

Incorporating Research as a Teaching Practice in an Online Database Management Course

Benjamin J. Becerra, DrPH MBA MPH MS

Department of Information & Decision Sciences, California State University, San Bernardino

Introduction

- High Impact Practices (HIPs) : designs and practices in teaching and learning that increase student engagement and lead to successful learning¹
- Experience/knowledge even after leaving college
- At CSUSB, goal for “[a]ll undergraduate students [to] participate in at least three HIPs by graduation.”² At least one HIP should be provided in the context of a student’s major.
- Research as a high-impact practice in an online Database Management for Business course (undergraduates in data analytics, supply chain management, and cybersecurity)
- This course incorporated research using the Peer Research Consultant Program (PRC) through California State University, San Bernardino (CSUSB) Office of Student Research. PRC are paid for 10 hours a week of work.

Methods

- Students were taught to approach a database management issue from a research-based lens by the PRC to complete a cumulative project.
- PRC was a 4th year Cybersecurity student who had previously taken the course and worked on several projects with me
- PRC hosted two weekly meetings to consult with students on course material
- PRC developed small investigative course modules each week to enhance research skills
 - Developing hypotheses about data
 - Translating a lay question into a specific research question
 - Discovering multiple approaches
 - Investigate external resources

Results

Results of Post-Course Survey

What were some of the things that you think went well or good in this class?

“Teachers Aide was nice.”

“TA is helpful, I can get response fast.”

“I think that having the meetings once a week with [the PRC] was very helpful”

“Some of the things that I really enjoyed about this class is that the Professor as well as the Peer Research Consultant were very helpful and willing to go the extra mile to help us out if we had any questions.”

“layout, organization, peer research consultant”

What were some of the things in this class that you think did NOT go well, or could have been better?

“maybe the peer research consultant could've been more understanding”

“unfortunately was not able to attend team meetings”

Peer Research Consultant Experience

1. What was your experience with the PRC program?

“I felt I was able to put myself in the professor’s shoes... As a student I always thought professors had it easy and just gave students busy work to eat up students’ time. I can see there is more than meets the eyes.”

“...I was able to come up with various assignments with the help of the professor that I felt could better provide the students with more engaging assignments than just plain old note taking.”

“I was able to offer advice on things outside of the classroom such as presenting how I got started in research, how to reach out to professors, advice on which courses I enjoyed and recommend, as well as offering advice on job hunting.”

For future classmates, what advice would you tell them before taking this class?

“The main advice I would tell future classmates before taking this course would be, if given the chance, to attend the Peer Research Consultant’s sessions for this class. I sadly was not able to attend them for the times they were held, but it will increasingly help for any confusion through the course.”

“attend all the PRC meetings”

“Always reach out to the professor/ peer research consultant (student mentor) they will help out to the best of their ability!”

“stay on track and attend the peer research meetings”

2. What things went well?

“Creative freedom I had in how I wanted to give assignments and what they would consist of.”

“Ability to have a platform to be a ‘mentor’”.

“The encouragement and support of the partnering professor.”

“Overall this felt extremely rewarding as I had several students reach out personally to thank me for the time and advice that was given to them.”

3. Would you change anything we did for next time?

“I would not use Teams ... I do not think any students really used it outside of this class... wished the meetings could have been mandatory but I felt bad since the students signed up for this class assuming there would be no course meetings.”

Lessons Learned

- Student perceptions
 - faster response times
 - PRC was helpful
 - Wished they could attend all meetings
- PRC perceptions
 - Felt like a professor
 - Fulfillment in teaching and mentorship
 - Enhanced engagement
- Instructor perceptions (BJ Becerra)
 - Fulfilling to mentor potential future instructor/researcher
 - Major reduction in questions being asked by students (most go to PRC first)
 - Contacted by a student who wants to begin working with me on research 😊
- Challenges
 - Having a good prior relationship with PRC was important
 - Student feedback goes through PRC first
 - PRC may be difficult to implement without monetary incentives
 - Grades similar to pre-Covid, could not assess impact, if any. Other assessments likely more suitable.
 - Focus was on research skills rather than end-to-end research project.
- Future work includes assessing surveys from students collected independently by Office of Student Research at CSUSB

Acknowledgements

- Garrett Mustin, BS Cybersecurity Student at CSUSB (Fall 2021 Peer Research Consultant)
- Office of Student Research at California State University, San Bernardino

References

1. Association of American Colleges and Universities
2. Goal 1 -- Student Success of the 2015-2020 CSUSB Strategic Plan