

L&D's guide to

Nº6

DATA ANALYSIS MADE SIMPLE



thingi

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About Thingi

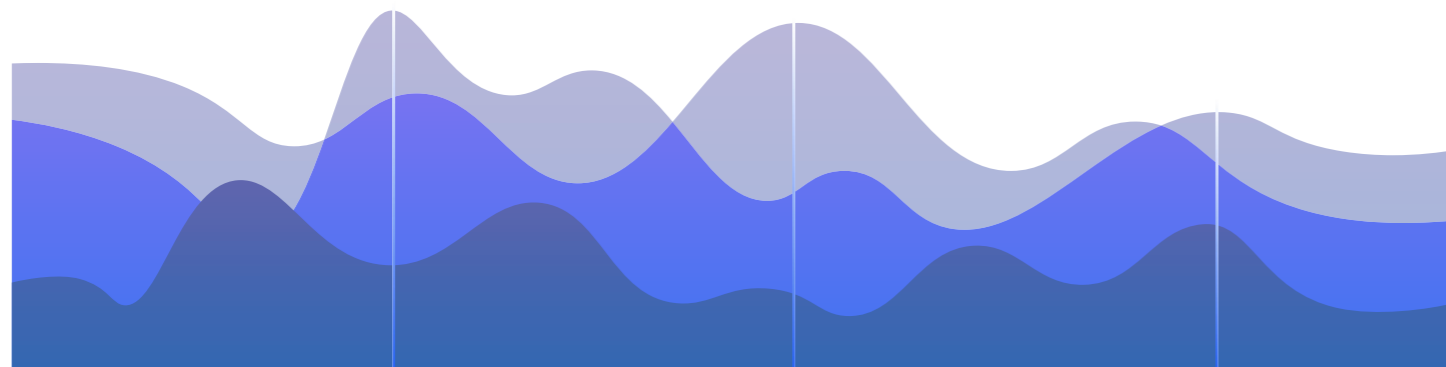
Created by educators and trusted by policy makers across the world, Thingi LMS is an award-winning learning management system that transforms the way learners engage with their development, providing a smart and effective way to improve their skills.



The learning system comes with a proven track record of success working with national and regional governments, large school groups and universities in implementing and, crucially, embedding the technology at the heart of education transformation projects. It provides best-in-class digital educational tools across the public sector in basic and higher education and in a range of multinational companies in the corporate commercial sector.

Built upon a foundation of over 50 collective years of asynchronous, distance and face-to-face teaching, Thinqi's team of learning experts are passionate about customer success, offering support at every step of the journey towards digital transformation. Tailored to the needs of your business, our experts will:

- ▶ *Support your team and respond to learning needs*
- ▶ *Share their expertise in delivering blended learning that gets results*
- ▶ *Help design a roadmap for sustainable L&D delivery in your organisation*



Our approach has delivered measurable business improvement for customers across the globe including Cambridge University, Oxford University, Honda Motor Europe, Boots, BMW and Allianz Partners UK.

Together, we'll drive engagement for blended learning, helping you to grow a community of happier, more engaged and more capable staff.

02

Welcome

The importance of data analysis in L&D is not new. It has long been used to demonstrate the return on investment (ROI) of workplace learning.



However, if the word 'data' fills you with dread, you're not alone. In fact, the results of the 2021 LPI Dashboard survey revealed that **learning professionals confess to still lacking the skills needed to measure how these resources are performing**¹. What's more, a study by Towards Maturity revealed that **51% of L&D professionals say they cannot use data effectively due to the fact that in-house data skills are lacking**².



¹The Learning and Performance Institute (LPI): The L&D Dashboard 2021

²Towards Maturity: L&D's Relationship With Data



We've put together this guide to help you determine what you need to measure and how to collect your data as well as interpret the results.

Trust us when we say it's not as scary as it sounds.

03

Learning outcomes

Any good learning activity should have clear learning objectives. So, here's an outline of what you should take away from this guide.

By the end of this guide, you'll be able to:

01

Identify

what data to gather, linked to your organisation's objectives.



02

Tell the story

behind data insights.



03

Engage

stakeholders and the wider organisation with data.



04

Demonstrate

how data is linked to organisational performance.



04

What's changed?

Recent events and trends including the pandemic, remote working and technological advances such as AI mean that the business landscape is transforming.

With this transformation comes a shift in the way we view the modern L&D function.



Once the primary concern for learning managers, budget restraints are no longer the predominant issue. In fact, talent development teams are now enjoying greater investment than they have done in recent years – you only need to look at the broadening range of talent roles to see that. Business leaders are recognising that, in order to future-proof their businesses, they need to equip their people with the skills required to succeed in the face of change.

As L&D is increasingly seen as a driver of employee performance, departments are feeling a greater obligation to produce evidence that their solutions have delivered on expectations.

This is less about ticking boxes for course satisfaction, and more about **measuring business impact** and **maximising performance**.



Are people learning the right skills to stay relevant in the changing world of work?



