

IU LMS Pilots - A Comparative Functional Review

Executive Summary

During the 2012-2013 Academic year, the UITS Learning Technologies Functional Requirements Committee (FRC) conducted a comparative functional review of IU's current learning management system (LMS), Oncourse, and the three LMS platforms piloted under Next.IU initiative: Blackboard Learn 9.1 (Bb), Desire2Learn Learning Environment 10.2 (D2L), and Instructure Canvas. The results of this functional review are summarized in this report.

The functional review process involved documenting every significant capability in every end-user tool in Oncourse and comparing the results with the comparable tool(s) in the pilot platforms, noting the significant gaps as well as new features in each. Also reviewed were tools and features in the pilot platforms that have no functional counterpart in Oncourse.

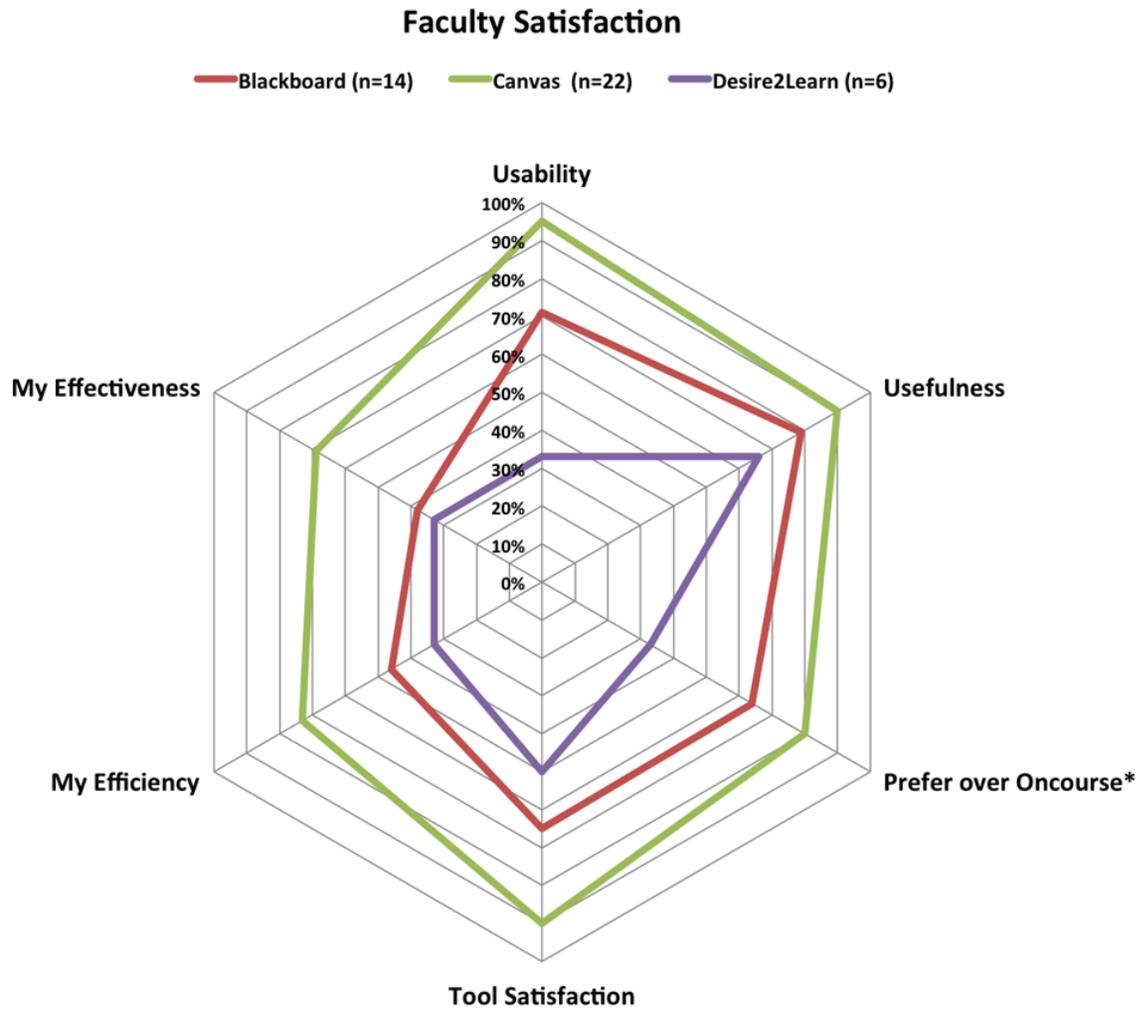
Tools and features are not the sole measure of the quality of an LMS. Equally important are the manner in which those capabilities are implemented and their perceived utility by instructors and students. Survey data from pilot participants gathered by the Center for Evaluation and Education Policy is particularly helpful for comparing the three pilot platforms in these areas. Before turning to the functional review, we briefly summarize the usability, utility and user satisfaction of the three LMS pilots. Complete reports on the experience of faculty and staff who participated in the pilots are posted to the Next.iu.edu website.

