Measuring Course Complexity
2-Parameter IRT modeling techniques to measure a single latent trait—course complexity. Course complexity captures the combination of LMS tools used on a course site. Used 3-Level hierarchical linear regression and quantile regression models to assess systematic sources of variation and to identify predictive factors related to course complexity.

Sources of Variation
2,132 Courses, 804 Instructors, 24 Academic Units

Predictive Factors (HLM & Quantile Models)

Takeaways
- IRT models allowed us to compare LMS tools and instructors on the same scale
- Limited variance explained between Academic Units
- Several consistent predictors were identified, on average and at different points across the outcome distribution, i.e., course complexity measure
- Opportunities to learn enacted by instructors often rely on combinations of tools that mediate interactions between learners and course content