

Lilly Conference College and University TEACHING AND LEARNING

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Conference Proceedings

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ITLC INTERNATIONAL TEACHING LEARNING COOPERATIVE, LLC

Preface to Conference Proceedings

This spring 485 conference participants attended the Lilly Conference on College and University Teaching in Bethesda, Maryland. These individuals came from 194 different institutions, 36 states, and 8 countries. During the conference participants noted many opportunities to have meaningful conversations about issues related to teaching and learning.

The proposal submission process was very competitive this year. Following a blind peer review process with college and university faculty as reviewers, 80% of the proposals were accepted. Presenters were given the opportunity to develop their scholarly work for publication in the conference proceedings. Following a blind peer review, 71% of the manuscripts were accepted for the 2013 Conference Proceedings.

The conference proceedings consist of three sections. The first section is comprised of expanded papers written by presenters who agreed to capture material presented in their sessions. These papers were peer reviewed following the conference prior to acceptance into this document. As with all conference participants, their conference presentations were also accepted following a blind, peer review process. The second section includes concurrent session abstracts, listing both the presenters and contributing authors. The final section a listing of Institutions represented by our presenters.

I am grateful to all of the individuals who presented their work at the Lilly Conference on College and University Teaching, Bethesda, Maryland 2013. Conference evaluations, supported by anecdotal comments, clearly noted the quality of the session presentations, both in content and delivery.

Of the many things that are needed to make a conference a success, conference presentations are by far the most important. This is certainly a group effort and I appreciate the willingness of the presenters to help make this important event possible.

Tole Jafan

Todd Zakrajsek, Conference Director



Plenary Presenters

Conference Papers

Abstracts

Table of Contents

Plenary Presenters	1
Conference Papers Butler	2
DiEdwardo	
Doebel & Donaldson	
Donmoyer	14
Eberle, et al	
Elliott	23
Escudero	
Goldman & Mahler	
Grdina, et al.	
Harrington & Aloni	
Mall	
McCrink & Fischweicher	
Pearson & Harvey	
Rea-Ramirez, et al	
Rifkin	71
Turner	
McLaughlin Vignier & Pixy Ferris	•••••93
Abstracts	
Thank You to Cosponsors	
Institutions Represented	



Plenary Presenters

Conference Papers

Abstracts

Thank Your to Cosponsors

Plenary Presenters

Phyllis Blumberg

University of the Sciences

Phyllis Blumberg is the Director of the Teaching and Learning Center, University of the Sciences. A research professor in Education and a professor of psychology, her interests in education are curriculum development, how to use learner-centered teaching approaches, educational leadership, faculty development, innovation in education and problem-based learning.

Presentation: Do You Want to Teach More Effectively? Then "Grow" Your Teaching

Stephen C. Ehrmann The George Washington University

Stephen C. Ehrmann serves as Vice Provost for Teaching and Learning. He is also Associate Professor of Educational Technology Leadership in the Graduate School of Education and Human Development. He pioneered the application of multimedia databases for research and teaching, founded the Flashlight Program, and lead the field of online and distance education.

Presentation: Better Designs for Online Education

Featuring panelists from The George Washington University: Julia Deloia – Associate Dena for Academic Affairs, School of Public Health and Health Services Liesl Riddle Associate Dean for Graduate Programs, School of Business

Tara Gray

New Mexico State University

Tara Gray serves as an associate professor of criminal justice and the founding director of the Teaching Academy at New Mexico State University. She has published three books, including Publish & Flourish: Become a Prolific Scholar. She has presented workshops to more than 5,000 scholars in more than thirty states, and in Guatemala, Mexico, Canada, Thailand, Saudi Arabia and the United Arab Emirates. As a workshop presenter, Dr. Gray is "spirited, informative and entertaining—she's anything but gray!"

Presentation: Publish and Flourish! Become a Prolific Scholar

Todd Zakrajsek

International Teaching Learning Cooperative

Todd Zakrajsek is currently an associate professor and the executive director for the Academy of Educators for the School of Medicine at UNC. Todd served as a tenured associate professor of psychology at SOU before directing three teaching centers over the past 15 years. Todd currently serves in leadership roles for several educational efforts, including board membership at Lenovo Computer and Microsoft. He has published and presented widely on the topic of effective teaching and on student learning.

Presentation: How Do They Learn to Learn? Teaching Students Effective Strategies for Succeeding in Your Course

Evidence-Based Teaching and Learning

Preface

Effective Teaching Methods to Engage Human Services Students; a Closer Look at Learner Centered Teaching

Lynann "Annie" Butler

Professional Studies Human Services Metropolitan State University of Denver Denver, CO

Abstract

In learner-centered teaching we explore the paradigm shift away from traditional, teacher-as-expert model, toward a more student centered approach. There are a number of strategies faculty can employ to engage students in the learning process including creating a welcoming syllabus, having learners co-create test questions and choose assignments. The benefits and challenges of these and other learning activities will be explored throughout the paper.

Statement of the Problem

How many of us remember staring out the window of our classrooms, daydreaming, while the teacher lulled us nearly to sleep with a boring lecture? How different it could have been for us as students – and how much better we can make it for the students we instruct. This paper will examine learner-centered teaching strategies, including the benefits and challenges an instructor may face when implementing these methods.

Conceptual Framework

Traditional teaching 'covers' content, hoping much of it sticks. Instructors tend to make classes content-heavy, lecturing for hours and hoping students will remember the majority of the information for the test. Learner-Centered Teaching on the other hand encourages engagement on the part of students (Blumberg, 2009). There are a number of strategies instructors can employ to include students in the learning process including having students choose their assignment; the student may decide to visit a community organization and complete a write up, **or** take an exam, for example. Or perhaps students decide whether they do an article review or conduct an in-depth interview with a professional in the field. Regardless of the choices, the instructor has the ultimate say in the percentage of the grade either assignment may earn, as well as the basic guidelines (Weimer, 2002). If the student chooses the interview in the example above, the professor chooses the minimum page requirements and perhaps the addition of a business card or contact information of the professional. The teacher chooses the due date, and the student feels more of an investment in the assignment because it was a choice, which encourages them to be active participants in their education.

Keeping the goal of student engagement in mind, another methods to engage students includes having them write their goals for the class on a piece of paper then crinkle the paper into a ball and toss the ball across the room. A different student then reads someone else's goal. This is a fun, pressure-free way to get students to consider what they want to take away from the course. Students appear thoughtful as they consider what to write; perhaps they have not been asked for *their* expectations of what they want to learn. A mid-term informal assessment is a helpful way for the instructor to receive feedback, as well. The professor can ask student to anonymously write what's working for them, and what's not (in the class). Valuable feedback can be gained about the choice of textbooks, pace of the course, workload, relevancy of videos and guest speakers, etc.



Instructors may choose to implement such games as Jeopardy to review material before an exam, or to play Devil's Advocate when debating the grey areas inherent in an Ethics course. This writer purchased a 3 foot long plastic pitchfork at a party store, and hands it to students when they are expressing a divergent idea in Ethics class after watching a video clip (thus playing the Devil's Advocate). Students really seem to enjoy the playful method of expressing otherwise serious views. Playing "Popcorn" is a wonderful way to review material covered in class. A student shares an important concept s/he learned in class that day, then tosses a crumpled ball of paper to the next student to share something. Another review technique is the Minute Paper, in which students write for one minute on the most important concepts they gained in class that day. Any of these activities helps to cement student learning.

Some professors allow students to do class-relevant, appropriate extra credit assignments, rewrite papers or even retake exams, with the ultimate goal of student learning superseding a bit of extra work for the instructor. It may also be helpful to have specific questions outlined for students as they read their chapters in the textbook, so they have some guidance as to what to focus on as they read. Students have expressed appreciation for this direction, as some feel overwhelmed by the amount of material they are reading.

As faculty decide which of these strategies to employ, it is important to be mindful of where students are in the learning process. For example, it may be appropriate to assign something in an introduction level course that would be too simple for an advanced class. Some instructors have students in beginning level courses write sample exam questions (Weimer, 2002). This serves several purposes; it assists students in reviewing material, and encourages critical thinking ("Would this be a good test question?"). It also provides incentive to go through the process of creating test questions (and therefore studying), as there is always the possibility that the student's question may actually be used on the exam!

Some instructors are also rethinking the way their syllabus reflects their course and teaching style. Does the syllabus list a lot of rules, consequences, and policies? Or does it reveal a semester of growth, exploration and wonder? In other words, is the initial snapshot of you as an instructor and the course as a whole, the first impression you'd like to leave your students? Many faculty use a variety of techniques to make their syllabi welcoming. Some use cartoons, others links to articles or websites. Others use the syllabus as the foray into student choice, as discussed above, and still others use a "syllabus quiz" on the first day to ensure students have read and understand what is expected of them. Whichever strategies the instructor uses, the syllabus can be a powerful place to send the message that students have ownership in their learning.

Another key principle in learner-centered teaching is allowing room for discussion, questions, activities and exploration of the material. This takes time, and what might be sacrificed to some degree is straight lecture. By moving from the model of the instructor imparting knowledge, to students participating in their learning, means shifting the dynamics in the classroom. This may be challenging for some faculty who are expected to "cover" a certain amount of content and may struggle deciding what gets sacrificed in order to encourage the depth of discussion and exploration that is desired (Weimer, 2002). Students have shared excellent presentations with the class when encouraged (even required) to have a creative component to their material. Instead of sitting through a long series of Power Point presentations (or worse, students reading their research papers to us), students have created learning games, brought in relevant guest speakers, showed video they created to demonstrate their point, shared representational artwork (explaining the research that inspired it), and other well thought out and educational approaches that other students have appreciated.

Discussion

Instructors are encouraged to make one or two changes per semester; not all strategies should be implemented at once (Blumberg, 2009). An instructor may choose to change a syllabus one semester, and give students a choice in their assignments the next, for example.



Abstracts

Preface

Plenary Presenters

Conference Papers

In short, students learn in more depth when they feel a sense of ownership in the learning process. This ownership may come from having more class discussion (and less straight lecture) or more choice in assignments or structure. Other strategies such as a welcoming syllabus may also contribute to a more learner-centered environment. Faculty members may choose to make small changes each semester as they make the transition to a more learner-centered environment. Many of the strategies, games and shifts in classroom dynamics presented in this paper help to add energy and enthusiasm to the classroom. Students of all ages appreciate learning in fun and interactive ways. Being knowledgeable and being interesting are not mutually exclusive.

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Plenary Presenters

Plenary Presenters

Writing as a Learning Community to Promote Student Authentic Assessment and Transformation

Maryann DiEdwardo

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Abstract

My class is organized to become a learning community with a focus on writing short stories as authentic assessments to develop self understanding. By telescoping into a shorter version, writers succeed in the learning community. The short story framework short story fuses authentic assessment and multiculturalism as a focus to engage the student in a creative process to offer transformation.

Introduction

Through student-directed pedagogical model, my class engages in a learning community for reflection, discovery, and peer editing for student motivation and success. I actively engage students through 1) assigned readings of key articles by scholars in the field in blogs, wikis, web sites, books, pamphlets, newsletters, or journals or other material 2) demonstrating techniques of close reading in order to explicate a text with terms of the literary scholar that apply to writing across the curriculum 3) and differentiating among major literary genres to converse, to analyze, and to use cultural heritage.

Question

Can teaching oral histories break down borders that create self-doubt to develop self-understanding?

Literature Review

Journey through time to develop language skills. As cultures converge in global 21st century classroom, students of multi-ethnic backgrounds require varied models to succeed. Reading, writing, and arithmetic which served our industrial society may be enhanced by a new fourth "R" or remembrance as educational focus for the age of technology and multiculturalism. Language is the basis of classrooms whether traditional, enhanced or distance. In fact, Howard Gardner, in <u>Frames of Mind (1983 page 78)</u>, regards the "rhetorical aspects of language as the ability to use language to convince other individuals of a course of action; the mnemonic potential of language to help one remember information; the role of language in explanation and the potential of language to explain and reflect on itself as in meta-linguistic analysis." Language based upon oral history can connect cultures in classrooms.

Methodology

The short story as an authentic assessment engages students. By the concentrated study of sets of short stories that contain meaningful themes, characters, human emotions, readers can significantly conquer self doubt and break down self imposed borders. Through reading, analyzing, discussion and eventually writing short stories,



Preface

Lilly Conference on College & University Teaching and Learning | Bethesda, MD

creators develop self understanding. Students will be able to weigh and assess their challenges as they recall heroines or heroes throughout history. In essence, writing students are starting their own historical journeys into the world of literature where adjectives, adverbs, diction, thesis, point of view, voice, tone, theme, style, imagery, language, verbs, parallelism ignite the inner journey toward a clear student writer voice.

Authentic Assessment engages student writers by *breaking down interior interpersonal borders*. As a framework for teaching composition or introductory literature classes, the short story concentrates on the understanding of the themes of literary consciousness. My presentation centers upon the short stories of Chinua Achebe and Zora Neale Hurston as well as my current book of short stories entitled *The Mythic Appaloosa* with a co-author.

The most important aspect of the short story as a literary powerhouse for both teacher and student remains the fact that reading and writing the genre can elicit personal transformation. Students can write a few pages of text that reveal understanding of the self through interpretations that they learn. By telescoping thoughts and writing into a shorter version, young writers succeed, and we as educators can powerfully change the methods we use to teach. I connect intrapersonal interpretant intelligences and linguistic intelligence.

Writing short stories is my authentic assessment at the University of Maryland. The framework I design with short story as a methodology focuses on the student writer in a creative process to offer transformative frameworks. Certainly, the short story as a genre transforms through centering story upon the self-discovery of the writer to promote change and personal growth. Furthermore, I apply the short story as an authentic assessment tool which can be used to break down borders between the academic desert of literature as a viewed subject to literature as an experienced vast space that transforms.

Albert Chinualumogu Achebe born November 30, 1930 is one of the most significant writers to emerge from contemporary Africa with a literary vision that has profoundly influenced the form and content of Modern African Literature.

The short story "Girls at War" by Chinua Achebe from the collection of his short stories entitled *Girls at War and Other Stories. New York: Anchor Books, 1972* as well as his important novel, *Things Fall Apart*, are the foundation of my introductory lessons in writing for composition students. I form the discussions by offering the idea that Achebe has created a singular important voice, his own spiritual quest to revitalize his nation of Nigeria through his literature. To connect cultures –mine, theirs, the literary scholar, and the 21st century students- we watch the music video by The Roots called "Things Fall Apart" which was named after the Achebe's novel and uses the same themes with a few changes to depict the tensions of the clashes of culture in the city.

Things Fall Apart, published in 1958, is the original African novel in English. Its most striking feature is to create a complex and sympathetic portrait of a traditional village culture in Africa. Achebe is trying not only to inform the outside world about Ibo cultural traditions, but to remind his own people of their past and to assert that it had contained much of value. All too many Africans in his time were ready to accept the European judgment that Africa had no history or culture worth considering. The language of the novel is simple but dignified. When the characters speak, they use an elevated diction which is meant to convey the sense of Ibo speech. This choice of language was a brilliant and innovative stroke, given that most earlier writers had relegated African characters to pidgin or inarticulate gibberish. One has the sense of listening to another tongue, one with a rich and valuable tradition.

Zora Neale Hurston born 1891 and died 1960 "has been rediscovered in a manner unprecedented in the black tradition. Several black women writers in America today, have openly turned to her works as sources of narrative strategies, to be repeated, imitated, and revised, in acts of textual bonding...Hurston claimed that she wanted to write a black novel and not a treatise on sociology. It is this urge that resonates in Toni Morrison's



Conference Papers

Abstracts

Thank Your to Cosponsors

Preface

Song of Solomon and Beloved and Alice Walker's depiction of Hurston as our prime symbol of 'racial health – a sense of black people as complete, complex, undiminished human beings, a sense that is lacking in so much black writing and literature. In a tradition in which male authors have ardently denied black literary paternity, this is a major development one that heralds the refinement of our notion of tradition: Zora and her daughters are a 'tradition within a tradition' a black woman's voice" (Gates 289).

The short story "Girls at War" by China Achebe and "Magnolia Flower" by Zora Neale Hurston suggest that themes are the first element of literary thought that break down interpersonal borders. Achebe recreates with energy and authenticity, the major social and political issues that confront contemporary African on a daily basis. Hurston uses mythic realism modernism, imagery of the river and "The Mighty One" to create a thematic world with allegory and myth as vehicles for the representation of the conflicts and dilemmas that African American share with all other human beings (Gates and Lemke Introduction).

Next, characters in the two short stories "Girls at War" by China Achebe and "Magnolia Flower" by Zora Neale Hurston signify that interpersonal knowledge students need to filter the literature into meaningful attributes that echo their own lives or aspects of their contemporary culture. Gladys, a beautiful girl who has been forced to become a woman kept by some army officer in her struggle for survival during the war dies in the last scene in a dramatic "shattering of sky" as the reality of the Biafran war in Nigeria. The death forces the reader to see the reality and truth of war. Achebe deals with the themes of African American Tradition, the disintegration of the old tribal customs to political turmoil in Nigeria. On the other hand, Hurston creates Magnolia who experiences the abuse of her father because she fell in love with John; runs away with her lover, then comes back forty years later with her same lover, John by her side, to revisit and to find redemption.

Conclusion

Students possess qualities of memory based upon human every day experiences similar to those experiences within literary works they read. I play pod casts of sample student essays that show how students recall events or conditions based upon the relationship of reading to memory. One of my students recalls her own beliefs in mercy killing and relates her heritage based upon family and cultural beliefs in the right to life. Students use life story writing next to recount experiences that may help them find thesis.

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Illustration

Framework

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Linguistic Framework

- 1. Curriculum Design includes selected works of Achebe and Hurston.
- 2. **Read** and **discuss** short stories; continue discussion online in blogs.
- **3. Deconstruction:** analysis of characters, plot, setting and language.
- **4. Research** biographical and historical background.
- 5. **Interpret** language using reader-response theory by New Historicism.
- 6. **Connect** cultural observations with inclusion of personal narrative.
- 7. Writing process: **drafting**.
- 8. Writing process: submissions.
- 9. Writing process: presentations.
- **10. Critique:** professor, peer, self.



Abstracts

Plenary Presenters

Conference Papers

Lecture Free Biology: In All Classes Great and Small

Hartmut G. Doebel and Robert P. Donaldson

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Abstract

Our goal was to create environments to excite students to work on problems and concepts regardless of class size. This paper outlines the succession of steps to move toward more student-centered learning. 1) Student discussions were motivated by "clicker" questions or IF-AT scratch-off card quizzes. 2) Lecturing was further replaced with discussions of Case Studies and Process Oriented Guided Inquiry Learning (POGIL) exercises. 3) Lecturing was mostly replaced with student-centered group activities. 4) Surveys, focus groups, and peer evaluations were employed. Our 300-seat hall is not ideal for discussions, but a classroom accommodating 81 students at 9 round tables allows for a banquet of learning ("Scale-Up" classroom design). These steps can be used as a roadmap for other instructors who want to start slowly.

Introduction: Engaging students actively in learning Biology

Our goal has been to create science classroom environments where students work together as teams to understand concepts and to solve conceptual problems. Like so many, we had learned to teach using the "stand-and-deliver" method where information streams for the most part from instructor to students. We have both been involved in teaching our department's large enrollment introductory biology classes, having used traditional lecturing and assessed our students' knowledge with multiple-choice questions. After all, a good lecture performance can be satisfying to the instructor and entertaining to students; perhaps some may even learn in the process.

This more traditional scenario has been questioned for quite a while (Knight & Wood 2005; Mervis, 2013), yet, instructors, departments, and especially entire institutions are rather slow in adopting new, learner-centered approaches. Often, instructors are not inclined to learn new techniques themselves, due to the pressure put on them to publish and write grant proposals, a lack of pedagogical infrastructure and time constraints, especially when it comes to assessing students and giving them meaningful feedback (Beichner et al., 2007).