Usability, Utility, and User Satisfaction

Figure 1 below summarizes faculty pilot survey metrics around usability, usefulness, and user satisfaction. In the faculty survey, Canvas dominates in all measures, followed by Blackboard and then Desire2Learn.

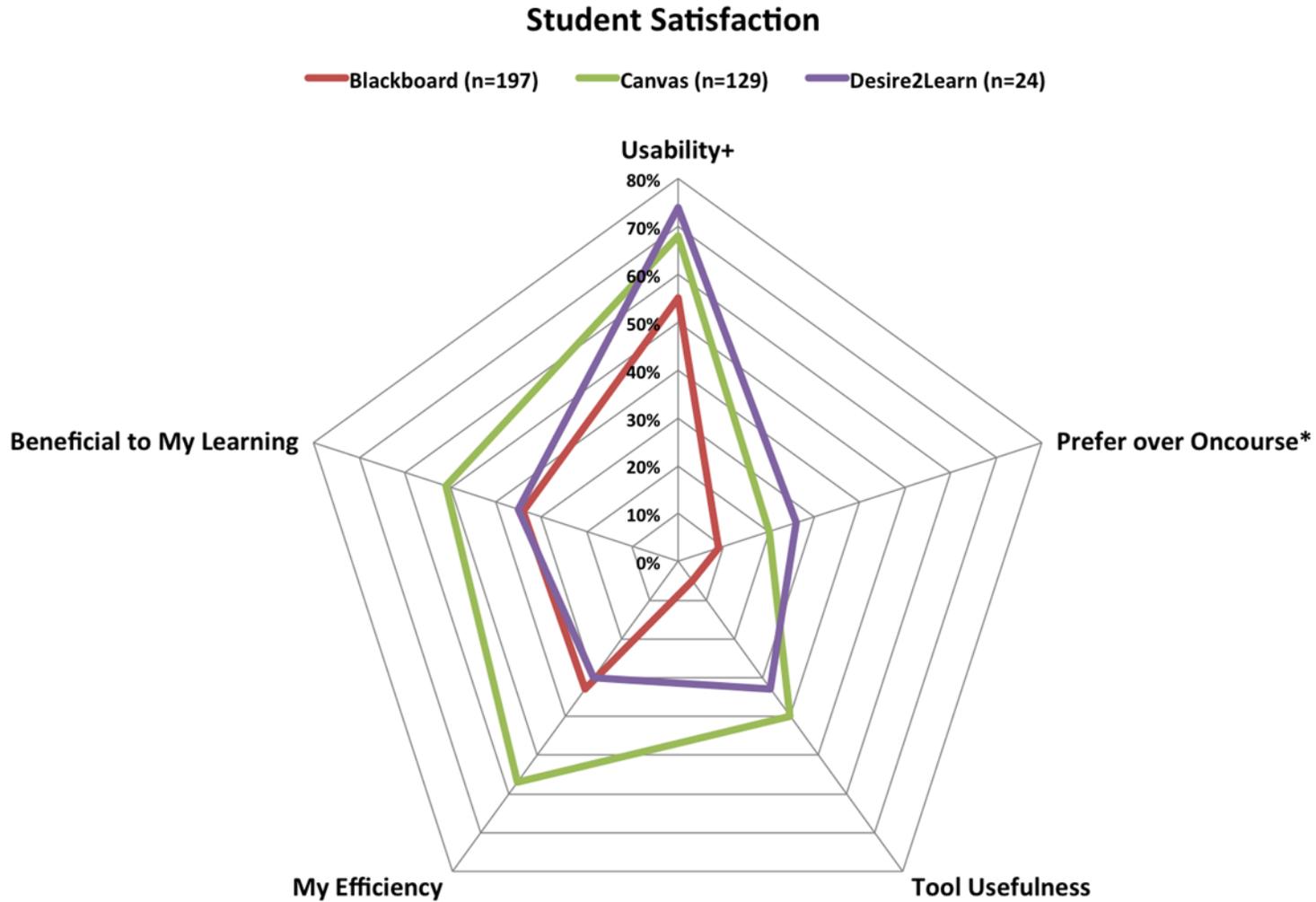
Figure 2, which provides comparable data for students, shows Canvas leading in three of five measures with Desire2Learn edging out Canvas by a small margin on usability and preference over Oncourse. Overall, the data suggests that pilot participants found Canvas to be the most useable and useful of the three pilot platforms.

