

Assessment of An Undergraduate Research Outcome: To Explore Effective Ways of Helping Students Get Engaged in Undergraduate Research

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Five challenges in doing undergraduate research

- 1. Passion
- 2. Research question
- 3. Literature review
- 4. Self-efficacy
- 5. Linking doing research to learning outcomes

Passion

- Many undergraduates do research because they are told to do so. It is hard for them to see the true and concrete value of doing research
- It is important for an instructor to show them the true benefits of doing research, in particular, they need some tangible and immediate rewards now
- E.g. use research paper to find an internship, look for a job, etc. (invite alum to talk benefits, ask employer to discuss their research expectation, chat about my daughter's story)

Research question

- One challenge is to develop a manageable RQ
- Some questions are too large
- Others are too hard to do in a semester
- Spend more time with students to explore their interests and finalize a workable RQ

Literature review

- Literature review requires lots of time & efforts
- Focus on key elements: RQ, RD, & RR
- Develop a writing practice structure
- Learn through modeling
- Practice, practice and practice

Self-efficacy

- Research is a very abstract word and subject
- Self-efficacy is the key to motivate students
- Building self-efficacy through
 - Modeling
 - Reflected appraisal
 - Social comparison
 - Self reflection

Linking doing research to learning outcomes

- Critical thinking is a key element in our learning outcome
 - Thinking critically
- Written communication
 - MWF class, W refers to Writing Day
- Oral communication
 - Students present their ideas often in class

Individual research vs class project

- Seven steps of doing individual/class project
- 1. Weekly literature review writing
- 2. Developing research idea through students' interests
- 3. Finalize research questions based on review of literature
- 4. Develop class survey including individual RQ measures
- 5. Data collection by each student (20 each)
- 6. Data entry & data analysis
- 7. Complete and present individual paper

Advantages of the current approach

- The current approach has a few advantages
 - 1. Students work on their own research topics
 - 2. Students have motivations and excitements
 - 3. Observe the process of doing research
 - 4. Have a chance to present their research paper in a public forum (two students got their paper accepted to present at WSCA in Seattle Feb. 22, 2019)

Students' feedback on the class

“Motivation is the key”

- Kimberly: “I found this class to be extremely challenging. Even though I found it challenging I learned a lot. Doing final research paper taught me a lot about communication research methods.”
- Kimberly: “Each week we wrote about an article we found. Researching articles helps us develop our research questions. These articles helped us write our literature review.”

Students' feedback on the class

“One-on-one with professor is critical”

- Jenna: “One-on-one meeting times with the professor were very useful in helping develop the paper. A walkthrough step by step of how to get the statistics necessary for the paper was very helpful.”
- Jenna: “Doing the literature review slowly over time was able to help me develop a good research question. I think one on one time to talk to the professor was most helpful.”

Students' feedback on the class

“Literature review writing is fundamental”

- Arianna: “The class thoroughly helped me develop my paper through the workshops scheduled during class days and the due dates prior to the completed paper being due to help us stay on track to have our finished product done when needed.”
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- Arianna: “The part of the class that helped me most in developing a high-quality research paper was learning the basic concepts of qualitative and quantitative research and more specifically, the types of statistical testing done to compete results from the research conducted.”

Students' feedback on the class

“Some fun and more exercise”

- Yesenia: “The class was a lot of fun, there was times where I didn't understand the material but was given lots of guidance. The class itself was very useful for future references, such as when I go to graduate school. I learned more statistics in this class than in my actual statistics course.”
- Yesenia: (Literature review exercise) “helped me by making myself more prepared. ... by the time it was time to write the literature review it came in handy. It saved me a lot of trouble and it was good for me to do it sooner so I can make sure I stayed on task with other work.”

Students' feedback on the class

“Challenging and guiding students at the same time”

- Alissa: “My experience with this class was all around positive. This was my first time writing a research paper, so everything was a learning experience. SPSS was the most interesting part.”
- Alissa: “I enjoyed the layout of the class the most. The class was exactly as it was according to the syllabus. Each day I knew what we would be doing and what was expected of us. I enjoyed learning SPSS and the entire procedure of a research paper.”

Get students engaged

- To sum up what students comments, it is clear that it is critical that we find a way to get them engaged in the research process.
 - Generate excitements “Have some fun!”
 - Self efficacy “Motivation”
 - Tap Students’ potentials “C & G students at the same time”
 - Tangible rewards “Learn it, feel it and do it”
 - Face to face elaboration “Problem solving on the spot”
- Practice, practice more and practice a lot

Discussion & Conclusion

- Several key elements for motivating students to do research
- Generate their excitements; build self-efficacy; offer them perceived rewards and develop a support system
- Adapt to students' needs and wants accordingly

Thanks