watershed

LEARNING ANALYTICS PLATFORM
VS.
BUSINESS INTELLIGENCE TOOL

It's not uncommon to use a learning analytics platform (LAP) alongside your organization's business intelligence (BI) tools to analyze and report on their learning and performance data. At first glance, there are many similarities between an LAP and a BI tool. But, as you look below the surface, you find significant differences that make the two product classes suited to different tasks as well as points of integration that make using these tools together both possible and fruitful.

A Focus on Learning

While BI tools—such as Tableau, Alteryx, JasperSoft, or Power BI—are designed to work with any type of data, learning analytics tools not only specialize in learning data and reporting but also can include functionality tailored to the needs and context of learning and performance.

One way this specialization manifests is by using the Experience API (xAPI) as the primary way to import and structure data. xAPI makes integration with many learning technologies products easy, both for incoming and outgoing data.
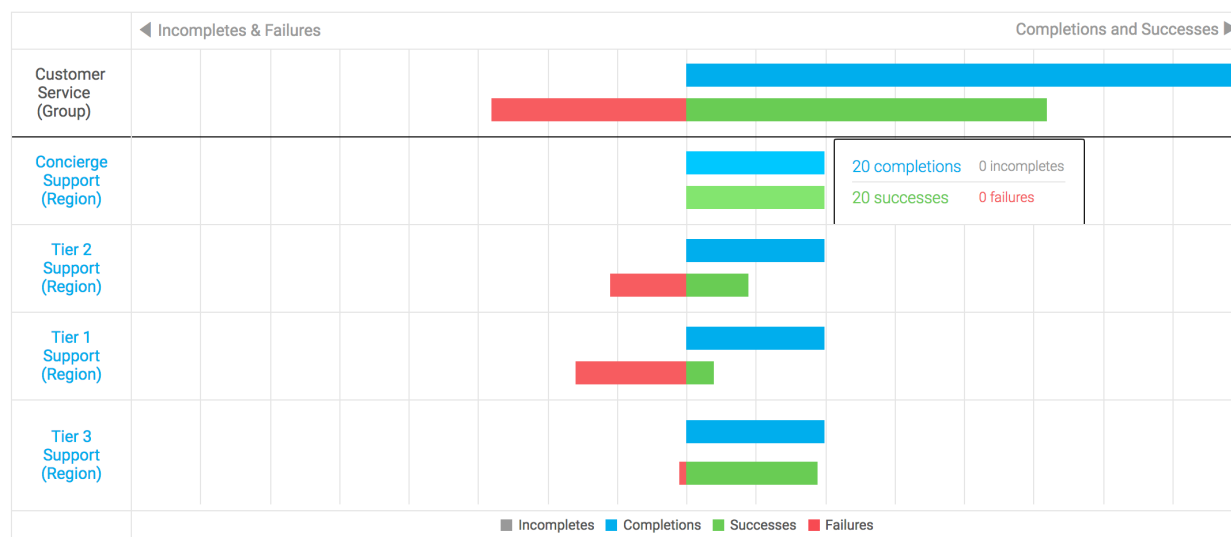
As a result, LAPs are better at presenting dashboards, visualizations, and reports that are specifically relevant to learning and performance.

Customer Service

There have been 80 completions of this activity with an average score of 75.
People took an average of 48 minutes, 20 seconds to complete this activity.

Customer Service Completions, Incompletes, Successes, and Failures

◀ Incompletes & Failures   Completions and Successes ▶

Customer Service (Group)	
Concierge Support (Region)	20 completions 0 incompletes
	20 successes 0 failures
Tier 2 Support (Region)	
Tier 1 Support (Region)	
Tier 3 Support (Region)	

