

USING ACTIONABLE INTELLIGENCE TO ENHANCE STUDENT SUCCESS IN INTRODUCTORY STATISTICS COURSES

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Students' diversity has been widely highlighted and celebrated, yet we continue to ask them to all learn by reading the same texts, hearing the same lectures, doing the same homework, and getting the same advice. The E2Coach (Expert Electronic Coach) project leverages technology to give each student individualized coaching that recognizes their strengths, weaknesses, and performance trends; understands their motivations and goals; and guides them through the course.

While the E2Coach system is not (yet) widely available, many of its basic elements are easy to implement and have been positively received by students. In this presentation, we will outline some of these small steps that anyone can try out for their own classes. By doing so, we hope to help inspire instructors to address some of their own course challenges by using technology in similar ways.

To construct the Statistics coach, we wrote messages using student-specific variables to convey the collective expertise of past students, instructors, and education researchers. The variables included background information, class performance, and self-reported goals for the course. In a message about homework, for example, a student who did not complete the last homework assignment might be reminded of when and where to find the assignments, while a student who did complete the homework would receive feedback on their score relative to their classmates' scores and their personal grade goals.

We also created interactive displays of grade distributions for similarly-performing students based on past data, a grade calculator, and a to-do list for each week. In addition to these personalized features, the coaching page also serves as a one-stop shop for a wide variety of class resources such as past exams, question banks, and class materials - many of which were linked to from within the tailored messages.

In creating this resource, we hoped to not only provide a service to students, but also to gather information about their learning. We wanted to know which materials students were using, when they were using them, and how. Our presentation will cover findings from the first year of the Statistics E2Coach.

Overall, the project has been well-received, with students make remarks such as "Now I know where to find my structure," and "Now I feel like I can tackle this class with actually a decent grade." Students particularly like their to-do lists, the grade calculator tool, and having one location for a variety of resources - all of which can be replicated in classes of any size, at any level, with minimal technology knowledge from the instructor.

REFERENCES

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