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Chris L Rasmussen* (chrisraz@sciences.sdsu.edu), San Diego State University, Department of Mathematics and Statistics, 5500 Campanile Drive, San Diego, CA 92182-7720, and **Oh Nam Kwon**. *An Inquiry-Oriented Approach to Undergraduate Mathematics*.

To improve undergraduate mathematics learning teachers need to recognize and value characteristics of classroom learning environments that contribute to powerful student learning. The broad goal of this presentation is to share such characteristics and the theoretical and empirical grounding for an innovative approach in differential equations called the inquiry oriented differential equations (IO-DE) project. We use the IO-DE project as a case example of how undergraduate mathematics can build on theoretical and instructional advances initiated at the K-12 level to create and sustain learning environments for powerful student learning at the undergraduate level. In addition to providing an overview of the IO-DE project, we provide a summary of two quantitative studies done to assess the effectiveness of the IO-DE project on student learning.

References

Kwon, O. N., Rasmussen, C., & Allen, K. (2005). Students' retention of knowledge and skills in differential equations. *School Science and Mathematics*, 105(5), 227-239.

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