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The Potential of Student Co-Creation in Extra-Curricular Experiences and Engagement Outcomes

[MOT] [SET]

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Course Design: Mapping the Course

[SET]

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Focus:

A map, or grid, has historically been utilized to design and represent an academic program curriculum. A course map, evolved from the program curriculum map model, provides a visual checklist to support online course development.

Context:

A graduate level course must be designed to meet professional accreditation standards, best practice standards, and the diverse learning needs of the students. The ideal course map design flows in a well thought out manner that addresses all crucial topical components while avoiding non-essential components or redundancies. The well detailed course map clearly reflects how each course objective is linked to specific practice standards. In addition, each course assignment, which can be designed in a flexible manner to meet unique student needs, is defined by the specific course learning objectives to be achieved.

Approach:

The course map is designed by faculty to serve as a convenient visual representation for the student to link overall course objectives to course assignments. The course map, presented to the student along with the course syllabus, also displays the weighted percentage for each assignment from the potential total score of the course so students can easily identify topical priorities.

Discussion:

The course map is currently being used with several online graduate nursing courses. During spring semester 2017, student in the graduate level nursing informatics course will be given an assignment to interact with the course map to design a learning objective specific to the chosen nursing specialty. This mapping process is also being introduced to all nursing faculty during an end of semester retreat.

Inquiry-Based Abstract Algebra: An Approach for Students of Varying Preparation

[SET]

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There is currently a push for an increase in active-learning in post-secondary math and science classes. The benefits of this style are discussed in the Freeman report¹ and advocated for in the recent Joint Statement on Active Learning² from CBMS. In order to increase the amount of active-learning taking place at Kentucky Wesleyan College (KWC), An Inquiry-Based Approach to Abstract Algebra, a set of notes written by Dana C. Ernst at Northern Arizona University, were adopted as the text for the Fall 2016 Abstract Algebra course. Dr. Ernst's notes were designed to be taught using the Modified Moore Method.

As with many small liberal arts colleges and universities, our upper-level math courses are taught on a two-year rotation. The students in these courses can vary significantly in their prior mathematical preparation and knowledge. This particular course consisted of four students, none of which had previously experienced inquiry-based learning (IBL), ranging from a graduating senior to a junior transfer student currently completing the calculus sequence. Given that the Modified Moore Method is designed for classes with similar preparation and prior knowledge on the subject matter, further modifications to the method were introduced throughout the semester in an effort to ensure an effective learning environment for each student.

In this talk, I will describe my experience introducing IBL in this setting. I will describe the challenges and advantages observed related to IBL and small class sizes. Further, this talk will include a discussion of the modifications that were made to make the course accessible for the entire class and the increase in performance and confidence I have witnessed throughout the semester in these students.

The Implementation of an Interdisciplinary Faculty Learning Community

[SET]

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Problem Statement:

Since real life problems are not confined to single disciplines, faculty need to become facilitators that model interdisciplinary dialogue at the level of course design and delivery, through collaboration with other faculty, or/and through engaging in interdisciplinary problem-solving in their own teaching.

Context:

A faculty learning community model was used (Cox, 2004). The beginning dialogue occurred monthly on campus during the fall semester with a voluntary, self selected group of USI faculty. Initially 16 people representing seven (7) disciplines expressed interest. Members were asked to commit to attend 75% of the meetings.

Approach:

An interactive face to face discussion was facilitated by two faculty and enhanced with articles (Lyll, et al, 2015; Woods, 2007) and online discussions. A FLC Blackboard site served as a platform to continue online discussions that began en face.

Results:

Discussions focused on what faculty want their students to know, i.e. writing skills, and how skills transcend disciplines. Group members are committed to the notion and importance of interdisciplinary practice and are exploring how that might happen at USI. Looking at university structures already in place such as the Honors Program, faculty discussions are exploring ways to implement an interdisciplinary model.

Reflection/Discussion:

Faculty discussions are aimed at creating common ground concerning definitions of interdisciplinarity in theory and practice as well as exploring ways to implement an interdisciplinary model based on a set of researched best practices. In a mutually constructed evaluation of the Interdisciplinary FLC, faculty will decide what the next steps are.

Enhancement of Exam Preparation Skills

[MOT]

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Problem Statement:

Does exam feedback by the faculty change the study habits and life choices of the students to be successful on an exam? Faculty feedback on exams has been identified to increase engagement and help students to verbalize their thought processes, analyze their performance on exams, and adjust study strategies to improve learning.

Context:

First semester baccalaureate nursing in two introductory nursing courses at a public university are completing “exam wrappers” after each exam. The students will be able to identify and reflect on exam preparation.

Approach:

The faculty used “exam wrappers” to collect data following each exam. An “exam wrapper” is a group of questions at the end of an exam which identify student study habits and life choices (i.e. study preparation, number of hours worked, and number of hours of sleep) prior to an exam. Using “exam wrappers” and exam scores, faculty were able to identify those students that struggled to pass exams.

Once the student was identified, faculty reached out to discuss results and counsel on study habits and life choices. Faculty used a checklist which included: attendance at the meeting, review of “exam wrappers,” review of exam questions, test taking strategies, discussion of exam preparedness, and a referral to peer tutoring. Students who passed the exams were able to identify and reflect on exam preparedness.

Results:

Faculty consultation with the students improved the exam preparedness and exam scores.

Discussion:

Faculty learned that all students benefit from identification and reflection of exam preparation. “Exam wrappers” could be an additional tool for faculty to increase student engagement and motivation.

