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What to do when students fail but don't ask for help? A Design Science Research Approach to Develop a Student Friendly Tutor Bot.

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A Design Science Research Approach to Develop a Student Friendly Tutor Bot.

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Business schools are under pressure to deliver high quality courses and experiences to students to survive in an increasingly competitive and crowded higher education market. Covid-19 has only increased the pressure on business schools. Artificial Intelligence (AI) offers a potential solution by enabling the offering of scalable and customizable solutions that can increase students' success and retention. However, adopting and implementing AI initiatives in business schools is extremely challenging because of the nature of the service offered by business schools (knowledge) and the customers that benefit from them (students). Unsurprisingly, perhaps, business schools have not implemented AI initiatives at large scale. AI can potentially be leveraged by business schools to enhance both course quality and student learning experience but doing so successfully requires time and a thorough understanding of what students actually want and need.

Our study focuses on this issue. Our sample is the student population of a small-to-medium sized public university in the mid-Western United States. The specific problem we are trying to solve is how to lower the failure rate in a required undergraduate course in the College of Business. While the administration has implemented various initiatives to tackle this problem, the results have been discouraging. A major reason for the persistently high failure rate in the course is the lack of support for students at the times when students actually need the support (e.g., during the nights or weekends). Additionally, when students have trouble understanding the course material, they do not ask for help to the course instructor or teaching assistants in a timely manner. Reasons for this include, among other things, feelings of embarrassment at asking the instructor what might seem a trivial or stupid question, hesitation reaching out at odd hours, and so on.

Our proposed solution is to design and develop a tutor chat bot (Tutor COBot) that will be available 24/7 to help students and to facilitate their understanding of the course materials. In preparation for designing and implementing the Tutor COBot, we conducted a Delphi study that involved over 100 students that previously took the high failure rate course. Our goal was to gain an in-depth understanding of students' problems and the factors that prevented them from mastering the course materials. We will use the results of this Delphi Study to derive the meta requirements and design principles (Peffers et al 2007) necessary to design and develop the Tutor COBot.

References

1. Peffers, K., T. Tuunanen, M.A. Rothenberger, and S. Chatterjee, "A design science research methodology for information systems research", Journal of management information systems 24(3), 2007, pp. 45–77.