We attended workshops about teaching, read literature on teaching and began to realize that there are more effective ways to engage more of the students in the process of learning (Handelsman et al., 2004; Haak, HilleRisLambers, Pitre & Freeman, 2011; Ueckert, Adams, & Lock, 2011). We learned from our colleagues in Physics about the Scale-Up studio approach where most of the learning comes from students working together in teams to discuss and solve problems together (Beichner et al., 2007). We have participated the at National Academies Summer Institutes on Undergraduate Education in Biology (Wood &Handelsman, 2004) and teaching workshops at conferences such as those at the American Society for Cell Biology. We have adopted features of the POGIL (Process Oriented Guided Inquiry Learning) approach used in teaching chemistry (Farrell, Moog, & Spencer, 1999) and ideas from "deliberative practice" (Freeman, 2011; Haak & Wenderoth, 2011). These approaches involve less lecturing by using brief quizzes, student response questions, team-work problem solving, activities requiring student discussion, targeted instructor feed back, and practice exams (Deslauriers, Schelwe, & Wieman, 2011). The literature published on these approaches provides evidence that they are more effective, especially for underachieving students. Also, we came to realize that students' ability



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to discuss and converse about science is an important goal in itself. In the following we outline the succession of steps toward more student-centered learning, steps that we dared undertaking one at a time to provide a roadmap for other instructors who want to start slowly.

Step 1. Students talking instead of the Professor. We started by reducing lecturing time by about 20% and replacing it with what educators call "formative assessments." Doebel introduced a student response system ('clickers') (Caldwell, 2007; Wood 2004). While it seems a small step now, it can be huge at the time. It takes time for students to think and respond, to give them meaningful feedback, and lastly, to re-poll students to see whether or not they have a better understanding about what they have missed earlier (Smith et al., 2011). Certainly, one can easily see how the original content-driven syllabus needs some trimming. However, something beautiful unfolds. Students start getting excited, they start talking to each other, and they raise their hands in front of 300 other peers. This is quite an amazing sight – and sound!

In smaller sections of the Biology courses Donaldson implemented the "flipped" course structure; reading assignments were followed by weekly in-class quizzes (using clickers or Immediate Feedback (IF-AT) scratch-off cards) and activities, which were made interactive in two ways. One, each quiz has two components, an individual and a group component. Some questions about the reading were to be answered alone and in a quiet atmosphere, followed by questions which students were allowed to discuss in their teams. Two, a mini lecture or journal writing exercise then reinforced the concept being considered. By putting the onus of learning squarely and fairly where it belongs, on the student, overall preparedness for our classroom activities increased significantly. Students reported that this helped them learn (Table 1). In summary, these approaches give students opportunities to discuss the ideas among themselves – they learn to "talk the talk" and even start addressing their own misconceptions.

Step 2. Students solving the problems rather than the professor. Time lecturing was reduced further to roughly 50% allowing class time for Case Studies and POGIL discussions. Doebel introduced "broken case studies" in his 300 student section. Ideally, a broken case study has an attention-grabbing title, question(s), or a conundrum that students work within class (Herreid, 2011). First, they were given a few clues they may use to come up with answers in about 3 minutes of private, quiet brainstorming, followed by a small group discussion with their immediate neighbors, followed by the instructor's solicitation of a few group's answers. The first day of the broken case study concluded with a homework assignment, a carefully selected reading, and some targeted questions to be answered prior to the next meeting on a private blog. During the next class meeting, the case was resolved, soliciting students' answers. During this process, students amassed many questions, concepts, and cross-connections to other aspects in biology, allowing them to learn unwittingly many of the things from the old lecture-based syllabus. Students stretched themselves by asking their own questions, and by learning how to evaluate their own answers. To get ideas for case studies there are many examples made available at the National Center for Case Study Teaching in Science (http://www.oercommons.org/browse/institution/national-center-for-case-study-teaching-in-science).

Donaldson introduced the POGIL approach in some of his smaller classes. After the students have assessed their basic understanding of a concept in their quiz and discussion of a reading assignment, student teams are given a series of questions and problems to work on. An illustration from the text or some experimental data can be used as a basis for the questions. The goal is for student teams to discuss a problem, articulate an explanation in writing and to be prepared to report their findings to the whole class. In summary, broken case studies and POGIL exercises can be stimulating and engaging tools for students to become involved in discussions and higher critical thinking. We found this to be a much more rewarding classroom experience than the ego boast we got from having delivered a well-received lecture.



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Step 3. Creating an environment where students learn to teach themselves. Most of the class time is now devoted to student-centered activities with preselected teams of students. Students are assigned to teams of 3 to 7, either randomly or with some attention to academic background, personality, and diversity. To facilitate student-centered learning and teamwork, studio classrooms are increasingly created as showcased at MIT (TEAL), University of Iowa (TILE), North Carolina State University (Scale-Up), and University of Minnesota (Van Horne, 2012; Whiteside, Brooks, & Walker, 2010). At The George Washington University, we have used a "Scale-Up" classroom with floor-to-ceiling white-board walls, monitors and cameras, which can zoom in on students' wall-writings (Fig. 1).

To improve teamwork in our classrooms, all group exercises are prefaced by individual exercises during which all students quietly write down their thoughts, answers, or questions into their own journal (usually 3 minutes). Once done discussing in teams, groups' responses are solicited and questions entertained before moving on to the next problem. Eight times during the semester, about a quarter of the 300 journals are collected in a random fashion, graded with written feedback and returned by the next class meeting. Initial resistance has given way to a slow but steady buy-in during the course of the semester. In summary, journal writing and POGIL exercises teach students the value of being able to clearly communicate thoughts; in teams, students learn how to support each other and often study together outside of class; many students appreciate this approach as it helps them on the written part of their exams, on which short answer and essay questions have replaced multiple choice questions.

Step 4. Getting feedback from students. Along with all these radical departures from professor-centered lecturing we introduced pre- and post-surveys as well as focus groups. To better gauge students' expectations, perceptions, attitudes, and the assigned teamwork approach, we used pre- and post-surveys. Overall, students liked that they were getting involved and also that they started learning differently. The most nagging complaint was about group work, freeloaders, and all the extra time they had to spend learning. To this extent, students are being taught how to evaluate their peers in their teams, giving us a tool to adjust team membership accordingly, but also teaching students the power of properly evaluating the performance of their peers. To sum up, surveys and student peer evaluations belong in every instructor's toolbox to quickly get feedback about students' attitudes and expectations.

Step 5. Spreading the gospel. Our experimentation has kept alive the joy of teaching and even led to scholarship. We are working to convince others to try some of these student-centered techniques in their teaching, to show them the rewards that come to faculty as well as students. We have been invited to describe our experimentation at national meetings such as those of the American Society of Plant Biologists, this Lilly Conference, and the upcoming Vision and Change Conference in August 2013. We are working with the George Washington University colleagues in biology, chemistry, physics, computer science and the graduate school of education, even with colleagues from other schools (through Project kaleidoscope [Pkal]). We have organized a University Seminar series on 'Teaching in the STEM disciplines', participated in a university wide Learning Collaborative and Doebel has co-mentored The George Washington University's first Future Faculty Program, a semester long, weekly workshop to mentor doctoral students to become more efficient instructors.



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Table 1. Students' Assessment of the Lecture-Free, Studio format Class

Intro. Biology, GWU 2012

	Agree	Neutral/	disagree
The course objectives were appropriate for my learning objectives.	23	4	
The reading assignments were very effective in my learning.	23	5	
The individual Quizzes were very effective in my learning	22	6	
Team quizzes & discussions were very effective in my learning.	23	5	
Essay questions on quizzes helped me learn to apply & articulate my knowledge.	24	4	
Discussing POGIL worksheets helped me articulate my understanding of concepts.	17	10	
The different team roles (reporter, etc) had a positive impact on my learning.	3	25	
Mastering Biology assignments helped me understand biological systems.	21	5	
Lab experiments effectively helped me learn technical skills & biological concepts.	17	8	
Spectrophotometer & pipette work helped me understand concentration & dilution.	13	12	
Glucose oxidase/peroxidase experiments helped me understand enzyme function.	18	8	
Lab work with PCR helped me understand DNA replication and genes.	19	7	
Overall the (studio) format of this (Scale-Up) course was effective for my learning.	22	4	

Figure 1. Scale-Up Classroom at GWU. Nine round tables each with three teams of 3 students who discuss and solve problems together.





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Student-Facilitated Discussion Teams to Enhance Student Engagement and Vital Skill Development

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We thank the Interactivity Foundation for its financial support and intellectual partnership.

Abstract

Wesleyan College partnered with the Interactivity Foundation (IF) to revise WISe 101, the first half of our mandatory two-semester first-year seminar sequence. We devoted one third of the class to student-facilitated discussions where students integrated ideas from course texts and their own writings and worked to explore those ideas as divergently as possible. This article describes the scholarship we used in developing the course, the basic ideas behind IF discussions, the development and functioning of the course, and some of what we have learned from teaching it.

Introduction

"IF not only gave me the ability to speak to a group, but also learn how to be a leader. IF discussions did not end when class was over. . . . I noticed I was voicing my opinion more than I had ever done in an academic setting." These comments from a first-year Wesleyan College student succinctly convey what we hoped to gain from our WISe-IF project. Wesleyan College partnered with the Interactivity Foundation (IF) to revise the course Wesleyan Integrated Seminar Experience (WISe 101), the first half of our mandatory twosemester first-year seminar sequence. We devoted a third of the class to student-facilitated discussions with two goals in mind. First, we wanted students to gain communication skills—speaking and listening skills as participants, and leadership and critical thinking skills as facilitators. Second, and perhaps more importantly, we wanted first-year students to experience in their IF discussion groups a microcosm of the Wesleyan College community: a free, engaged, nurturing, and challenging academic community; a community where diversity is an opportunity and a strength; and a community where they create knowledge instead of receiving it.



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Literature Review

In 2005 Wesleyan developed its two-semester first-year seminar sequence as part of its Quality Enhancement Program (QEP) during its reaffirmation of accreditation with the Southern Association of Colleges and Schools. The plan was grounded both in best practices and scholarship on the first year experience. Of particular importance to our conception of the course was the AAC&U *Greater Expectations* report with its emphasis on creating intentional learners and our work with John Gardner and Betsy Barefoot, then at the National Resource Center for the First-Year Experience. The WISe-IF partnership used principles of democratic learning, interactive responsibility with their peers, and reflective engagement prior to, during, and after classroom time, to create student-facilitated discussion groups to further the QEP's goals of engaging and empowering students to take ownership of their education rather than passively receiving it.

Democratic learning seeks to break down traditional, "top-down" education for a more interconnected, nonhierarchical process. The National Task Force on Civic Learning and Democratic Engagement (2012) calls for civic action and democratic learning to be placed at the heart of the educational system. To engage students, we must make interaction *with others* central to the classroom experience. Yamane (2006) explains that for his courses "a democratic culture is one in which individuals feel some responsibility for the common good. Yamane (2006) aspires to foster in students a sense that they share responsibility of the success of the course" (p. 242).

The IF process also requires students to think about/engage with ideas before they enter the classroom. Yamane (2006) highlights course preparation as crucial to effective group discussion (p. 246). In our IF process, facilitators had both pre-and post-discussion meetings with their instructor. We asked students to keep reading journals and write online posts prior to discussion to be more prepared; we also asked them to create semester-long projects based on their discussions to see them as a progressive building of ideas rather than discrete conversations. Building this course on democratic learning, interactive responsibility, and reflective engagement fostered divergent thinking, depth of ideas, and empowered education. Our students demonstrated each week that student-facilitated discussions created engaged, responsible group interactions that were also fun.

Purpose

The Interactivity Foundation is a non-profit dedicated to enhancing public thinking about public policy through facilitated citizen discussions aimed at developing contrasting policy possibilities. Guided by the notion of *collaboration by difference*, the Foundation's small group discussion process (typically involving 6-10 people) supports the exploration of diverse perspectives on complex areas of public concern. The goal is to develop contrasting possibilities for society to address these areas of public concern. Rather than aiming at consensus or making recommendations, IF discussions are additive, asking the participants to expand the range of possibilities under consideration, even those notions with which they might disagree. IF discussions require the use of a strong but non-directive facilitator to help the discussions to flow productively, to keep the participants focused on the development of divergent ideas, and to help the group carry its work forward over time. Originally these discussions focused on developing citizens' public thinking, to generate alternative and innovative policy approaches to complex areas of societal concern. Starting in 2006 the Foundation began working with college educators to adapt this approach to the classroom by teaching students how to facilitate their own discussion teams—where these teams would explicitly be charged with exploring diverse perspectives and developing contrasting ways to understand or interpret the course material.

We decided to incorporate IF discussions in WISe 101 because initial class experiences are often formative: if you want your students to talk in your class, then get them talking in the first session. Likewise, if students start their college experience facilitating their own discussion teams, then this experience could foster a



greater sense of ownership for their learning. Having faculty coach them through the process would also help students see education as a collaborative process. By learning how to facilitate and how to engage in generative discussions, students would gain communication and critical thinking skills that would help them be successful through the rest of their courses and into their careers.

Project Description

WISe 101 is team-taught from a common syllabus by faculty from across campus. Participating faculty teach the course every other year. In the past the course has been divided between common sessions (the entire first year class), and small group meetings (fifteen-student class sections) where students work on writing or have discussions led by the instructor. After working together for over a year to revise the course, including a week-long summer institute in which faculty actually practiced each of the IF discussions our students would have in the fall, this past year we launched our new WISe 101 that devoted about one third of the class (Fridays on a MWF schedule) to student-facilitated discussion groups. Each IF discussion integrated ideas from common sessions, course texts, and student writing assignments, and asked students to explore those ideas as divergently as possible. At the beginning of the semester, each instructor divided her/his class into three groups and selected a student to facilitate the first discussions. Faculty members tried to create balanced and diverse groups in terms of students' intellectual ability, comfort with speaking/leading in class, race, ethnicity, and country of origin.

We held an initial common session with the students to introduce them to the IF discussion process and explain how they would be using it: once a week during the semester they would meet with the same small group to explore ideas from the class; they would facilitate their own discussions; the role of facilitator would rotate so that each of them would facilitate two or three times; discussion topics would vary each week depending on our readings, but a big question we wanted them to think about all semester is "what does it mean to be wise;" at the end of the semester each IF discussion group would share their answers to that question with their classmates.

Each week a facilitator developed a plan for her discussion that she went over before class with her instructor. During the discussion, a facilitator introduced activities and asked questions to promote an in-depth discussion; she also recorded the comments of her group members on chart paper. After the discussion, the facilitator sent notes summarizing the discussion to group members and the instructor, then met with the instructor to discuss her facilitation.

As this summary suggests, the faculty member's role in the IF process was more coach than dispenser of knowledge. We helped students prepare for their discussions, then observed as the three groups held their discussions. Each discussion took place during a fifty-minute class; students would talk for about forty minutes, then the instructor used the final minutes of the class for a group debriefing to highlight discussion strategies that worked or did not and/or ideas that seemed important or made interesting juxtapositions. Again, the post-discussion meetings with facilitators became a chance for faculty to work with students to discuss what went well and what could be better the next time they facilitated.

Conclusion

We collected data from all WISe 101 students during Fall 2012. A pre-test (n=106) was administered in August 2012. The corresponding post-test (n=106) along with an institutional course assessment (n=110) was administered at the conclusion of the semester.

The institutional course evaluation includes sixty-six items; we chose four to indicate student growth related to



Abstracts

Plenary Presenters

Conference Papers

the goals of the WISe-IF project. They gave information about having meaningful peer discussions, working collaboratively, exploring ideas from multiple perspectives, and strengthening intellectual curiosity. Students responded from *strongly agree* to *strongly disagree*. 2012 data were compared to data collected from entering classes in 2009, 2010, and 2011. An increase in all four target areas was noted for the 2012 cohort of students after experiencing IF discussions. 76% of students reported engaging in meaningful discussion at the agree or strongly agree level, 78% experienced collaborative learning at the agree or strongly agree level, and 73% suggested that the course strengthened intellectual curiosity at the agree or strongly agree level. Each of these items represented an increase over the previous 4 years. Most notable was the item related to examining issues from multiple perspectives. At 85.4%, this item increased more than 20% from the previous year. The data suggest that students in the WISe-IF project report collaborative learning experiences, engage in meaningful classroom discussions, examine issues from diverse perspectives, and improve their intellectual curiosity at a higher rate than previous cohorts.

WISe 101 encouraged me to(percentof students that agree or strongly agree) n=110	2012	2011	2010	2009
engage my peers in meaningful discussion	76.3	68.6	70.6	73.2
work collaboratively	78.1	64.6	72.8	66.2
examine issues from a variety of perspectives	85.4	63.6	64.1	68.6
strengthen my intellectual curiosity	72.7	64.6	57.6	69.7

Faculty members in the WISe program collaborated with the Interactivity Foundation to select measures in addition to the institutional course evaluation that would tap into key concepts, such as tolerance of ambiguity, engagement with people and ideas, and attitudes toward group activities. Complete pre- and post-test comparisons were available for between 91-94 students, depending on the specific measure. In addition to computing descriptive statistics for items and measures, we used a series of dependent t-tests to determine whether significant differences existed from pre- to post-test. Although the analyses were somewhat exploratory in nature, we felt that the experience of the IF process should have a positive impact on the ways in which students thought about each other and their world.

Several significant findings emerged from the pre-test to the post-test for our students. One such difference emerged on the Dialectical Self Scale (Spencer-Rodgers et al., 2010), which focuses on an ability to tolerate contradiction in our own beliefs. Our students became marginally more tolerant of contradiction based on the overall scale, and significantly more tolerant on the behavioral subscale, t(93) = -2.34, p = .02. Students' means of the pre-test (M = 3.24) were somewhat less than the post-test (M = 3.45); thus, the students showed a greater tolerance for contradiction in their own behavior later on in the semester as compared to the start of the semester. Two related items from a different scale provided additional support for this finding. Students expressed more comfort with ambiguity from the pre-test (M = 2.97) to post-test (M = 3.39), t(93) = -3.43, p = .001. Likewise, scores on an item relating to an individual's need to know things with certainty decreased from pre-test (M = 4.39) to post-test (M = 4.13), t(93) = 2.21, p = .03. Taken together, these findings suggest that students developed a more nuanced appreciation for the role of certainty in their own actions and expectations.

Given the broad experience of first-year students, the changes shown from the institutional course evaluation and the pre-test to post-test cannot be attributed solely to the current intervention based on the present data. However, they serve as a starting point for further investigation into the potential benefits of student facilitated discussion. Our plans for future data collection involve comparisons in upper-level courses between students who either did or did not go through the revised WISe program. Additionally, we are exploring the



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Abstracts

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development and validation of a new scale specific to the IF process.

The eight WISe 101 faculty members from 2012 collected their observations about the impacts of teaching with this approach. Among the themes highlighted in their reflections:

- Students became more effective and productive participants in class discussions, staying on task during discussions and probing the content more deeply than in past experiences.
- Students grew in their ability to manage their own collaborative discussion teams, exhibiting a strong sense of ownership for the performance of their groups.
- Students developed a great sense of social cohesion and did so more quickly than in previous years. They formed bonds across typical boundary lines.
- Students responded positively to the diversity of perspectives rather than seeking to minimize differences.

In open-ended interviews, the four upper-level students who acted as peer mentors for the class confirmed the faculty observations, noting that this first-year class gelled more quickly as a group than their own class had. They also felt like this group of students became more confident more quickly: they were more likely to speak up and to bring up contrasting ideas. In strong contrast to their own past experiences, the peer mentors commented that everyone contributed to each class session—there were no students who simply remained silent.

A group of eight first-year students were interviewed by an IF Fellow about their experiences with the IF discussions. Some highlights:

- The IF discussions taught them how to build on each other's ideas and work at learning something together. Several students reported that they started the course thinking that they would "lead" these discussions by teaching their classmates what was important in the reading. They quickly learned that "facilitating" a discussion required them to adjust and respond to what came up in the discussion. They had to learn along with the group.
- The IF discussions taught them to think creatively. They felt like they gained new insights they would not have had without these discussions. Instead of reinforcing existing notions, the discussions led them to new insights, helping them delve into topics more deeply than they would in a more traditional class.
- Extroverted students reported they learned how to listen. Others, who were more introverted, said that they now felt more comfortable speaking in front of others. By and large they reported that everyone was more comfortable speaking up and contributing.
- Students reported that they were more comfortable dealing with differences and with contrasting points of view. They reported that this extended beyond the classroom.
- Students developed a new-found "meta" perspective on the faculty, viewing their professors as facilitators of learning. They reported paying attention more to the way professors teach, not just the content, in all their courses.