Interprofessional Peer-to-Peer Teaching

[MOT] [SET]

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Focus:

The purpose of this project was to promote interprofessional education by developing a relationship between first semester nursing students and second year Master's level occupational therapy (MSOT) students as well as between first semester nursing students and first year dental hygiene students. The focus was implementation of peer-to-peer teaching. Interprofessional education is a universal means to facilitate relationships, develop collaboration, and promote communication between health care professionals.

Context:

First semester baccalaureate nursing in the Introduction to Professional Nursing course at a public university were introduced to interprofessional peer-to-peer teaching while learning basic nursing skills.

Approach:

Peer-to-peer teaching was endorsed by the Institute of Medicine (2003) as a method to improve the overall quality of health care. The project was implemented for basic nursing skills modules focusing on activity/immobility and oral hygiene. The MSOT students and dental hygiene students served as peer teachers, leaders, and role models, instructing and coaching 97 nursing students during two hour skills labs.

MSOT students demonstrated and instructed activity and immobility skills including: gait belts, assisting patients out of bed, walking with crutches, walkers and canes, mechanical lifts, and transferring patients. The dental hygiene students demonstrated and instructed oral hygiene skills including brushing and flossing teeth.

Results:

The interprofessional peer-to-peer teaching was successfully implemented as noted by instructor observation of skill attainment and anecdotal narratives of student development of mutual respect for one another's profession.

Discussion:

Faculty plan to continue the activity with formalized evaluation tools to measure student and peer perception of the experience.

Thinking Innovatively About Teaching Innovation and Ideation: Getting Students to Think Differently

[MOT]

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USI has a simple but powerful vision - “Shaping the future through learning and innovation.” Elements of the culture of the university are aligning to utilize aspects of innovation to impact our region. Given this imperative, how can we enhance the innovativeness of our teaching and learning?

The approach to be described can be used in virtually any course or training context. The approach has been successfully applied in semester, five week, and twice a month formats; with traditional college age and adult learners; in face-to-face and online formats. The approach uniquely integrates work from the social cognition and multi-sensory learning literature to develop student ideation capabilities.

The unique ideation process: In recent Booz and Co. research (2012), 57% of respondents reported their company as only marginally effective at idea generation. Yet Booz and Co. found that effectiveness in early stage ideation is a strong predictor of later project performance. The approach is aimed at enhancing idea generation. Students start with an existing domain (problem or existing idea for improvement) and then intersect the domain with combinations of mega-trends, concepts, visuals, music, and videos to develop pools of unique ideas. Note that the use of multi-sensory stimulation is in keeping with the work of Mayer (1997). This research identified a clear “multi-media effect” in which participants exposed to coordinated visual and verbal stimuli generated a median of over 50% more creative solutions on problem solving transfer tests than participants exposed to only one modality.

We have assessed the impact of the unique ideation process utilizing a pretest-posttest design. Posttest means are consistently significantly higher for ideation-related beliefs and ideation self-efficacy. Further, outcomes support the uniqueness of ideation output.

Over multiple time periods and contexts, the unique ideation approach has helped connect university engagement and innovation imperatives, ideas to students, and finally, students to themselves. We look forward to future use of the ideation process as an approach that connects for impact!

Implementing Interactive Demonstrations for Deep Learning

[MOT] [INC]

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Interactive classroom demonstrations are active learning approaches used during class to engage students and improve their learning. Demonstrations have been developed in many disciplines for a variety of topics and made available for general use. In addition, many instructors have developed demonstrations for their own classes. While they can be entertaining for students, additional consideration in the implementation of these classroom demonstrations should be taken to foster deep student learning.

Studies by Crouch et al. (2004) and Zimrot and Ashkenazi (2007) showed that students who engaged in the demos through inquiry learned more than students who passively observed classroom demonstrations. When student-centered learning and inquiry-based practices were used, in which students make predictions about the demo, observe the outcome, and discuss with their peers and the instructor, these implementations of the demonstrations not only resulted in student learning gains but also helped to overcome student misconceptions. By asking students to make predictions during the demonstration and discussion their observations afterwards, students activate their prior knowledge and start making connections.

This presentation will present best practices in implementing and incorporating these demonstrations and highlight available interactive classroom demonstrations. Reflections from my experiences in using demonstrations in environmental engineering classes I have taught also will be shared.

Why Research Methods Class?

[MOT] [SET]

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Epistemological beliefs (EB) are one's assumptions about knowledge (Schommer, 1990; Hofer & Pintrich, 1997) and learning (Schommer, 1990). This study examined the role students' knowledge of research methods plays in refining their beliefs about knowledge and knowing. More specifically, this study investigated whether reflecting on and reporting one's own beliefs would facilitate a change in students' epistemological beliefs, and if this change differs as a function of one's knowledge of research methods. Students, from a research methods and cognitive processes class, took the epistemological belief survey at three different times (first-day, before the reflective writing task, and after the reflective writing task) during a semester. For each item on the survey, students rated their agreement with the statement about their epistemological beliefs on a 5-point Likert scale (1=Strongly Disagree; 5=Strongly Agree). Student-responses from the first day served as the baseline while the survey responses before the reflective writing task served as the pre-test and those after the writing task as the post-test responses. Participants' average score on items related to five beliefs about knowledge (Speed of knowledge acquisition, Structure of knowledge,) and learning (Knowledge construction and modification, Qualities of a successful student, and Attainability of objective truth) were calculated each time. After equating (co-varying) students on their baseline belief scores, results suggest that only research methods students showed a change in their beliefs after a reflective writing task. However, the change was only noticed in their beliefs about the structure of knowledge. No other findings were significant. Our findings suggest that reflecting on one's epistemological beliefs may help one refine it; however, a minimum level of background in research methods seems to be a prerequisite for this activity to help. This study identified the importance of students' knowledge about research methods in potentially shaping their beliefs about knowledge.

