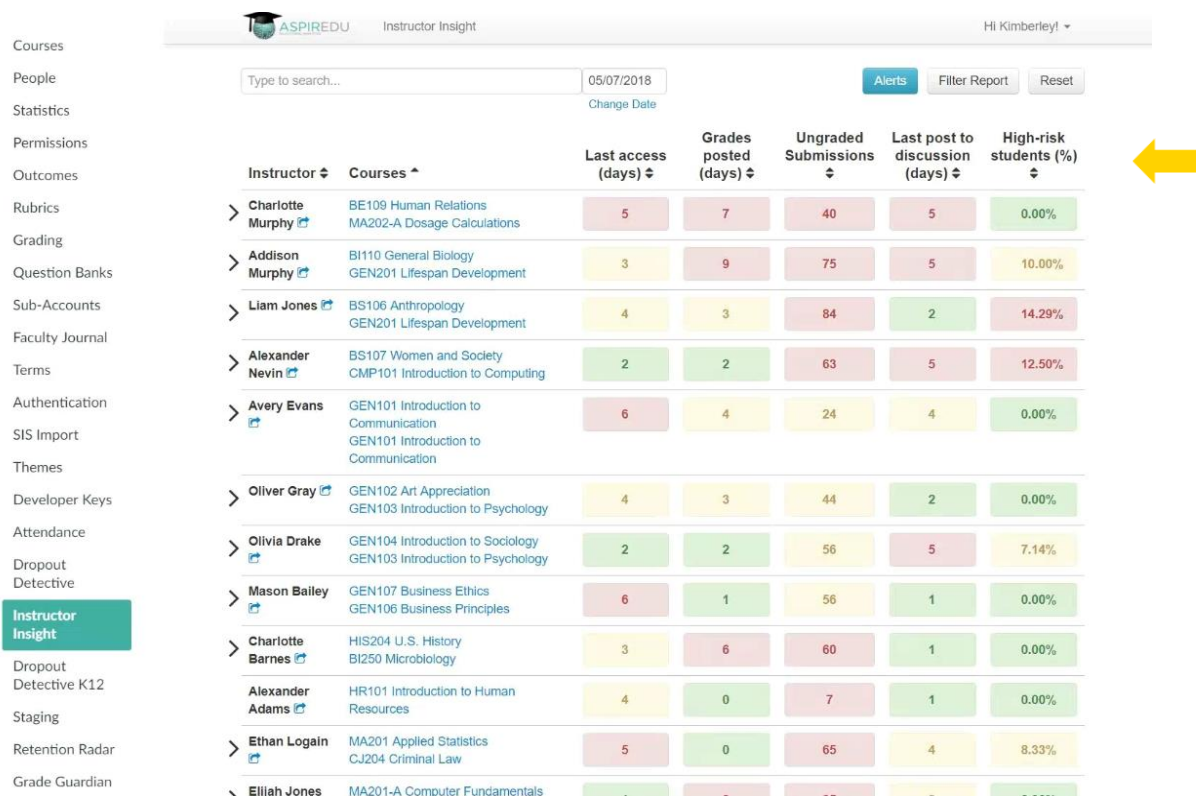# Data Analytics Guide

Overview

Learning Analytics is an important component to help us improve eLearning opportunities by providing can provide stakeholders specific information upon which to intervene, predict, and make data driven decisions that will enhance learning pathways.

The following guide provides research based explanations of why each data set is monitored using AspireEdu's data analytics Instructor Insight dashboard, and how each measure can correlate to overall instructor effectiveness in supporting student engagement efforts.

Resources on Analytics

- [Infographic on Analytics](#)
- [E Learning Industry: 5 Reasons Why Analytics are Important](#)

- [Learner Analytics](#)
- [Learner Analytics in Higher Education: Case Studies](#)
- [Learner Analytics: Literature Review](#)
- [What Sources Of Learning Analytics Should You Be Collecting?](#)
- [How Learning Analytics Can Make Instructors More Effective in an Online Course](#)
- [How Course Instructors can Improve Student Engagement with Learning Analytics](#)
- [Canvas Data API docs](#)
- [How Data From Your LMS Can Impact Student Success](#)
- [20 Best Practices of Online Teaching](#)
- [Benchmark Findings: Canvas Analytics](#)
- [Best Practices for Online Teaching](#)

Following are the types of datasets provided by AspireEDU's Instructor Insight and research associated with each to reinforce the purpose of each measurement.

Instructor Last Access

Instructors should log into the course at least a few days per week. If instructors show more than three days for their last log in this can be a predictor of lower student success rates.

Students generally place high value on communication and instructor's responsiveness ([Importance of instructor presence](#)). Students listed characteristics of an outstanding online teacher. The highest characterist at 64% was instructor Communication/Availability ([Instructor Characteristics](#)).

Students report feeling more connected when the instructor exhibits an active teaching presence, which can occur in many forms and various times throughout the course ([Being There: Instructor Presence](#)).

How long it has been since instructors have logged into their courses can be a key indicator to demonstrate instructor presence.

