BEEC Share and Learn Report: February 2026

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Topic: Exploring Connections: Six Degrees of Wikipedia vs. GenAI: ASEE Education Showcase Deep Dive

Resources:

- 6 Degrees of Wikipedia:
    - https://www.sixdegreesofwikipedia.com/
- Doc for Implementing this in your Classroom: https://docs.google.com/document/d/12rMDNcx-uqkNrR3pWS0oVltAJheLQ_X-WtrLaN6L3Jw/edit?tab=t.0
- Possums Play Dead Video: https://youtube.com/shorts/1zbBsgyL740?si=xf1cjAU7pZ0jKpY6

Discussion and Lecture Notes:

Lecture Notes:

- Use 6 Degrees of Wikipedia:
    - Try TV pickup and spirometry
    - Noticed spike in usage of toilet flushing after the Bad Bunny
    - TV pickup is when there is a demand on national electricity grid because people make use of commercial breaks during large synchronized TV watching like Super Bowl
- TV Pickup -> Spirometry: TV pickup to Carbon dioxide due to mass switch off of electronics to conserve carbon dioxide because of Live Earth, which can sometimes cause more carbon dioxide use because of what it's trying to save, which then relates to pulmonary gas pressures, and thus spirometry use
- ChatGPT – mistook TV pickup for Tidal Volume, and then fabricated to spirometry from there
    - Even fabricated a flow volume loop that was wrong
- Outcomes from Activity:
    - Students gain understanding of which tasks are not well suited for AI
    - Students speculate on why GenAI fails or succeeds at certain tasks
        - GenAI does okay at Close connections (only 2-3 connections it will work)
        - Given good prompt engineering, AI may perform better
        - Dataset availability – if AI doesn't have a large enough dataset to pull from, it tries to find other lead
    - Possums "Play Dead" video: https://youtube.com/shorts/1zbBsgyL740?si=xf1cjAU7pZ0jKpY6
        - GenAI incorporated that movement from a dog and put it on top of a possum
- Instructor gets insight into students' interests
    - Students can explore societal issues and interesting connections
    - E.g. electrocardiography and drag race franchise given how gender nonconformity relates to incarceration in US
    - E.g. use of glucose meter in smart phones and saw how it's limited to AT&T and Verizon, which led to limitations on connection speeds with YouTube and Vlogs – shows role companies play in terms of accessibility of data and devices and access to medical care
    - E.g. Stevie Wonder to surgical retractor – related to veganism due to his spiritual journey and then his diet then John Harvey Kellogg (physician) who developed wellness center and was a "wellness influencer" and made contributions to obstetrics which then led to advancements in regtractors
- Let's try it!

Discussion:

- What do you get out of this activity when doing something that's BME relevant?
    - Interesting connections that have societal issue thread e.g. how does medical care get policed,

- - Interesting historical figures that we would not have thought of that are not always related to BME
  - E.g. William Einthoven who invented first practical ECG was born in
- Any conscientious objector who refuses to use AI?
  - Yes, few are fine with 6 DOF of Wikipedia, but will not use the GenAI
  - Illustrates why you should not use GenAI for all things
  - Some look down on students who use it – e.g. "selling my data" and others "Triton GPT is LLM is preferred since it's within university", or "environmental/global warming impact", or "if I use it for this assignment, I'll use it for other things and become dependent on it"
- Other assignments to vet students to use GenAI to explore boundaries
  - Workshop on how to develop ChatBots using Data from Kaggle
  - https://link.springer.com/article/10.1007/s43683-025-00192-8
  - Coding GenAI - educational digital twin in class to get real time data from lab, images of organoids, let students pick images from data and can process. Once do coding, notice that if it is low contrast, it breaks down. Instructor noticed need to understand workflow and process over actual code – e.g. image detection, use GenAI for parts of code, use university ChatGPT, but end goal is the process and workflow understanding
  - One GSR will hand off results from one model to another to create competing genAI models, e.g. use one for brainstorming, and then another to create design requirements and process documents. Gives intuition of what each model is capable of. Need to understand which versions (paid vs free vs meant to think on complex problems, fast vs slow) can tackle which tool. Steep learning curve but requires a lot of intuition
- Dalkon Shield – IUD resulted in thousands of infections which caused public to have more FDA regulations
- 6 DOF Wikipedia requires you to click on each page and you have to think through or establish the connection yourself
  - ChatGPT did a good job with Dalkon Shield versus FDA regulations due to close connection