

Why data analysts are vital to corporate learning and development.

The need for data analysts has grown from the extensive amount of learning data available today.



Learning can act just like a prescription, targeted to your specific illness.

Doctor's tend not to place you in a full body cast, when all you have is a broken thumb.

By Jen Berg, Learning Solutions Journalist

Let's say you go skiing, take a fall, and break a bone. You head to the hospital and the doctor tells you, "We know you have a broken bone somewhere, so we're going to put you in a full body cast. That ought to solve the problem."

Well, maybe it would – but certainly you'd agree a full body cast is far more than what's necessary. The cost, both in terms of financial expense and your quality of life while in the cast, is much higher than you should have to pay.

Now, imagine that, unbeknownst to the doctor, your fractured bone is your big toe – and your toes are the only parts sticking out of the full body cast. The bone that's broken is the only one that can't be fixed with this doctor's far-too-aggressive treatment.

Such a knee-jerk, over-the-top, ineffective solution to an inadequately defined problem would be pretty ridiculous; yet this is precisely the way many organizations respond to learning data. Using only learning metrics, without good data analysis, well-intended business leaders tend to take a much-too-severe, and often futile, approach to a misapprehended challenge.

Enter the need for data analysts in learning and development.

This is why a data analyst is a critical part of any successful corporate learning effort. Like a doctor would use an x-ray to determine which bone is broken, then treat only the area of the fracture, a data analyst carefully examines metrics to determine where a learning program is succeeding and where it isn't. With that clear and focused understanding, the data analyst can correctly define the right steps an organization can take to achieve its business goals, without going to greater extremes and costs than necessary.

The role of the data analyst is extracting and interpreting data to obtain constructive information, which is then used to formulate conclusions, predict outcomes, and support decisions. Data analysts don't just measure and report on numbers; they see the trends and the big picture inside the data, and can explain them to others in easily understandable language.

The value of such analysis is obvious, but in the learning space, "data analyst" is not a common title. It should be. This role is a critical one to any successful corporate learning and development program.

To really understand why, you need to recognize the difference between analytics and metrics. "Metrics is measurement and reporting," said A.D. Detrick, Learning Measurement Consultant, Xerox Learning Services. "Analytics is the process of using those metrics to isolate factors that are highly correlated with change and with impact. Many companies engage metrics with their learning programs. Unfortunately, most are not doing analytics, which is a critical next step."

To be successful in seeing the big-picture impact of learning on an organization and its business objectives, a data analyst "needs to have a thorough understanding of that specific business, and directions the business wants to go. They need to know not just the business strategy, but also the hurdles that company has to contend with," Detrick explained. "They will also have financial knowledge of the company, as well as change management awareness. A clear grasp of these aspects of the business makes it possible to apply analytics to any learning project, and very quickly determine impact."



Data analysts look beyond the data to draw implications, trends, and determine business impact.



The data analysis process.

Any analyst's responsibilities are to create a hypothesis, identify the questions that need to be answered, collect the supporting data, determine if the hypothesis is accurate, and figure out the factors that positively or negatively affected the results. "In the learning and development space, the process of analysis requires math skills and a working knowledge of analytics, but more importantly, the ability to translate the findings," Detrick noted. "Math is just the beginning; it's the ability to render that into something prescriptive and helpful that is really needed."

Data analysis involves identifying predictive differences.

Unlike mathematics, the skill required to accurately reinterpret data into useful and actionable strategies is often not something that can be taught; it is typically inherent to the kind of mind suited to data analysis. "This is where a data analyst is separate from a measurement person. A measurement and reporting person just pulls the metrics and basically says, Figure out what you need to do, based on these numbers I just gave you. A data analyst will find the actual predictive differences, and then create an action plan that you understand, in your language," Detrick said. Essentially, a data analyst bridges the gap between the raw data results and interpretation of the data in how it impacts a business group.

Types of learning data.

The role of the data analyst is even more important today than it has been in the past, because there are now more variables to be measured than ever before. For many years in the learning industry, traditional data was only gathered on the four Kirkpatrick levels, which measure the degree to which:

- participants react favorably to the training
- participants acquire the intended knowledge, skills, attitudes, confidence and commitment based on their participation in a training event
- participants apply what they learned during training when they are back on the job
- targeted outcomes occur as a result of the training event and subsequent reinforcement

Now, however, "the breadth of learning data is continually growing," Detrick stated. "We have a much greater ability to capture data for things that are truly learning. It's not just test results we can measure, but what websites learners visit, what resources they seek out, whether a learner is going informally to other people to get information, and other factors. Learning data is an ever-changing landscape, and it just continues to grow. Discovering all the bits of information that describe the complete learning process is another advantage of having a data analyst."

In addition to learning data, an analyst examines both performance data, which reveals whether the learning has had the desired impact on the job performance of the learner, (productivity, efficiency, utilization, the speed or quality of tasks, etc.); and the business data, indicating the degree to which the learning has impacted an increase in revenue or a decrease in costs for the organization. What is critical, with respect to this new data lens, is that the data should be collected not just once a year (as in an annual performance review), but regularly over time. For example, you can take a short-list of criteria (3 to 5 items) that become the focus for a given month, collect evaluation data on those items each week, then move on to a new list for the next month or once a person is proficient at the first set of criteria. In capturing all these data points, the analyst can provide actionable strategies for the company to build on learning successes and correct any factors preventing the learning from having the desired impact.

Do not try this at home.

While good data analysis is vitally important to learning success, poor data analysis can be hugely detrimental to a business. This is why any learning team must include a highly skilled data analyst, rather than placing the job of analysis on the shoulders of someone whose skills lie in measurement and reporting – or someone who is even less familiar with analytics, or one who lacks the time to conduct deep analysis, such as most C-Suite executives.

“The most common error is taking a simple set of data and extrapolating very large answers from it,” Detrick says. “This occurs most often when you’re only doing measurement and reporting, without data analysis. In that case, most people’s analytics are a very off-the-cuff, non-mathematical, non-statistics-based gut reaction, often based on things that don’t necessarily apply. People tend to make big decisions founded on very inconclusive bits of data because they don’t know how to analyze.”

For example, imagine a learning scenario in which the average test score is 65%. Because that appears to be a very low average, people tend to assume something is wrong with the training, and the gut-level response might be to re-run the learning program – or even redesign the entire program, then re-run it – at great expense. With proper analytics, however, a very different picture could emerge from that 65% average test score. “Statistically and psychometrically, data analysis might suggest that 65% is actually not all that low. There are a number of tests we can run to figure out what a ‘low’ score really is, and what is causing it. With analytics, we can isolate the actual problem and just fix that. For example, the problem can be one facilitator, or a single, poorly-written section of your training. It’s far simpler and more efficient to just replace a facilitator or revise a section than repeat an entire training with thousands of people. But without analytics, companies get one or two sets of numbers and make giant, sweeping changes. That’s never efficient, never wise, and almost never the right decision,” Detrick says.

The right person for the job.

If you don’t have a quality data analyst, or a team of them, on your staff already, fear not – there are ways to bring in the perfect skills on an as-needed basis. Be sure, however, that your outsourced analyst takes the time to really get to know the ins and outs of your business before beginning the analytics work. And most importantly, make sure they are doing real data analysis, not just presenting metrics.

“Measurement and reporting alone won’t tell you anything about the impact of learning on business objectives,” Detrick added.

“Without data analysis, a strategy derived from metrics is just guesswork.”

In other words, it’s just like putting your whole learning program in a body cast to treat a broken toe.