Technical Communication with Project Based Learning (A Six-Section Rube Goldberg Design Project)

[MOT]

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Engineering's accreditation body (ABET) states (in Criterion 3) that every engineering program should have 11 student outcomes by which they measure the program's success. Some of the outcomes are that students should have an ability to: 1) design a system or component, 2) function on multidisciplinary teams, 3) communicate effectively, and 4) use the techniques, skills, and modern engineering tools necessary for engineering practice. This course has been designed to assess these 4 outcomes with particular emphasis on communicating effectively using modern engineering tools. The importance of detailed technical communication is sometimes a tough lesson to deliver in a pure lecture course. However, when students are tasked with communicating with each other on one whole project, students MUST learn to communicate accurately with their fellow students: both within and among groups. Written and oral reports are still assessed by faculty BUT the true measure of success is how well everything works on the day of the run!

The most recent project assigned to students is the task of constructing a Six-Section Rube Goldberg machine. Each section is assigned to an individual 3-4 person team. Each section must have a theme and 15 unique activations or transfers of energy. Throughout the design and construction process, students are tasked with and must validate that each process within the section is "different" from each other, and "different" from the steps in different sections. This creates an avenue for constant communication between groups. In addition, since the end of one section's machine, must activate another section's machine – students are constantly communicating with each other as to how and where their designs will intersect. This project was successful overall.

Structuring a Class Period - Reaching Different Learning Styles in the Classroom

[INC]

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Adapting to students' needs in the classroom can be critical to their success. Only teaching to one learning style can leave students feeling excluded or locked out from the content of the class. However, it can be difficult to know each of our student's learning style to be able to reach them in a positive manner. One way to approach the problem is to adapt the structure of the lesson to intentionally reach more than one learning style in one class period. This gives everyone a chance to learn.

My class periods are staged to begin with example problems through which students may learn by example. The faculty leads the discussion on how to solve a problem while delivering the concept of the day. The next stage in the classroom is used to allow students to work together to apply their newly learned knowledge on a new problem. The third, final stage of the class is where students collectively lead the discussion on how to solve a new problem. Sprinkled within these problem solving periods are opportunities for visual/verbal learners to take in information, questions and answers to stimulate active & reflective learners, and at times demonstrations to help sensing and intuitive learners.

Engagement and Empowerment Through Storytelling

[MOT]

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If you were to ask a group of college students if they are “excited” about a public speaking course, generally the answer would be “no.” There are numerous studies that show that public speaking is Americans' biggest fear. The Washington Post published a study from Chapman University, which showed that 23.5% of Americans fear speaking in front of a crowd (2014). This fear is greater than their fear of heights, drowning, and flying. So, how do we help our students overcome their fears? Public Speaking is offered every semester (in multiple sections) on-ground and online at Brescia University. We encourage our students to take this course sometime during their first two semesters as they will utilize the skills learned in this class throughout their time at Brescia, which is why this class is required of all students.

Like many required courses, the interest, engagement, and motivation of students varies therefore one of my focuses when teaching public speaking is on student engagement and motivation. My approach to public speaking is through an embodied practice: public speaking as performance via storytelling. Pulling on my theatre background I employ theatre games, improvisational techniques, vocal exercises, and storytelling to help students gain awareness of how mind, body, and speech interrelate.

In my public speaking course, you will never hear a student delivering a “how to” speech or a basic “informative” speech. Instead my students learn to tell stories – about themselves, about the world around them, and about their hopes for the future. As a result, students leave my class with confidence, new perspectives, and hopefully, a sense of ownership and empowerment. This approach can be used not only in speech and theatre courses, but also in classes across the curriculum to engage and motivate students.

Implementation of a Student-Centered Active Learning Environment

[MOT]

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Numerous peer-reviewed publications in prestigious scientific journals have concluded that courses with a high level of student-engagement and active learning, decrease course failure rates, increase student learning and improve student grades. To increase student learning and decrease course failure rates, a reformed introductory physics course in electricity and magnetism was designed and implemented during the Fall 2016 semester at the University of Southern Indiana. Following recommendations from the physics education research (PER) literature, students had to read the textbook and take an online quiz prior to class in order to acquire some basic information. Class time was devoted to difficult topics and problem-solving sessions with students working in groups of four. To increase the effectiveness of group work, students periodically evaluated their group members and themselves using a validated online instrument developed for this purpose. Conceptual problems from PER were also included in problem-solving sessions during class. Student learning gains based on the PER-based Conceptual Survey of Electricity and Magnetism (CSEM) instrument will be presented and discussed. Thoughts on how to improve this student-centered active learning environment will be discussed as well.

Developing Course Assignments in an Online Course that Demonstrate Transfer of Knowledge

[MOT] [SET]

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Online education is a growing field and requires consideration in the development of assignments. Social Work is a competency driven field of study. It requires students to demonstrate not only knowledge, but the ability to apply their knowledge in practice. Interpersonal interaction is fundamental in social work education and is important in skill development of students. This interaction should be structured into course expectations, and course content that engages students (Jones, 2015). Online coursework can potentially create additional obstacles to ensuring students are able to transfer the knowledge to their work with individuals. It is important as an educator to use teaching activities that promote engagement and are interactive, integrated, and reflective (Rowe, Frantz, & Bozalek, 2013). SOCW 400: Understanding Adoption was offered for the first time as an asynchronous online course during a 5 week summer term. The course was developed as a social work elective with the goal of providing students with a beginning understanding of adoption and adoption issues. Two of the learning objectives for the course included, utilizing positive adoption language in conversation as well as utilizing empathy and interpersonal skills to engage an adoptive parent. Integrated in this course was the final assignment that required students to contact an adoptive parent and conduct an interview with this individual. This assignment allowed students to practice interpersonal skills and utilize knowledge gained in the course to engage in conversation in a professional manner. Following the interview, students completed a reflective paper on the interview and the adoptive parent submitted feedback to the instructor on the student. The feedback from the final assignment indicated success in student's demonstrating professionalism and knowledge of course material. Students stated they were surprised at their level of integration of knowledge and utilization of the material in such a short period of time.