Figure 1: Select Faculty Survey Data on Usability, Usefulness, and Satisfaction



* The original Canvas survey instrument did not include a question about LMS preference. Pilot participants were later invited to complete a one-question survey on this topic. Only 15 faculty responded.

Figure 2: Select Student Survey Data on Usability, Usefulness, and Satisfaction



* The original Canvas survey instrument did not include a question about LMS preference. Pilot participants were later invited to complete a one-question survey on this topic. Only 35 students responded.

+ The Canvas survey instrument did not include a question about overall ease-of use. Instead, students were asked about the ease-of use of specific tools and features. The value shown here is the average across all tools and features.

Functional Breadth, Depth, and Maturity

To determine the overall functional breadth, depth, and maturity of each LMS platform, the list of more than 100 tools and capabilities were clumped and clustered into seven functional areas (see *Figure 3* below).

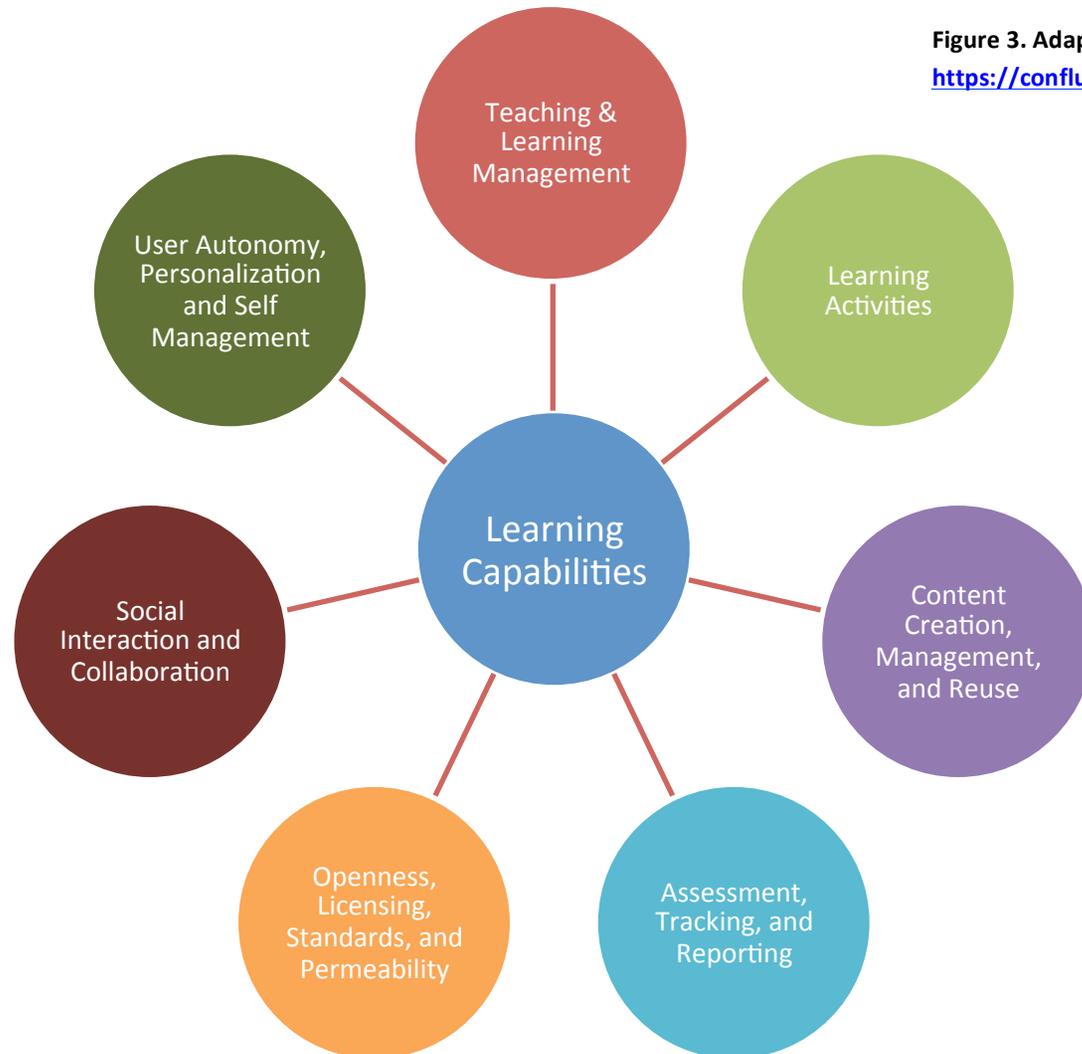


Figure 3. Adapted from the Sakai Learning Capabilities Design Lenses
<https://confluence.sakaiproject.org/x/FgshB>

Comparing the weighted averages in all seven categories led to following observations about the three pilot LMS platforms (*see Figure 4*):

- **Blackboard:** Blackboard has the highest or second highest scores in all categories. When it comes to the sheer number of tools and features, Blackboard is the most mature of all of the platforms. This isn't surprising since Blackboard has been in the LMS business for roughly 17 years
- **Canvas:** Given the recent launch date of Canvas, the product is remarkably robust. When all capabilities are considered, Canvas has the highest score in one category, and second highest in four others. With low priority capabilities eliminated (*see Figure 5*), Canvas tracks very closely with Blackboard.
- **Desire2Learn:** Desire2Learn excels in two areas, 1) Teaching and Learning Management and 2) Assessment, Tracking, and Reporting. D2L's scores suffer in other areas because it lacks the more student- and user-centered capabilities available in both Blackboard and Canvas.