Such evaluations seem promising for the continued use of the IF process in our first-year seminar. As we revise the course based on our experiences in Fall 2012 and the quantitative and qualitative data we are collecting, we believe the WISe 101 integration of the student-facilitated discussions will become more effective, as will our students' educational and personal empowerment.

We have found the WISe-IF process to be very successful for our first-year students and look



forward to seeing how the process may filter throughout their tenure at Wesleyan over the next four years. For example, we have been very excited to find that several students have brought the IF process to campus organizations and class projects as a way to guide their understandings and collaborative interactions. Also, a number of professors in a variety of disciplines have integrated the technique into their courses with success. Such outward-motion gives us support for the continued use of the IF process. We have found that working to empower our students in an open engagement of discussion grounded in divergent perspectives and interconnected responsibility has provided a solid basis for their educational career at Wesleyan College and, we hope, beyond.

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MOOCs: Benefits, Implications and Practices Facing Instructors and the Non-Linear Learner

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Abstract

Massively Open Online Courses provide new learning opportunities for a wide range of students traditionally challenged by common college entry barriers such as financial limitations, age and demographics, campus dynamics and socio-economic status. MOOCs also provide a non-linear learning experience with little intervention from an instructor, which challenges already new and evolving standards and practices in online collegiate academics. In a global online classroom where there are no international boundaries, setting the stage for massive enrollments and completely shared collaborations could serendipitously create an entirely beneficial learning experience for the student, the Instructor, community, the local work force and beyond.

Introduction

Massively Open Online Courses provide new learning opportunities for a wide range of students traditionally challenged by common college entry barriers such as financial limitations, age and demographics, campus dynamics and socio-economic status. What makes MOOCs appealing is that many schools which missed out in the early embracement of money-making online education will have a second chance at delivering more courses at lower cost.

Literature Review

The sheer volume of potential students makes an early and fast entrance into the world of MOOCs an appealing opportunity for many schools. A recent course delivered at Princeton University had 89,000 students in the Coursera platformed online course (*Korn/Levitz, 2013*). Of course getting students to register for a class, then getting them to pay for it are two very different outcomes. Another drawback is that a course not required or paid for in advance may finish with as little as ten percent of those originally enrolled. MOOCs are an opportunity for education, but a serious challenge for the bottom-line.

Purpose

MOOCs also provide a non-linear learning experience with little intervention from an instructor, which challenges already new and evolving standards and practices in online collegiate academics. The educational pedagogy of online courses is still debated. Adapting the well-proven methodology of Socratic teaching to an



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online MOOCs situation is challenging. Transforming how people learn to an acceptable pedagogy is difficult (*Morrison, 2013*). What is considered acceptable educational pedagogy and outcomes has yet to be firmly determined. Even the educational outcome consideration to employers of college graduates is being discussed (*Hart Research, 2013*). In a global online classroom where there are no international boundaries, setting the stage for massive enrollments and completely shared collaborations could serendipitously create an entirely beneficial learning experience for the student, the Instructor, the community, the local work force and beyond.

Project Description

Another concern for MOOCs is the rewarding of course credits. To enroll in a MOOC for the value of additional knowledge is one thing, to expect college credits for enrollment and course completion, is another. The state of California recently introduced a bill to offer credits for MOOC courses (*Meyer, 2013*). The issue of course and credits transferring to other educational institutes is another highly contested concern. However, locally, college administrators may find tremendous value in collaborating with local businesses and deliver custom courses specific to the needs of a growing business or research community rather than choosing general electives at random. Courses can be developed that cater to a specific market and assessments delivered via campus test centers that verify and certify completion of the course... paving the way to potential employment while advancing the vision and popularity of the institution among all stakeholders.

Conclusion

The purpose of this research was to further discuss and research the creation, management, risks and rewards of the MOOC environment, how student's access and interpret course information and the considerations to a growing campus community.

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Plenary Presenters

Conference Papers

Abstracts

Developing 21st Century Competencies: If You Design It, Will Students Learn?

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The author would like to acknowledge the help and support of many individuals who made this work and its presentation possible, including: the Biology Department at St. Mary's College of Maryland who represent some of the most talented educators I have had the pleasure to meet, the administration at St. Mary's College of Maryland who fully support the scholarship of teaching and learning, Dr. Spencer Benson Director of the Center for Teaching Excellence at the University of Maryland College Park for his guidance in the realm of education research and assistance in attending the conference, and especially my students at St. Mary's College of Maryland whose willingness to participate in my hare-brained schemes has made me a much better educator over the past seven years.

Abstract

We navigate a world of vast information and increasing specialization, where careers often employ teams of individuals with complementary knowledge work together to achieve a common goal. The need to develop student 21st century competencies for success in this environment is highlighted in recent publications. However, direct measurement of these competencies remains elusive. This communication describes a course structure that may foster student cognitive, interpersonal and intrapersonal competency development by investigating learning gains and observing student interactions. Ways to more directly measure interpersonal and intrapersonal competencies are proposed for future studies.

Introduction

As educators, we are charged with preparing young adults for their future careers and lives as citizens within a rapidly-changing global society. With vast amounts of knowledge at our fingertips via the internet, it is easy to glean basic information in any given area, but it is even more difficult to become an expert in any one discipline. Such a plethora of information promotes specialization; to become a true expert, one must narrow their intellectual focus to a manageable area of exploration. Thus, cooperative efforts in the workplace are often necessary—teams of individuals with different knowledge or skill sets work together to complete large projects. Indeed, the ability to communicate with others, teamwork, and problem-solving are the top three traits desired in employees by potential employers (NACE, 2012). This sentiment is reinforced in the National Research Council's report "Education for Life and Work," that identified three primary domains in which individuals should gain competency to be competitive in today's world: cognitive, interpersonal and intrapersonal skills (NRC, 2012). The cognitive domain is the knowledge base that one draws upon to perform their work. However, the development of interpersonal skills (such as the ability to self-regulate behavior) is critical for success not only in the workplace, but in society as a whole (NRC, 2012). Undergraduate studies are a particularly advantageous time to work on these competencies; certain inter- and intrapersonal skills such as conscientiousness and



t Preface

Plenary Presenters

agreeableness develop within 20-40 years, thereby encompassing most traditional and nontraditional undergraduate students (Srivastava, John, Gosling, & Potter, 2003).

Traditionally, our educational system has focused upon promoting cognitive rather than inter- and intrapersonal competencies by utilizing instructor-centered, lecture-based instruction. However, the adoption of student-centered teaching has promoted active learning strategies, of which group work is a component. Group work has the ability to not only promote cognitive gains, but also teamwork, communication, and analytical skills, and aid the retention of underrepresented groups within disciplines by providing a social support network (Asera & Treisman, 1995; Besana & Dettori, 2004; Bonsangue & Drew, 1995; Chinn & Martin, 2005; Duncan & Dick, 2000; Freeman et al., 2007; Fullilove & Treisman, 1990; Herzig & Kung, 2003; Hsu, Murphy, & Treisman, 2007; Mandel, 2003; Maton & Hrabowski III, 2004; Moog, Creegan, Hanson, Spencer, & Straumanis, 2006; Moreno & Muller, 1999; Oakley, Felder, Brent, & Elhajj, 2004; Slavin, 1982; Webb, 1982). In order to promote effective cognitive gains, students should be stakeholders in the learning and assessment processes (McDowell & Sambell, 1999; Rust, Price, & O'Donovan, 2003). This is especially true in group work, where active "minds-on" student participation is critical to success. Group work can be either cooperative or collaborative in design. Collaborative group work involves students working on the same problem, but the assessment of their learning is individual and their grouping is fairly transitory. In cooperative groups, the group produces one product by which all individuals of that group are assessed, and that group meets over an extended period of time (Cottell, 1996; Cuseo, 1992).

Statement of Problem

While there are established ways to measure cognitive gains, measurement of inter- and intrapersonal competencies in the classroom remains in its infancy. How exactly can we evaluate these skills sets? Which pedagogies are most advantageous in promoting these competencies? Before we can answer these questions, we must create a classroom environment where cognitive competency gains can be measured while also promoting interpersonal and intrapersonal competency development. I began this process by designing a student-centered "flipped" classroom environment (Berrett, 2012) with both individual and collaborative assessments, and measured student performance on assessments within this structure. Observations of student-student interactions were informally conducted by myself and others, and a survey of student attitudes toward the course was gathered. From these findings, I propose ways in which intrapersonal and interpersonal competencies may be measured in the future.

Methodology

Design of Individual and Collaborative Assessments

I evaluated the implementation of cooperative quizzes within an undergraduate 400-level Immunology course during the Fall 2009-2011 semesters. Immunology is difficult, rapidly-changing field with which students have little to no prior instruction. All immunological processes build upon each other, creating an intertwined system that one student described as "…like putting together a jigsaw puzzle without the picture on the front of the box. You work on different sections, but only at the end of the semester does the whole picture fit into place." Other students describe it "as a foreign language" because of the specialized terms and acronyms. As such, it is critical for students to investigate the material prior to formal instruction to maximize their familiarity with the terms and processes.

The course was designed in modules, typically covering one topic per two class sessions. Students (n = 63) were assigned to read the relevant textbook sections before class, and quizzes were administered at the beginning of the first day, before any formal discussion of the material. The quiz consisted of 10



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comprehension-level multiple-choice questions that often addressed common student misconceptions. After completing and turning in the individual quiz, students joined instructor-assigned groups of 4 students and took the same quiz as a group. Each group submitted a single quiz for evaluation. The quiz was then discussed as an entire class, providing students with immediate feedback on their performance. The entire process took between 40-60 minutes of the class period, depending upon the richness of the student discussion. The remaining 160+ minutes of class for the week was spent with student groups working through activities (reading primary literature, case studies, experimental design, concept mapping, etc.) that used knowledge established by the pre-class readings and quiz discussions.

Most quiz questions resulted in group and whole class consensus of the correct answer after the collaborative quiz. When dissent occurred, students had to justify their reasoning for choosing a certain answer. Student groups negotiated the correct answer in this manner, and the instructor sometimes allowed more than one correct answer per question based upon evidence of proper student rationale. Each student's quiz grade for that day was comprised of both individual and group quiz percentages, which was negotiated within the class at the beginning of the semester. All three semesters agreed upon a 50% individual and 50% group contribution for the weekly quiz grade. Per instructor policy, one quiz was dropped from the overall average at the end of the semester. While quizzes were designed as low-stakes formative assessments, exams remained as individual, high-stakes summative assessments upon completion of approximately 4 modules.

Cognitive Competency from Individual and Group Assessments

Learning gains were assessed between the individual and group quizzes. Students performed significantly better on cooperative quizzes compared to individual quizzes, increasing scores by 20% (t test, p < 0.0001). While individual student performance on quizzes varied widely on any given day, 97% of students earned an average quiz score of the same or better on cooperative quizzes compared to their individual quizzes over the semester. These data indicate that cooperative quizzes allow the vast majority of students to work together and determine more correct answers than by individual work alone. Overall performance on both individual and cooperative quizzes significantly improved during the semester (two-way ANOVA, p < 0.05), indicating that students required 3-4 quizzes to maximize their gains in the quiz process. However, student performance on the multiple-choice portion of exams in 2011 (n = 23) decreased by an average 5% compared to the percentage of correct answers on individual quizzes. The reasons for this are unclear--it could reflect upon overall cognitive competency, but may also be attributed to increased difficulty of some exam questions as compared to the quizzes. Further analysis will be necessary to understand these exam outcomes.

Inter- and Intrapersonal Competencies and Student Attitudes

Preliminary observations indicate that the course format fostered student use of inter- and intra-personal skills. Within 4-6 weeks of the semester, the instructor observed that students actively advocated for acceptance of their rationale by peers and the instructor during the whole-class discussion of quiz answers. The classroom was highly active and on-task; four independent faculty observers commented on the engagement and participation of all students during the collaborative quizzes. Achieving group consensus was important to students, and each group negotiated agreement by all members before selecting an answer. To do this, students negotiated knowledge within the group, were seen modulating their own behavior when disagreements occurred, and considered the best answer based upon group discussion. In discussing potential answers, students reflected on what they remembered from the reading and previous classes, and peer teaching was evident. During intensive discussions on some questions by the entire class, students were observed apologizing for leading their group down the wrong line of thinking, or for revealing that another group's answer was incorrect. Conversely, praise was given to peers who articulated the reasoning behind the correct answer. All of these observations indicate that the classroom environment perpetuated by collaborative quizzes was rich with opportunities for interpersonal and intrapersonal growth.



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An anonymous survey given both at the beginning and end of the semester showed that student attitudes about group work increased over the semester, from an average Likert scale neutral rating to a more positive outlook. Most students reported liking the group quizzes because they saw an increase in their quiz grades, but many also reported frustration with the debate process during class discussion when determining correct answers. While most students favored the interactive format of the course, a small minority wished for more individual work or a traditional lecture-based course. A common thread was the desire for more structure within the reading assignments-the dense information within the chapter left them overwhelmed about what to study. This will be addressed in the future by utilizing short online videos that summarize key concepts from the text in order to guide the reading assignments. Viewing these "mini-lectures" will be part of the preclass assignment, and provide more structure to the "flipped" classroom experience (Berrett, 2012).

Conclusion

Utilization of collaborative quizzes allowed student groups to identify more correct answers to quiz questions than by individual effort alone. The resulting long term cognitive competency is still unresolved. Based upon instructor and independent faculty observations made within the classroom, the course structure facilitated student-student interactions that may promote the development of intrapersonal and interpersonal competencies. Future work will include the recording and analysis of such interactions to systematically measure whether improvement of such skills is evident over the course of a semester. To accomplish this, a formal observation rubric must be created that specifically addresses inter- and intrapersonal competencies.

Such a student-centered classroom can be a difficult transition for both instructors and students. From the instructor viewpoint, it is much easier to lecture than to give up classroom control to students. This is not to say that the end goal is not determined by the instructor; the journey may take unexpected twists and turns based upon student input. In particular, the challenging of quiz answers by students sometimes reveals poorly-written questions or certain faulty assumptions that the instructor must embrace as a learning process for all. From the student viewpoint, this type of classroom structure is highly demanding and typically unlike anything they have heretofore experienced. Frustration with this structure was evident in some student surveys about the course. However, much like encouraging young children to eat their vegetables in order to become nutritionally well-rounded adults, promotion of interpersonal and intrapersonal skills in the classroom may lead to articulate and cooperative individuals in the workplace. While both eating vegetables and promoting group work in the classroom involve potentially contentious processes, the long-term benefits are clear.



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Abstracts

Preface

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Preface

Impact of the Method "Peer Instruction" Supported by "Clickers" on the Learning of Basic Math

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Acknowledgments

We would like to thank the Center for Teaching Excellence (CEDU) from Universidad del Norte and our international pair Dr. Julie Shell, for their support and guidance in the development of this research.

Abstract

This study was aimed to determine the impact of Peer Instruction method (PI) supported by clickers on learning of basic math. The study was conducted during the first half of 2012 and the summer course of the same year, with 259 students. Significant differences were found between the means of the pretest and posttest, with 95% confidence. It was found high favorability (80%) in terms of classes more dynamic, more interactive, good learning environment, greater participation and improved learning, using (PI) and applying a Likert's questionnaire.

Literature Review

The method "Peer Instruction" (PI) emerged as a concern of the author (Mazur, E. 2011) to note that students of physics at Harvard University solved very well problems, but after a while they did not retain what had learned because according to Mazur, students had not well-learned the concepts. This led him to ask the question Understanding or memorization: Are we teaching the right thing?

In order to solve the problem, he wants that his students had more interaction with the concepts and classmates. Thus, the purpose of the method is to promote student interaction and focus their attention on underlying concepts assigned readings in exchange for presenting material in sequence as in textbooks. The process according to research by Mazur, promotes the students' critical thinking through the arguments in class. They consist of a short number of presentations of the key points of the material, each followed by a multiple choice conceptual proof of the subject. Students must complete the test individually and after a time, they share with their "peers" and re-answer the same question in group. Mazur results from 1994-2004 show a substantial improvement when students interact in pairs in contrast when they do individually, which we also found in our study.

Mazur complements the method PI using clickers. The clickers are electronic devices that allow immediate response evaluation and feedback in real time.

The incorporation of clickers in the method is a way of associating the teaching and learning processes of new technologies of information and communication TIC'S, which according to research (Mizuko, I. 2011) and his group, serve to instill in students more autonomous learning, motivating and networking to learn.

Meanwhile (Galvis, A. 2004), argues that the digital world today, creates a good learning environment and



Preface

promotes students learn the pleasant feeling of dynamic interactive and playful way, using TIC'S as a strategy and not an end itself.

The pedagogical framework that supports the proposal of Professor Mazur and explains the better performance of the students when they answer a question or solve a problem in groups, to when they do individually is the theory of *"The Zone of Proximal Development"* (Vygotsky, L. 1986).

We adapt this theoretical reference for our study, as the distance between the actual developmental level of the student (that which would be able to do alone) and the level of potential development (what we would do with the help of an adult or more capable peer (work in group).

An important factor in the use of the method PI is the development of questions that inquire whether students have clear concepts. It is therefore, necessary to use taxonomy to address questions in different processes such as comprehension, application, analysis, synthesis and evaluation (Anderson, L. & Krathwohl, D. 2002).

Not only the method can work on concepts, but also it can be applied to pose and solve problems, but following one heuristic plan (Polya, A. & Shoenfeld, G. 1995). Using PI method supported by clickers, one problem can be divided into different parts turned into questions in order to prepare students to face the problem in its entirety.

In developing the items according to (Rico, L. 1994), can be considered the mistakes made by students in their mathematical concepts and processes. For this author, on the errors, there is an incomplete knowledge source, but can serve as an introduction to using metacognitive processes and analysis among students. Therefore, they can check their mistakes with the help of their teacher.

From this perspective, the implementation of the PI method when constructing the questions, some items distractors are based on the most common mistakes made by students. The idea is that through reflection among peers under the guidance of the teacher, students leave their mistakes.

Consistent with this literature review the research question we posed to develop our study is: Using the method "Peer Instruction" supported by clickers, can be generated a positive impact on student learning in Basic Math massive classes?

Methodology

The method "*Peer Instruction*" has intended to promote greater interaction between students and focus their attention on the underlying concepts in the subject studied basic mathematics, in exchange for presenting material in sequence as in textbooks and lecture notes. The sessions consist of a number of short presentations of the key points of a written material; each followed by a *proof of concept* in a short multiple choice tests. It takes a time to individually answer a question, and then ask students to discuss their answers with their peers. This process promotes critical thinking through the arguments in class and provides both students and teachers, a means to assess understanding of concepts in real time (Mazur, E. 2010).

For this study, was followed a mixed research design consisting of a before and after test with paired samples for two groups with which the research was conducted. A survey was performed with a Lickert's questionnaire in order to investigate perceptions of the students regarding the (PI) method supported by clickers. The survey had questions about dynamic and interactive classes, learning environment, participation in class, and improved learning.

The study was conducted in the second semester of 2012 (2012-10) and in the summer course of 2012 (2012-20). The number of students was 249 for (2012-10) course, and 10 students for the summer course. For the



statistical study in a 2012-10 course, was taken a group of 37 students randomly, and were taken all students for the summer course. However, for the implementation of surveys with Likert's questionnaires, were taken all the students in both courses. Both groups were heterogeneity, there were students of diverse programs such as medicine, international relations, music, childhood education, communications, and political science and government.

Data and Analysis

In what follows is an analysis of the data generated in tables and graphs supported for quantitative and qualitative analysis.