Rowe, M., Frantz, J., & Bozalek, V. (2013). Beyond knowledge and skills: The use of a delphi study to develop a technology-mediated teaching strategy. *BMC Medical Education*, 13, 51. doi:<http://dx.doi.org/10.1186/1472-6920-13-51>

Jones, S. H. (2015). Benefits and challenges of online education for clinical social work: Three examples. *Clinical Social Work Journal*, 43(2), 225-235. doi:<http://dx.doi.org/10.1007/s10615-014-0508-z>

Use of Applied Labs in Social Science Teaching

[MOT]

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The use of applied labs has long been an established practice in the physical sciences. This presentation reviews one faculty member's decision to employ collaborative labs in two social science courses: a theoretical course in public administration and an applied course in research design and data collection. This strategy was piloted in the Fall of 2016 to increase student engagement and the ability to apply classroom learning to a professional context. The labs are collaborative and feature both peer and instructor support. They utilized an established problem-based strategy to demonstrate the real life applicability of academic topics (Kolb 1984; Kramer & Schechter 2011). Research labs asked students to engage in micro-data collection using a range of methods including experiments, sample selection, survey pilot testing. Public administration labs centered around the application of course material to case studies. Each lab was followed up with an independent assignment so that students were exposed to the material on three occasions: 1) when presented and demonstrated by the instructor, 2) when completed collaboratively in the lab, and 3) when completed independently on a take home assignment. This study reports the results of these projects on student course evaluations and learning. Problems identified during implementation were: 1) a hesitancy to work collaboratively, 2) a better fit with the applied research course than the theoretical public administration course, 3) and issues in classroom management. Strategies to handle these problems are addressed.

Do C Students Get Better Grades? Using the DISC Profile to Enhance Classroom Engagement

[MOT]

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Focus/Problem Statement:

How can we learn about the uniqueness of our students in order to better understand and engage them? We know our students are not a homogeneous group. Enter the DISC profile.

Context:

I've used the DISC profile in my undergraduate and graduate classes for two years. It has transformed the way I see my students. Learning the profiles of my students challenged my previous assumptions about their motivation.

Approach:

The DISC profile is a widely-used personality inventory assessment (probably second to Myers-Briggs-MBTI). Compared to MBTI, the DISC is easier to interpret and to teach to students. I've successfully taught students the DISC in 1-2 class periods, whereas MBTI took much longer. Using the profiles to guide my pedagogy resulted in more engaged students and better performance on team projects.

The DISC profile, based on the work of William Moulton Marston, is a 2X2 model of the interaction between introversion—extraversion and task focus—relationship focus. The model contains four main “types” Dominance (extravert/task), Influence (extravert/relationship), Steadiness (introvert/relationship), Compliance (introvert/task), with combinations of these variables yielding 15 different profiles. While 15 profiles seem cumbersome, the 2X2 model provides a simple, common framework that guides each one, thus, it avoids “learning 15 separate types.”

Brief Results:

Because over 50% of my students are introverts, I've learned to subdue my bias towards the extrovert ideal, and to teach a class that connects with all DISC profiles.

Reflection:

The DISC is simply to learn and administer. I wish more of my colleagues could benefit from using it in their classes.

Supplemental Instruction

[MOT] [INC] [SET]

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Students often become overwhelmed with the amount of information to be learned in a course, and often feel under-prepared for exams. SI can provide peer-led study sessions that demonstrate effective note-taking, discussion, critical thinking, and a variety of review methods, including continuous review. The scheduled 2-3 sessions throughout the weeks of the semester offer students planned study time and review. All sessions are open to all enrolled in the particular course. Feeling more prepared and confident with the material not only produces higher test scores, but students participate more in class and are less hesitant to ask questions.

SI Leaders are students who have already successfully completed the course and have successfully met the required criteria, as well as, the final approval of the course instructor. Leaders have completed, or will be completing, training offered through the College Reading and Learning Association (CRLA) of which the department of Academic Skills is accredited.

Defining SI, along with a bit of history, will demonstrate the benefits of the Supplemental Instruction program for both students and professors.

An Inquiry-Based Approach to Teaching Introduction to Proof

[MOT]

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In recent years I have become increasingly dissatisfied with the depth of engagement and student learning in my classes. As a result, in fall 2016 I implemented an inquiry-based learning (IBL) approach to teaching introduction to proof, a required course for mathematics majors which aims to introduce students to careful mathematical reasoning and transition them away from an algorithmic view of mathematics. IBL engages students in guided discovery, and in this talk I describe my transition to this evidence-based, student-centered approach. Rather than follow a traditional textbook, students work through carefully sequenced notes which contain key definitions and statements of important theorems, and students are required to construct proofs and solve non-trivial problems. Class time is spent with students presenting their work on the board, or working in small groups, with students responsible for building understanding through discussion and questioning. A significant increase in student engagement and community was observed in the first semester of the IBL class. I will discuss what worked and what did not, and argue that a transition to evidence-based teaching not only benefits students, but provides instructors with an opportunity to revitalize their classrooms.