■ Incompletes ■ Completions ■ Successes ■ Failures

EXAMPLE: In addition to a range of general visualizations (e.g., bar chart, line chart, pie chart, etc.), Watershed includes an Activity Card (shown) that presents data about assessment results and question responses, a Program Report that gives a drill-down overview of who has completed required training, and a Person Report that summarizes a learner's activity and performance across all connected data sources.
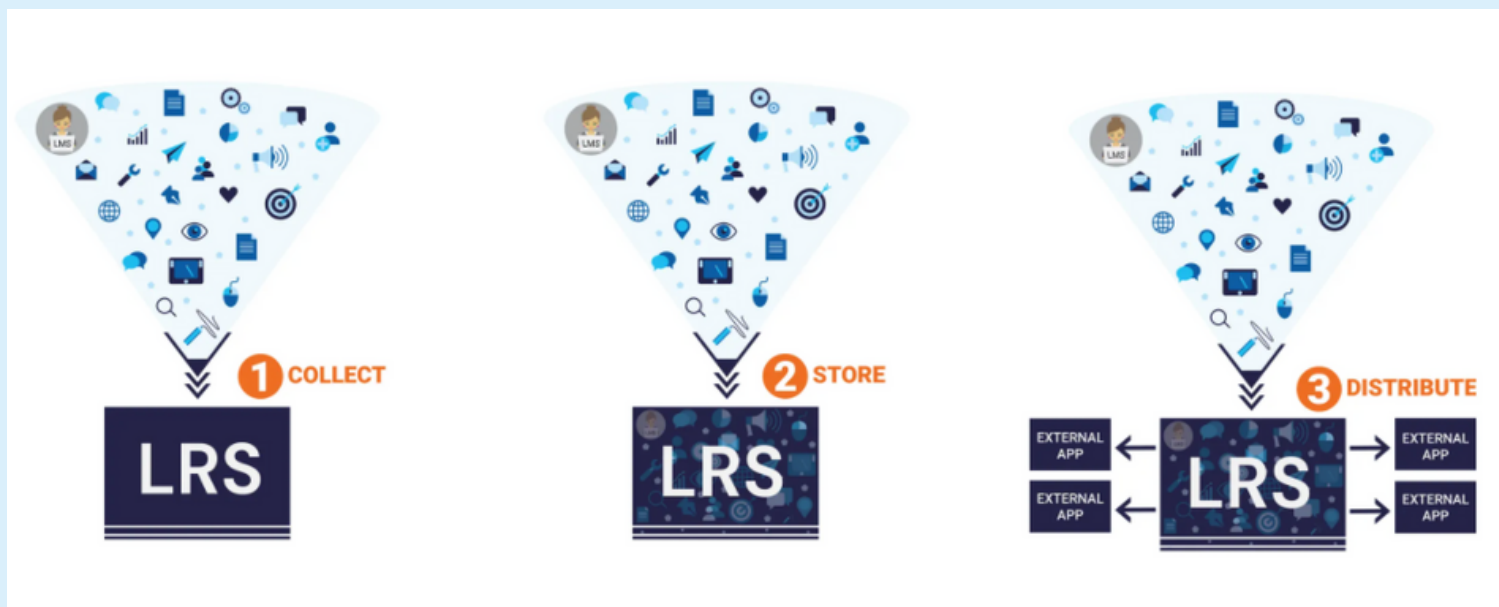
Approach to Data

BI tools normally work by connecting to existing data sources, rather than storing the data themselves. This data typically takes a tabular data structure. By contrast, LAPs sit on top of a Learning Record Store (LRS), which receives and stores all the learning and performance data for analysis. This data is stored in an interaction statement format following the xAPI specification. Each learning record in an LRS records information about something a learner did, when he or she did it, the context, and the result.

In addition to making the data easier to get in and out of an LRS, the common data structure makes working with the data much easier. The Activity Card mentioned above, for instance, can present question data in a form relevant to the question type without manual configuration, regardless of where the data originated. This is only possible because of the common data format defined in xAPI.

That's not to say that an LRS can only work with xAPI-enabled applications. Most LRSs have functionality to translate tabular data into the xAPI data format. With this approach, even data from systems that haven't standardized their data structures can be standardized as part of the import process. As a result, this imported data gains all the benefits as data from native xAPI sources.

Storing your learning data in a central location also unlocks the possibility of implementing a diverse but integrated learning ecosystem.

Many Watershed clients, for example, bring together data from their learning management systems (LMSs), learning experience platforms, apps, performance observations, and external content into their LRSs. This brings greater flexibility to deploy the best tool for the job without ending up with a mess of disconnected systems.

Approach to Learning

BI tools generally follow a model where an analyst works with data to generate shareable reports.

By contrast, learning analytics platforms, such as Watershed, are geared toward L&D professionals, managers across the business, and anyone else who needs to use the data. Of course, connecting xAPI data sources and creating template reports may require someone with a technical background. Once the setup is complete, though, less technical users can interact with, tweak, and explore these reports.

Comparing Products within Categories

It's important to note there are significant product differences within each category. For example, Watershed has two key features that differentiate it from many BI tools: (1) interactive visual dashboards that highlight key metrics and outliers, and (2) the ability to control what data users see. Some BI tools, however, also focus on visual dashboards and can control data permissions.

