

DRAFT: ETLG Proposal for A UC-wide Analytics Repository Pilot

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At the University of California, we have a unique opportunity to pool learning analytics data from across our ten campuses, for a variety of purposes that will benefit both our students and our teaching and research missions. As a collective, the ITLC subgroup ETLG (Educational Technology Learning Group) proposes to create a subgroup to study how we might use a shared analytics repository to pool system wide anonymous data from our various Learning Management Systems (LMS's). The ETLG aim of this project is to better understand the feasibility of answering questions such as which third party learning tools are most utilized, which types of course activities are most often leveraged and how learning outcomes are effected by different pedagogical strategies. However, longer term, the broader purpose of collecting learning analytics, is to better enable our faculty instructors, and their supporting instructional technologists to measure and understand how elements or a combination of elements in courses either do or do not have impact on delivering an effective learning experience.

This pooling of data would also assist the UC in leveraging our buying power for the third party tools that our faculty/courses are already leveraging, and thus negotiate system or multi-campus rates that will go down, as our usage goes up. In addition to this, pooling this data would allow us to monitor and identify the trends of which tools are becoming more popular and which are declining.

Finally, there is a research aspect to why we would want to go through the effort of pooling UC learning analytic data. It would allow our collective researchers to collaborate and explore the effects of technology on pedagogy such as whether or not different combinations of online versus in-class activities in courses, have impact on the learning outcomes. Key questions to explore could include which types of exercises help students retain information, what is better taught in person versus online and what best motivates student's persistence. If successful, researchers may be able to explore the relevance between usage of technology and learning outcomes for different types of courses flipped, hybrid and fully online.

The ETLG pilot proposes to utilize the IMS Global standard learning analytics framework called the IMS Caliper Learning Management Framework. It is built upon three IMS Global standards, of which most LMS's are compliant with. The Caliper Framework is built upon the [LTI Learning Tool Interoperability standard](#), the [LIS](#)

[Learning Information Services specification](#), and the [QTI, The IMS Question and Test Interoperability Standard](#).

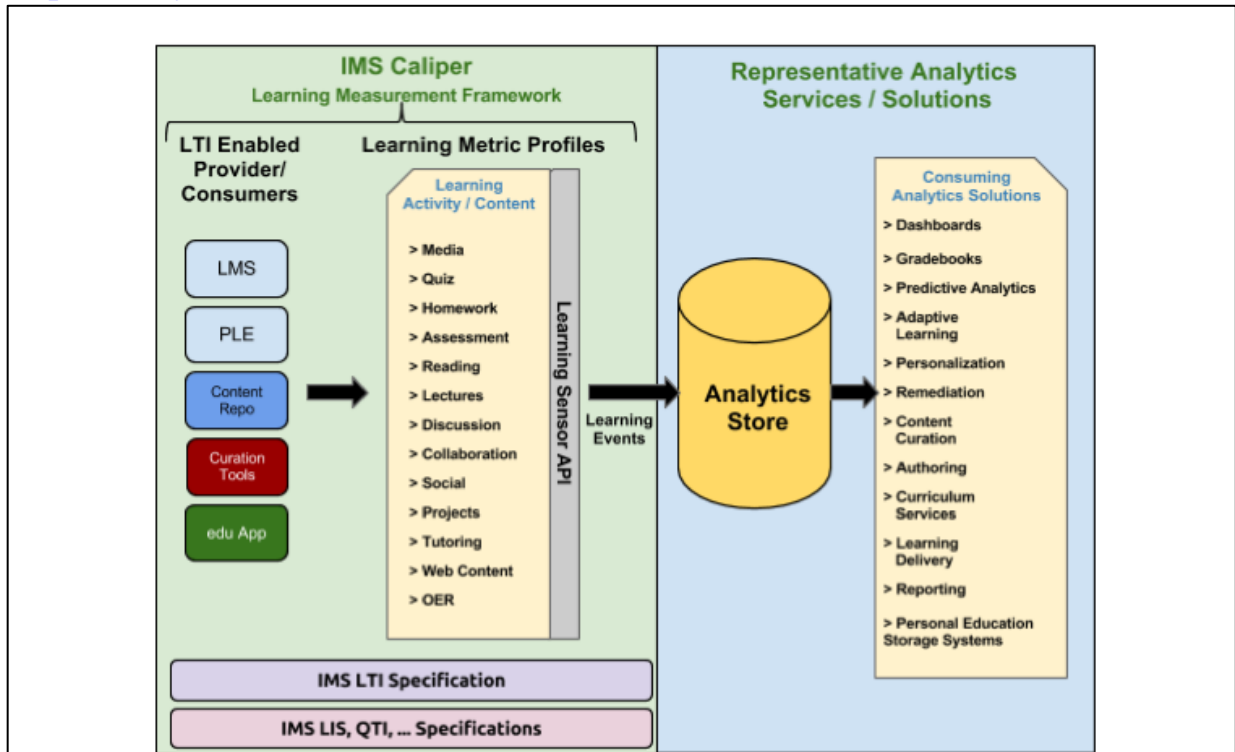


Figure 2: IMS Caliper - Learning Measurement Framework

IMS Caliper is built around the following concepts:

- **IMS Learning Metric Profiles** that provide a Learning Activity centric focus to standardize on metrics (actions and related context) captured across consumer and producer learning tool's delivery activities and delivery platforms that consume and orchestrate activity based curriculum, while providing for custom extensions and future additions to the profiles;
- **IMS Learning Sensor API and Learning Events** drive standardized instrumentation and metric capture and marshal between tools and their delivery platforms and/or associated analytics service solution aggregating metrics;
- **IMS LTI™/LIS/QTI™ leverage and extensions** enhance and integrate granular, standardized learning measurement with tools interoperability and the underlying learning information models, inclusive of course, learner, outcomes and other critical associated context.

Figure 1: [Screen shot from IMS Learning Measurement for Analytics Whitepaper](#)