Testing to Enhance Learning Even Students May Enjoy!

[MOT] [SET]

Dennis W. Gish, Psychology Department, dgish2@usi.edu

"What we resolve to do in school only makes sense when considered in broader context of what the society intends to accomplish through its educational investment in the young." Jerome Bruner, 1996

The tenets of teachers that are generally encoded as held truth is when "teachers teach, students learn". However, there still remains the constant reminder of exposure to students' poor performances on tests. Practice testing is one of the most well-established strategies for improving student learning. Researchers continue to provide a substantial body of evidence that students who "test" themselves repeatedly do have better learning experiences. However, despite the empirical evidence, tests still remain often maligned and underutilized by teachers. A couple of such methods of discovery where practice testing has gained exposure and acceptance in my classrooms are study guide tools referred to as the "WAGR", Written Assignment Guided Review and the "WYSK", What You Should Know.

The WAGR allows teachers to *rejoice* in testing students in an assignment format without having to "re-invent the wheel"! In studying memory, Psychology teaches us there is real evidence that learning persists when students' three measures of retention (recall, recognition, and re-learning) are actively involved in their study habits. The WAGR is a collection of selected topics simply presented to students in a multi-choice, true/false, and fill-in-blank format. The WAGR can be adaptable and flexible according which specific memory retention test the teacher believes desirable for students at designated frequencies. The WAGR can also address another often failed memory test by students that of which is re-learning. In short, the WAGR provides students a study guide in a testing format adaptable to his/her own learning style.

As a supplement to the WAGR, the WYSK can be as versatile. The WYSK is a traditional "bullet-type" listing of items students are expected to *know* as they prepare for the exam. The convention of WYSK requires and guides the student to research the material making notes in a short answer format that helps best to recall, recognize, or re-learn the material. The WYSK provides not only a focused study guide but can also be used as an assignment for teachers who believe in short answer responses as the best source of testing and applying students' understanding of the material.

Learning Critical Thinking Through Reacting to the Past

[MOT] [INC]

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Reacting to the Past (RTTP) is an innovative pedagogical technique that encourages deep understanding of course material. It targets critical thinking, speaking, and writing skills. RTTP is a versatile pedagogical tool and may be utilized in all levels of university teaching, from entry-level courses to upper-level, advanced courses. Since RTTP deals with the history of ideas, it may be used in many different disciplines, including history, philosophy, math, sciences, and psychology. The ideal number of students is fifteen to thirty. RTTP consists of elaborate games, set in the past, in which students are assigned roles informed by classic texts. Class sessions are run entirely by students; instructors advise and guide students and grade their oral and written work. It seeks to draw students into the past, promote engagement with big ideas, and improve intellectual and academic skills. In most classes students learn by receiving ideas and information from instructors and texts, or they discuss such materials in seminars. In RTTP, students learn by taking on roles, informed by classic texts, in elaborate games set in the past; they learn skills—speaking, writing, critical thinking, problem solving, leadership, and teamwork—in order to prevail in difficult and complicated situations. That is because Reacting roles, unlike those in a play, do not have a fixed script and outcome. While students must adhere to the philosophical and intellectual beliefs of the historical figures they have been assigned, they must devise their own means of expressing those ideas persuasively, in papers, speeches or other public presentations; and students must also pursue a course of action they think will help them win the game. The classes in which I have taught RTTP have been not only a joy to teach, but I have seen students drastically improve their writing, speaking and critical thinking.

Learning to Tweet: Using Twitter in the Classroom

[MOT] [INC]

Elissa T. Mitchell, Ph.D., Assistant Professor, Dept of Social Work, etmitchell@usi.edu

This presentation will focus on a Twitter assignment in two social work courses. Increasingly, agencies and organizations are using social media as a way to promote their causes, raise awareness, and educate (Guo & Saxton, 2014). As future social workers, students may be asked to engage in social media as part of their jobs, or may wish to engage on their own promoting social justice or raising awareness of a certain cause (Guo & Saxton, 2015; Hitchcock & Young, 2016). Thus, the purpose of the assignment was to help students practice using social media in a professional manner. A sub-goal of the assignment was to increase students' engagement with course content by having them tweet stories, links, and resources that were related to class material.

In the presentation, I will share my assignment guidelines, discuss how I introduced the assignment (and, in some cases, Twitter) to students, and talk about how I plan to adapt the assignment in the future based on this experience. I will also solicit feedback and discussion on how this assignment could be adapted for use in other courses.

Guo, C. & Saxton, G. D. (2014). Tweeting social change: How social media are changing nonprofit advocacy. *Nonprofit and Voluntary Sector Quarterly*, 43, 57–79.

Hitchcock, L. I. & Young, J. A. (2016). Tweet, tweet!: Using live Twitter chats in social work education. *Social Work Education*, 35(4), 457-468.

Please USE your Cell-Phones in Class!

[MOT]

Dr. Sudesh Mujumdar, Chair of the Department of Economics & Marketing and Professor of Economics, smujumda@usi.edu

“...I never had a class where the teacher has us use our phones for the purpose of learning. I think that is such an innovative method to incorporate into teaching this generation. Dr. Mujumdar’s approach to discussions of economics now have me looking at the world from totally different perspective. Everything is a cost-benefit analysis. I also feel like I have a better understanding of how the entire world is moving toward globalization.” (Quote taken from Student Evaluation of ECON 241.003 – Fall 2013)

Students using their cell-phones in class has been the scourge of many a Professor attempting to foster a serious academic climate in the classroom. So, a few years ago I was thinking about how if I couldn’t ‘win the battle’, could I turn the instrument of disruption into an instrument of ‘engaged learning’? At the same time, I was mulling over feedback from the Romain College of Business’ Board of Advisors on the skills make-up of our graduates which indicated that while they are at home executing on a task that is similar to what they have encountered in their classes, they have difficulty even beginning to know to how approach an ‘unfamiliar’ task – in terms of deconstructing it in a manner that facilitates addressing it effectively.

