

Presenters: Karin Jensen, University of Michigan, Aileen Huang-Saad, Northeastern University

Topic: Publishing Teaching Tips Articles

Resources:

- BEEC Resources and Slack:
 - <http://beecvirtual.org/>
 - https://beecgroup.slack.com/join/shared_invite/zt-vbx77o6v-Eimbgba8pZpAo0FFkGBbtg
- To join ASEE BED:
 - <https://www.asee.org/membership-and-communities/membership>
 - \$89, free for students
- Tool to rewrite paragraph and change language while maintaining same content for methods that are already published or you need to rewrite it slightly - Chat GPT
 - <https://openai.com/blog/chatgpt/>
- Concept maps – Mary Besterfield-Sacre paper has a rubric for evaluating and instructions for how to set one up
 - <https://onlinelibrary.wiley.com/doi/abs/10.1002/j.2168-9830.2004.tb00795.x>
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- Aileen Huang-Saad email: a.huang-saad@northeastern.edu

Presentation Overview:

- Opportunities for BME/BIOE Education Publications
 - Biomedical Engineering Education Journal – peer reviewed full journal
 - ASEE BED Division – peer reviewed conference, can be considered journal article given review rigor
 - BMES – conference, has ABET workshops and other teaching panels
 - Biomedical Engineering Educators Community
- Journal Biomedical Engineering Education:
 - Teaching tips is a short tutorial as it is more than just going to the classroom and speaking, pedagogical approach based on evidence based literature
 - How much data will I need? Need some data, such as course evaluations, reflections from you as instructor, some evidence, but don't need full research study

Discussion:

- Nicole Ramo, Wetschester University – what is the topic of the upcoming special issue?
 - Aileen – can't announce yet, but if have an idea or request, reach out to Aileen, Anne Saterbak or other editors
- May Mansy, University of Florida – I want to put together a teaching tip article, but the problem I have is that the survey I have is very simple, I know it had a good impact on the students from the survey, but I'm not confident that it would be sufficient for a scientific piece of evidence for usage?
 - Karen – that is perfect what you have, and you can discuss how you collected the data, its limitations and address how you can expand on it in the teaching tip and what future work you can do to formalize it. You can talk about the feedback collected from the students can be collected to guide otheWr instructors in a similar class
 - Aileen – there is a teaching tips article, innovation article, and research article
 - A research article is where you explore conceptual frameworks to understand perceptions of students to an intervention, something seen in sociological research towards teaching.

- In an innovation article, you want to look at a teaching practice in a more in dept manner using a significant amount of data to see how impactful you were with the intervention/pedagogical practice.
 - Teaching tips article is where you explored the literature and see what we know about learning and how that supported what your intuition was to try the new pedagogical approach/practice. For example, we know collaborative learning is effective, here is an example of it, and here is a way I applied it in my pedagogical approach
 - Nicole – shared teaching tip article she wrote
 - Found evidence about synchronous vs asynchronous activities, tried each one/technique, and then used literature to figure out why the students were responding to the approaches in which way and why it worked/didn't work
 - Motivation and purpose of teaching tips is to share ideas that work in classroom so others can modify and implement for themselves
 - Rebecca Reck – what is the philosophy of going from a conference paper (e.g. published in Frontiers in Education) to a teaching tips article to a full journal research article?
 - Aileen – be wary of copyright issues, so for FIE, you cannot take the data that was published there and publish it again in Journal of Biomedical Engineering Education as a teaching tips, you need to expand and publish new data in it.
 - Your methods will not change, so how do you change the early parts of the study so that you can avoid copyright issues. Karin – some people write an abbreviated methods section in the journal and then reference the conference paper in the methods section of what was presented there.
 - May Mansy – there's chat gpt that can help rewrite the methods while maintaining same content, but may have ethical complications and issues especially since you didn't write it yourself and how to cite it
 - Aileen - been in the news recently, there's no clear policy on how to use it in publications
 - Sabi Abidi – Rice University – what is everyone's approach on measuring impact? Via surveys, a reflection assignment, or others?
 - Rebecca Reck – has does surveys but that requires IRB if you take it outside of the classroom, other option is qualitative side via reflection assignment on how well their lab went
 - Sabia – reflection assignments are a goal mine for understanding the impact of the pedagogical approach on the student learning, but sometimes is hard to analyze and doesn't show what students found in terms of impact when they realize utility much later
 - Aileen – this goes back to the evidence based practices on what you are surveying and how to approach it, personally likes concept maps and there are different psychological constructs to examine what type of impact you are looking for such as creativity and there are surveys that exist in the literature that you can use to test before and after the class. The literature then makes it useful to help you unpack and narrow down the impact on student learning.
 - Karin – it's overwhelming to measure all types of impact, so instead of looking at everything, use related work and evidence based measures from literature to narrow it down and assess and use for how to share your advice for other instructors and how to use your approach
 - Aileen – find an analog paper in another field (physics/chemistry/medicine) and see if someone asked similar question and see how they measured it and use it as a template to do your own measurements. There are also quite a few papers in the Journal now that you can use to leverage.
- Karissa Tilbury, University of Maine – IRB and the status of sharing student survey responses, what does that look like and what should you have?
 - Karin – rule for IRB is that it is collected for other purposes and anonymous, can get approval after the fact for exempt IRB approval as it was for internal purposes only for improving your course and can apply as a retrospective use of that data so you can use it for research purposes

- Can ask IRB and see what procedure is to use it after the fact and is typically not a problem
- Aileen – teaching tips can be either prospective or retrospective, so you can up front do an assessment process and apply for IRB approval to do it or do it after the fact
- Aileen – as long as it's an assignment in the class and is deidentified, can get IRB exempt after the fact
- May Mansy – phrase IRB to make as open and broad as possible so it still works for other classes – can apply for a blanket IRB to do pedagogical effectiveness on several courses/approaches to help with future studies
- Rebecca – course level grades sometimes are an issue with the IRB and require a more formal review even if it is aggregated and anonymized
- Sara Wilson – few years ago, everything at the institution had to go through full review, but they're finally lightening up
- Aileen – if it evaluation it's fine, but if it's to evaluate the program vs. research then it would require full review