Objective: Use Student Activity Data to Improve Student Success

Dr. Matthew Bernacki, Assistant Professor in the Department of Educational Psychology and Higher Education, recently used Splunk to transform university learning management system (LMS; Blackboard Learn) log data into meaningful learning event data that predicted students’ course achievement. In Week 5, his team enacted an early warning and learning strategy intervention: based on grade projections in Splunk reports, they messaged at-risk students prior to their first exam and directed them towards learning resources.

Splunk was used to interpret raw data and coordinate disparate data types into one model…

... which enabled data to be combined and restructured flexibly, as well as analyzed and visualized.

This yielded new insight about student learning and supported data-driven decision-making and action.

Results

The use of LMS data to identify struggling students and issue intervention messages led to a change in STEM learners’ achievement. 305 students on track for C, D, or F grades were identified by end of Week 4 and issued intervention letters with helpful resources. 108 of these students completed the course with A or B grades.

Splunk’s features helps you explore your data, create new knowledge, and make it actionable.

Log Data
Make sense out of unstructured data sources in order to make it useful

Combine Data Sources
Connect different data sources on a single, flexible platform for organization and use

Search & Investigate
Grab key terms, organize it into tables, add lookup tables to enrich with meaningful information

Model & Visualize
Data modeling, analytics, and dashboards

Statistical Analysis
Mine data using statistics libraries and learning analytic methods

Monitor and Alert
Monitor data and configure alerts and notifications

Machine Learning Tool Kit
Outlier detection implemented to know when logs were missing

Practically everything collects data these days. The question is how to turn data into information that is available, meaningful, and useful.

Splunk takes data and puts it to work for you.

Splunk is a platform for collecting, searching, monitoring, analyzing, and visualizing data.

New Connections
With Splunk, you can take data from sources such as databases, websites, log files, applications, etc., and combine it together to find new information and patterns.

No structure? No problem.
Splunk’s greatest feature is its ability to take data, however it is logged or collected, and organize it.

Data In Everything
Splunk implementations range across any vertical that can benefit from data-based decision making:

BIG DATA | BUSINESS ANALYTICS | INFORMATION TECHNOLOGY RESEARCH | SENSOR DATA

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