Table 1: Results of Pretest and Posttest Random test Course (2012 10)

(Sample 33/37 students = 89%)

TEST	RESULT	MEDIA	STANDARD DEVIATION	VARIANCE	MEDIUM
PRETEST	2.7	1.12	1.25	1.25	3.0
POSTTEST	3.9	0.79	0.62	4.0	4.0

Table 2: Results of Pretest and Posttest Summer Course (2012 20)

(Sample 10/11 students = 91%)

TEST	RESULT	MEDIA	STANDARD DEVIATION	VARIANCE	MEDIUM
PRETEST	2.4	1.12	0.77	0.59	2.6
POSTTEST	3.9	0.79	0.62	0.38	4.2

Tables 1 and 2 show the results of the pretest and posttest design under the paired tests before and after to determine whether there were significant differences between the mean of the pretest when students had not received treatment method (IP) with the support of clickers, and the means of the posttest after receiving treatment. The data were statistically tested in order to know had a normal distribution. In each case, data coming from a normal distribution and then proceeded to apply a **t-student test**, with a confidence level of 95%.

For both groups, were pose null hypotheses (h_0) and alternative hypotheses (h_1) , using Stratigraphic Software, and the differences between the mean pretest and posttest, summarized as follows:

Hypothesis Testing:

H_o (Null hypothesis): There is no significant difference between the means of the posttest and pretest.

H₁ (Alternative hypothesis): There is significant difference between the means of the posttest and pretest.

Type of Test and Instrument used to test hypotheses

We applied a **Student's t test**, for paired samples, as a before and after study with both groups and the following results were obtained:

t=5.87212 with p=0.0000296539<0.05 with 95% confidence and

t = 4.39678 with p = 0.00172844 < 0.05 95% confidence



Preface

According to the statistical analysis, for both groups were significant differences between the means of the pretest and posttest. Statically, we can conclude that, the impact of the method (IP) with the support of clickers was positive and emphasized learning of students in basic math course.

Opinions	Strongly Agree	Agree	Disagree	Strongly Disagreement	No Answer
More dynamic and interactive classes	86%	12%	0%	2%	0%
More Motivation	86%	13%	0%	1%	0%
Good learning environment	74%	24%	1%	1%	0%
More participation in class	73%	24%	2%	1%	0%
Enhanced Learning	62 %	33%	3%	1%	1%

Table 3: Likert Survey results applied to courses

Table 3, shows the student's opinion about application of the method (IP) with the support of clickers, when they were surveyed by a Likert's questionnaire. As it is seen, the students in the different groups surveyed showed high favorability in that there was greater dynamism and interactivity in classrooms, felt that more motivated, generated a good learning environment, as they had greater opportunity to participate more in classes and had an enhanced learning of mathematics. These results from the qualitative point of view, also indicate a positive impact of the method (IP) supported by clickers on learning of basic math.

TABLE 4: Results of answers to questions of individual and group of the concepts discussed in class using the Peer Instruction method supported by clickers in courses during 2012 10 and 2012 20 inter semester for a total of 259 students.

CONCEPTS	201210 Individual	201210 Pairs	201220 Individual	201220 Pairs
Classification of propositions	75%	90 %	45%	73%
Difference between tautology and Fallacy	33%	81%	17%	41%
Tautological statements	81%	92 %	76%	99 %
Equivalent statements	34%	94 %	21%	94 %
Equivalent forms of a Conditional	71%	88%	67%	88%
Quantifiers	65%	76%	59 %	95 %
Diagrams and Conditional Quantifiers	61%	83%	56%	90 %
Meaning of slope	67%	79 %	57%	98%
Calculation of x, given a linear function of the form y = mx + b	81%	93%	81%	96 %
Interpretation of the percentage as slope	92 %	99 %	98 %	99 %
Increase and decrease in percentage expressed as a linear function	8%	11%	11%	68%

Table 4, shows the behavior of students when they answered individually and in groups using the method (IP) with the support of clickers. As it is seen, the students performed better in pairs than when they answered the questions individually. This result is consistent with research conducted by Mazur, E. (2010), and affirmed the positive impact of the method "Peer Instruction supported by clickers on learning of basic math.



Conference Papers

Abstracts

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Preface

Plenary Presenters

Conclusions

The students who were taken their courses with Peer Instruction (PI) method supported by clickers, performed better, than when they do not received the (PI) method.

That is, the score of the posttest was better than the score of the pretest. (See Tables 1 and 2)

Students in both groups investigated, showed a very favorable perception on the method of "Peer Instruction clickers supported by clickers" about classes more dynamic, more motivated, good learning environment, greater participation and enhanced learning.

The items referred favorability present 80% or more. (See data in Table 3).

There was an improvement in learning concepts when students answered questions in "pairs" than when they did individually, confirming the effectiveness of the method "Peer Instruction" supported by clickers on learning of the Basic Math. (See data in Table 4).

Overall it was a very rewarding experience, in which students had a high level of commitment and positive performance despite the great heterogeneity of the group.

The impact according to the results presented both quantitatively and qualitatively data, was very positive, and enabled a great synergy among the students and the teacher.

It was a great opportunity to use technology as a means to facilitate student learning and to promote a positive attitude towards mathematics.

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Evidence-Based Teaching and Learning
Maximizing Impact: Course Design for Engagement and Retention

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Abstract

Twenty-first century social and environmental influences are forcing changes in higher education that require a shift in focus from teaching to learning, and active involvement of students in the learning process. While the learning paradigm is not new, it does require faculty to choose amongst an increasingly diverse array of teaching methods, formats and materials to offer learning opportunities that not only engage students but foster their retention of the material. The concepts in this paper bring together theories and principles of adult learning and effective instructional design into frameworks educators can use to maximize the impact of their courses.

Introduction

Globalization, access to information, and changing student expectations and workforce needs are forcing higher education to shift from a teaching to a learning orientation (Fink, 2003). This implies less emphasis on "providing instruction (the teaching paradigm) and more about producing learning (the learning paradigm)" (p. 17). Including the student in the learning process as an "active constructor, discoverer, transformer of knowledge" (p. 19) is a key element of the learning paradigm. Educators have a plethora of theories and principles to draw from in adopting this paradigm, including the vast literature on adult learning, various depictions of learning styles, numerous strategies for individual, small group and team-based learning, and several recommended instructional design processes. However, integrating and applying the concepts in the literature to course development is a challenge for even the most seasoned educators.

Literature Review

What I hear, I forget. What I see, I remember. What I do, I understand.

This saying, attributed to Confucius, embodies key adult learning principles that emerged over the past half century as the notion that adults learn differently than children proliferated in academic and professional development literature and practice. Andragogy, "the art and science of helping adults learn" (Knowles, 1980, p. 43), is based on the following assumptions about adults and their motivation for learning: 1) adults become increasingly more self-directed and independent; 2) experience plays an significant role in adults' learning; 3) readiness for learning is promoted by specific adult roles or life situations; 4) learning often results from a need for immediate problem-solving versus future application; 5) adults become increasingly internally versus externally motivated; and 6) adults want to understand "why" learning is necessary. These principles emerged from both constructivist and humanist perspectives, which focus on the importance of the individual in constructing knowledge by reflecting on and making meaning from experience (Merriam, Caffarella, & Baumgartner, 2007).

Constructivist theories view learning as a process of meaning-making from experience. The importance of experience for effective learning was originally discussed by Dewey who held that it "arouses curiosity"



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and "strengthens initiative" (1965 [1938], p. 38). Kolb (1984) described a learning process that requires two dialectical dimensions: reflective/active and abstract/concrete. He identified four modes of learning incorporated within a single learning cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation, each of which aligns with different but effective individual learning styles. Whetten and Clark (1996) developed an integrated learning model which considered the "metaconstructs" (p. 154) of inductive and deductive learning and the importance of sequencing activities for maximum learning impact. Both models provide evidence that effective learning is achieved through active components that build on students' experiences.

Humanistic theory emerged as a response to the predetermined nature of humanity inherent in behaviorism, with a focus on the free agency and potential of the individual. Rogers (1983) advanced the notion that learning should concentrate on individual development and self-direction. This notion of learner-centered instruction involves students in selecting subject matter, scheduling, and the actual learning activities (Michael, 2006).

Silberman (2006) added to these ideas in forming the basis of active learning: "In order for people to learn something well, they must *hear* it, *see* it, *question* it, *discuss* it with their peers, and *do* it" (p. 2). Incorporating active learning techniques increases learning motivation, participation, and interest in the subject matter; deepens understanding and knowledge retention; and broadens the application of new learning (Michael, 2006; Silberman, 2006). Active learning requires that faculty members take on facilitative and/or coaching roles and develop learning activities that promote student independence and interaction, "requiring students to do meaningful learning activities and think about what they are doing" (Prince, 2004, p. 1). Silberman (2006) offered three key elements that align with adult learning principles and that provide the foundation for active learning: 1) applying both passive and active learning strategies to ensure that learner brains receive, process, and retain new information effectively; 2) designing instruction for the differing learning styles that adults bring to educational experiences; and 3) considering social and relational needs (e.g., sharing experiences, questioning others, articulating new knowledge) to deepen individual learning experiences. Thus, the roles of both faculty and students must be reframed to maximize the impact of course time and coursework.

Purpose

In this paper, we describe a framework to help educators assimilate theories and principles of adult learning and effective instructional design, and integrate active learning techniques into their courses.

Description

The theories, principles, models and strategies discussed above concern what must occur at each class session of a course. To integrate the concepts, we suggest using a "design worksheet" (see Appendix A) to develop individual course sessions and then link them together.

The worksheet begins with four questions about the learners that frame the starting point of the session. Understanding learners' backgrounds, experiences, and motivations in addition to the knowledge they need to gain, will help ensure that the session is offered at the appropriate level --- and that it builds on what learners know and addresses what they care about.

Using this framing and faculty's subject matter expertise, learning objectives can be established for the session. Objectives should be stated in terms of results for the learner, not the way the material is taught (a common mistake is to confuse "the end with the means"). For example, rather than "learners will role-play X" (what they are doing in class), an appropriate learning objective might be "at the end of the session, learners should



Plenary Presenters

Conference Papers

Abstracts

be able to *demonstrate* X" (they learn how by practicing through role playing). The best learning objectives are stated with an *action verb* indicating what the learner should know or be able to do as a result of having attended the class session (see steps 1 and 2 of Appendix B). We recommend no more than 2-3 learning objectives per 60-minute session. Too many objectives usually indicate that there is too much going on for effective absorption or the objective is stated at too low a level of cognitive processing and/or is not results-oriented.

The remaining design components follow the acronym P-LHET (Jurjus, Krum & Goldman, 2013), reflecting that faculty need to help learners *prepare* for the session, and then in the classroom, activate their thinking by providing a link to what they already know, hook them to learning the new material, engage them in using the material, and finally help them transfer the material to a new situation. Preparation should utilize background information that stimulates the learner's advance thinking and reflection (e.g. a reading or video with questions to respond to, a case or problem to solve). Once in the classroom, the *linkage* should allow the learner to identify and connect to something they already know about the topic, stimulating their brain for new learning. This can be accomplished by asking students to recall prior course material, material from concurrent courses, or work or personal experiences. The *hook* should excite learners about the new material by showing relevance to their lives. This can be achieved by providing alarming statistics, a moving story, etc. *Engaging* the learner through active learning techniques should help them integrate the new material with their existing knowledge and realize what they have gained (what I do; I understand). The selection of active learning techniques should match the learning objectives for the session (see step 3 on Appendix B). Finally, learners should be asked to transfer what they learned to a new situation, indicating that the knowledge or skills have been retained. Once designed, class sessions should be checked to ensure there is consideration of all learning styles (too detailed to discuss here; see Kolb [1984] for further information).

Conclusion

The Design Worksheet and the embedded P-LHET process incorporate the logic of good learner-centered instructional design by framing class sessions around learner needs and setting results-oriented objectives. This framework incorporates adult learning principles and constructivist and humanistic theories by considering learner's motivations; building off learner's prior experiences, encouraging self-direction, and utilizing active learning techniques.

There is ample evidence in the literature that courses designed using these principles work. They do so because of their focus on the learner and the learner's own meaning-making. Such design also offers a deep learning experience by combining declarative and procedural knowledge, and allowing for applications across various contexts relevant to the learner. Faculty who design their courses for engagement and retention will maximize their not only their own professional impact, but their learners' growth and development.



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Preface

Conference Proceedings | Goldman & Mahler

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APPENDIX A DESIGN WORKSHEET

PROGRAM: COURSE:

SESSION:

FRAMING:

Who is the learner? What is their current knowledge of the topic? What do they need to know? What's motivating them?

LEARNING OBJECTIVES:

What are the specific learning objectives for this session?

- 1.
- 2.
- 3.

TEACHING:

Preparatory Assignment:	
Class Agenda	Estimated time
Introductory Linkage:	
Hook:	
Engagement: Teaching Strategies* (methods, formats, materials):	
*Teaching Mathod(s): Ex: case, role-play, simulation, etc. Teaching Format(s): Ex: individual, dyads, small group, TBL, large group. Teaching Material(s): Ex: slides, film, video, reading, etc.	
Transfer: Repeat application	

Check: How addressing various learning styles and proferences: Diverger, Converger, Assimilator, Accomodator; Auditory, Visual, Virtual Source: Ellen F. Goldman, 2011



Preface

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APPENDIX B

Effective and Critical Use of Discussion Boards: Creating an Online Community of Learning

Mary Jo Grdina, Vera J. Lee, Constance F. Lyttle, and Kristine S. Lewis Grant

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Abstract

This article describes the vital role of a discussion board in fostering a community of inquiry in four online teacher education courses that examine issues about diversity. Discussion boars were used to enhance and evaluate students' emergent understanding of course content as well as serving as a source of research data. In addition, the implementation of a practitioner inquiry to support this research effort revealed evidence of the unanticipated growth and development of the participants into multicultural educators and reflective practitioners.

Introduction

For over a decade, there has been a rapid increase in the number of educational programs and degrees that are being offered in an asynchronous format through a number of universities (Kitsantas & Talleyrand, 2005). The clear impact of technology on teacher education programs has implications that need to be considered in terms of preparing pre-service and in-service teachers to effectively work with diverse learners in K-12 settings. At the same time teacher educators, along with their students, need to honestly examine and challenge their own problematic views about race, gender, disabilities, sexuality, and cultural differences (Cochran-Smith, 1995). How can student learning in an online setting be facilitated using communities of inquiry? In an effort to answer this question, this study examines the pre-service/in-service teachers' personal reflections and discussions about diversity-related topics in four different online education courses (Foundations of Education, Special Education Processes, The Intercultural Learner, and Diversity and Today's Teacher), as well as, the instructors' critical reflections about issues of diversity that emerged from their individual journals and biweekly research meetings.

Literature Review and Theoretical Frameworks

Several theoretical frameworks inform the study: community of inquiry (Garrison Anderson, & Archer, 2003), multicultural education (Nieto & Bode, 2012), and practitioner research (Cochran-Smith & Lytle, 2009). Garrison, Anderson, and Archer's (2003) "Community of Inquiry" framework has provided critical insights into the ways in which instructors and students interact within an online course, and how learning is fostered in interactive communities (p.113). The three main dimensions are: social presence, cognitive presence, and teaching presence. *Social presence* encompasses the idea that learners need to exhibit themselves as "real people" (p. 115) in an online community. *Cognitive presence* refers to the idea that learners "construct and confirm meaning through sustained reflection and discourse" (p. 116). Finally, *teaching presence* pertains to the idea that the instructor needs to consider the design of the course and facilitate the "direction of cognitive and social processes" in order for "meaningful and educationally worthwhile learning outcomes" (p. 116) to happen. The instructor needs to provide direction and guidance to ensure that purposeful interaction and learning is happening within an online course.



The principles of multicultural education, as defined by Nieto and Bode (2012) are also important to the present study in arguing that preservice and inservice teachers need to be culturally responsive to the needs of diverse learners. Nieto and Bode (2012) state that multicultural education "challenges and rejects racism and other forms of discrimination in schools and society and accepts and affirms the pluralism...that students, their communities, and their teachers reflect" (p. 42). Multicultural education is anti-racist (anti-bias) and social justice pedagogy that works to provide equitable learning opportunities for all students.

The framework of practitioner research developed by Cochran-Smith and Lytle (2009) privileges the "insider" knowledge of K-12 teachers and university instructors investigating issues of practice within their own classroom or professional setting. They state that practitioner research is "grounded in the identification and empirical documentation of the daily dilemmas and contradictions of practice" (p. 95). The processes of individual and collaborative inquiry reveal new insights about concerns and problems involving practice that can lead to meaningful transformation of one's praxis, and broader changes within institutions as well.

Methodology

This work was motivated by the desire of four college educators of preservice and inservice teachers in on-line courses to improve instruction and explore the answers to two research questions:

- 1. How do pre-service and in-services teachers "make sense of" and reflect upon issues of linguistic and cultural differences, diversity, and race in online teacher education courses?
- 2. What kinds of "new knowledge and understandings" emerge when online instructors engage in practitioner inquiry and reflect upon their own practice, teaching, and learning in their courses.

Beginning in the spring 2011 and after obtaining IRB approvals and students' consents, entries from student discussion boards in the four relevant courses were collected and coded. The educators met biweekly throughout the term to share their personal reflections on student responses to questions related to critical issues of diversity. As the project proceeded, the reflections helped each of the researchers uncover their own histories and developing insights on important topics of race, gender, multiculturalism, and students with disabilities. In order to gain a better understanding of the processes of student learning in an online format, data from the discussion boards of participating students, and individual journals of each student were collected.

Each researcher coded the student data for her respective course based on an established coding scheme. The coding scheme from the student data was also used as a lens to analyze the practitioner data. One researcher closely examined the data under the large code of constructing new knowledge, and further refined the data. She identified four themes for ways that students constructed new knowledge: connecting with their lived experiences, scaffolding previous learning, drawing relationships across assignments within the class, and co-constructing knowledge with their peers and professors.

Findings

Each theme revealed how the students and teacher educators participated in communities of inquiry (Garrison et al., 2003) that transformed our online classes into spaces that fostered personal reflection and intellectual engagement with issues related to diversity and education. The first theme, *connections with lived experiences*, describes students' reflections on their own lived experiences in response to what they are learning in class. Learning about diversity began with self-examination. In the context of our online classes, students affirmed one another's experiences, created safe spaces for students to be vulnerable, and encouraged students to engage in critical self-examination. The second theme, *building connections with previous coursework*, refers to the idea that students drew upon the course readings and conversations to either interrogate lessons learned in



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previous and current classes, or built upon this knowledge. In each of our classes, many students lamented that they did not learn certain information about diversity issues earlier. Participants actively engaged in the process of challenging their ideas and assumptions, and drew upon the coursework to inform their thinking.

The third theme, *relationships across the assigned reading and learning activities*, participants identified themes across weekly assigned readings, learning activities, and/or graded assignments. Participants described how these new insights derived from these connections help to inform their classroom practices and enable them to teach in ways that are more responsive to students. The final theme, *co-constructing knowledge with peers and professors*, captures the ways that peers and instructors engage one another in the online class to challenge and push one another's thinking. In the discussion boards of online classes, the intellectual exchange between students became text for careful reading and consideration. In addition to discussing the assigned readings, participants encouraged one another and reminded each other of their shared responsibility as professionals to effect change in schools. Participants also demonstrated appreciation for each other and for the contributions that peers and professors alike made to their development.

For the teacher educators and research practitioners, the community of inquiry existed in meetings where we shared our journals and reflected on the experience of teaching our respective classes. As women of different ethnicities, generations, and academic backgrounds, we discussed important *connections with our lived experiences*. We shared stories to help illuminate our different interpretations and perspectives on student exchanges. We told stories in our journals to contextualize shifts that we observed in our teaching and understanding of diversity issues. We adjusted the definition of *building connections with previous coursework* to suit our position vis a vis the course and our students. Instead, we considered connections with our previous experiences teaching the courses. We reflected on how the current group of students wrestled with diversity, how this may have been the same or different from our previous classes, and how we engaged our students – in the current and previous classes. We recognized that the communities of inquiries in our classes were different based on the collection of student personalities and experiences.