Figure 4. All Capabilities—Weighted Average by Platform

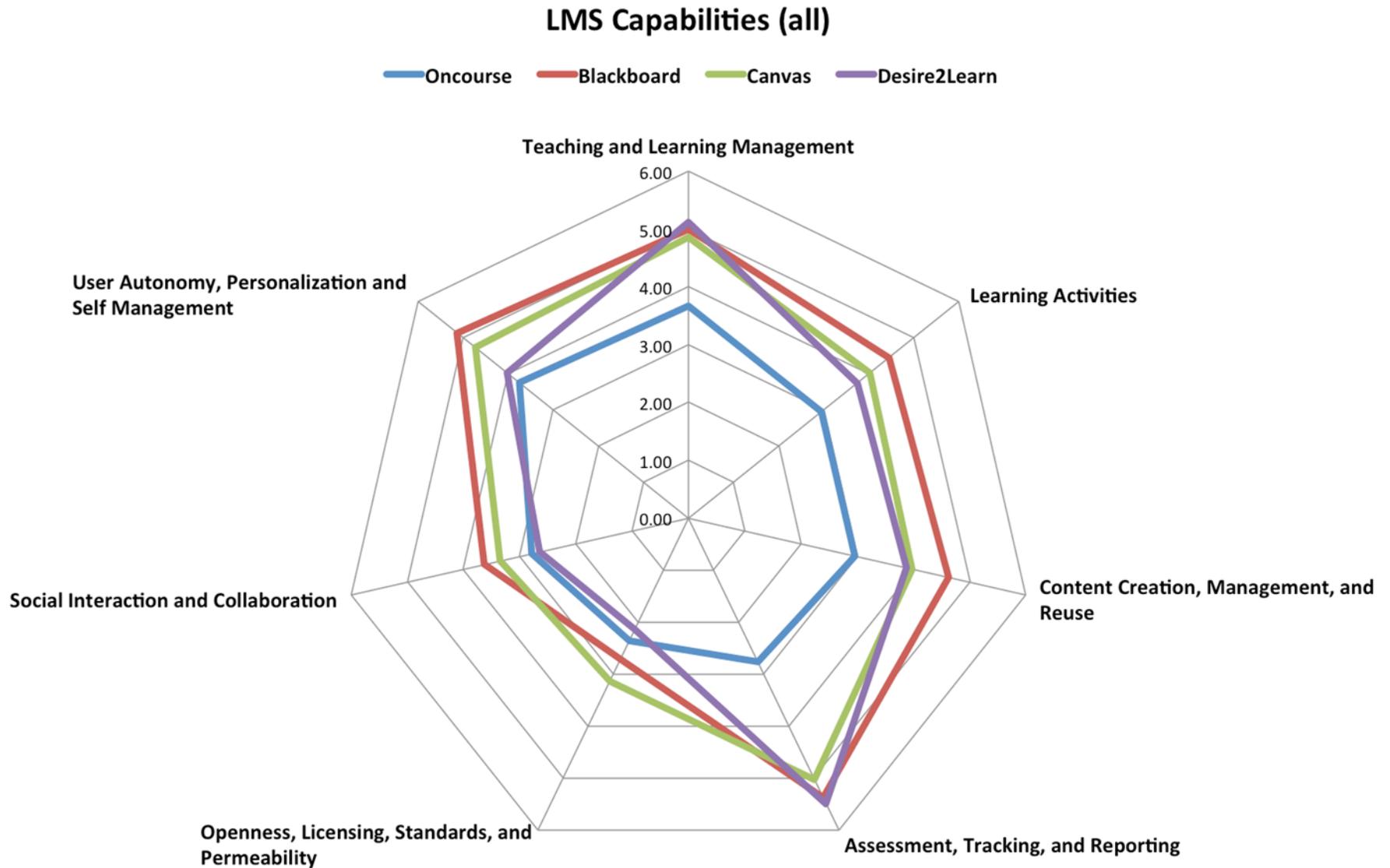
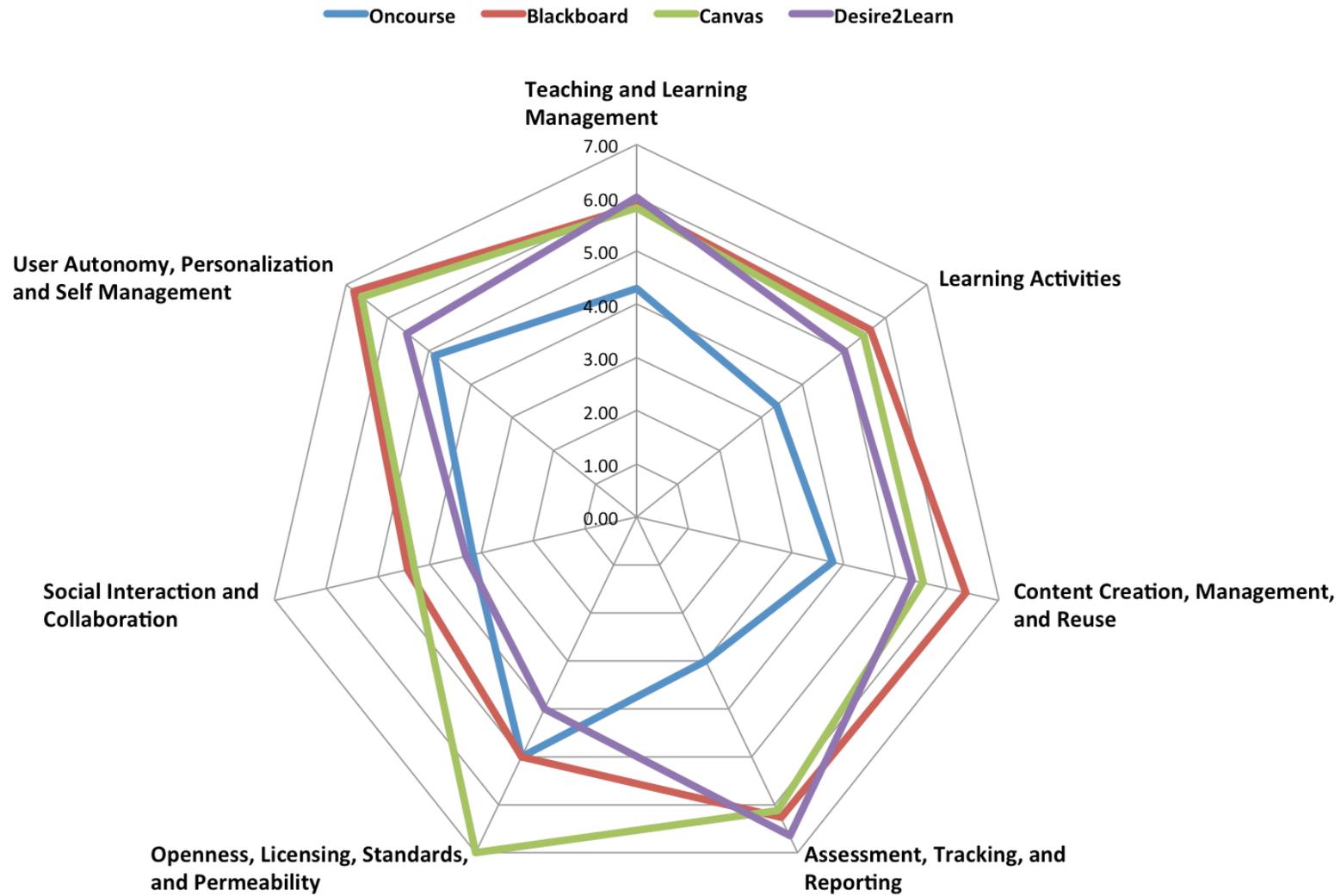


