

ELEMENTS OF SUCCESS

→ [TEACH.UIOWA.EDU/ELEMENTS-SUCCESS](https://teach.uiowa.edu/elements-success)

The Challenge

Student metacognitive monitoring is a critical skill for academic success. Students may have questions or misconceptions about how they are doing, such as courses with high enrollment or courses that grade on a curve. Students often speculate about their performance compared to peers, how their efforts affect their grades, and if resources and support options are available.

The Solution

Elements of Success (EoS) is a learning analytics platform that helps students achieve their desired course outcomes by providing real-time feedback on their performance. Staff from ITS Administrative Information Systems and the ITS Office of Teaching, Learning, and Technology collaborated with University of Iowa faculty to develop EoS, with the goal of providing students with new insights into their course progress. This is achieved by pulling and aggregating data directly from ICON, the learning management system at the UI that is powered by Canvas. EoS generates real-time performance feedback for students in an easy-to-understand, visual format that helps students succeed by answering a few critical questions:

- How am I doing right now?
- What will happen if I continue on this path?
- How can I improve?

Learning Impact Outcomes

Student adoption rates of EoS can vary across courses, ranging between 65% and 95%. The greatest potential for EoS is when it is made available to students from the third week of the semester until the last week of the semester.

After controlling for student performance on their first exam, GPA, and homework scores prior to the first exam, research found that students who regularly checked EoS achieved significantly higher scores on subsequent exams and better final grades than students who did not check.

Students who were shown an estimated grade of a D or lower in EoS were significantly more likely to receive a passing final grade compared to similar students who did not use EoS. There was no increased risk of withdrawal from the course for these students.

Return on Investment

A two-year snapshot of EoS courses.

Semester	Courses	Unique Instructors	Students
Spring 2022	26	14	4,560
Fall 2021	17	10	5,456
Spring 2021	30	16	4,991
Fall 2020	27	21	6,481

Faculty can be more efficient and effective when addressing learning strategies with students since questions like "How am I doing in the course?" have mostly been addressed with EoS.

In one study, [Russell, Smith, and Larsen \(2020\)](#) found that the average final grade was about half a grade point higher for a group of students that used EoS after the first grade estimation had been posted compared to a group that did not use EoS at that time. Both groups were made up of students who had all received an EoS estimated grade of D+ or lower following the first midterm exam.

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