Similarly, we adapted the *relationships across the assigned readings and learning activities*. We reflected on our experiences presenting at the annual meeting of the National Association of Multicultural Education in 2011 and the University of Pennsylvania Ethnography Forum in 2012. The presentations became the text that we used to draw connections with our course readings and reflection journals. Often our experiences and beliefs were reaffirmed, but at times, we were challenged to revisit and rethink our positions in light of new knowledge and insights. Lastly, we each reflected on the ways that we *co-constructed knowledge with our peers and our students*. In our bi-weekly meetings, we shared our triumphs and struggles negotiating student discussions and managing our feelings. Often, but not always, we reached consensus around practices and strategies to be used in making sense of experiences. We also learned with and from our students. As lifelong students of diversity, we saw the world anew with each group of new students. In facilitating their learning, we also facilitated our own.

Taken together, these themes revealed active communities of inquiry on issues related to diversity in our online teacher preparation classes. Using each of these approaches to the construction of new knowledge, the students and the instructors employed ways to see, consider, and understand themselves, their role as teachers, and diversity issues in education.

Conclusion

The preliminary findings of the study indicate that online learners share personal stories and achieve a certain level of vulnerability necessary to engage in critical self-reflection about diversity and education. Online learners also contribute to the creation of productive cognitive and collaborative spaces that



inform their understanding of diversity and their future practice as teachers. Moreover, the findings also suggest that inquiry groups can be an effective, safe place for teacher educators to share and problematize certain aspects of their own practice and ideologies. While research on online teaching and learning is still growing, there is a need for additional studies that examine how online teacher educators could construct professional development communities of inquiry in both face-to-face and asynchronous contexts to foster self-examination and growth. Additional research is also needed that extends Garrison's (2003) community of inquiry framework, and in particular, the dimension of "social presence" to encapsulate sociocultural theories and perspectives.

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Fostering Critical Thinking Skills via Online Discussions: Developing Questions and Managing Conversations

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Abstract

College students are expected to think deeply and critically. Online conversations can be an effective means to foster critical thinking skills. However, it can be quite challenging to craft questions or prompts that will serve as a springboard for high-level conversations. In this paper, best practices in online conversations will be discussed. An emphasis will be placed on question development and the role of the faculty in managing the conversation.

Statement of the Problem

While building critical thinking skills can be a challenge in any course, it can be particularly challenging to do so in online courses. According to theorists such as Bandura and Vygotsky (as cited in Woolfolk, 2013) and neuroscience research (Goswami, 2008), learning is a social activity. In other words, we learn best when interacting with others. Creating an effective social experience is obviously a more challenging task in an online course. Garrison, Anderson, and Archer (2000) contend, however, that creating a social presence in online environments is essential because when students feel connected to one another, learning is facilitated.

The most commonly used strategy to create a social experience in an online course is the asynchronous discussion board, which has now become one of the major components of online instruction (Thompson, 2006). In asynchronous discussions, the instructor raises questions and students respond to the questions and to each other at their own pace.. While there are challenges (i.e. delayed feedback, reduced likelihood for high emotional engagement), asynchronous discussions do have some advantages in that students have more time to reflect before posing their comments, and students' are often less intimidated because the need for immediacy is reduced (Thompson, 2006). It has been found that critical thinking occurs more often in online discussions versus face to face discussions (Guiller, Durndell, & Ross, 2008).

Not surprisingly, the quality of online discussions can vary quite significantly. The nature of the initial question or prompt along with the level of activity and responses are two important factors to consider. Faculty often struggle with developing questions that spark significant learning through meaningful conversation. Once conversation has been initiated faculty grapple with their role in terms of managing the conversations, often wondering about issues such as the frequency and nature of their contributions. We turn now to a review of the literature regarding best practices in fostering critical thinking via online asynchronous discussions.

Literature Review

College students are expected to go beyond memorization and develop high level critical thinking skills. According to Wade (2011), critical thinking is "to think in a sophisticated manner-to ask questions, define terms, examine evidence, analyze assumptions, avoid emotional reasoning, resist oversimplification, consider



Plenary Presenters

Conference Papers

Abstracts

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Preface

alternative interpretations, and tolerate uncertainty" (p.11). In order to help students become effective critical thinkers, instructors need to carefully craft learning tasks that are challenging and productive.

Many of the pioneering figures in higher education have argued that before critical thinking can occur students must first have a strong foundational knowledge base (Anderson and Krathwohl, 2001; Fink, 2003); Perhaps one of the most well-known figures in this area is Benjamin Bloom. According to Bloom's taxonomy, high level cognitive tasks (i.e. analyze, evaluate) are based on a strong foundational knowledge (Anderson and Krathwohl, 2001). This is consistent with research conducted in the area of educational neuroscience. For example, Goswami (2008) describes how learning is incremental, with new information modifying and strengthening prior neural connections. Thus, building content knowledge needs to be our first consideration. In online courses, instructors must find effective ways to deliver the course content and necessary background before engaging in critical thinking. Clark, Kircshner and Sweller (2012) point out that direct instruction is particularly important for novice learners. Direct instruction in an online course can occur via narrated presentations, videos, readings, and so forth. Once students have gained content knowledge, instructors can use online discussions to foster deeper learning.

Strategies for Developing Critical Thinking Skills in Online Discussion

Before beginning online discussions, it is important to establish clear expectations. (Thompson, 2006). Many students may not be familiar with this learning tool and may therefore need guidance as to their role and what constitutes a "good" response. As discussed by MacKnight (2000) and Thompson (2006), it is the instructor's responsibility to coach the students through the process. Klemm (1998) advises instructors to emphasize that posts are not just opinion based but rather are backed up by the course readings or references to other students' comments (as cited in Thompson, 2006). Students can be encouraged or required to use citations within the body of their posts to increase the likelihood of stronger responses. Providing students with a rubric is an excellent way to clearly communicate discussion board expectations (See Rovai 2007 for an example of discussion board rubric).

Creating effective question prompts is critical. According to many educators (MacKnight, 2000; King, 1995; Wang, 2005), good critical thinking questions are ones which are not limited to facts but rather provoke more questions and stimulate further discussion. Open-ended questions requiring students to reflect on and respond to readings and other materials encourage high level engagement with course content. Controversial topics that naturally invite multiple perspectives can serve as productive question prompts. When creating question prompts, it is important to think about how the conversation may evolve. If the first person provides a thorough and complete response consider whether there is enough room for others to make significant contributions. Below are a few examples of question prompts:

Not Likely to Invite Conversation and In Depth Exploration	More Likely to Invite Conversation and In Depth Exploration
Define resilience. Give an example of someone who is resilient. Note: There is limited opportunity for conversation and deep exploration in this question. Requiring the use of outside sources and a focus on themes can promote learning.	Resilience is the ability to bounce back after a traumatic event. Find a peer reviewed research article on resilience and provide a brief summary of the article. Based on others' posts what themes are you noticing?

Evidence-Based Teaching and Learning

Do you think infant television programming is beneficial? Why or why not? Note: This may lead to an opinion based conversation. By asking students to read research on the topic, students will be more likely to use a data based approach, diving deeper into the content. You can also stretch students to go beyond summarizing information with application questions.	Read the 2 attached research articles on television programming for infants and children. Discuss a finding or two that was interesting to you. Why do you think the results of the 2 studies are different (cite textbook and/or articles)? What can we do with the information learned from this research?
Describe the flipped classroom and whether or not you believe it is an effective educational intervention. Note: This question also invites conversation but again may be more opinion based. The prompt on the right encourages students to think about theory, research, and developmental issues before responding.	The superintendent wants teachers to use a flipped classroom model. Based on educational theory and research you've explored this semester, what are the pros and cons of using the flipped classroom approach in an elementary school setting? Would there be different pros and cons of using this approach in a high school or college setting? What factors need to be considered before this approach is implemented school-wide?

Once effective questions have been developed, the instructor then needs to focus on facilitating learning throughout the conversation. Online discussions afford students the opportunity for extensive feedback. Rather than being a "final product" such as a research paper or presentation, online conversations are a dynamic process. Tagg and Dickenson (1995), for instance, found that continued instructor presence via brief messages that acknowledge contributions and guide further contributions were connected to increased student activity (as cited in Garrison, et al., 2000).

While feedback from the instructor is important, it is equally important for the instructor to not dominate the conversation and not feel compelled to respond to every comment as too much intervention by the instructor can interfere with students' knowledge building (Thompson, 2006). Cranney, Wallace, Alexander, and Alfano (2011) found that the number of instructor contributions to a conversation was not correlated with student grades; however, there was a positive correlation between the amount of time an instructor spent in a course and student performance. Thus, it may be more important to provide significant contributions that move a conversation forward instead of making numerous but less meaningful comments.

Socratic questioning prompts can be an excellent way to continuously challenge students' thinking (MacKnight, 2000) without dominating the conversation or providing students with answers to questions. This strategy is useful because the instructor is not providing students with answers but rather leads them to continue asking more questions. King (1995) suggests also encouraging students to ask questions of one another. The process of seeking the answers to these additional questions will lead to increased learning and critical thinking skills (Strang, 2011).

The following examples of socratic questions are based on the work of Paul (1990) and Strang (2011):



Learning Purpose	Socratic Questions
Clarifying Explanations	What do you mean by?
	Provide an additional example of
	How does this compare and/or contrast to?
	What are the potential advantages and disadvantages of ?
Questioning Assumptions	What other explanations might account for this?
	What are the assumptions behind this statement?
Exploring Additional Evidence	How can we find out more about this topic?
	How does this connect to the concepts we've discussed previously?
	What additional evidence can you find to support or refute this idea?
Multiple Perspectives	What would someone who disagrees say?
	What are the cultural implications?
Real World Implications	What are potential consequences or implications of this?
	Provide a real world example of
Self-Reflective Processes	Why should this issue matter?
	What is the importance of learning about this issue?
	What other questions do you now want to explore?

In summary, carefully crafted and monitored online discussion boards can serve to increase critical thinking skills. Instructors must begin by providing students with content knowledge and clearly explaining how online discussion boards work. Prompts should invite students to apply their knowledge, explore content more deeply, and consider multiple perspectives. Socratic and critical thinking questions used by both the instructor and other students will move conversations forward and increase learning.



Preface

Plenary Presenters

Conference Papers

Abstracts

Preface

Conference Proceedings | Harrington & Aloni

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The Socratic Oath: A Right of Passage for Future Teachers

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Abstract

Historically physicians have taken the Hippocratic Oath, thus swearing to practice medicine ethically and honestly. What similar oath might we as educators take? This paper describes how pre-service teachers actively engaged in a discussion of the medical and teaching professions as analogized in excerpts from Parker Palmer's "The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life." Socratic Oaths written by secondary teacher candidates enrolled in a Master of Arts in Teaching program are shared and discussed. This discussion will serve as inspiration for readers to write their own Socratic Oaths that represent the ethical and honest practices to which they subscribe.

Introduction

An oath, by definition, is a solemn promise invoking a divine witness, regarding one's future action or behavior. It is a formal calling, upon God or a god to witness to the truth of what one says or to witness that one **sincerely** intends to do what one says. It is a solemn attestation of the truth or inviolability of one's words (Merriam-Webster, 2013). Historically physicians have taken the Hippocratic Oath, thus swearing to practice medicine ethically and honestly (see Appendix A for one translation of the Hippocratic oath). Hippocrates is widely regarded as the *Father of Western Medicine*, and his contributions are generally framed as revolutionizing the practice of medicine. Socrates is analogous to Hippocrates in that both individuals made lasting contributions to their respective fields: medicine and philosophy. As one of the founders of *Western Philosophy* and inspiration for the Socratic teaching method, Socrates is also recognized for his contributions to education. This analogy motivated a line of inquiry for me as a teacher and teacher educator: What similar oath might we as educators take? What ethical and honest practices would we subscribe to in our Socratic Oaths?

Project Purpose and Description

While the medical literature is replete with discussion and versions of the Hippocratic Oath and its purpose, the idea of a Socratic Oath is relatively new in the field of education. While the teaching profession has state and national standards that lead to teacher certification, there are educators who informally take an unwritten Socratic Oath everyday, thereby swearing to practice education ethically and honestly. The purpose of this inquiry project was to make this informal oath more formal and explicit for individuals aspiring to be teachers. Inspired by Parker Palmer's analogizing of the medical and education professions in *The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life*, I tasked secondary teacher candidates with authoring Socratic Oaths that would communicate their personal identity and integrity as applied in the classroom. To motivate the work, I focused candidates' attention on the following passage whereby Palmer describes an exchange he had with a dean at the collegiate level:

Some years ago, I met the dean of an experimental college who was guiding that project into its second year on the campus of a major university. He had just come from a faculty meeting, and it was clear from



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his demeanor that things had not gone well.

"What happened?" I asked.

"The faculty spent most of the morning complaining about the quality of our students. They said that this program would never work if we did not recruit young people who were better prepared."

"What did you tell them?"

"I listened as long as I could," he said, "but they could not get off their blame-the-student shtick. Finally I said that they sounded like doctors in a hospital saying, `Don't send us any more sick people – we don't know what to do with them. Send us healthy patients so we can look like good doctors."

His analogy helped me understand something crucial about teaching: **the way we diagnose our students' condition will determine the kind of remedy we offer**. But we teachers spend little time thinking with each other about the condition of our students, about the maladies for which our teaching is supposed to be the cure. We have nothing to compare with the "grand rounds" common in hospitals, where doctors, nurses, therapists, and other professionals collaborate in diagnosing a patient's need. Instead, we allow our "treatment mode" to be shaped by the thoughtless stereotypes of students that float freely in faculty culture (Palmer, 2007, pp. 41-42).

Through this narrative in conjunction with similar passages sprinkled throughout the book, Palmer explicitly makes comparisons between the medical and education professions thus motivating a potential link between the purposes of the Hippocratic Oath for medical professionals and a Socratic Oath for education professionals. In this way, I was able to successfully launch the candidates' work in authoring their own Socratic Oaths. One example of a Socratic Oath written by a secondary social studies teacher candidate is given below:

To my community, my family, my colleagues, my students, and myself I swear:

To forever dedicate myself to continuous improvement in my craft

To always strive for a better understanding of my chosen content areas

To always approach students, parents, and colleagues with empathy and respect

To be fair and judicious in my dedication of time to my work and my home

To always lead by example and model desired behavior

To create a comfortable, safe, and productive learning environment

To always strive for perfection in the preparation, delivery, and reflection of each and every lesson I give To adjust lessons for each group of students to reflect their strengths and targeted areas of improvement

To be cognizant of and react accordingly to individual student needs

To be ever vigilant against the profession of personal biases within the classroom

To never stray from a path of professionalism and all that is encompassed therein

To serve my community as a leader of young men and women in their exploration of new concepts, ideas, and information

To bring a positive attitude into my school, classroom, and community

To support students, parents, and colleagues wherever possible with the best of intentions To always act with morality

To never forget where I came from, who I am, and who has helped me succeed



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This I swear.

In a similar manner, teacher candidates in other disciplines (e.g., physical education, mathematics, and so on) created oaths specific to their individual philosophies of education (see Appendix B for additional examples).

Conclusion

When I tasked teacher candidates with authoring Socratic Oaths, I did not know what to expect. While I encouraged them to draw on what they had learned via program coursework, professional standards, and experience with students, I also encouraged them to tap into their personal identity and integrity, which is not as readily articulated. Ultimately, I found that teachers' oaths were generally representative of their stated professional dispositions, as defined by Wilkerson and Lang as "attitudes, values and beliefs that influence the application and use of knowledge and skills" (2007, p. 2). While the manifestation of candidates' stated dispositions (i.e., patterns of behavior exhibited frequently within the classroom) remains to be seen as they begin their first years of teaching, the oaths provide a glimpse for me as a teacher educator as to what to expect from my candidates in their future classrooms.

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Plenary Presenters

Appendix A

Hippocratic Oath

Translated by Michael North, National Library of Medicine, 2002

http://www.nlm.nih.gov/hmd/greek/greek_oath.html

I swear by Apollo the physician, and Asclepius, and Hygieia and Panacea and all the gods and goddesses as my witnesses, that, according to my ability and judgement, I will keep this Oath and this contract: To hold him who taught me this art equally dear to me as my parents, to be a partner in life with him, and to fulfill his needs when required; to look upon his offspring as equals to my own siblings, and to teach them this art, if they shall wish to learn it, without fee or contract; and that by the set rules, lectures, and every other mode of instruction, I will impart a knowledge of the art to my own sons, and those of my teachers, and to students bound by this contract and having sworn this Oath to the law of medicine, but to no others. I will use those dietary regimens which will benefit my patients according to my greatest ability and judgement, and I will do no harm or injustice to them. I will not give a lethal drug to anyone if I am asked, nor will I advise such a plan; and similarly I will not give a woman a pessary to cause an abortion. In purity and according to divine law will I carry out my life and my art. I will not use the knife, even upon those suffering from stones, but I will leave this to those who are trained in this craft. Into whatever homes I go, I will enter them for the benefit of the sick, avoiding any voluntary act of impropriety or corruption, including the seduction of women or men, whether they are free men or slaves. Whatever I see or hear in the lives of my patients, whether in connection with my professional practice or not, which ought not to be spoken of outside, I will keep secret, as considering all such things to be private. So long as I maintain this Oath faithfully and without corruption, may it be granted to me to partake of life fully and the practice of my art, gaining the respect of all men for all time. However, should I transgress this Oath and violate it, may the opposite be my fate.



Appendix B Additional Examples of Socratic Oaths

Example 1: Socratic Oath of a Secondary Science Teacher Candidate

I swear to keep according to my ability and my judgment, the following Oath and agreement:

I will Respect and Honor those who have given their time, knowledge, and expertise in order to train me in the art of teaching. I will pass on this spirit of mentorship and duty to all those willing to accept the challenge. I will help all teachers and those striving to become teachers with what wisdom, knowledge, and expertise should be graced upon me.

I will use teaching strategies and techniques for the good of my students according to my ability and my judgment and never teach for harm, malicious, or subversive intent.

I will not teach contrary to proven, research-based strategies nor deliver content known to be contrary to a student's academic progression.

I will not teach content that I am not prepared to teach nor teach disciplines in which I have no training to deliver.

I will maintain an impeccable and professional ethic both in my public and in my private life. I will always conduct my public and private life with honor and unimpeachable character. I will engage in no untoward relationship with my students, my colleagues, or any other with which I have no business relating.

I will maintain the faith and privacy of my students and peers. When in the possession of personal and/or potentially revealing information about another, I will employ all available and reasonable efforts to safeguard that knowledge. I will respect the private lives of all those around me and their right to control that life. I will make every conscious effort to avoid participating in gossip, both with students and with peers.

I will at all times remember that I am a teacher, a man of character, and a champion of proper ethics and unswerving integrity. Should I violate this oath I will correct myself when appropriate. If the violation is of such severity to warrant a public dismissal if found out, I will promptly report the violation and voluntarily withdraw from the duties and responsibilities of professional teaching.

Example 2: Socratic Oath of a Secondary Mathematics Teacher Candidate

I swear, by Sunny Mall and math teachers everywhere, making them my witnesses, that I will fulfill according to my ability and judgment this oath and this covenant.

I will apply my skill and talent in mathematics to assist in the spread of the greatest of all subjects. I will teach them the art of problem solving and share with them a love for my art.

I will without fail work tirelessly for the benefit of all my students, regardless of race or creed.

I will not use the stick or the fist, not even on students plagued with rudeness and disrespect. I will keep them from harm and injustice.

I will keep the confidences of my students and I will treat them with respect.



Plenary Presenters

Conference Papers

Abstracts

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If I fulfill this path and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come; if I transgress it and swear falsely. may the opposite of all this be my lot.