Are people able to employ these skills effectively on the job in order to perform to the expected standard?



Do you know how to effectively measure performance data?

Data insights are necessary to steer the crucial decisions in organisations. The data you collect can make or break these decisions, which is why the C-suite is relying on L&D to get it right.



05

Why does L&D still struggle with data?

Imagine you're in a meeting with your business leaders following a large-scale learning intervention. The business has had problems with low engagement and high staff turnover and wants to know whether your learning programme has delivered.



The business leaders
look at you expectantly.
How are you feeling?



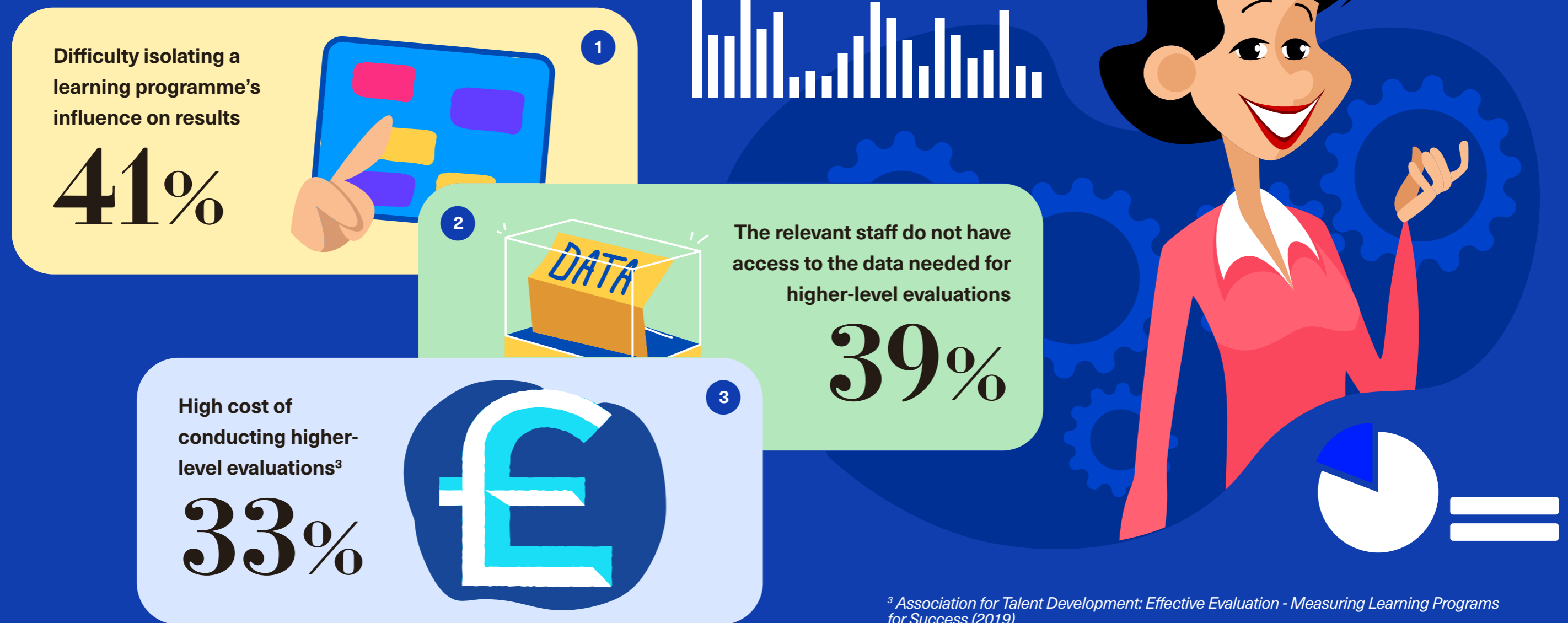
If this is enough to bring you out in a cold sweat, it's time to ask why you feel this way when asked to evaluate learning interventions.

The challenges

According to the [Association for Talent Development \(ATD\)](#), organisations continue to struggle using evaluation to meet learning and business goals. According to a survey of 779 talent development professionals, the top barriers to effective learning evaluation are:

Knowing what data to collect, how to collect it and what to do with these data insights can seem like a daunting task without the confidence or skills to do it effectively.

And so these barriers continue to get in the way.



Why 'happy sheets' aren't enough to smile about...



Take an honest look at your current evaluation process. How are you currently collecting data?

One of the most common forms of training evaluation is the simple learner evaluation form – or 'happy sheet' – and this, perhaps, is our clearest indication of where the problem lies. Most decisions are based on cost or learner feedback. The reason for this is that the ROI of training isn't worked out and there aren't any processes in place to include the measurement of effectiveness.



Positive data is meaningless if it doesn't support actual goals.

It's of little value to know that learners found a training session fun if the goal is to evidence performance improvement.

Going beyond the numbers...



At the Learning Technologies Summer Forum 2019, award-winning industry analyst **Laura Overton** pointed out that the industry's current preoccupation with data and analytics has left us overwhelmed with numbers and figures. How can you make sense of the data and use it to make better learning decisions?

