for accountability. While comparison in this way is not useful as it often does not take into consideration the context of the school, the students, or the effort of the teachers, it projects a message to already apprehensive teachers that they should be fearful of what their student data says.

## THE MISCONCEPTIONS

5 common misconceptions that I often hear in my work with educators are:

Data is something extra that teachers have to do.

Collecting and organising data is key.

Teachers know how to use data.

Data only tells us what is going wrong.

One type of data is enough.

### **Misconception #1: Data is something extra that teachers have to do.**

Educators are incredibly busy people and when they are asked to learn a new skill (such as using data) or implement a new program, it is often seen to be something extra that they need to fit into their day.

Data is not something 'extra' and should authentically and organically be a part of the regular planning. Lessons and classroom activities can and should be shifted where necessary, based on the information and evidence teachers have on the progress and achievement of their learners.

When leaders talk about a 'focus on data' or their 'data project', they are intimating that it is an extra thing that teacher have to do, which does not support the notion of regular use, engagement, and reflection on the data.

### **Misconception #2: Collecting and organising data is key.**

Teachers can be very good at collecting data due to system or school requirements or expectations, or due to their own motivations for collecting and visualising the information that they have. Schools spend a lot of money on technological solutions to organise and store this data, and sometimes these solutions visualise the trends and data for teachers.

The unfortunate reality is that collecting data itself, or visualising it in beautiful graphs, does not actually shift teaching practice. It's what we do with it next that matters.

We desperately need to get data off laptops and into the real world so that it can positively influence classrooms and learning.

### Misconception #3: Teachers know how to use data.

Like any new skill, teachers need time and space to practice and build their skill. With the increase in expectations to use data, many teachers have not had training or support in building these skills themselves. Teachers may be efficient at collecting and entering data that they have to for the system or school, but complying in this way is not indicative of whether the data shifts teaching and learning.

Many educators don't know what they don't know. Teachers should not have to teach themselves data skills in their own time – school-based, structured opportunities must be provided to support teachers in how to use the information they are collecting, and to expose them to new possibilities or ways of working.

### Misconception #4: Data only tells us what is going wrong.

Perhaps influenced by the way the media discusses student data, or if teachers have experienced others focusing on the negatives, some teachers see data as merely a way of identifying problems and things to fix. While data **can** help us identify gaps for our learners and direct our attention to possible focus areas, it is also an equally powerful opportunity for celebration and recognition.

If a student makes good progress, achieves a grade level they have not achieved before, self-reports higher on their wellbeing scale over time, or shows improvement in tracked learner dispositions, that data should be used to celebrate with them and recognise their efforts.

Rather than falling into the trap of assuming educators only use data to 'fix' things, we need to reconceptualise its use so that it is also about celebration and progress.

### Misconception #5: One type of data is enough.

One type of data might provide good information about a student, a small focus group, a class, a year level, or a whole school. However, one point-in-time assessment should not be the only data that is used to shift practice.

Being able to consider multiple sources of data and triangulating the information that we have, allows educators to see consistent trends across different assessments that assess similar skills or understanding. This requires teachers to have an understanding of different measures, time to collect, analyse and interpret the information, so that the actions and outcomes that emerge from trends in triangulated data are more accurate and reliable.

### The possibilities

**“People hear statistics, but they feel stories”** Brent Dykes, author of “Effective data storytelling: How to drive change with data, narrative, and visuals.”

To lead real change in teaching and learning, the focus must be on data storytelling. Although there is no “one size fits all” solution to data storytelling (due to different data sets and contexts), the elements of data literacy, data visualisation, and data storytelling apply to all educators.







Data storytelling is the ultimate goal of the use of data in schools, and having both a good level of data literacy and appropriate understanding of visualisations help us get to this point. Data storytelling is where educators, regardless of their role or context, consider: “What does the data tell me about my students?” and “Now that I know this, what is my response?”

Shifts in practice as a result of student data do not need to be major - a teacher might adjust an activity that was already planned, provide additional scaffolding to support learning, or give students an opportunity to be extended if they are high achievers. These changes will be made for different groups at different times, sometimes it will be for one student, at other times it will be for small groups in the class, and occasionally it will be for the entire class. Regardless of the way we use it or who we use it for, data storytelling is when data comes to life. It is when we connect the numbers with real kids in real classrooms, and we think about the ways that we can shift teaching and learning.



# CONCLUSION

The challenge for many educators is that they have not been trained in how to use data effectively, so many do not know what they do not know, or what best practice looks like. Data storytelling is the ultimate goal of using data effectively in schools. Educators need a good level of data literacy and an understanding of the visualisations they have, and to use these tools to think about what students need and what their response will be.

We became teachers because we want to make a difference to the lives of young people - data provides a brilliant opportunity to know our learners just that little bit better.



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<sup>i</sup>Rosling, H. (2019). Factfulness. Flammarion.  
<sup>ii</sup>Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. Routledge.  
<sup>iii</sup>Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. Routledge; McKinsey & Company. (2017). How to improve student educational outcomes: New insights from data analytics.

Online course	<a href="https://data-storytelling-school.teachable.com/p/datastorytellingforeducators">https://data-storytelling-school.teachable.com/p/datastorytellingforeducators</a>
Free data diagnostic	<a href="https://e-evaluate-it.com/survey/selenafisk/Survey.aspx?">https://e-evaluate-it.com/survey/selenafisk/Survey.aspx?</a>
Books	<p><b>“Leading data-informed change in schools”</b></p> <p><b>“Using and analysing data in Australian schools”</b></p>
Workshop facilitation (on-site or online)	<ul style="list-style-type: none"> <li>• Small groups / whole staff</li> <li>• Teachers / middle leaders/ senior leaders</li> <li>• Your choice of data focus</li> </ul>
Keynote presentations (on-site or online)	<ol style="list-style-type: none"> <li>1. Data storytelling for teachers</li> <li>2. Leading data-informed change</li> <li>3. Using data to differentiate teaching and learning</li> <li>4. Embedding authentic formative tasks</li> </ol>
Evidence-informed coaching sessions (on-site or online)	<ul style="list-style-type: none"> <li>• Individual senior leaders</li> <li>• Leadership teams</li> <li>• Strategic planning</li> <li>• Evidence and impact mapping</li> </ul>

<https://www.mckinsey.com/industries/public-and-social-sector/our-insights/how-to-improve-student-educational-outcomes-new-insights-from-data-analytics> iv Dykes, B. (2019). Effective data storytelling: How to drive change with data, narrative and visuals. John Wiley & Sons.