Example 3: Socratic Oath of a Secondary English Language Arts Teacher Candidate

To all this, I avow to:

- embracing a teaching philosophy that is mine and is derived from study and practice;
- utilizing teaching practices that are derived from my philosophy;
- initiating an understanding of my students, their abilities, and their needs.
- using that understanding to inform my teaching practices;
- embracing the diversity that exists in my classroom;
- an understanding that my classroom is not confined to where my teacher's desk is;
- spreading the joy that is reading and interpreting literature;
- creating and sustaining an environment that challenges all to learn, grow, and think critically and independently;
- understanding my community is made up not only of my students, but their families as well; and
- treating my profession as just that, a Profession, not a trade.

Preface

Integration of the New Literacy Studies into Teaching at the Doctoral Level

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Abstract

In response to curriculum efforts at a private university, a web-based survey was conducted to explore doctoral graduates' perceptions about the relevance of a teaching methods course as a requirement in their program of study. Survey findings informed the revision of the Teaching and Learning at the University Level course with a focus on teaching practices which take into account a diverse student population and the integration of New Literacy Studies (NLS). Evaluation of students' work, in response to the revised course syllabus, reflects students' understanding of NLS as practitioners and/or future administrators in higher education.

Integration of the New Literacy Studies into Teaching at the Doctoral Level

Teaching methodology has evolved in recent years toward a learner-centered focus which acknowledges the role of the student in the education process (Taylor & Kroth, 2009). Clearly, terms such as interdisciplinary, inquiry-based practices, diversity, and social change resonate throughout the current literature (Alexander, 2007; Cochran-Smith & Lytle, 2009; Spelt, Biemans, Tobi, Luning, & Mulder, 2009) and frame the scholarship of teaching and learning (SOTL) in this second decade of the 21st century. Within this context, New Literacy Studies (NLS) has emerged and gained momentum as an interdisciplinary field which views the definition of literacy beyond reading and writing ability and, instead, as historically situated, vis-à-vis social and cultural practices (Alim, 2005; Barton & Hamilton, 2000; Gee, 2011; Street, 1993). As such, the NLS field underscores the need to adopt a critical lens across disciplines toward serving a diverse student population.

For the most part, the world of academe functions within discipline-specific contexts. In spite of perceptions from those outside the academy as to philosophical discourses between or among collegiums, the reality is that faculty members tend to develop identities based on their respective disciplines and, rarely, do they seek to engage and/or embrace knowledge outside their immediate fields of teaching and research. Thus, doctoral student training remains within the confines of the specific discipline and seldom are practitioners, such as community college faculty enrolled in terminal degree programs, introduced to teaching as a form of scholarship and, specifically, its alignment with research and/or institutional agendas (Ochoa, 2011). Based on curriculum efforts at a private university in the southeastern region of the United States, a qualitative study (open-ended, web-based survey) was conducted to explore doctoral graduates' perceptions about the relevance of a teaching methods course which had been a requirement in a Higher Education Administration program of study. Analytic categories based on findings were as follows: (1) viewing a teaching methods course at the doctoral level as essential for future faculty members as well as those who may serve as administrators; (2) identifying best practices as those which take into account a diverse student population; and (3) including faculty as active members in the learning process. Results of this survey served to inform the revision of the Teaching and Learning at the University Level course at the institution.



Review of the Literature

Boyer's (1990) seminal work, Scholarship Reconsidered: Priorities of the Professoriate revolutionized the very core of teaching at the post-secondary level. Indeed, throughout the history of American higher education, concerns about teaching and/or pedagogical practices were the province of "normal schools" or "teachers colleges" during the late 1800s and, later, in the early 1960s, the teaching assistant model became quite popular for a high percentage of doctoral students who assumed the role of apprentice to the university professor (Thelin, 2011). Boyer (1990) introduced us to the four interdependent functions which frame the essence of the college or university professor: "the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching" (p. 16). Clearly, as Boyer conveys, teaching that is to be effective or defined as the "highest form of understanding" (Aristotle, as cited by Boyer, p. 23), must encompass a sense of continuous discovery, the integration of constructs across disciplines, and a conscious contribution to society at large.

The decades subsequent to the publication of Boyer's work have witnessed the metamorphosis of teaching from teacher-centered to student-centered, while investigating the role that self-efficacy (Bandura, 2000; Tschannen-Moran & Hoy, 2001) may play in a faculty member's willingness to create spaces where the learner is at the center. Tschannen-Moran and Hoy (2001) posited that "a teacher's efficacy belief is a judgment about his/her capabilities to get students engaged in the learning process to achieve the desired learning outcomes" (p. 31). Findings from a study on the effect of student-centered pedagogical training on teaching across higher education suggest that this type of training contributes to the strengthening of teachers' self-efficacy beliefs, especially for those with limited experience in lieu of those who are seasoned practitioners (Postareff, Lindblom-Ylanne, & Nevgi, 2008). Undoubtedly, the question becomes: how should universities prepare future college and university faculty and/or administrators to understand the elements which comprise effective teaching as they confront an increasing diversified student population?

One of the fairly recent phenomena in American higher education is the revised mission of the community college system as these institutions prepare to offer the baccalaureate degree in a myriad of programs of study. At present, 54 community colleges across 18 states have received approval to offer four-year degrees (Skolnik, 2011). Thus, whereas community college faculty once centered their teaching on development of basic skills and preparation for specific vocational careers, they now grapple with the additional challenges of preparing students to function at higher levels of the knowledge hierarchy, vis-à-vis the emphasis on a theoretical framework (Skolnik, 2011). This new direction for community college teaching, however, does not negate the need to engage in formative assessment of basic skills and, even more importantly, to learn how to reach these students who come from all different ethnic groups, languages, and socialization processes. Certainly, the literature on retention of minority students (Palmer, Maramba, & Holmes, 2011; Tinto, 2006) illuminates those factors which may play a role in academic achievement and/or degree completion. When analyzing retention data for Latinas/os, for example, cultural incongruence with the academic environment is one of several factors attributed to attrition (Zell, 2009).

The NLS platform aligns itself with a pedagogy of multiliteracies that addresses the needs of a diversified student population; it includes four components: (a) situated practice—taking into account the "affective and sociocultural needs as well as identities of the learners"; (b) overt instruction—"active interventions on the part of teachers" with an emphasis on scaffolding learning activities; (c) critical framing—students' ability to interpret the social and cultural context of the original "text"; and (d) transformed practice—students' ability to transfer meaning to other contexts or cultural sites (New London Group, 1996). Thus, the NLS context informs an ethos of collaboration within classroom spaces that are open, fluid, and adaptable to change in response to the needs of a diverse student population (Lankshear & Knobel, 2007).



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Purpose of the Project

In an effort to prepare future college and university faculty and/or administrators within the context of a doctoral program of study in Higher Education Administration, the purpose of this project, based on results from a qualitative study as mentioned previously, was to revise the Teaching and Learning at the University Level course syllabus so as to expose these future practitioners to the NLS field.

The Teaching and Learning at the University Level Course Syllabus

According to Albers (2003), "the syllabus is one of the few tools available for documenting the scholarship required for integrating isolated learning activities into a coherent meaningful whole" (p. 63). Further, when reflecting on the purpose of a course syllabus, vis-à-vis the scholarship of teaching and learning context, Shulman (1986), as cited in Albers (2003), identified the interdependence among three elements: curricular knowledge; subject matter knowledge; and, pedagogical knowledge. Within the frame of subject matter knowledge; shulman emphasized that faculty should be informed of new developments in their specific field. However, as we prepare graduate students to function across diverse environments which, often times, require cultural awareness, we cannot be successful in the classroom if we only confine ourselves to our own specializations or disciplines. Instead, developing a community of practice within classrooms where students become exposed to research from "outside" fields may serve to stimulate their interest in other areas as they, also, experience the interdependence among constructs. Findings from a study conducted by Newswander and Borrego (2009) suggest that doctoral students who were exposed to an interdisciplinary context had a better understanding of the integrative function of knowledge and, thus, an epistemological awareness.

Project Description

All of the course assignments (projects), as delineated in the Teaching and Learning at the University Level syllabus, called for students to research and/or integrate the NLS context and/or the implementation of inquiry-based practices as appropriate. The projects included the following: The SOTL (Global) Platform (collaborative research on teaching and learning within specific countries around the world as assigned; the SOTL Discussion Forum (individual response to readings); the SOTL Colloquium (weekly in-class assignments); and the Course Development/Portfolio (final project). The course readings, in addition to minilectures, specific guidelines for the Global Platform, and rubric (for evaluation of the Course Portfolio) served to introduce students to the contexts of teacher inquiry, vis-à-vis the scholarship of teaching, as well as the development of the NLS field with an emphasis on the importance of an interdisciplinary frame of reference. As students developed their own courses, they were required to reflect critically on the integration of NLS and the focus on action research as they considered and analyzed their own disciplines and teaching practices. It may be worthwhile to note that the researchers collaborating on this project (lead instructor and colleague) also kept a journal throughout the semester for reflection. Within this context, the term reflexivity may be appropriate when considering the context of participatory action research and the researchers' awareness of their relationship to the topics at hand—SOTL and integration of NLS—as well as the participants (Dowling, 2006). Boyd and Boyd (2005) discuss teaching journals with a specific focus on critical reflection on the part of all teachers, including those who are experienced.

Conclusion

A review of students' responses in the Discussion Forum as well as presentations on the Global Platforms suggest how doctoral students in this course sought to investigate the role of literacy across community colleges and university teaching and learning agendas, as they considered diverse student populations, and the emergence of interdisciplinary fields such as the New Literacy Studies. For instance, as part of the Global Platforms, students were required to respond to the following question: "Is teaching and learning systemic



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across higher education institutions in country X?" In addition, students were also required to frame a research question, as part of a collaborative research team effort, which would serve to guide them in conducting a study at the international level.

In response to assigned articles such as Alim's (2005) work, "Critical Language Awareness in the United States," one of the students made the following comment:

By keeping the end in mind, it seems appropriate to follow proven strategies that have been shown to be effective in helping minority students in transitioning from the familiar language of their culture to standard English that will enable them to attain a level of success in the larger culture in which they live.

A student, who teaches history at the community college level, shared the following in response to Alim's article:

The prevalence of dialects decreases the long-standing (and by this I mean historically, as in centuries) chances of permanent nationhood. This concerns me as I read the concepts in Alim [sic] article in the context of the US' historical development (including one very notable Civil War).

Responses to the Global Platform also suggest students' understanding of NLS within the context of diversity and integration across the higher education international terrain. When presenting on Australia, students posed the following question: "How does the Australian indigenous student population describe the impact of diversity on their educational experience?" Students presenting on Singapore reported on the country's commitment to social justice and focus on action research and its role in "promoting teaching as scholarship" and "respecting classroom ethnographies."

Closing Reflection

After engaging in this project focused on an attempt at scholarly teaching, we are convinced that we must continue to expand our own knowledge base as educators while ensuring that our students reach a level of engagement where they can easily grasp the power of interdisciplinary frameworks in the face of diversity and social justice. In one of our initial class sessions, students were introduced to Freire's (1987) essay on "The Importance of the Act of Reading" and Freire's famous lines, "reading the world always precedes reading the word, and reading the word implies continually reading the world" (Cadiero-Kaplan, 2004, p. IVII). Students emphatically concluded that this should be required reading for educators at all levels as we develop communities of practice and continue to teach and, especially, learn.

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Conference Proceedings | McCrink & Fischweicher

Preface

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Evidence-Based Teaching and Learning

Cognitive Science: How Do Deep Approaches to Learning Promote Metacognitive Strategies to Enhance Integrated Learning?

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Abstract

This research will examine how deep approaches to learning assist students in developing meta-cognitive strategies to enhance integrative learning. Research was gathered through two surveys using mixed methods, a triangulational study. Student data consisted of questionnaires with adaptations from the National Survey of Student Engagement (NSSE) 2011. The faculty survey was a questionnaire with adaptations from the Faculty Survey of Student Engagement (FSSE). Results reveals faculty measure success in promoting deep learning within and out of the classroom; the transference of new knowledge is obtained through writing intensive assignments, class projects, portfolios, collaborative discussions, undergraduate research, conference presentations, and self-reflections.

Literature Review

The word "learning" is used throughout P-16, affecting students at all levels from preschool through college. Have we as instructors paused to ask ourselves the following questions: Do students know how to learn? Have students been taught the necessary strategies to learn successfully and navigate in school or college properly? Do they know how to monitor their learning in order to make necessary adjustments in order to learn effectively? Additionally, have institutions provided the necessary training for faculty and staff to facilitate learning in environments where they teach? These rhetorical questions are posed to assist instructors examine how students learn and discuss ways in which educators can better prepare our students. Many times academicians take for granted that students come prepared to learn, ready for the challenges of rigorous reading and writing assignments, studying in groups, providing academic discourse, critically thinking and problem solving; yet we grapple with why students are unable to function in these capacities and struggle to pass the required state tests or praxis. The truth is, many students are learning life skills without their parents or guardians for the first time. Students are learning to live on their own, entering the world of work, participating in service organizations and other university involvement; while attending demanding courses and juggling all of these balls become their main focus. Consequently, for some, learning is not their first priority until its too late. For this reason, it is critical, that the subject of how students learn leads to a continuous topic for institutions of higher learning. The purpose of this study was to investigate if and how deep approaches to learning promote meta-cognitive strategies to enhance integrative learning. Surface learning is referred to as the method by which students focus on the memorization of facts; thus adopting a rote learning, or surface learning approach (Smith & Colby, 2007). Little to no reflection, minimal engagement and a desire to simply achieve a passing grade are characteristics that embody the mind of the surface learner. Surface learning often appears as a safe, easy alternative to more cognitively challenging



deep learning. On the other hand, deep learning leads to greater productivity and successful academic outcome. Marton and Saljo (1976) first introduced the idea of deep learning in their study exploring student's approaches to specific tasks. Students were provided with a text and told that they were to read the text and would later be asked questions regarding what they read. Marton and Saljo categorized the student's approaches to reading and answering the questions into two categories. The first category of students not only read the text to acquire information, but they read in order to understand the meaning of the text. In other words, these students espoused or promote a deeper approach to learning.

National Survey for Student Engagement (NSSE) researchers created their DEEP Scales using reflective measures of experiential proxies to represent students' overall tendency to employ deep learning processes. The Nelson Laird study (2008), however, is perhaps the only large-scale, nation-wide analysis published thus far that explicitly links deep learning activities with college student outcomes. Faculty members can engage students in group work, which holds students accountable for their own learning and requires understanding of the subject matter in order to function in the group (Hall, et al., 2004). Institutions can also include first-year seminars that require reflection and integration of knowledge (English, et al., 2004), or plan for such integration through intentionally designed learning communities (Cole, Mccormick, & Kinzie, 2009).

The Association of American Colleges and Universities (AAC&U) emphasizes the importance of identifying "high-impact practices" that improve students' educational attainment focus almost entirely on interventions meant to encourage deep approaches to learning: writing intensive courses, collaborative assignments, undergraduate research, service learning, and capstone courses and projects – all practices. Kuh (2008) suggests encourage student to adopt deep approaches to learning.

Connecting learning to something directly relevant to the student as a person is a basic concept in creating an active environment (Zakrajsek & Rosier, 2006). As teachers, we need to consider approaches to instruction that allow students to involve themselves in their own learning processes. They must be given opportunities to construct, question, transfer, critique and apply their new learning. Students' understanding improves when they actively construct meaning and try to make sense of the material.

Metacognitive strategies allow students to reflect on what they learn, make adjustments when necessary, and determine how they want to proceed in moving towards their learning target. Zull uses the term "metacognition" to underscore the need for students to think about what they are doing. Metacognition lies at the heart of all learning: "the ultimate outcome of the journey [from brain toward mind] is to understand your own understanding" (Zull, 2011, p. 15).

Much research has been done in the field of education on the importance of developing metacognitive strategies to facilitate learning. Metacognitive strategies can be described as processing strategies that include planning and monitoring to promote cognitive mastery (Pintrich, Smith, Garcia, & McKeachie, 1993). With different metacognitive strategies, students have the ability to take learning into their own hands.

Based on the review of literature, the hypothesis reveals that faculty measure success in promoting deep learning within and out of the classroom; the transference of new knowledge to prior knowledge is obtained through writing intensive assignments, class projects, portfolios, collaborative discussions, undergraduate research, presentations, and self-reflections. Research reveals practicing deep learning as opposed to surface learning gives students the opportunity to better retain information and make connections to other subject areas. It provides teachers the opportunity to adjust instruction to meet students' needs: what is appropriate and why; effective implementation, organization, and planning; re-teaching, enrichment and extensions; instructing and demonstrating; providing feedback; questioning and problem solving; thus enhancing the learning paradigm. Deep learning promotes meta-cognition strategies, strategic thinking, critical thinking, reasoning skills, connections to relevant learning, and creativity. Thus, students are able to integrate information learned in order to enhance integrative learning experiences.



Preface

Abstracts

Μ	eth	odo	logy
			- 37

In this study, both students and faculty were questioned on deep learning approaches using online surveys. The student survey was a questionnaire adapted from the National Survey of Student Engagement (NSSE) 2011. The faculty survey was a questionnaire adapted from the Faculty Survey of Student Engagement (FSSE). Additional qualitative comments were collected and the data were analyzed. Collectively, data from these sources provide a multi-dimensional profile of participating students' academic preparation, college experiences, reported gains in their knowledge, skills, and personal development, and critical thinking. The participants in this study (both faculty and students) were at an institution in Central Illinois with approximately 11,000 students. The research study included freshman, sophomores, juniors, seniors, and graduate students. The student survey had 337 respondents and the faculty survey had 85 respondents.

Data Analysis and Results

We made a comparison of the level of higher-order learning activities between various groups of disciplines. The four groups were Arts and Humanities (AH), Business and Applied Science (BAS), Education and Professional Studies (EPS), and Sciences (SCI). The Arts had the highest level of Synthesis and the lowest levels of Analysis, Judgment and Application. Sciences had the highest levels of Judgment and Application and Business had the highest reported level of Analysis. Education ranked high in Application and ranked lowest in synthesis and judgment (Table 1).

Scale: Very Much	= 1 to Very Little =	= 4		
	M	<u>SD</u>	Ν	
Analysis				
AH	2.10	0.889	41	
BAS	1.72	0.783	60	
EPS	2.03	0.851	110	
SCI	1.87	0.837	90	
Synthesis				
ÁH	1.95	0.973	41	
BAS	2.07	0.756	60	
EPS	2.20	0.990	110	
SCI	2.05	0.856	90	
Judgment				
AH	2.17	0.946	41	
BAS	2.34	0.911	60	
EPS	2.42	0.971	110	
SCI	2.10	0.852	90	
Application				
AH	2.24	0.906	42	
BAS	2.15	1.014	61	
EPS	2.15	0.979	110	
SCI	2.00	0.856	90	

Table 1. Higher-order learning activities by college.



We compared the degree of engagement in reflective learning activities for students with high vs. low deep learning activity using independent samples T-test. The higher-order learning activities (HOLA) were analysis, synthesis, judging the value of information, and application of theories. The reflective learning that students were surveyed on were examining the strengths and weaknesses of you own views (ESW), better understanding someone else's views by imagining how an issue looks from their perspective (USEV), and learning something that changes the way you understand an issue or concept (LSCU). For the most part, high engagement in HOLA's corresponded to significantly higher engagement in reflective learning activities (Table 2). We also analyzed the data to see if there was any effect of level of Higher-Order Learning Activities (HOLA) on whether students thought their learning was integrated. We found no significant differences for any of the four HOLA's, but there were trends for a greater perception of having had integrated learning with higher levels of engagement in HOLA's.