To address both issues, I created an assignment, where, at the beginning of class, I raise an issue/topic (that most are unfamiliar with). Students can then work in groups and use whatever devices (Smart-phones, tablets, laptops, etc.) they have at their disposal to find information on the question or issue that has been raised. Sifting, dissecting and curating the information are the next components of this assignment. Hence, this type of assignment seeks to give students practice in effective ‘deconstruction’ of an unfamiliar task; in this process of finding the information and discussing it with me, they are learning about ‘effective search techniques’, reliability of information, corroboration through multiple sources, and inadvertently, gaining a broader understanding of the issue as they ‘stumble upon’ pieces of information that are relevant, but not narrowly so. This, then, is also a surreptitious way of nurturing the various traits of Critical Thinking

As the Student Quote reveals, the design of the Assignment and its execution with the help of ‘disruptive devices’, such as the cell-phone, have encouraged stronger engagement with the issue at hand.

Inspiring Innovative Teaching and Learning by Bridging Educational Gaps Across Academic Settings Between Health Professions, Business and Arts

[MOT]

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Dr. Thomas Litney, Occupational Therapy, tjlitney@usi.edu
Dr. Dinko Bačić, Computer Information Systems, dbacic@usi.edu

Would You Hire You

[MOT] [SET]

John Paulson, Social Work, ajpaulson@usi.edu

Bonnie Rinks, Social Work, berinks@usi.edu

This workshop explores the importance of professionalism and gatekeeping in professional and pre professional academic programs, specifically CSWE accredited Social Work programs. This topic may also be useful for other academic and professional programs. Suggestions will be provided for connecting classroom coursework and expectations to professional behaviors. Strategies for improving coordination between faculty, students and community businesses, agencies and health care settings will also be offered.

Education Majors and their Views about Physical Science: Searching for Shifts in Epistemological Beliefs after an Intensive Introductory Physics Course

[MOT] [SET]

Jeffrey M. Polak, Geology & Physics, jmpolak@usi.edu

Education majors at the University of Southern Indiana must take a complement of 100 level courses in the physical and life sciences (PHYS 108, CHEM 108, BIOL 108, and GEOL 108). PHYS 108 serves as the first course in this required science sequence and was designed and implemented with a focus on content delivery and active-learning approaches in a combined lecture/laboratory environment. These 'for educators' courses are, for many students, the only college-level science courses that they will take. An important aspect of these courses should therefore be the understanding and appreciation of scientific investigation as a useful and important process for understanding the world around us. In order to gauge how the course affects students' views about physical science and the nature of scientific knowledge, the Epistemological Beliefs Assessment for Physical Science (EBAPS) survey was administered to four sections of PHYS 108 as both a pre- and post-test in order to capture any shift in student beliefs about the nature of knowledge and learning in the physical sciences. Data from this validated survey instrument will be examined and used to propose modifications to the course content and/or structure and direct further course development.

Planting the Seeds of Student Engagement Through a Service Learning Project at a Local High School

[MOT]

Erin Reynolds, PhD, Assistant Professor, Health Services and Health Administration, ereynolds@usi.edu
Gabriela Mustata Wilson, Associate Professor, Health Informatics, Health Services and Health Administration, gmwilson@usi.edu

Problem Statement:

Student engagement in the classroom can be fostered by service learning activities in the community. Context: Faculty at a local academic institution were invited to grow an interprofessional partnership with the local Area Health Education Center and an alternative high school to create a wellness fair to connect at-risk students with resources. The high school serves students from a variety of backgrounds, including a high proportion of minority (43.7%), economically disadvantaged (72.6%), and four-year graduation rates of ~20%. Junior and senior students from four health services courses (HP378, HP306, HP475, and MHA642) participated in service learning projects and completed a post-project survey to evaluate their engagement.

Approach:

Faculty responsible for several courses developed innovative service learning projects to cultivate an environment of engagement for their students. Examples of service learning projects will be shared for two of the courses that participated in the high school wellness fair. One group of students were responsible for the design and organization of the fair, while another group acted as vendors and introduced the high school students to virtual reality stress relief methods.

Results:

Student outcome data will be shared that supports the benefit associated with using service learning to increase student engagement in and out of the classroom.

Reflection:

Hands on learning has the ability to capture the student's interest in a way that grows their engagement beyond the planting of knowledge in lecture based material.

To Lecture or Not to Lecture: An Inquiry-Based Teaching Attempt of an Advanced Mathematics Course

[MOT] [INC]

Yalcin Sarol, Mathematics, ysarol@usi.edu

Math 410, Introduction to Analysis, is a required, proof-based mathematics course that students typically take in their senior years. Due to the abstract nature of the course, students tend to see it as one of the most challenging courses in the mathematics major. The author taught this course in the traditional lecture format four times in the past and was unhappy with the results in terms of meeting learning outcomes and student engagement. In the fall of 2016, a radical transition has been made to teach this course in a modified inquiry-based setting in pursuit of meaningful active learning via student engagement and interaction during class which was expected to lead to better learning experiences and outcomes. Preliminary results suggest that student engagement was successfully achieved, however, there is not enough evidence yet to argue that student success in meeting learning outcomes is improved compared to traditional lecturing. This presentation will share the experiences and outcomes observed by the author during this transition.