“Do we all need to be data analysts? No, we need to think differently. It's about data literacy – our ability to read, work and analyse data.”

– Laura Overton



The more you process the data, the more you get out of it.

It's all about selecting the right data. You need to focus on **evidence**, not just numbers.

What is data analytics?

Data analytics is [“the process of examining data sets in order to draw conclusions about the information they contain, increasingly with the aid of specialised systems and software”](#). It’s a vital step in linking the outcomes of learning interventions with the initial goals – something which will help you prove the business value of L&D during times where budget cuts are common and departments have to fight for investment.

In fact, data analytics forms a key part of each of the following:

- ▶ The ‘Performance and Impact’ area of the [LPI capability map](#)
- ▶ The ‘Evidence-Based Decision Making’ at the core of the [CIPD Profession Map](#)
- ▶ The ‘Improving Impact’ section of Towards Maturity’s [Snapshot of L&D Capability](#)
- ▶ The [2019 Global Sentiment Survey](#), run by Donald H Taylor, where it ranks at number 3 in this year’s list of hottest trends for L&D

The evidence is clear: data analysis is a critical part of the skill set of the [modern L&D practitioner](#). And if you’re going to future-proof your role, it’s a skill you’re going to have to equip yourself with.



06

“How do I know what learning data I need?”


Gathering the right data is key to informing your decisions on what the most appropriate actions are when it comes to learning, or clarifying whether learning is really the right solution at all. [Krystyna Gadd](#), author of '[How Not to Waste Your Money On Training](#)', suggests you start by asking yourself: “Why bother collecting or analysing data?”




For example:



I need the right data to help with upskilling.



Data will help me validate key decisions.



I simply need data to track progress and check things are going to plan.



I need to communicate value.

You need to begin with the organisation itself. By moving closer to the business, L&D becomes more integrated with its objectives and can develop solutions that are in alignment from the outset, as opposed to taking a reactionary approach.



Different stakeholders will have different priorities. This is where stakeholder analysis is key.

What are the primary goals and objectives of your organisation? Have you ensured stakeholder involvement and visibility? What sort of data will help in demonstrating progress associated with these particular goals?

To make sure you're answering the right questions, it's worth considering the four types of data that will help improve decision-making. These are:



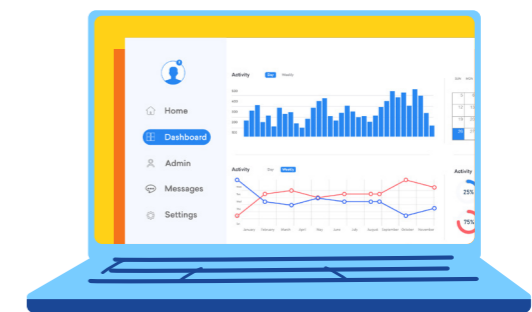
Descriptive analytics
What has happened?



Diagnostic analytics
Why has it happened?



Predictive analytics
What is likely to happen?



Prescriptive analytics
What action should be taken next?

These four categories will help you paint the full picture of how learning has – or, of course, hasn't – delivered on achieving its core aims.

Too often we fall into the trap of simply describing the data (descriptive analytics) without any of the context afforded by the various other types.

07

“How can I gather the right data?”

As we mentioned earlier, you need to start going beyond the simple 'happy sheet' if you want to gain real insight from the right data.



There's no 'one-size-fits-all' approach, meaning the metrics you choose will vary depending on your organisation's goals. If you wanted to find out whether training was really the answer to boosting customer satisfaction scores for example, you could follow this simple process:



1

Take the CSAT score before training has taken place. This will provide the baseline for you to measure against post-training.

2

Ask your learners to complete an assessment prior to the training.

3

Run the training programme.

4

Ask your learners to repeat the assessment. This will help you identify any areas that need further attention.

5

Measure the CSAT score after training and compare with your initial data.

Qualitative or quantitative data?

How do you decide between qualitative and quantitative data?

The key is to ensure that the data you're collecting, whether qualitative or quantitative, feeds back to the initial goal.

This will point you towards the best way to collect your data: whether that's through surveys, assessment scores, employee retention metrics or observation data.



Qualitative data

What it is: Qualitative data describes qualities and characteristics.

It is data that is observed or felt rather than measured.

How it's collected: Interviews, questionnaires, focus groups and observation.



Quantitative data

What it is: Quantitative data is about facts and quantities.

It is data that is statistical and measurable.

How it's collected: Surveys, polls, experiments, assessment scores and sampling.

08

“What do I do with the learning data once I’ve collected it?”

So, you’ve identified your goals and gathered your data.

Now it’s time to analyse it.



Take yourself back again to that imaginary scenario in the boardroom, where your business leaders are waiting expectantly for you to provide evidence that your learning programme has delivered on its promise of boosting engagement and reversing rising rates of attrition.

“Data analytics is the science of extracting patterns, trends and actionable information from large sets of data.”

