# Building Assessment Functions into LMS for Efficient and Sustainable Accreditation Processes

## Chengyu Sun, Raj Pamula, Russ Abbott

**Abstract**

Learning Management Systems (LMS) are widely used in education these days. There are two reasons that make LMS a potentially useful tool for program assessment. First, LMS host a wealth of data such as student work that is valuable to program assessment. Second, the use of LMS in day-to-day teaching and learning makes it a suitable place to embed assessment activities for continuous and sustainable assessment processes. However, typical LMS are not designed with program assessment in mind. In particular, they do not organize, analyze, or present data in meaningful ways for program assessment purposes, and their support for common assessment methods is either lacking or limited.

The system presented in this session is a web-based software system designed to address the shortcomings of LMS in terms of program assessment. In particular, the system provides the following functions and tools for program assessment:

* Managing program vision and mission statements.
* Managing and mapping of ABET criteria, educational objectives, student learning outcomes, and courses.
* Embedding assessment activities and data collection in key courses in the curriculum where it is particularly important to gauge student progress.
* Managing rubrics that can be used both in class and for program assessment; supporting rubric evaluation by instructors, external reviewers, and peers.
* Managing surveys that can be used both in class and for program assessment.
* Importing and analyzing data from external standardized tests such as Major Field Tests (MFT).
* Aggregating and presenting rubric, survey, and MFT data as graphs that provide visual summaries pertaining to each of the student learning outcomes.
* Managing course journals that can be created easily from the data and resources provided by the LMS functions of the system.
* Mailing lists that are automatically updated when the academic standing of a student changes, which help the department to keep in touch with both students and alumni.
* Hosting program assessment documents on the system wiki and file manager, which makes it easier to share and collaborate on those documents.
* A program assessment dashboard page that connects everything together and presents a holistic view of the program assessment process.

This system was featured in the last ABET site visitation which awarded the full 6-year accreditation to the program. The reviewers praised the system and gave some valuable feedback that helped the improvement of the system.

The goal of this session is to show that by tightly integrating program assessment functions into a learning management system, the time and resources required to collect, analyze, and present assessment data can be greatly reduced, so the institution can focus more on perfecting the assessment process and improving teaching and learning. Furthermore, building assessment functions into LMS, which many faculty and students use on a daily basis, also encourages and facilitates a continuous and sustainable assessment process.

This session covers all the assessment functions in the system, but due to time limit, only a small number of them are demonstrated live. The system is open source. All institutions are welcome to try and use it free of charge.

**Session Description**

This session presents an open-source web-based software system developed at [Removed for Review Purpose] that tightly integrates program assessment functions in a learning management system (LMS). The goal is to show that such a system can greatly reduce the time and resources required to collect, analyze, and present assessment data, so the institution can focus more on perfecting the assessment process and improving teaching and learning. Furthermore, building assessment functions into LMS, which many faculty and students use on a daily basis, also encourages and facilitates a continuous and sustainable assessment process.