Learning is an Inside Job

[MOT]

Lori E. Saxby, Academic Skills, University Division, lsaxby@usi.edu

Problem and Context:

Although students have spent countless hours in instructional settings before entering college, many have not learned how to learn. Upon entering college they are often surprised to know that strategies previously used for passing courses in the past are not compatible for developing the type of deep, long lasting learning required to be a successful college student. Few of today's students show signs of being growth-minded, proactive, self-regulated learners. They may not recognize that learning is a process that occurs over time and, as author Linda Nilson states, that "learning is an inside job." They know neither how learning works nor what they have to do to ensure it which may have a negative impact on grades and retention.

Approach and Results:

Since part of USI's mission, and a major goal of higher education, is to create life-long learners, we have the opportunity to guide students in our courses toward a growth mindset that encourages learning by including assignments and activities that foster self-regulatory behaviors. With improved engagement in their own learning, students' motivation also rises as they see successes due to their efforts.

Research supports these efforts. Albert Bandura found that self-regulation and self-efficacy reinforce each other. As a result of self-regulated behaviors, the successful learner internalizes his locus of control and feels empowered to attribute successes and failures to his own study habits and efforts. In addition, Daniel Goleman found the ability to self-regulate predicted SAT scores more strongly than did IQ, parental education, or parental economic status.

Discussion:

Participants will have the opportunity to discuss how students currently learn in their classroom and how an emphasis on a growth mindset and self-regulated learning behaviors may lead to improvement in their students' motivation and success. Sample self-regulatory activities will be shared.

Why I Flipped My Seated Accounting 201 Classroom

[MOT] [SET]

Jamie Seitz, ABD, CPA, Department of Accounting and Finance, jlseitz@usi.edu

Accounting 201 is a required course in the Romain College of Business. Many students begin this course with a defeated mindset. Some students complain that the homework is not the same as what is presented in class. Why do Accounting 201 students have issues connecting accounting theory to assessments? The flipped classroom model allows the instructor to be present during seat time to connect the lecture to homework.

How does it work?

As with most classes involving numerical problems, example problem sets are often utilized to reinforce accounting theory. Students are required to take a pre-test as this assessment helps to gauge the initial level of knowledge. Students are encouraged to read the textbook and review all pre-recorded lectures for the chapter before coming to class at the beginning of the week. At the end of the week, the class works on the assigned homework under the instructor's observation. By using this model, the instructor hopes the students gain confidence inside and outside the classroom, become more successful in accounting, and use time more efficiently. The students' remarks are positive regarding the teaching model.

Interactive Classroom Using Clickers

[MOT]

Dr. Jeff Seyler, Chemistry Department, jseyler@usi.edu

Short of utilizing a flipped classroom approach, getting all students involved in classroom discussions and working out solutions to questions presented in class is a challenge. As with many science and math courses, students can learn the content best through practice and application, especially in terms of understanding mathematical relationships associated with scientific laws. I have always tried to include sample questions in class, illustrating the thought process and steps required to solve a particular problem, but I found many students were not participating or volunteering their thoughts or answers to questions presented. With the introduction of audience response systems, or clickers, I have made the effort to increase classroom participation and student interactions in my introductory and general chemistry classes. In this presentation, I will introduce my approach and provide different methods used to give students credit for their participation. I will also present some data gathered through student surveys related to how the clickers have influenced their learning and motivation towards the course.

Using Avatars to Improve Communication Skills and Build Mentoring Relationships in an Imaging Science Program

[MOT] [SET]

Heather Schmuck, Radiologic & Imaging Sciences, hmschmuck@usi.edu

Students are often timid when they start clinical education and begin working with actual patients. One area that tends to suffer in the early stages of clinical education is the vital communication piece that must happen with a patient in order to put together a comprehensive clinical history for the interpreting physician. In an effort to increase student confidence in communicating with patients to obtain a clinical history prior to an imaging study, a project was developed utilizing a virtual reality (VR) environment in a web based platform for a group of imaging science procedures courses. Multiple authors (Annetta & Holmes, 2006; Falloon, 2009; Baker, Wentz, & Woods, 2009) have suggested the use of avatars as a method of increasing student engagement and learning. Novice students enrolled in the Introduction to Radiographic Procedures course collaborated with advanced students enrolled in their fourth semester of the Radiographic Procedures course sequence to create short videos showing a typical dialogue that would take place at the beginning of an imaging study in the clinical environment. Students were allowed to use their creativity in creating avatars, environments, and scripts for this project. By collaborating with advanced students, the novice students were able to establish a connection with a mentor from the advanced cohort of students while also learning new communication strategies for questioning a patient and increasing confidence. Results of student perceptions of benefits and drawbacks to the project will be discussed as well as opportunities for project improvement in the future. This pedagogical approach outside of the classroom allowed for a unique and entertaining method of learning new skills and establishing mentor and mentee relationships.