– Daniel Burros, Huffpost



In order to demonstrate real insight from analytics, you need to become comfortable with telling the story behind the data. If the concept of data storytelling is new or unfamiliar to you, don't worry – we've got [a blog post on data storytelling](#) to help.

James Richardson, Senior Director Analyst at [Gartner](#), notes that **“data and analytics teams have always created dashboards and visualisations, but many are unfamiliar with wrapping those artefacts into a narrative.”**

Even then, this narrative needs to be made accessible and relevant to the target audience. After all, if key stakeholders are to make important data-driven decisions, they need to be able to connect the dots between data and outcomes.

How to use the right visuals

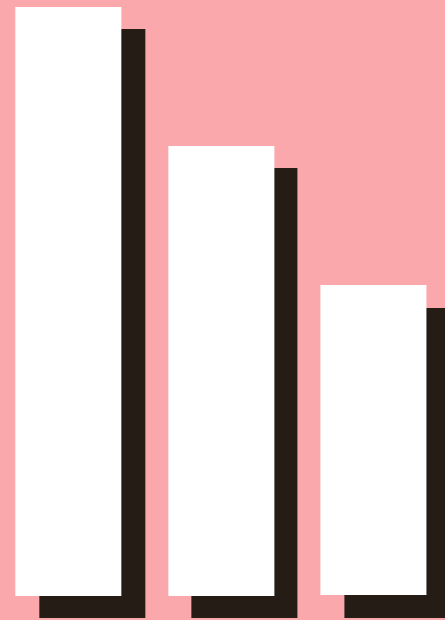
From bar graphs to pie charts, line graphs to infographics, the options for displaying your data can seem somewhat overwhelming. However, the key here is to make sure that the choice you make is relevant to the point you're trying to prove.



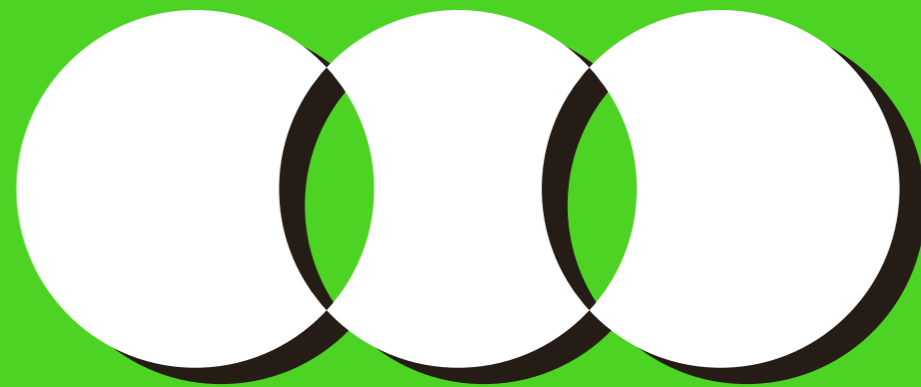
Line graphs



Pie charts



Bar graphs



Venn diagrams



Infographics





The key here is context.

Start by looking at how others have displayed similar information. Alternatively, you could try presenting the same data in a number of different formats and seek feedback on which type people find easiest to understand.

Remember, there is no single type of data visualisation that works for all situations. It's far more likely that you'll have to employ a range of different options depending on the context of the data and the audience you're presenting to.



Here are some examples of different data types and suggested formats based on what you might want to prove.

 Trends over time	 Composition of data	 Comparison between data sets
 ▶ Line graphs	<ul style="list-style-type: none">▶ Pie charts▶ Stacked charts▶ Waterfall charts▶ Stacked column charts	<ul style="list-style-type: none">▶ Bar charts▶ Spider charts▶ Line graphs▶ Horizontal bar graphs

Jim Stikeleather made a valid point in [Harvard Business Review](#) when he said that “**visualisation in its educational or confirmational role is really a dynamic form of persuasion.**”

Think about what story your audience is interested in and how your narrative can persuade them to accept your conclusions.

Tell the full story – don't censor!

When trying to convince your stakeholders, it can be tempting to censor or brush over any evidence that works against the argument you're trying to make. However, any inconsistencies will be questioned and trust will quickly be lost if you're not giving your audience the full story.



