Smart Partners: Business & Academia Creating Adaptive Technology to Improve Student Outcomes in Engineering

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Starting in 2007, A/Prof. Gangadhara Prusty at UNSW, and subsequently in collaboration with 7 other leading universities of Australia, worked with Smart Sparrow to create a pioneering suite of Adaptive Tutorials that teach key threshold concepts in first and second year mechanics courses in engineering, a project that came to be known as Adaptive Mechanics.

Many students in core engineering undergraduate courses struggle with basic concepts. In large and diverse groups of students, it can be difficult to identify and help the students who are struggling.

Smart Sparrow and Adaptive Mechanics teamed up to create adaptive tutorials which are interactive and highly engaging and provide students with a personalized learning experience that adapt the instruction level to the students’ level of understanding. As a result of using Adaptive eLearning within Prusty’s blended teaching for mechanics courses at UNSW, there was a reduction in student failure rate from 31% to 7%.