Figure 5: Medium and High Priority Capabilities Only–Weighted Averages by Platform

LMS Capabilities (IU High and Medium Priority)



Pilot Platform Strengths and Weaknesses

The notable strengths and weaknesses of each pilot LMS are briefly summarized below:

Strengths

- Blackboard's most noteworthy strengths are *group management and collaboration capabilities, extensive personalization options, robust file storage and management*, and the *wide range of gradable tools* offered for engaging students in individual and group learning activities.
- Like Blackboard, Canvas also excels in *group management and collaboration*, but the characteristics that set it apart from its competitors are its *extraordinary usability and efficiency*, particularly for instructors.
- D2L offers some exceptional capabilities for instructors, including the *Course Builder* (a tool for rapid content development), an *Instructional Design Wizard* that guides instructors through the process of building pedagogically sound courses using the principles of backward design, and a *particularly robust approach to conditional release*.

In addition to their unique strengths, all three platforms offer the following capabilities, many of which have been requested by instructors here at IU: *accessibility for students with disabilities* (all three have a gold certification from the National Federation for the Blind), *group assignments, rubrics, outcomes assessment, date management for imported content, student performance tracking, and audio/video capture and embed throughout the application*.

Weaknesses

Weaknesses were also noted in each pilot LMS:

- Among the more serious are *poor section management capabilities* in both Blackboard and Canvas. Neither platform is capable of restricting course elements (announcements, assignments, discussions, quizzes, etc.) to specific courses sections, which is a critical need for instructors teaching large, multi-section courses.

- Another Blackboard shortcoming is its *lack of support for personal time zone preferences*. Most other LMS platforms, including Oncourse, display start dates, due dates, and other events in each user's local time zone. This is a key limitation in general and particularly problematic for students taking online courses who may be in multiple time zones.
- *Messages* is the single most widely used tool in Oncourse. The comparable tool in Canvas, *Inbox/Conversations*, is far less robust. In the spring 2013 Canvas pilot, Canvas Inbox/Conversations was one of the tools with which pilot instructors were least satisfied. A number of improvements have been made since the pilot, but more would need to be done to meet the needs of IU faculty and students.
- Desire2Learn's greatest shortcoming is its *tendency to cater primarily to the needs of instructors, not students*. Missing are capabilities with potential to engage and empower students like peer-assessment, collaborative editing tools, robust group workspaces, and even the ability for students to create their own entries in the Desire2Learn Calendar. Desire2Learn appears to be less well suited to learner-centered approaches in which students take a more autonomous and active role in the learning process.