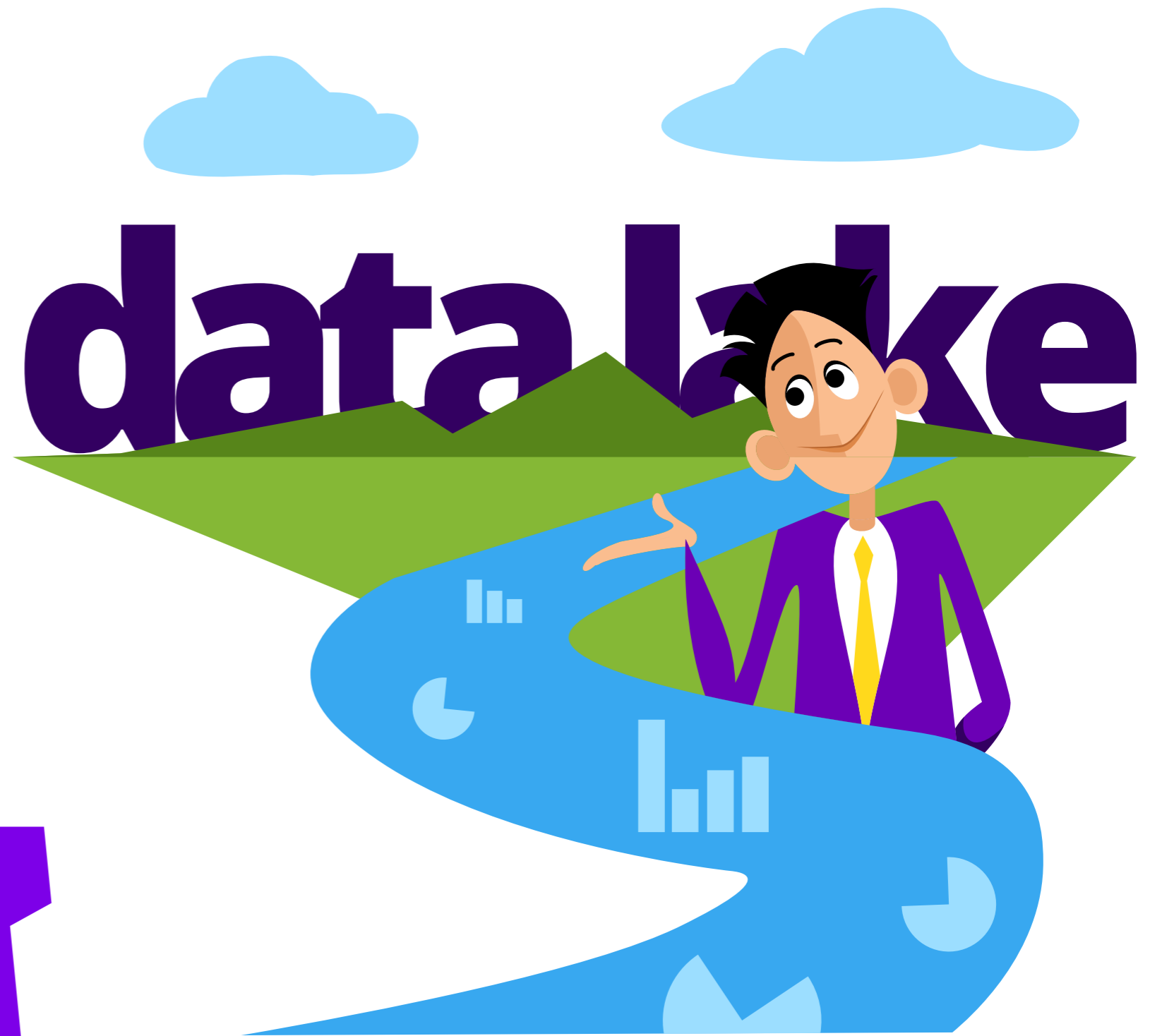
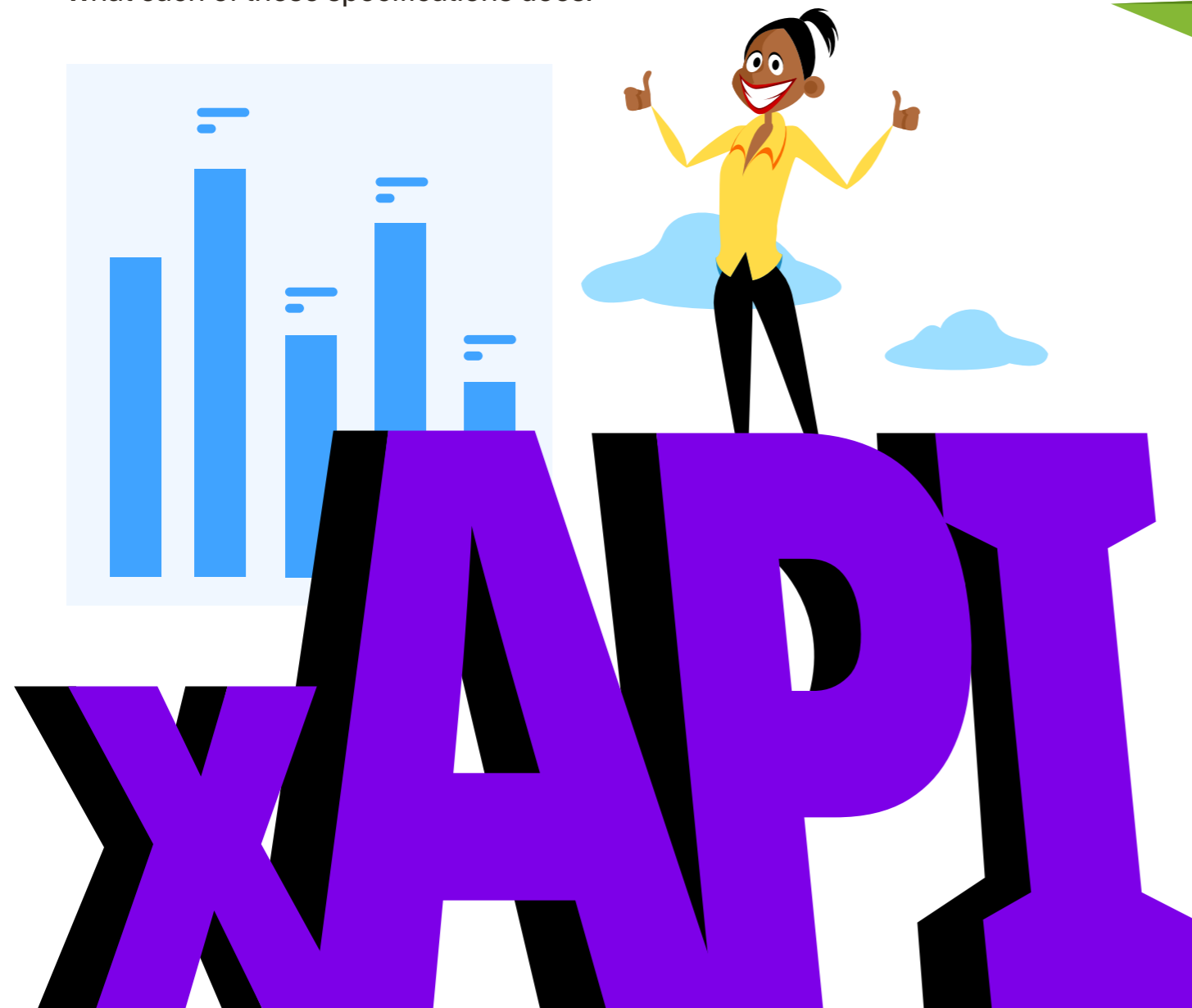
Remember, nothing in business is ever perfect and your stakeholders know this.

