

Initial Outcomes Resulting from the My Learning Analytics Initiative

The My Learning Analytics (MyLA) effort was a partnership between research faculty in the University of Michigan's (UM) School of Information, School of Education, and Information technology Services. The design was informed by the body of research on the efficacy of student-facing data dashboards and the observed shortcomings with past learning analytics products. MyLA leverages the Unizin Data Platform, a consortial effort to develop shared, standards-based, digital learning infrastructure. This platform ingests data from the student information system, Canvas learning management system (LMS), and Caliper event streams from 7 different learning tools. UM conducted a research pilot with three courses in its Fall 2018 term and 10 courses in its Winter 2019 (currently in session).

The dashboard pilot provided three views of the students' own data showing files accessed, assignment activity, and grade distribution. These views were designed based on both theory (self-regulated learning) and principles in the design of data visualizations. In the three Fall 2019 courses (n = 312 students), the log data showed that 82% of all students viewed the dashboard at least once, with an average viewing time of almost 2 minutes per page, looking at 2.75 pages per session. Survey data showed that students preferred the grade distribution page more than the files or assignment views, and 87% of students reported that use of the dashboard increased a sense of control over their course performance. We measured page views separately for each of the three dashboard views. The Assignment Planning View had 33% of page views in Course 1 (versus 66% for Files Accessed), 27% in Course 2 (versus 36% for each other view), and 17% in Course 3 (versus ~40% for each other view).

We examined how students perceived changes in their motivation, self-regulation and course performance as a function of using MyLA. Among the motivational influences, students in all three classes viewed dashboard use as *having changed their sense of control over their course performance* (M = 1.56), followed by *their effort and time commitment* (M = 1.33) and *confidence they understood the course material* (M = 1.28). Students also did not generally agree that dashboard use took more time and effort than it was worth (M = 1.00). In other words, students found it valuable. The self-regulation item consisting of the way students planned their course activity was also among the most highly rated across the three courses combined (M = 1.48). In summary, there is evidence from ratings that dashboard use did have some influence on students, which varied for students in the different courses, being primarily viewed as beneficial for those in one of the graduate courses (Course 2).

In summary, 88% of students agreed it changed the way they plan their course activity, 86% agreed it changed their sense of control over their course performance, 70% agreed it changed how much time and effort they put into the course, 75% agreed it changed their confidence that they understand the course material, 84% agreed it improved their performance in the course. These results encouraged us to expand the pilot in Winter 2019 to ten courses (n = 860 students). Furthermore, Indiana University, the University of Iowa, and the University of Michigan have announced an initiative to coordinate on a joint pilot of the My Learning Analytics. Representatives from these three universities were closely aligned in their interests in exploring a research-driven alternative to learning analytics capabilities and the potential to compare student outcomes resulting from a collaborative pilot. These institutions will be conducting a joint research study on the use of MyLA to determine if students perceive that these visualizations have impacted their motivation, self-regulated learning, or overall course performance. MyLA has been initially developed at the University of Michigan, but has begun accepting code contributions from other institutions (initially from the University of British Columbia). We envision the enhancements will continue to be jointly developed as insights from this partnership surface.