

EDITORIAL

I am pleased to present Volume 10, Issue 1 of the Journal of STEM Education: Innovations and Research. This issue explores teachers' and students' perception of the students' own educational experiences. Our contributors' research focuses heavily on STEM pedagogy, including teaching methods for improved student understanding and new tools for engaging students.

We begin with Kathy Lu's "A Study of Engineering Freshman Regarding Nanotechnology Understanding." She examines first-year engineering students' preconceived attitudes toward nanotechnology. The study finds that many students are optimistic but uninformed about the parameters of nanotechnology, and that many form their opinions based upon popular media. The study urges clarification and correction of students' basic understanding of nanotechnology before proceeding with nanotechnology education.

Next, Bruce W. Liby, Jay Friedenber, and Sophia Yancopoulos discuss student perception of a typical classroom lesson on center-of-mass. In "What Do Students Perceive During a Lesson on Center-of-mass?," the authors explore two student groups' understanding of a certain representation of center-of-mass. The two groups were given the same assignment goal and written instructions, but one group was shown a video discussing the topic. The differences in the two groups' results give instructors insight into how to approach lessons on center-of-mass.

Third, Aaron Clark and Jeremy Ernst investigate the use of gaming in technology education. Their article, "Gaming Research for Technology Education," discusses student, teacher, and parent attitudes regarding the use of gaming in the classroom. The study included a Web site that encouraged and facilitated the integration of gaming into the technology classroom. Their study found that most regard gaming as a positive and effective educational tool.

Finally, "Mentor and Undergraduate Student Comparisons of Students' Research Skills," by Monica F. Cox and Angie Andriot examines the gap between faculty and student perception of the students' own research skills. Their study discusses several different factors which might influence the discrepancies between faculty and student assessments and suggests additional studies exploring the effects of mentoring regarding student research skills.

Additionally, starting this issue we are planning on publishing invited articles from distinguished educators. J.P. Mohsen of the University of Louisville and the current president of the American Society for Engineering Education has contributed a guest editorial discussing ASEE's new faculty development program, SPEED. We thank him for his insights and efforts.

I hope you find these articles as enlightening and informative as I have. As educators, we must continue to explore innovations and research in pedagogy and student understanding so that we may more successfully transfer skills and knowledge from instructor to student. In no other way can we, as individual professionals and as a scientific community, effectively progress. I look forward to receiving your comments and input regarding the journal and issues addressed herein. Have a great summer!

P.K. Raju