NGDLE Learning Analytics: Gaining a 360° View of Learning

The Problem: Stove Pipes of Learning Platforms

A key part to the NGDLE is a central repository for learning analytics. Without a central repository, the learning environment becomes compartmentalized and stove-piped making it difficult to provide a 360° view of the learner and learning environment. This makes it much more difficult to have a combined view of student learning activities.

The Apereo Open Learning Record Warehouse is a promising Open Source repository to provide this 360° view.

1. Allows multiple feeds of xAPI and Caliper data to one repository.
2. Presents integrated view of student activity gathered from data sources. Examples: LMS, Video repositories, ePortfolio used in courses; 3rd party tools that are xAPI or Caliper compliant.
3. Other sources: data from ID card tracked activities such as guest lecture attendance.
4. Other sensor data (multi-modal analytics) such as Apple Watch/Fitbit data during classes.
5. Data can be near real-time depending on the latency of data sources.

Our next step is to create dashboards of students online learning activities and share them with instructors directly from our LMS - Sakai.

Next Step

Solution: Learning Record Store

At Notre Dame we are in the process of implementing the Learning Record Store using the latest version of the Open Apereo Learning Warehouse. This framework has been implemented at several US universities including Marist College and North Carolina State University. Parts of this framework have been adopted by the University of Michigan and the Jisc initiative on learning analytics in the UK involving 50 universities.

Since all the data from different sources is stored in a centralized Learning Record Warehouse, we can easily merge them and gain a 360° view of students’ learning behavior and study the correlation between that and their learning outcomes. Sample bar chart on the right shows students’ quiz scores vs their video watching and transcript clicking activities.