Scale: Very Much = 1 to Very Little = 4							
	<u>High H</u>	<u>IOLA</u>	Low H	HOLA			
	M	<u>SD</u>	M	<u>SD</u>	<u>df</u>	<u>t</u>	
Analysis							
ESW	2.24	0.830	2.48	0.853	329	2.260*	
USEV	2.12	0.786	2.34	0.841	328	2.158*	
LSCU	2.19	0.741	2.41	0.867	326	2.284*	
Synthesis							
ESW	2.18	0.833	2.48	0.805	330	3.187**	
USEV	2.06	0.793	2.32	0.801	329	2.795**	
LSCU	2.11	0.746	2.49	0.775	327	4.316**	
Judgment							
ESW	2.16	0.815	2.48	0.858	332	3.460**	
USEV	2.06	0.809	2.29	0.792	331	2.533*	
LSCU	2.17	0.749	2.33	0.811	329	1.856	
Application							
EŚW	2.13	0.806	2.55	0.851	332	4.502**	
USEV	1.97	0.767	2.48	0.792	331	5.836**	
LSCU	2.06	0.728	2.53	0.773	329	5.545**	

Table 2.	Differences in Engagement in Reflectiv	e Learning (High HOLA vs. Low HOLA).
Scale: Ve	rv Much = 1 to Verv Little = 4	

*p < .05, **p < .01.

Students were asked to describe *how* they were able to connect what they have learned to their lives. The answers were assigned to categories of higher-order learning, integrated learning and reflective learning. There were 33 instances of HL, 86 instances of IL, and 35 instances of RL. From the qualitative data, "relevant learning" emerged as the theme. There were 4 types of connections: life connections from curriculum(LC), Co-curricular connections(CC) Mentoring and personal connections(MP) and Community Outreach connections(CO). Students highest connection came when they shared connections from their content/ curriculum areas to their personal life. Co-curricular connections were the next highest for students. Faculty members were also asked to report on various teaching activities both in and out of the classroom. Faculty had a high level of engagement in all activities (Table 3).

Evidence-Based Teaching and Learning

Preface

Plenary Presenters

Table 3. Faculty Activities (N = 83).

Scale: Never = 1 to Often = 4

Activity	M	<u>SD</u>	
Deep Learning			
Analysis		3.80	0.401
Synthesis		3.88	0.331
Assess validity of information		3.31	0.795
Intentionality			
Discuss integrative learning		2.66	1.009
Use integrative learning		3.38	0.768
Reflection			
Review information from earlier in the current day		3.46	0.650
Review previous days' material		3.49	0.651
Use simple review questions		2.88	0.929
Require review activities		3.24	0.829
Problem Solving			
Present practical applications		3.78	0.416
Present a problem requiring outside information		3.42	0.646
Apply knowledge to problem outside normal context		3.02	0.826
Collaboration			
Collaborate outside class		2.94	0.960
Collaborate inside class		3.24	0.854
Collaborate outside major field		2.33	0.957
Engagement			
Encourage active learning		3.68	0.566
Encourage hands on learning		3.66	0.635
Promote internships and lab experiences		3.00	1.006
Metacognition			
Provide effective methods to better understand material		3.59	0.543
Teach basic skills needed to utilize information		3.78	0.449
Encourage co-curricular experiences		3.41	0.842

Instructors were asked how they measure their success in promoting deep level and integrated learning within the classroom. The answers were categorized into higher-order learning, integrated learning, and reflective learning. There were 8 instances of HL, 24 instances of HL, and 6 instances of RL. Instructors were also asked what are the ways in which they connect with students outside the classroom. Again, the answers were categorized into higher-order learning, and reflective learning. There were 9 examples of HL, 79 instances of IL and 22 instances of RL. Faculty were asked: What are the ways you connect with your students outside of the classroom? Faculty connections were consistent with student connections with making life connections through content or curricular discussions the highest connection. Mentoring/personal connections served as the next highest as faculty mentored both undergraduate and graduate students in the area of research and other areas pertaining to the life of the institution. Several "high impact" learning experiences were provided.



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Discussion

Research suggests that a large part of the impact of college is determined by the extent and content of students' interactions with the major agents of socialization on campus: faculty members and student peers. Further, faculty members' educational influence appears to be significantly enhanced when their contact with students extend *beyond* the formal classroom. At the institution in this study, faculty embraced programs such as: faculty fellows, undergraduate mentoring, dining with students at the Charleston Chew, study hall group discussions, or attending sports events to enhance student personal contact. Personal connection is a way to assist with retention efforts and can be viewed as a vital part of the university community to enhance the life of the students. Additionally, faculty members from various colleges or disciplines are encouraged to strive to teach to the higher levels of Blooms Taxonomy; further increasing deep learning experiences to enhance integrated learning.

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Evidence-Based Teaching and Learning

Enhancing Learning Through Curatr, A Social Learning Platform

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Abstract

New advances in learning technologies now allow us to integrate constructivism, social learning theory, game theory, and motivational theory to engage students as active participants in a community of inquiry. Using the online social learning based platform, Curatr, teacher/ researchers at Stratford University have designed a new style of Anatomy and Physiology course that, while maintaining the rigor necessary for the medical professions, provides a learning environment that motivated students to be actively engaged, creative, and socially interactive.

Introduction

Case studies, lectures, and lab experiences have traditionally been employed to teach college courses. However, new advances in learning technologies now allow integration of constructivism, social learning theory, gamification, and motivational theory to engage students in learning content while becoming active participants in a community of inquiry. Using an online social learning based platform called Curatr (curatr. co.uk), we have designed courses that, while maintaining rigor and high standards necessary for professionals, provides a learning environment that motivates students to be actively engaged, socially interactive, and to develop deep conceptual understanding. This paper will focus on one course, Anatomy and Physiology I, that has now been held for three terms using the new format. The focus of this paper is on the innovative use of Curatr as a vehicle to provide access to scholarly teaching, and the process of development of the curriculum and on the use of the platform to enhance student engagement with correlation to learning.

Literature Review

Walk into any museum and most museum educators have embraced the idea that learning needs to be activewith hands-on involvement, participatory exhibits, and educational programs. In some museums, curators give an extensive guided tour through galleries, insisting on presenting the expert guide's interpretation, pace, and selection to influence the viewer's perception and learning. It is this tension between our desire as teachers to teach the truth, to present the world "as it really is", and our desire to let learners construct their own world which requires us to think seriously about epistemology and pedagogy (Hein, 1991).



Preface

The principles of constructivism that are applied to learning in museums may be applied to the curricula of higher education. The same principles appeal to our modern, technological views of learning and knowledge. If we accept the constructivist position, we are inevitably required to follow a pedagogy that argues that we must provide learners with the opportunity to: a) interact with sensory data, and b) construct their own world (Shalev, 1991).

Gamification is a term that describes using "game thinking and game mechanics to engage users and solve problem" (Zicherman & Cunningham, 2011, p. xiv). Game mechanics refers to the tools used to meet this goal, such as points, levels, leaderboards, badges, etc. So, in many ways, education somewhat resembles a game (Lee & Hammer, 2011). Gamification concepts and techniques are used to engage students and motivate them through a path towards task-mastery and autonomy as they construct understanding. The use of gamification, game mechanics, feedback loops, and rewards to spur interaction and boost engagement, buy-in, loyalty, fun, and/or learning continue to gain ground and be implemented in many new ways in people's digital lives between now and 2020 (Anderson, 2012).

Learning is also a social activity. In evaluating an interactive exhibit at the Boston Museum of Science in which people could get information through various modalities—they could read labels, listen to animal sounds, touch animal mounts and manipulate exhibit components – Hein (1998) noted that individual visitors preferred different learning modes. In family groups, the conversations became more democratic, and involved more members after all these modalities were installed, as family members shared, discussed and confirmed what each had learned while perusing his or her preferred modality (Hein, 1998).

Motivation is unquestionably an important factor in the construction of knowledge and the process of conceptual change, so one could expect that motivation strategies would be an integral component of constructivist-informed teaching (Palmer, 2005). Vygotsky described a concept of the "zone of proximal development" in which the acquisition of new knowledge is not only dependant on the availability of instruction but more importantly dependant on previous learning (Vygotsky, 1962). His social constructivist approach was later expanded to introduce model based learning and co-construction of learning that further emphasized the need for student to interact socially as well as cognitively to build complex mental models that were useful for creating understanding and application (Rea-Ramirez, 1998, 1999; Nunez, Rea-Ramirez, & Clement, 2002; Clement & Rea-Ramirez, 2008). For years, we have socially drawn attention to academically successful students by using school newspapers, testimonials, behavior codes, award assemblies, and publicity. Through the use of points, badges, and awards, students have been shown to move from extrinsic motivation to intrinsic motivation to enhance social, personal, and emotional competence (Hein, 1998).

Purpose

Curatr provides motivation and incentives for students to engage in learning. This takes place on two levels, through social learning and through gamification. The social learning platform built into Curatr allows students to respond to learning activities, ask questions of the facilitator and their peers, and pose new questions, problems, or add objects for others to view and discuss. According to Curatr developers, Alan and Ben Betts:

True learning takes concentration, effort and active participation. No matter how fancy your E-learning looks, if learners aren't active in the creation of knowledge, very little is going to stick. That's why we advocate a Social Learning approach; learners actively contributing back to online courses. Curatr isn't a wiki or a blog that sits on the side of a learning journey; it is truly Social Software, where Social Learning is not an option. (http://www.curatr.co.uk/)



Plenary Presenters

<u>nstitutions Represented</u>

Preface

nstitutions Represented

In 21st Century learning where social constructivism is essential, Curatr provides an accessible vehicle for engaging students in social interaction around content that goes beyond memorization or simply giving back information.

Project Description

In a virtual museum environment of Curatr learners access levels or floors and then have access to a wide variety of "rooms" where learning is constructed through hands on experiments, readings, games, virtual autopsies and field trips, video, and song (see How Curatr Works at http://www.curatr.co.uk/how_it_works). Students gain points for engaging in activities on each level of the museum, for interacting with peers, and also for adding new exhibits to the museum for their peers. Badges are earned by being the first to obtain a certain number of points, or completing multiple levels in one day (see How Points Work YouTube at http://www.curatr.co.uk/ features#!prettyPhoto/0/). Social interaction among peers is required in every room in order to gain enough points to move up a level. In addition, each level is completed by passing a gate where they demonstrate competency of the level. These all serve to incentivize the learner, to motivate them to try harder and to "beat the game". Within the museum students can find a report of all their points, badges, and gates passes. They can also see the levels and points that other students have gained to compare progress.

An Anatomy and Physiology I course was developed using gamification strategies to improve student engagement, motivation, and deep conceptual learning in a content course. Construction of the course focused on six elements: social learning, investigation, student centered instruction, gamification strategies, reporting, and assessment. In addition, to make the learning authentic and relevant to students, a major theme with a culminating project was introduced.

Since Anatomy and Physiology I focuses on energy in the human body with emphasis on the digestive, circulatory, and pulmonary systems, use of the major concept of global malnutrition and hunger was chosen as the project that drove the reason for engaging in the museum. The students were given the following Welcome to the Museum of the Human Body.

Welcome to the Museum of the Human Body. As a citizen scientist you have been invited to work with leading scientists in a museum devoted to solving world hunger, and malnutrition. To help the scientists at the museum, they have provided you with many exhibits that showcase what they have learned about the human body and nutrition so far. As you work through the levels of the museum you will want to learn as much as possible about what has already been learned so that you can come up with new solutions to the problem of world hunger and malnutrition. They expect that by the time you have completed the final level you will be able to present them with a suggestion for addressing the problem in one country of your choice.

This project was threaded throughout the levels and rooms of the museum to help students connect what they were learning about anatomy and physiology to real life applications. Final presentation of their proposed solutions could be in any multi-media format including video, pinterest, powerpoint, etc.

Construction of the museum space was then accomplished by determining the objectives of the course that students would demonstrate (see Understanding the Different Screens in Curatr YouTube at http://www. curatr.co.uk/how_it_works #!prettyPhoto/0/). These became the levels or "floors" of the museum. Attached to each level was the gate, or assessment that students would complete to demonstrate mastery of that objective. Once this was accomplished, the content was added to each level in the form of "rooms" or objects. Rooms were designed to provide multiple access to content by choosing different types of media such as tutorials, simulation, animation, virtual labs, songs, and websites. Students could visit as many rooms as they wanted or needed in order to engage in a variety of activities to construct understanding while gaining enough points for the level. Between floors a short video of a scientist congratulated students on successful completion of the previous level and introduced students to the big idea they would encounter on the next level.



Student use and learning through Curatr was documented over three terms in a freshman Anatomy and Physiology I class. Students all responded to prompts or activities with the rooms they visited. However, the level of response differed between students and from room to room. For example, one student responded to a virtual autopsy with, *"The cause of death was cerebral infarct, cerebral embolus, and atherosclerosis of carotid arteries. A cerebral infarction is the ischemic kind of stroke due to a disturbance in the blood vessels supplying blood to the brain. Cerebral embolus is the sudden blocking of an artery by a clot or foreign material in the blood stream. Atherosclerosis is a degenerative disease of the arteries resulting in plaques consisting of necrotic cells, lipids, and cholesterol crystals.*" While another student commented on the same site with, *"blockage of the artery"*. However, since both students commented they received points in Curatr. This level of discussion was evident across all three terms, although the number of students who provided more lengthy discussions increased over the three terms. This suggests that instructor interaction and encouragement for students to discuss more is important. It might also be helpful if the minimum discussion needed could be set by the instructor. The instructor can set the length of time the student has to interact in the room, but not how much they have to write or whether they have to write only one response to a prompt or respond to multiple other students.

Students were provided a rubric that provided a guide for interaction. Since it is believed that social constructivism is essential to deep conceptual learning, student understanding and instructor modeling of the rubric applied to discussion was found to be essential. At first only a few students commented on what another student said, but most did not demonstrate the ability to challenge one another, to ask additional questions, or to pose new problems. As found in previous research, this is a skill that must be taught (Rea-Ramirez, 2008). While students overall had significant pre – post gains in learning, long term learning may be affected by insufficient social construction. Therefore, additional elements embedded into Curatr that might support this type of interaction could be points based on number of interactions with other students, on "liking" a comment and then having to explain why in order to get points, and on level of interaction. Instructor interaction also can encourage students to engage more actively. Referring back to elements in the museum as student engage in application within the classroom enhances what students later do in the rooms of the museum. Modeling interaction and ways of challenging their peers also proved beneficial.

Once students completed a room on a level it is important to encourage them to return to that room to further respond to comments or questions other students posed. This might be promoted by reminding students the will gain additional points to level up. Possibly having a symbol, or even a picture of the person who responded pop up that would let students know, would encourage students to more actively engage in the social dimension of the program.

Students engaged in the Curatr museum during out of class hours. This met the Department of Education requirement for two hours of homework for every hour in class. It was not only an easy way to demonstrating that students spent this time but actual participation and progress could be tracked. More importantly, however, was the concept of flipping the classroom, the process of moving what has been traditional classroom lecture out of the classroom and allowing students to engage in content at their own speed, as much as needed, outside of the classroom time. This allows the time in class to be used for application activities such as projects, case studies, simulation labs, debates, game based learning, and other authentic, student active learning, rather than lecture. In the A&P I class a consensus model was constructed on large white paper by each group based on what they had learned in curatr the previous week. Then case studies were introduced (see http://sciencecases.lib.buffalo.edu/cs/about/) that challenged teams to apply what content they had learned in curatr. These cases challenged students to think critically, apply data, and analyze new information.



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Conclusion

Gamification and social learning were introduced to an Anatomy and Physiology I college course through the use of Curatr. Overall, student interaction, enthusiasm, and learning were much improved over traditional instruction for this course. While suggestions have been made that would enhance the interaction even more, Curatr has proven to be a highly effective tool for engaging students in deep conceptual learning this is fun and challenging. It provides students with multiple avenues of access to information that appeals to their own learning style, while motivating them through use of gamification techniques. The rigor of a college level anatomy and physiology course was maintained while adding gamification and social learning that enhanced engagement and motivation, two essential elements to effective learning. Content learning through Curatr provided a strong basis for application activities such as case studies and team based projects.

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Plenary Presenters Preface

Evidence-Based Teaching and Learning

From Distress to Success: Improving Individual Performance Assessments

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Abstract

In subjects that are skill-oriented, assessment can be problematic. Performing individually for a teacher can be harrowing for a student because it requires on-the-spot application of complex concepts in a time-pressured context. Performance assessments are not always accurate because students are too nervous to perform up to their abilities. In this presentation, I describe the advantages and disadvantages of my redesigned assessments. In the revised assessments, students develop skills for: identifying problems, discussing difficulties, and strategizing solutions. In light of my revisions and how they interact with learning taxonomies, presenters will explore possible revisions to their own assessments.

Statement of the Problem

In subjects that are skill-based or performance-oriented, it is common to assess student learning individually in one-on-one settings. For example, medical and nursing students need to pass clinical exams and musicians perform hearings and juries. In these performance-based assessments, students demonstrate their skill individually by completing a certain task for a teacher. From a student perspective, these assessments can be harrowing because they require on-the-spot application of complex concepts in a time-pressured context. From a teacher perspective, these assessments are not always accurate because students are too nervous and stressed to perform up to their abilities. The assessment itself can create debilitating anxiety that impedes performance. For years, I followed traditional assessment techniques, but grew increasingly dissatisfied with the results. For a particular kind of student, the assessment itself promoted acute frustration and self-loathing that affected morale and subsequent motivation to learn.

Literature Review

The idea that test anxiety has a negative influence on performance is not a new idea. In the 1930s, text anxiety received considerable attention through the work of Luria, Neumann, and Brown. (Brown, 1938; Luria, 1932; Neumann, 1933) Several decades later, Sarason studied the relationship between test anxiety and test performance, concluding that higher test anxiety correlated with lower test performance. (Sarason, 1958, 1960, 1961) More recent meta-analyses of research also support this claim. (Hembree, 1988; Seipp, 1991; Smith & Smith, 2002)

While test anxiety can be present in all fields, it is often heightened in music because one's identify, sense of self, and personal vulnerability is involved in the performance. For some students, the results of evaluations in music classes form the basis of their sense of identity as a musician. Consequently, feelings of fear or embarrassment can be magnified because of the student's intense personal investment in the outcomes. P.J. Howard's neuroscience research supports the idea that negative feelings, such as fear and embarrassment, can interfere with a learner's ability to process information. (Howard, 2006) In addition, unlike a written test, in which a student usually has the opportunity to consider their response and change or modify them



if necessary, a music performance affords only one opportunity for students to demonstrate their skills. An effective performance must not only be correct, but also creative, emotional, and communicative. (Mitchell, 2011) This makes assessments of music performance particularly vulnerable to test anxiety and false outcomes because there is an inherent time pressure involved. Hill and Eaton observed that the degree of time pressure during an exam affects the anxiety/performance relationship. (Hill & Eaton, 1977)

One antidote to the stressful, hierarchical environment of a one-on-one performance assessment between a teacher and student is to depressurize the situation by using peer interaction and self-assessment. Small group work can transform the assessment into a supportive learning team, keeping students motivated and energized. The benefits of cooperative, small-group work have been well established in the field. Seminal studies and meta-analyses published by Johnson and Johnson indicate that cooperative learning helps raise the achievement of all students, helps build positive relationships among students, and gives students experiences necessary for healthy social, psychological, and cognitive development. (Johnson & Johnson, 1989, 1999, 2004) In an extensive study that involved over a thousand students, Stevens and Slavin also affirmed that cooperative learning had positive effects on academic achievement and social relations. (Stevens & Slavin, 1995)

Purpose

The purpose of my revised performance assessments is to engage deeper levels of learning and to create a more positive student experience. In traditional one-on-one performance assessments, students can suffer debilitating anxiety. This not only has a demoralizing effect on future learning, but also results in inaccurate grades because a student does not perform up to their potential. Changing the assessment into small-group exercises enables the student to undertake multiple roles (performer, listener, assessor), while benefiting from the more relaxed atmosphere of peer-to-peer learning,

Project Description

In a traditional assessment in music theory and aural skills classes, students perform certain tasks individually for a teacher. This type of assessment is called a "hearing." Typical hearings include playing exercises on the piano, clapping rhythms, and singing melodies. The hearing takes place outside of class during a 10-minute appointment with the teacher. Because the teacher has to accommodate 80-90 hearings multiple times a semester, there is seldom time for feedback or instruction. Ten minutes is sufficient time for performing the activities, but not much else. In my revised assessments, which I call "practicums," students perform similar tasks, yet instead of performing for the teacher, they perform for their peers, following a guided script of activities. At the beginning of the semester, students choose two other peers to be in their assessment group and they determine a 45-minute time when they can all meet outside of class on the weeks that an assessment is due. In the group, each student performs for 10 minutes, just like in the traditional format, while the other two listen. When in the listener's role, students have specific objectives of their own, so they are not listening passively. For instance, while the performer improvises a tune in a particular mode, the listeners try to identify which mode the improvisation is in. In addition, the listeners provide feedback to the performer about what went well and what didn't. Once areas for improvement are identified, the group brainstorms ways to improve the performance.

