Abstract

The field of engineering education is in the process of reinventing itself and the January 2005 special issue of the Journal of Engineering Education was a milestone event in this transition [1,2](https://stemedhub.org/groups/collections/1,2). The four most recent guest editorials have documented this reinvention and have suggested shifts that are needed to establish engineering education as a serious and rigorous research-based discipline [3-6](https://stemedhub.org/groups/collections/3-6). Gabriele suggested that research in engineering education move from curriculum reform to conducting fundamental research in how students learn engineering and he stressed that this shift is needed now to move the field forward [4](https://stemedhub.org/groups/collections/4). Haghighi emphasized that “engineering education research is the most effective avenue through which we can address overarching and grand questions” [p. 351](https://stemedhub.org/groups/collections/5,). He also encouraged the broader community of engineering educators to shift from “teaching to learning.” [p. 352](https://stemedhub.org/groups/collections/5,). Currently, engineering education research still tends to focus very heavily on teaching and curriculum development rather than research.

Given this backdrop, the question now becomes “How does one prepare engineering educators to conduct the kind of research that is now being called for?” Specifically, we ask, “What can be done to prepare engineering education researchers to shift their focus from teaching and curriculum development to exploring fundamental questions about engineering learning?” In an attempt to begin to answer this question, we share some insights that have been gained from working with engineering faculty in the NSF-sponsored project, “Conducting Rigorous Research in Engineering Education: Creating a Community of Practice,” hereafter called RREE [7](https://stemedhub.org/groups/collections/7).

This talk was presented on July 16, 2006, at a workshop in Golden, Colorado, which kicked-off this NSF-sponsored event.

References [1](https://stemedhub.org/groups/collections/1) Lohmann, J.R., “Building a Community of Scholars: The Role of the Journal of Engineering Education as a Research Journal,” Journal of Engineering Education, Vol. 93, No. 1,2005, pp. 1-4. [2](https://stemedhub.org/groups/collections/2) Felder, R.M., S.D. Sheppard, and K.A. Smith, “A New Journal for a Field in Transition,” Journal of Engineering Education, Vol. 93, No. 1, 2005, pp. 7-12.

[3](https://stemedhub.org/groups/collections/3) Kerns, S.E., “Keeping Us on the Same Page,” Journal of ‘Engineering Education, Vol. 93, No. 2,2005, p. 205.

[4](https://stemedhub.org/groups/collections/4) Gabriele, G., “Advancing Engineering Education in a Flattened World,” [JournalOfEngineering](https://stemedhub.org/groups/collections/JournalOfEngineering) Education, Vol. 94, No. 3,2005, pp. 285-286.

[5](https://stemedhub.org/groups/collections/5) Haghighi, K., “Quiet No Longer: Birth of a New Discipline,” Journal of Engineering Education, Vol. 94, No. 4,2005, pp. 351-353.

[6](https://stemedhub.org/groups/collections/6) Fortenberry, N.L., “An Extensive Agenda for Engineering Education Research,” Journal of Engineering Education, Vol. 95, No. 1, 2006, pp. 3-5.

[7](https://stemedhub.org/groups/collections/7) [www.mines.edu/research/cee/ND.htm](http://www.mines.edu/research/cee/ND.htm)

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