Point out any anomalous results and inconsistencies, but be sure to explain how and why these results have occurred. By doing this, you can offer intelligent suggestions on how to improve your strategy and avoid these results in future.

Knowing what didn't work is just as important for informing your future strategies as knowing what did work.

SCORM, xAPI and data lakes...do these matter?

You might have heard of these terms when looking into learning systems such as the learning management system (LMS) or learning experience platform (LXP) for example. If you're serious about getting the most insights out of learning activity, it pays to get familiar with what each of these specifications does.



So what are they and what is their purpose?

SCORM

SCORM has long been the most widely used e-learning standard, which is great if you just want to track the learning that happens inside an LMS. Any LMS that is SCORM conformant can play SCORM content and vice versa.

xAPI

xAPI (full name: The Experience API) is a software specification used in e-learning. It allows learning content and learning systems to 'speak' to each other in a way that records and tracks learning experiences.



For you as an L&D professional, xAPI offers the opportunity to track more than just progress and scores. You're finally able to consider the bigger picture – from learners' initial thoughts about the learning, through to the impact it has on their everyday working life.

Some of the most significant things it can enable you to do include:

- ▶ *Designing more readable, qualitative and quantitative progress and score reports*
- ▶ *Considering more widely what should be measured as part of a learner's learning journey and as an outcome of learning*
- ▶ *Capturing previously intangible behaviours that demonstrate or have an impact on learning*

Data lakes

No, you won't need your swimsuit. A data lake makes all data available to the whole organisation in one place, at a low cost. It allows data to be stored in its native format without the need to structure it first. It's also scalable, versatile and able to store a range of data formats from different sources.

Data lakes allow you to run different types of analytics – from dashboards and visualizations to big data processing, real-time analytics, and machine learning. The result?

Better data-driven decisions and better performance.

Did you know?

Organisations who implemented a data lake outperform similar companies by 9% in organic growth.⁴

⁴ *Angling for Insight in Today's Data Lake: Aberdeen (2017)*

09

“How do I increase stakeholder engagement with learning data?”

If we asked you how engaged your stakeholders are with data in learning and development, what would your answer be? Can you capture their attention with ease? Or are they only half-listening, eyes still fixed on their laptop screens to focus on more pressing tasks?



If your stakeholders seem unmoved by metrics, here are some tips to help boost engagement and garner support.

Tip 1:

Be clear on what L&D is about

Are L&D professionals at your organisation referred to as business partners? Or perhaps they're called performance consultants?

It shouldn't matter whether you call yourselves business partners, performance consultants or champions of business improvement – the label merely serves to initiate conversation with key stakeholders and to raise L&D's profile as a key contributor to the organisation's overall success.

Consider what it is that people are going to resonate with most. This is about understanding where the business wants to go and aligning the L&D function with these overall goals.



Tip 2:

Learn to identify and manage your stakeholders

Which stakeholders do you need to nurture and which stakeholders give little support? One of your jobs may be to convert those who might not have been as supportive of the L&D function in the past.

