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| Plan for a SoTL Project  by Shawn Luo, St. Lawrence College  **Research Question**  *What are you curious about?*  *What would you like to know about strategies that might hinder and/or help students to learn, in your course?*  *Do you want to know if an activity, assignment, or teaching strategy “works?”*  *Do you have a question about how to help your students learn a particular skill?*  I am curious about effective teaching strategies that facilitate the integration of pharmacological management across different organ systems for patients living with multiple comorbidities. I would like to know how educators can overcome challenges associated with the traditional organ system-based approach to teaching pharmacology and whether innovative teaching methods or activities can enhance students' ability to apply their knowledge holistically. Additionally, I am interested in understanding if there are specific activities or assignments that have been proven to be successful in helping students grasp the interconnected nature of disease processes and pharmacodynamics. |
| **Identify challenge/outcome related to learning that is related to your question.**  *Describe the learning in a way that suggests how you might measure it using either qualitative or quantitative methods.*  Employing a mixed-methods approach will yield comprehensive data on the effectiveness of integrating pharmacological management across organ systems. Qualitatively, comprehension will be assessed through clinical case studies and in-class discussions, complemented by student feedback collected in-person and through online Blackboard surveys. Quantitatively, pre- and post-assessment quizzes/tests will be utilized, and grades will be compared to performances from previous semesters. |
| **Identify ethical considerations for this project:**   1. **Informed Consent (if focus groups are being recruited):**   Clearly communicate the purpose, procedures, and potential risks and benefits of the project to participants. Ensure that they understand what is expected of them.  Emphasize the voluntary nature of participation and reassure participants that their decision to participate or withdraw will not impact their academic standing.  Obtain written consent from participants. Provide a consent form that outlines key information, and ensure participants have the opportunity to ask questions before agreeing to participate.   1. **Information Accessibility:**   Make sure that all relevant information about the project is easily accessible to participants. This could include sharing details in class, providing written materials, or utilizing online platforms.   1. **Confidentiality:**   Anonymize data at the point of collection. Ensure that responses and performance data are aggregated and cannot be linked to individual participants.  Restrict access to identifiable information. Only individuals who need to analyze the data should have access to personally identifiable details.   1. **Voluntary Participation:**   Present the project in a neutral manner, emphasizing that participation is voluntary and will not influence academic outcomes. Avoid language that may pressure students to participate.  Clearly communicate that there will be no negative consequences for students who choose not to participate. Assure them that their decision will not impact grades or class standing.  Throughout the project, reiterate the voluntary nature of participation. Regularly remind participants that they are free to withdraw from the project at any point without facing repercussions. |
| **Describe the instructional activity, assignment, or teaching strategy that will promote student learning on the outcome you identified.**  *SoTL projects might investigate the impact of a modification to an existing strategy or assignment. Describe how the new approach differs from the old approach and why this modification might change student learning on this outcome.*  To address the challenges associated with the traditionally organ system-based approach to teaching pharmacology and improve student learning outcomes, a SoTL (Scholarship of Teaching and Learning) project could be designed to investigate the impact of a modified teaching strategy.  **Old Approach:**  The traditional organ system-based approach involves teaching pharmacology by focusing on individual organ systems, which might contribute to students memorizing medications and mechanisms of action in isolation. This approach may not effectively promote the integration of pharmacological management across different organ systems and hinder students from making connections to real-life clinical scenarios where holistic patient care is essential.  **New Approach:**  The modified approach would involve restructuring the curriculum to emphasize interconnectedness and real-world applications. Here are key modifications:   1. Integrated Case Studies:   Incorporate case studies that span multiple organ systems, requiring students to apply their pharmacological knowledge in a holistic manner.  Emphasize patient-centered care scenarios to bridge the gap between memorization and practical application.   1. Problem-Based Learning (PBL):   Implement PBL sessions where students work collaboratively to solve patient care problems.  Present scenarios that necessitate an understanding of pharmacology across various organ systems to encourage a holistic approach.  **Rationale for Modification:**  The modification aims to address the identified issues contributing to the high failure rate in the pharmacology course. By shifting the focus from isolated organ systems to interconnected patient care scenarios, the new approach seeks to engage students in a more meaningful way. Emphasizing real-world applications and active learning strategies is expected to enhance students' ability to apply their knowledge holistically, moving beyond rote memorization to a deeper understanding of pharmacology in the context of comprehensive patient care. The ultimate goal is to improve learning outcomes and reduce the failure rate by promoting a more integrated and clinically relevant approach to pharmacology education. |
| **Describe the evidence that would persuade an external audience that the new or modified teaching strategy improves student learning on the targeted learning outcome.**  *Describe the evidence you would need to collect to answer questions about the impact or value of this teaching strategy. How would you convince others that this approach is better than other approaches? What comparisons should you make? Examine students; skill before and after the assignment? Compare students who complete the learning activity to another group of students – what comparisons would be meaningful?*  To assess the impact and value of the modified teaching strategy, you would need to collect both quantitative and qualitative evidence. Here's a breakdown of the types of evidence you might want to consider:  **Objective Measures:**   1. Assessment Scores:   Compare the performance of students before and after the implementation of the modified approach. Look at scores on exams, quizzes, or other assessments related to pharmacology. Compare the average scores of students who experienced the traditional approach to those who experienced the modified approach.   1. Course Completion Rates:   Analyze the course completion rates of students who were taught using the traditional approach from the previous semesters versus the modified approach. Explore if the modified approach contributes to a higher percentage of students successfully completing the course.  **Subjective Measures:**   1. Survey Data:   Develop and post-class surveys to gather students' perceptions of their understanding, engagement, and confidence in applying pharmacological knowledge.  Collect feedback on the perceived relevance of the course content to real-world clinical scenarios.   1. Focus Groups:   Conduct focus group discussions with students to delve deeper into their experiences with both teaching approaches.  Gather insights into their understanding of interconnectedness, ability to apply knowledge in practical scenarios, and overall satisfaction with the course.   1. Observations:   Observe PBL sessions and integrated case study activities to assess student engagement, collaboration, and critical thinking skills.  Note any changes in the classroom dynamics or student interactions compared to the traditional approach. |
| **How and where would you publish, present, or disseminate this work?**  Initially, I would present the findings to students to highlight their input and gather feedback on the new approach. Subsequently, I'd share the results with colleagues and the department to promote the adoption of the teaching strategy. Following internal presentations, I would integrate valuable peer feedback before discussing the findings to the wider faculty community during a professional development session. |

Adapted from: C. J. Stanny, E. M. El-Sheikh, & H-M. Chung (2009) ***Getting Started with an SoTL Project***

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