

Editorial

Dear Readers,

We hope you have had a great summer and a positive start to the fall semester, as we welcome you all to *Volume 17 Issue 3* of *The Journal of STEM Education and Research*! This issue includes ten articles that focus on the importance of different learning techniques as well as the effectiveness of several educational programs and studies, in order to improve the way that STEM curriculum is taught in the classroom.

To begin, authors Karen Chou, Saeed Moaveni, and Denise Drane in their article "*Virtual Steel Connection Sculpture-Student Learning Assessment*", discuss the importance of an interactive instrument that is used to help students understand how steel members are connected. This instrument is said to be tremendously beneficial to students who are enrolled in steel design courses.

In the article entitled, "*A Course to Promote Informed Selection of an Engineering Major using a Partially Flipped Classroom model*", author Kerry L. Meyers elaborates on a first-year engineering course that was originally created for students to get more background information on engineering disciplinary options, but is now used to help guide students in selecting their engineering major of choice for the future.

In the article entitled "*Perceptions of Active Learning between Faculty and Undergraduates: Differing views among Departments*"; the authors Lorelei Elizabeth Patrick, Leigh Anne Howell, and E. William Wischusen discuss a survey that analyzes the difference between what students believe are effective learning strategies verses faculty members within STEM classrooms.

In the next article "*An Examination of Middle School Students' STEM Self-Efficacy with Relation to Interest and Perceptions of STEM*", authors Patrick Brown, James Concannon, Dona Marx, Christopher Donaldson and Alicia Black write about the importance of a teacher research study that helps discover students beliefs and interests in the STEM program.

Next, in the article "*Endovascular Device Testing with Particle Image Velocimetry Enhances Undergraduate Biomedical Engineering Education*", authors Priya Nair, Casey J Ankeny, Justin Ryan, Murat Okcay, and David Frakes discuss about a system called HemoFlow that employs specific technologies to test endovascular instruments, which is pertinent to the course work within the undergraduate biomedical engineering curriculum.

Focusing more on the foundation of STEM Education, authors Sekela R. Mwaikinda and Mara S. Aruguete analyze the effectiveness of a program called STEM Alliance which is used to increase support for students who would like to major in science mathematics, engineering or medicine, in their article "*The Efficiency of a Student Organization for STEM Students*".

In the article entitled "*Hands-on Tabletop Units for Addressing Persistent Conceptual Difficulties in Continuity and Frictional Loss in Fluid Mechanics*", authors Xuesong Li and Bernard J. Van Wie discuss the importance of incorporating more efficient ways to cover chemical engineering course work during lectures, by using Desktop Learning Models that help student's get a better understanding of the information within their curriculum.

Next authors Abdulkadir Bahar and Tufan Adiguzel examine a study that they conducted, to find the main reasons why American and Turkish students chose STEM as their career path, in their article entitled "*Analysis of Factors Influencing Interest in STEM Career: Comparison between High Ability and Motivated American and Turkish High School Students*".

In the article entitled, "*First-Year Students' Attitudes towards the Grand Challenges and Nano Technology*", authors Joni M. Lakin, Yi Han and Edward Davis discuss a study that investigates the attraction that first-year engineering students have towards Grand Challenges and in Nanotechnology subject matter.

Lastly, in the article entitled, "*Motivationally- informed interventions for at-risk STEM Students*"; authors Ameneh Mahrou Kassae and Ginger Holmes Rowell examine a study that was conducted to see if students desire to learn, played a big part in the retention rate of freshman students majoring in STEM disciplinary studies at Middle Tennessee State University.

If you would like to learn more about our journal, or have any questions about being an author or reviewer for any future journal issues, please do not hesitate to contact us by emailing jstemed@gmail.com. We look forward to hearing from you!

Regards,

P.K. Raju
Editor-in-Chief