Remember to consider your learners as part of stakeholder analysis. While it's crucial to gain buy-in from the top, you also need to gain buy-in from the bottom. After all, the whole idea of driving a learning culture comes from its people.



Mind your language...

By this we mean it's time to start moving away from 'L&D speak' and instead use the language of your stakeholders, addressing their priorities. Asking the right questions will help you uncover the needs that the training is intended to meet.

Tip 3:

Always keep in mind what your stakeholders and the wider organisation needs

As we mentioned earlier, this is all about being curious, digging deep and asking the right questions.

Remember, your focus should be on true collaboration.

This means:

- ▶ *Understanding stakeholder challenges*
- ▶ *Identifying what they are being measured against*
- ▶ *Finding the most suitable solutions*

Establishing relationships from the outset and developing trust over time is key.

Ask your questions and remember to listen carefully to what's being said.



Tip 4:

Use solid design principles

Having solid design principles will help you to justify your method and approach. Try using principles such as Bloom's taxonomy, which will help you define learning outcomes that are clear and demonstrable.



You need to have humility here and embrace the opportunity to learn from mistakes, iterating your approach until you achieve success. As a modern L&D professional, you must allow yourself the flexibility to experiment.

Ask yourself:

- ▶ *What works well?*
- ▶ *What doesn't work so well?*

This is about learning from data and results through trial and error to get it right as opposed to harbouring unrealistic notions of instant success.

Next, consider what you're actually assessing. What do you want people to be able to do?

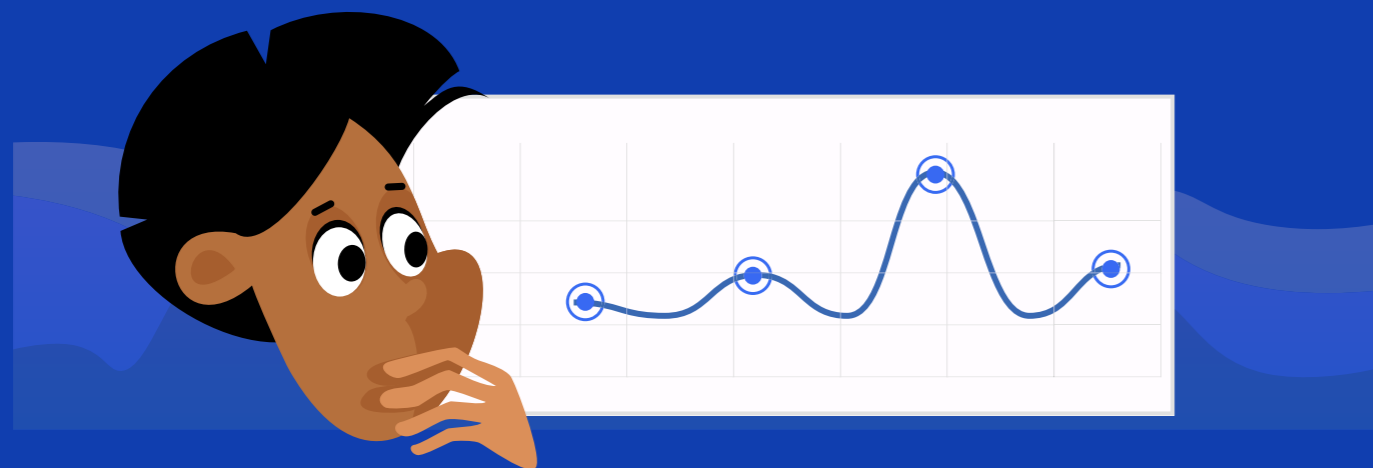
Think about what you're measuring and what the needs of your stakeholders are. Focusing on the key challenges allows you to create actionable insights, formulate a compelling case, and measure and quantify your outcomes based on solid evidence.

The result? Your stakeholders start to trust you more.

Tip 5:

Collaborate with departments outside of L&D

There are vast resources of untapped knowledge in your organisation. Knowing the best ways to utilise this knowledge can help you move away from a siloed method of working towards one that is more open and collaborative.



How often do you speak to your finance department? If you aren't confident working with numbers, it's worth making friends with the people who are.

Perhaps you want to inspire people to take action? Your marketing department can show you how to use tactics to raise awareness of your learning initiatives and influence people to take action.