Thoughts and Reflections about Designing and Teaching Hybrid Courses

[SET]

Dr. Darrin Sorrells, Academic Skills Learning Specialist and Instructor of Psychology, ddsorrells@usi.edu

While some students and instructors prefer either traditional courses or 100 percent online courses, those two learning environments on their own may each have potential drawbacks and limitations. During this presentation, the presenter will discuss his own personal experiences teaching PSY 377 (Sport Psychology) at USI in all contexts: traditional, online, and hybrid. The presenter will discuss why he believes the hybrid setting may provide the ideal learning environment for students and instructors alike. During the presentation, the presenter will illustrate how he blends elements of both traditional and online environments into his hybrid course. The presenter will display his Blackboard course site and show attendees how Voice Thread is used for online lectures required of students before attending the in-person class session. The presenter will also provide examples of other hybrid course assignments, including Blackboard discussions and team projects. According to Jaschik (2009), blended education is among the fastest growing course options on college campuses and students who enroll in hybrid courses appear to have higher academic success rates when compared to students enrolled in traditional or online settings. "On-campus class sessions can be used to provide students meeting time to collaborate with fellow students on group assignments, can expose students to information literacy resources within the library or learning center...and the on-campus visits can help to instill a sense of school spirit and unity that frequently is absent for online students who may never set foot on the campus" (Sorrells, p. 4, 2009). As a work in progress, the presenter will be instructing two hybrid sections of PSY 377 next term and will survey students at the end of the term to get their feedback about the hybrid context and if they preferred it over traditional or online settings.

References

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If You Build It, Interactive Learning Will Come... Sort of.

[MOT]

Kevin Valadares, Health Administration, kvaladar@usi.edu

In December 2015 a traditional classroom space in the Health Professions building (HP2025) was completely renovated into an interactive and flexible learning space. New furniture (from Steelcase Corporation) was incorporated to support flexible, mobile and adaptive student learning styles. In addition, the space was renovated to incorporate features geared towards interactive learning including full length and width whiteboard writable walls, enhanced wireless capacity to encourage the use of mobile devices, touch screen interactive projectors displayed on two walls, and enhanced sound, lighting and power sources.

Eleven faculty (seven different disciplines) volunteered to teach full-semester courses in the Interactive room for the initial semester (Spring 2016). A Faculty Learning Community (made up of the eleven instructors and others) was initiated to share experiences, suggestions, and problems on a real-time basis. The group met monthly and the experiences shared had distinct similarities and differences. Students and faculty were also surveyed (1) in February 2016 on their initial experience interacting in the room and (2) in April 2016 on moderated relationships combining collaborative and self-regulated learning and class engagement. An analysis of this data is shaping the basis for a scholarly article.

Over the course of the Spring 2016 semester, the room was also used as a “showcase” area for Administrative meetings, advisory council meetings, lunch meetings and tour opportunities.

Reflection/Discussion

The physical features of the room were ready on the opening day of the Spring 2016 semester although the technological features were not complete until mid-semester. This increased the frustration among faculty and students during this time period. The monthly Faculty Learning Committee meetings were of great benefit to share experiences and led to the decision to formally pursue outcomes related to collaborative and interactive environment as a scholarship opportunity.

However, there was not enough time for faculty to alter their syllabus and teaching strategies to adapt to or use the features in the room before the Spring 2016 semester began.

Credentials

Kevin Valadares, PhD, is an Associate Professor of Health Services and led the team that converted an existing passive learning classroom space into an interactive learning environment. He has previously led efforts to transform two lecture-based classrooms (2007 & 2010) into collaborative learning environments.

Combined Flipped Classroom and Experiential Learning in an Exercise Testing and Prescription Course

[MOT] [SET]

Alyssa Weatherholt, Kinesiology and Sport, aweatherho@usi.edu

Focus/Problem statement:

There was a lot of content and application of the content to be covered in a three-hour course.

Context:

The course was Exercise Testing and Prescription in the exercise science program at Franklin College.

The course objectives were:

Students will be able to implement appropriate protocols for pre-participation, health screening and health-related assessment.

Students will be able to evaluate data from assessments and provide safe exercise prescriptions for various populations.

Students will be able to counsel clients on behavior change mechanisms.

Students will be able to use industry benchmarks to promote fitness management resources.

Approach:

I used a combined flipped classroom and experiential learning approach (Bishop & Verleger, 2013). The flipped classroom approach was before each class session students watched lectures and measurement techniques and took quizzes on the online course site. In class, I briefly summarized the lecture, but during the rest of the session the students worked in groups doing the various activities from the lecture. The experiential learning approach was each student was assigned to a community member to schedule eight meetings to do before and after exercise assessments and six personal training sessions. The experiential learning was assessed by the documentation of the exercise sessions and one observation of a session. The students were also tested on content three times and a practical exam during the semester.

Reflection/Discussion:

I learned that students did well on the application of the content when working in groups and doing the skill on an outside individual several times. The most unexpected outcome from the combined teaching techniques were the students did not do well on the exams. I suggest not doing the lectures online but rather do lecture tutorials combined with group activities and working with a community member outside of class (LoPresto & Slater, 2016).

Testing and Improving the Teaching and Learning Processes Using Large Sample Approximation to the Binomial Distribution

[MOT] [SET]

Uditha Wijesuriya, Ph.D., Mathematics, uwijesuriy@usi.edu

Most of the experiments in different fields such as Natural sciences, Social sciences, Healthcare, and Business, often design problems to have answers of the form either success (yes) or failure (no). In consequence, based on the proportion of successes, the product of the experiment can be explored statistically at a given significance level, if the appropriate requirements are satisfied. This proposed method investigates the ability of designing a simple experiment to determine and to improve the proportion of the students who really perceive the material according to the instructor's teaching methodology. The large sample approximation to the binomial distribution is used to put forward an approximate confidence interval, and to test the hypotheses over the population proportion of the students who accept the teaching method and hence understand the subject matters in depth. A simulation study is developed to demonstrate how one would employ this method in their field. For any teaching course, this method is applicable and beneficial for both the instructor and the students to improve both teaching and learning processes.