Additional Resources

- [Teacher Education Programs: Role of Faculty](#)
- [Instructor Presence in the Online Class – Key to Learner Success](#)
- [Student perceptions of the relationship between indicators of teaching presence and success in online courses.](#)
- [Time in Course](#)
- [Announcements and Instructor Presence](#)
- [Deepen Online Dialogue](#)

Feedback

AspireEDU provides examples of instructor Feedback to easily view whether they are making canned responses or if feedback is authentic. Instructor feedback should correlate with score and demonstrate student work was evaluated by the instructor.

Authentic feedback will include most of the following elements: Personal, Encouraging, Corrective, and Field Specific. The largest single instructor action that students attributed to their success in the online course was the feedback provided by instructors that indicated specific strengths and weaknesses of student work (How to Provide Meaningful Feedback) (Importance of Meaningful Online Feedback).

The largest single instructor action that students attributed to their success in the online course was the "feedback provided by instructors that helped [students] understand their strengths and weaknesses" (Key to Learner Success).

Last Post to Discussion

This measure is important for it indicates instructor presence in one of the few places students can experience social learning in an online classroom. If instructors are present in course at least 3 days a week, then a post to a discussion should not be more than a few days between, depending on class interactions. Instructor can also show presence by grading and providing feedback to each student and posting announcements. Another important success factor identified by students is the "instructor's ability to focus discussions on relevant issues" (Key to Learner Success).

Instructors can post often and provide substantive posts that take the virtual conversations to a deeper level in understanding concepts and ask probing questions to ignite more discussion (High Quality Online Discussions).

Number of Posts to Discussion

AspireEDU recommends that 20% of discussion posts from instructor is a good indicator of instructor presence or 3 posts on 3 separate days. Posts bring students to deeper levels of understanding topic/concepts and ask probing questions to ignite more discussion (How many Discussion Posts Per Week)

There is a debate on whether or not teachers may "shut down" or monopolize discussions; this paper appears to lean towards the idea that instructors help facilitate discussion ([Discussion Board Activity in Online Courses](#)).

Another factor is number of Posts by students ([Discussions in Online Courses).](#) Student participation is defined as percent of enrolled students who decide to post to a discussion board. Interestingly, there is a positive correlation between the percentages of the course grade derived from discussion participation with student satisfaction, perceived learning, perceived interaction with the instructor and perceived interaction with their peers ([Discussions in Online Courses).](#)

Grades Posted

Posting grades in a timely can significantly impact student success. Providing grades and feedback with enough time for students to apply comments to the next assignment can enhance the teaching/learning process. In a [study of online instructors](#), researchers chose 5 instructors who responded at least 3 times daily to all online course emails, graded all papers within 48 hours of submission, offered specific feedback on all written work,and were compassionate to student's needs. Findings showed that success rate of students in online courses with these outstanding instructors was 82% percent which was 16% better than in traditional classroom & 23% better than online students overall

If student work remains ungraded, then instructors can miss the important window of time to provide feedback that can help them succeed in subsequent modules. At UCI-DCE, instructors should grade within 7 days of students submitting work.

Additional Resources

- ○ [How Fast is Fast Enough](#)
- ○ [Instructor Characteristics that Affect Online Student Success](#)
- ○ [Creating a Sense of Instructor Presence](#)

Grade Ranges

- Why this important? What does research say about grade ranges. What are areas for concern (all high scores), what is an indicator of an effective online course.
- Research on analytics

Ungraded Submissions

This measure can indicate whether an instructor is in danger of falling behind, if students submit work on the due date, or if course due dates for submitted work are staggered in a reasonable manner. If a student complains that their work is not being graded, this can be because of several reasons. For instance, instructors may be faced with a significant number of submissions to grade form a due date and have not gotten to it yet within the grading time frame. Students may be requesting their work be graded to help them prepare for an upcoming assignment. During course planning, consider staggering due dates of high stakes assignments which require detailed grading and feedback to ensure instructors have enough quality time to spend on evaluating student work adn students have ample time to apply feedback to their next submission.

High Risk Students

In the online environment, early signs of at risk students include less participation in discussions, failure to complete assignment, or submitting work late. If student fails to sign into online system or fails to turn in assignment, system could generate warning for instructor who could in turn call student to see if they're experiencing problems & discuss potential solutions (Early Warning system).

Course Completion Rates

Completion rates

- o Completion rates indicate the level of learner engagement, motivation, and participation

- o Low completion rates tell you that learners aren't invested in online training experience

- o High completion rates reveal that learners know what's at stake and are ready to invest time and effort into an online training course

Student Interactions

Following are some additional measures that can help decision makers evaluate course effectiveness.

- Student interaction and time in course
  - [Interaction Matters](#)
- Quiz/Assignment Results
  - [Formative and Summative Assessments](#)
- End of Week/Course student evaluations
  - [End of Course Student Surveys](#)
  - [Student Feedback](#)
  - [Utilizing Student Feedback](#)
- Instructor end of course responses
  - [Benchmark findings](#)