10

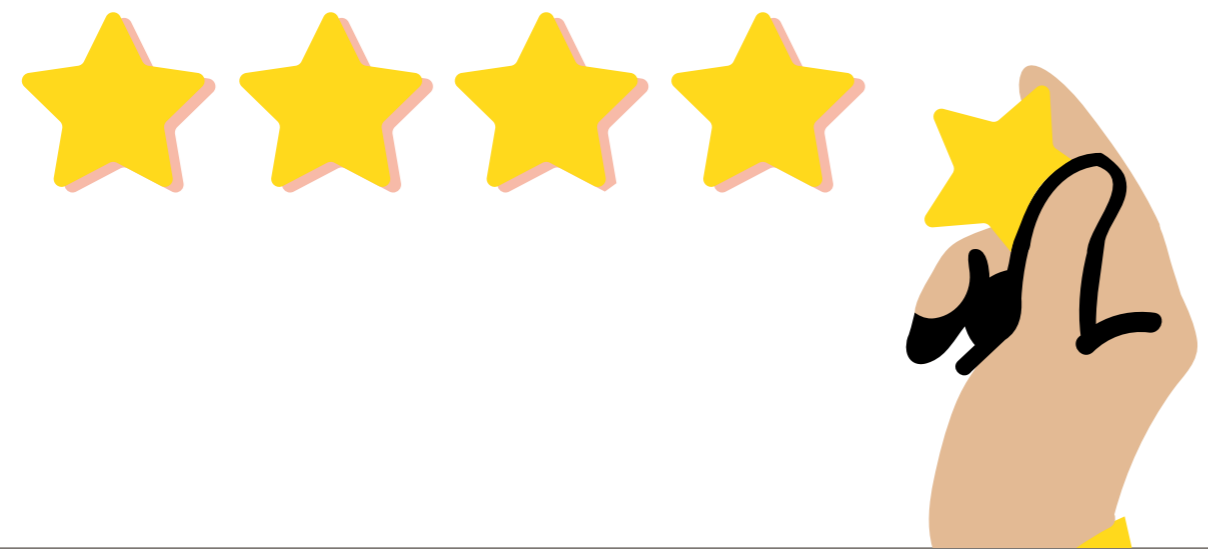
“How can performance management help?”

Ensuring your data successfully joins the dots between training initiatives and performance is vital if you're going to prove that L&D has delivered.



Let's go back to that scenario where you're trying to reduce the number of customer complaints relating to the quality of service received. You've put in place the learning initiatives needed to improve the performance of customer service staff so they are better equipped to provide great service. This, you believe, will encourage positive feedback as a result.

- ✓ *You investigated the number of complaints and CSAT scores prior to the learning.*
- ✓ *You used this evidence and feedback as the baseline.*
- ✓ *You reviewed customer feedback once the customer service training was complete.*



The result of this training?

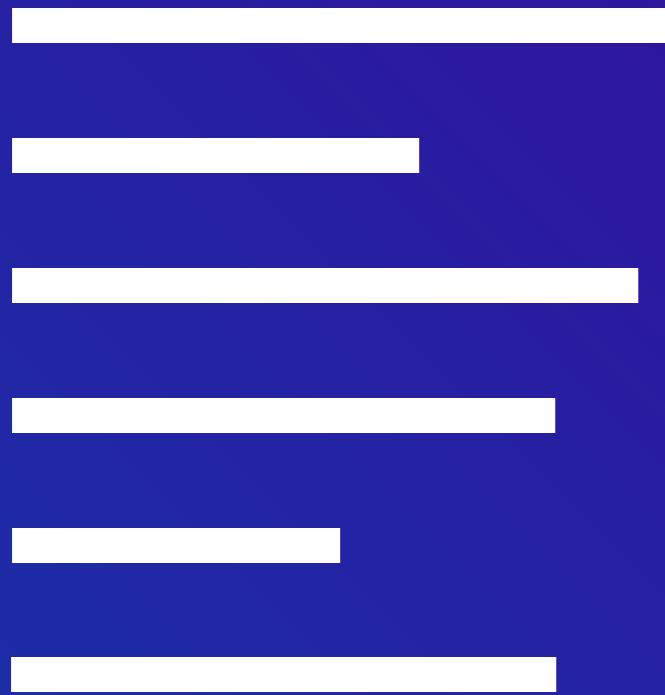


An 80% drop in the number of complaints and higher customer satisfaction scores over a 12 month period.

You tracked this by baselining and measuring customer churn rate, which has a direct impact on annual recurring revenue.

Happy customers are not only more inclined to stay, but are also far more likely to recommend new business.

That'll put a smile on the faces of your business leaders.



11

Summary

By now you should feel as though you have a clearer understanding of why data is important and how to make data collection and analysis simpler. However, we know it was a lot to take in so here's a handy summary of what's been covered:

1. **Data is critical for gaining stakeholder buy-in, informing your decisions and inspiring the right actions to drive real performance through learning.**
2. **Get clear on your analysis before you start collecting data. Think of the what and the why, making sure the agreed objectives are clear, measurable and trackable.**
3. **Just as other departments such as sales, marketing and production all use data and analytics to answer questions and inform decisions, so the L&D team must ensure it's equipped with the right skills to do the same.**
4. **Context is key: you need to be able to tell the story behind the data in the language of your stakeholders.**

There's no getting around it: while not everyone on the L&D team needs to be a full-time analyst, there's a need for at least a fundamental understanding of how to evaluate the efficiency and effectiveness of training initiatives using analytics.

Data doesn't have to invoke dread if you go back to basics and break it down. Kept simple and relevant, data analysis is one of the most powerful tools in your L&D toolkit.



#ThinkSmart
#ThinkThinkq