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**Strengthen Instructional Components in Peer-Lead Problem-Solving Workshop with eTEACH** JIA-LING LIN, B. CHOE, P. FOWLER, R. GILSDORF, T. KIRCHDOERFER, A. KOKEMOOR, G. LUCAS, T.J. MADSEN, A. ROMENS, M. SPRINGER, University of Wisconsin-Madison — Physics and mechanics are core topics that sometimes frighten beginning engineering students. Statistics have shown that an increasing number of students have given up engineering because of struggle in these courses. One common realization is a consensus among educators that the quality of teaching needs to be improved, and that traditional lectures, even with stellar instructors, fail to motivate students to meet learning challenges. One of the responses from the College of Engineering at UW-Madison has been comprehensive academic support services, specifically the Supplementary Instruction (SI) Program. SI, a student-lead problem-solving workshop has made a significant impact on teaching and learning in engineering for the past eight years. In this report, we describe how we develop eTEACH (an on-line teaching tool) to integrate features of subject- and problem-based learning. We discuss how we incorporate eTEACH to promote broader interactions between instructors and students, as well as among students. Our initial results showed that this change has assisted students with different learning preferences to improve problem-solving and learning strategies. We acknowledge support from Dr. G. Moses, Dr. D. Woolston, and the 2010 project in engineering college.

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