There also are differences in the way features are implemented and how easy they are to use. For instance, Watershed's data permissions are normally set up as part of an automatic integration with an LMS or HR database, so users only see the data they've been given permission to view in each report. While some BI tools enable user permissions for reports, they can be significantly more complex to set up and/or need configuring on every report.
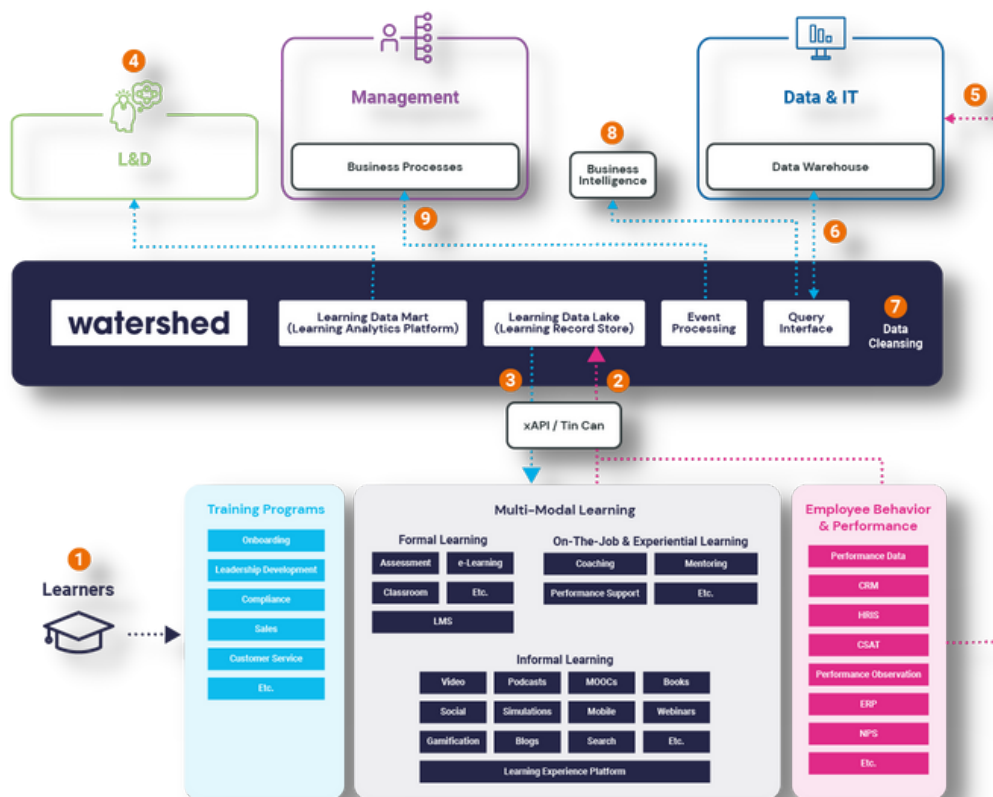
There are significant differences between LAPs, too. As a market leader, Watershed offers nearly 15 types of visualization, a highly flexible data conversion engine, multiple options for getting data out, and super-helpful support and implementation consultancy. Not all LAPs are able to offer that same level of functionality and services.

Still not sure if you need an LAP or BI tool? See page 5.

The Best of Both Worlds: Integration Options

BI tools and LAPs can work well together. The learning analytics platform's LRS is the natural place to store learning and performance data, especially from xAPI-enabled applications. Key metrics from this data can then be easily exported as a CSV file to the BI tool, on demand, or on a regular basis.

Similarly, the data warehouses necessary for powering BI tools can provide the LRS with business KPIs and performance metrics that are critical in evaluating a training program's impact. An LRS can reduce the number of systems it must pull data from by pulling everything from an existing data warehouse.

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Not sure if you need a learning analytics platform or a business intelligence tool? Use this chart to find the perfect fit.

Use an LAP to:	Use a BI Tool to:
Aggregate all learning data in a common format and place.	Analyze data that's not related to learning and performance (e.g., revenue).
Achieve plug-and-play integration with learning tools via xAPI and a learning record store.	Report directly off an existing database.
Present and distribute real-time, permission-controlled reports and dashboards to operational leaders.	Perform complex statistical analysis and visualization.
Allow learning professionals to easily analyze learning data without needing specialized knowledge.	Allow specialized analysts to access learning data in the tools they normally work with.
Quickly answer L&D's most common questions.	Answer questions not related to L&D.
Push normalized learning data to a BI tool.	

About the Author

Andrew Downes
Learning & Operability
Watershed

With a background in instructional design and development, Andrew Downes creates learning platforms and experiences in academic and corporate environments. Now a learning and interoperability consultant with Watershed, Andrew is an expert in Evidence-Driven Learning and Learning Technologies Interoperability.

As an author and top contributor of xAPI (Experience API) and the majority of material on experienceapi.com, Andrew is a recognized xAPI expert who has delivered presentations, webinars, and training sessions across the globe.

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www.watershedLRS.com • info@watershedlrs.com

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