In my revised assessments, students undertake multiple roles, as performer, listener, and assessor. Through group interaction, students gain insights about different learning styles and they develop skills for explaining their perceptions. Compared to traditional hearings, students participate in a much fuller learning experience, traversing all stages of Rifkin and Stoecker's taxonomy for music learning: recognize, imitate, conceptualize, apply, improvise, and evaluate. (Rifkin & Stoecker, 2011)



Preface

Conference Papers

Abstracts

After the practicum, students complete an on-line form individually that asks short answer questions about their group experience. Following recommendations by Diane Hart, I use evaluative questions that force students to think about their work and to consider the extent to which they achieved the learning goals of the activity. (Hart, 1999) The first question lists the learning objectives of the practicum and asks the student to explain how those objectives had (or had not) been met. The second question asks the student which of the activities was their favorite and why. By answering this question, students not only evaluate their own learning, but also their interactions and proclivities. The last question on the survey is open-ended and provides a space for the student to share confidential concerns or observations. I grade the surveys pass/fail. If a student responds honestly and meaningfully to the survey questions, he or she passes.

Conclusion

For students who have experienced both traditional hearings and my revised practicums, nearly all report that the practicums are less stressful and more fun. In the third question on the reporting form, which asks students if there is anything else they'd like to share with the teacher, students often describe how much more they like these group assessments compared to the traditional hearings. Here are a few typical student statements:

- "Thanks for making us do these this way...It is a much more relaxed environment."
- "I think these practicums were very helpful. I could sit in a practice room for 3 hours and memorize everything I had to play or sing, [for a hearing,] but it does not have the same effect. I learn more by my mistakes in a comfortable learning environment with my peers than I do in a formal assessment setting with an instructor. I like learning from my mistakes and my peer's mistakes. It really makes the practicum interesting, fun, and informative!"
- "Being a student with learning disabilities I am focused on how I learn and what styles of learning work best for me. One thing that stuck out with the practicums is that I retained the material much more than I would with material for hearings. I believe that because the high level of stress and anxiety that hearings often produce was missing during the practicums that material was retained. There often would be so much stress surrounding hearings that once the hearing process was over the material that was assessed was quickly forgotten."

Importantly, students not only describe a less stressful environment, but they are also very specific about the higher-quality learning, the diverse feedback, and a greater retention of material.

From a student perspective, the group assessments provide an improved experience; however, from a teacher's perspective there have been negative consequences. First, students' self-reporting of skills acquisition may not be as informed or reliable as a teacher's evaluation. For students who did not get overly anxious, I had a better grasp of their skill level when I heard them perform for me individually. Second, individual appointments yielded a finer calibration of grades (A-F) compared to the pass/fail ratings of group assessments. Because practicums are only one of several different kinds of assessments used in my class (e.g., exams, quizzes, papers, in-class performances, compositions, etc.), I remain comfortable forgoing some evaluative capacity, in favor of a better student experience with deeper learning and richer feedback.

To mitigate these disadvantages for the teacher, I have considered incorporating more formal peer-review processes. Specifically, I will pursue suggestions by Michaelsen and Fink, who recommend that peer evaluations be included as part of the grade-calculation process for all group work. (Michaelsen & Fink, 2004) Their peer evaluation procedures allow students to assess the overall contribution of the other members of their group, yielding a number (or percentage multiplier) to be included in a student's course grade. Although

Evidence-Based Teaching and Learning

Preface

Plenary Presenters

Conference Papers

Abstracts

introducing peer review won't address the lack of expert evaluation of performances, the confidential, crowdsourced element of Michealsen's and Fink's peer-review procedures will enable a more granular grade for group assessments beyond pass/fail.

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Preparing Future Faculty: Strategies for Using Rubrics as Teaching Tools

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Abstract

Using performance tasks as assessments for learning requires that students be familiar with the rubrics that will be used to evaluate the final performance or product. Simply providing a rubric in advance and asking students to read it is, more often than not, insufficient. A good rubric can be a very effective and versatile teaching tool and enhance learning over the long term. The purpose of this paper is to present strategies for incorporating assessment for learning into daily teaching activities while introducing the rubric to students in a way that develops their understanding of their appropriate use.

Introduction

A rubric is a performance assessment tool that can be used very effectively in teacher and leadership preparation classrooms to assist in the evaluation of the mastery of candidates' knowledge, skills, and dispositions that are essential in the development of highly qualified educators needed to support today's exceptional K-16 teaching and learning environments. A rubric is a coherent set of criteria for students' work that includes descriptions of levels of performance quality on the criteria (Brookhart, 2013). Thus, a rubric is not a form of assessment, but the specific criteria for making the assessment or evaluation. Rubrics require a demonstration of candidates' knowledge, skills, and dispositions to the application of such to a particular context and can be powerful educational tools for sharing expectations with candidates and, subsequently, for grading their work (Airasian, 2001; 2000; 2001; Moskal, 2003; Pearlman, 2002; Wiggins, 1993).

Literature Review

Rubrics are not a new idea. Their capacity to assist students in acquiring complex reasoning proficiencies and skills has been repeatedly studied and well documented through research (Andrade 2000, 2001, 2010; Andrade & Boulay, 2003; Andrade & Du, 2005; Andrade, Wang, Du, & Akawi, 2009; Arter, Chappuis, & Service, 2007; Black and William, 1998; Brookhart, 2004; Covill, 2010; 2013; Goodrich, 1997; Moskal & Leydens, 2000). Research on the effects of using rubrics instructionally in the K-12 classroom has led to increased emphasis on a variety of formative evaluation assessment practices. More teachers are actively using performance assessments in the classroom in an effort to evaluate important content standards (Arter, Chappuis, & Service, 2007). On the other hand, in college teacher and leadership preparation classrooms, rubrics can also be quite effective for summative evaluations of candidate, course, instructor, and program performances.

When the intended learning outcomes are best indicated by performances – things candidates would do, make, say, or write – then rubrics are the best way to assess them (Brookhart, 2013). Rubrics help candidates by orienting them to what it is they are expected to accomplish, efficiently leading them along the continuum from beginner to expert, and helping them be able to explain why products and performances they create (or exhibit) are good or not (Arter, Chappuis, & Service, 2007). Rubrics are also a good way to help teachers define



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Plenary Presenters

Conference Papers

Abstracts

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complex learning targets and ensure that judgments about candidates work are consistent over time, between assignments, and with colleagues. In addition, they help teachers clarify learning goals, design instruction that addresses those goals, communicate the goals to candidates, guide feedback on candidates' progress toward goals, and judge final products in terms of the degree to which the goals are met (Andrade, 2010; Arter, Chappuis, & Service, 2007).

Types of Rubrics

Rubrics come in several different forms. They can be analytic vs. holistic or general vs. task-specific. A rubric with two or more separate scales is called an *analytic* rubric. Specifically, analytic rubrics are designed to rate or score each identified criterion of the required project (Boston, 2002; Witte, 2012). For most K-16 classroom purposes, analytic rubrics are best. Focusing on the criteria one at a time is better for instruction and better for formative assessment because students can see what aspects of their work need what kind of attention. However, focusing on one criterion at a time is also good for any summative assessment (grading) that will also be used to make decisions about the future (i.e. decisions about how to teach something next year) (Brookhart, 2013). A scoring rubric that use only a single scale yields a global or *holistic* rating that is used to represent a candidate's entire work (Boston, 2002; Witte, 2012). One classroom purpose for which holistic rubrics are better than analytic rubrics is the situation in which students will not see the rubrics of a final summative assessment and the instructor will not really use the information for anything except a grade or assessment score (Brookhart, 2013). Many teacher and leadership preparation courses utilize this rubric purpose to produce "artifacts" or evidence of meeting proficiency requirements on program standards as defined by their prospective accrediting agencies. Example of these artifacts often include course embedded assessments (i.e. Specialized Program Assessment [SPA] assessments), portfolios, capstone projects, topic specific essays, reports, research projects, and comprehensive exams.

General rubrics use criteria and descriptions of performance that generalize across, or can be used with, different tasks, while task-specific rubrics are specific to the performance task with which they are used. More specifically, rubrics that are designed and constructed to serve as a general review for several work products or activities are general rubrics. Conversely, rubrics that are created so that they are very selective or task specific and are used for only one particular activity or project are designated task-specific (Brookhart, 2013; Witte, 2012). General rubrics are better for use in the classroom than task-specific rubrics if the use is assessment for learning: helping candidates gain depth in their understanding of how to create a quality product or performance, self-assess and set goals for learning, track their own progress over time, and/or communicate about their achievement growth with others. If the goal is to determine if candidates have acquired a specific body of knowledge, demonstrated through an extended written response, then a task-specific rubric is more acceptable (Arter, Chappuis, & Service, 2007). Task-specific rubrics contain the answers to a problem, or explain the reasoning candidates are supposed to use, or lists facts and concepts candidates are supposed to mention (Brookhart, 2013).

Conceptual Framework

In their textbook, "*Teaching as the Learning Profession: Handbook of Policy and Practice*, Darling-Hammond and Sykes (1999) suggest that in order for teachers to teach in ways that researchers and educators imagine they should, they would have the capability to attend to and learn about individual students' knowledge, ideas, and intentions. It would also require their capability to stand back from and analyze their own teaching and to address questions as: What is working? What is not working? For whom are certain things working or not working? To teach well, teachers would need to use what they learn from these questions to correct, refine, and improve instruction. It is the argument of this author that rubrics can serve as a tool to guide practitioner reflection and improvement.



Preface

A Statement of Purpose

Complex products or behaviors can be examined efficiently. Instructors have many demands on their time, and assessment activities should be structured in a way that utilizes time effectively. Rubrics focus raters on the learning objectives being assessed, allowing them to tune out extraneous variables. They also helps clarify instructor expectations, allow for the application of standards to the products being reviewed, reveal patterns of candidate strengths and weakness and assist in the identification of learning objectives that require increased attention, reveal how well candidates are meeting proficiency requirements in standards related to program assessment (Moore,). The purpose of this paper is to inform teacher/leadership preparation faculty in writing rubrics that will support candidate learning, to suggest strategies for incorporating rubrics into daily teaching activities in the college classroom, and to suggest how to use rubric-generated assessment results to enhance professional learning.

The first questions to ask when you are writing a rubric, selecting a rubric, or constructing a rubric with candidates are these: "What are the criteria for good work on the task that the rubric is to assess?" What should a candidate, peer, or instructor be looking for?" (Brookhart, 2013). It is also critical to ensure instruction-learning-assessment alignment, so specific learning goals must be identified as part of the lessons (Witte, 2012). To develop your rubric:

- Identify what type of rubric you want to create holistic or analytic.
- Identify all outcomes you are assessing
- Identify the characteristics/competencies of the outcomes you are assessing.
- Determine how many levels you will have on your rubric. For example, will you have a level for each range such as "outstanding," "acceptable," or "not acceptable"?
- Determine the descriptive label for each of these categories.
- Describe the best work you could expect using the characteristics you selected. This describes the top category.
- Develop descriptions of intermediate-level products and assign them in intermediate categories. You might develop a scale that runs from 1 to 5 (unacceptable, marginal, acceptable, good, outstanding), 1 to 3 (novice, competent, exemplary) or any other set that is meaningful. Use candidate work to help you determine these levels.
- Continue to monitor the language and vocabulary you use in your rubric. Make sure it is written in a way your audience will understand.
- Plan to revise your rubric after testing it on candidate work (Moore, 2011).

The steps in creating a general rubric always involve some combination of collecting samples of existing rubrics, brainstorming features of good performance, examining and scoring candidates work, and refining. It is useful to do this work with others. Working in a group that includes experts on the targets in question is extremely useful (Arter, Chappuis, & Service, 2007).

Rubrics as Teaching Tools: Seven Strategies for Assessment of Learning

Arter, Chappuis and Service (2007) concluded that using performance tasks as assessment for learning requires that students be familiar with the rubric that will be used to evaluate the final performance or product. They compiled the following seven research-based strategies known to improve candidate improvement to lay-out what you can do in the classroom to incorporate assessment for learning into daily teaching activities:



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- 1. Provide a Clear and Understandable Vision of the Learning Target Do anything you can to help candidates answer the question: "What are the elements of quality in the performance or product I am trying to create?"
- 2. Use Examples and Models of Strong and Weak Performances or Products Do any you can to help candidates answer the questions: "What does quality look like?" "What are some problems to avoid?"
- 3. Offer Regular Descriptive Feedback Do anything you can to help candidates answer the questions: "What are my strengths with respect to elements of quality?" "What do I need to work on?" "Where did I go wrong and what can I do about it?"
- 4. Teach Candidates to Self-Assess and Set Goals: Assist candidates to identify where they are with respect to mastery of the desired learning and to set goals for improvement.
- 5. Design Lessons to Focus on One Aspect of Quality at a Time Use your judgment to tailor teaching to specific needs while focusing lessons to help candidates master a specific knowledge, reasoning, performance skill, or product target or to address specific misconceptions or problems.
- 6. Teach Candidates Focused Revision Engage candidates in activities that will revise their initial work with a focus on a manageable number of aspects of quality, problems, or learning targets.
- 7. Engage Candidates in Self-Reflection and Let them Keep Track of and Share their Learning Engage candidates in activities that will allow them to look back on their journey, to see where they've been and how far they've come.

Conclusion

Authentic, performance-based learning is a great way to make learning meaningful to students and to encourage them to be creative, innovative, and constructive. Creating a rubric for a learning experience will not only help instructors measure a particular learning experience, but may help to address student questions and objections about their grades. By sharing the rubric with candidates before the assignment, students will know what is expected of them, what is most important, and what the instructor's vision of "excellence" is (e.g., Goodrich, 1997; Moskal, 2000). Rubrics help reduce the number of challenges to grading, increase teaching effectiveness, and have an overall positive effect on candidates' learning. Thus, it is critical that instructors of teacher/leadership preparation courses develop the skills needed to create effective rubrics designed to assess knowledge, skills, and dispositions of candidates needed to be dynamic in today's K-16 educational environments. Finally, instructors should not be discouraged at their initial attempts and must be willing to reflect, revisit, and modify self-developed rubrics.

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Appendix A - Example of an Analytic Rubric

RUBRIC FOR EDUCATIONAL RESEARCH PROPOSALS

Name of Candidate				
Dale				
Evaluation Criteria	Unacceptable	Basic	Proficient	Exemplary
	1 Point	2 Points	3 Points	4 points
Title Page	1	2	3	4
1. The title makes clear the population of interest.	1	2	3	4
2. The title makes clear the primary independent variable(s).	1	2	3	4
3. The title makes clear the dependent variable(s).	1	2	3	4
4. The title indicates the specific relationship between the major vanishies.	1	2	3	4
Introduction – Statement of the Topic/Problem				
5. In the quantitative research properal, is explicit and stated in the opening	1	2	3	4
program				
6. Gives an adequate description of the background of the topic/problem.	1	2	3	4
7. Gives a rationale for the study's significance.	1	2	3	4
8. Makes clear the population of interest.	1	2	3	4
9. Makes clear the primary independent variable.	1	2	3	4
10. Makes clear the primary dependent variable.	1	2	3	4
11. Indicates the specific relationship between the major variables.	1	2	3	4
12. The statement is consistent with the title.	1	2	3	4
13. The research multion is remarkable.	1	2	3	4
Introduction – Review of Literature				
14. Every statement of fact is supported by one or more citations.	1	2	3	4
15. All findings from previous research are supported by one or more citations.	1	2	3	4
16. The literature review is connectensive.	1	2	3	4
17. All references cited are relevant to the problem to be investigated.	1	2	3	4
12. Most of the succes are primary.	ī	2	3	4
19. Most of the references are current (10 years or later).	1	2	3	4
20. The review explicitly relates previous studies to the problem.	1	2	3	4
21. The references have been command and contrasted adequately.	1	2	3	4
22. The review logically flows in such a way that the references level related to	1	2	3	4
the problem are discussed first and the most related are discussed bet.	_		_	-
23. Clear connections are made between the present study and the previous	1	2	3	4
n-seach.				
24. A clear theoretical framework is presented.	1	2	3	4
25. The neview concludes with a brief summary.	1	2	3	4
Introduction - Statement of the Hypothesis				
26. Each hypothesis is state clearly and concisely.	1	2	3	4
27. Each hypothesis states the expected relationship or difference.	1	2	3	4
28 Each hypothesis makes clear the primary independent variable.	1	2	3	4
20. Each hypothesis makes clear the primary dependent variable.	1	2	3	4
30. Each hypothesis makes clear the population of interest.	1	2	3	4
31. Each hypothesis logically flows from the literature review.	1	2	3	4
32. Each hypothesis logically flows from the theoretical framework.	1	2	3	4
33. Each hypothesis is testable.	1	2	3	4
Method Section - Research Participants				
34. The approximate size is provided	1	2	3	4
35. The major characteristics of the population are described adequately.	1	2	3	4
36. The selection-eligibility criteria are described adequately.	1	2	3	4
37. If a sample will be selected, the sampling scheme is described adequately.	1	2	3	4



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40. The major characteristics of the sample are described adequately.	1	<u>z</u>	1	<u>+</u>
41. Reidence of ethical considerations is provided adequately.	1	Z	1	4
Method Section – Instrument(s)				
42. An adequate rationale is given for the selection of each instrument.	1	2	3	4
Rack instrument is described adequately in terms of purpose and context.	1	2	3	4
44. The developers of all instruments are specified clearly.	1	2	3	4
45. The format of the items is specified clearly and accurately.	1	2	3	4
45. The administration, scening or tabulating, and interpretation procedures are	1	2	3	4
folly described				
47 Citations are provided for all statement of facts and research findings	1	2	1	4
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anticizate.				L
52. Instrument reliability is described adequately in terms of size of coefficients.	1	2	3	4
53. All instruments to be used appear to be sufficiently reliable.	1	2	3	4
54. Citations are provided for all reliability and validity coefficients presented.	1	2	3	4
55. Rack instrument in described in terms of content-related validity.	1	2	3	4
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19. If the meloament will be designed specifically for the study, the procedures	1 1	Z	1	1 *
maived in the development are described.				
60. If an instrument will be designed specifically for the study, the procedures	1	2	3	4
involved in its validation are described.				
If an instrument will be described specifically for the study, the	1	2	3	4
administration, scoring or tabalating, and interpretation procedures are fully				
described.				
Method Section – Design/Procedure				
62. All data collecting procedures are clearly described.	1	2	3	4
61. The study will be conducted for an annuariste leveth of time for the	1	2	3	4
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00. Procedures are described to sufficient detail to permit repression.		<u> </u>	1	<u>+ •</u>
67. Citations are provided for any procedural information delineated which are	1	Z	1 3	*
directly or indirectly based on previous nearch.				
61. If a pilot study will be conducted, its execution and results are described as	1	2	3	4
well as its impact on the subsequent study.				
9. The procedures provide sufficient centrol of internal validity.	1	2	3	4
70. The purcedures provide sufficient cantrol for external validity.	1	2	3	4
71. The research paradism used in clear.	1	2	3	4
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79. If groups will be compared and subjects will be anare of their group	1 1	Z	1 1	4	
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12. If groups will be compared, the conditions of all cantral groups are	1 1	Z	1 1	1 *	
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57. Poesible threats to internal valuality are demossed adequately.	1	2	1	4	
 Porsible threats to external validity are discussed adequately. 	1	<u>z</u>	3	4	
49. Rach threat to internal validity is labeled adequately.	1	2	3	4	<u>د</u> اــ
90. Back threat to external validity is labeled adequately.	1	2	3	4	_ 2
91. Citations are provided when referring to threats to validity.	1	2	3	4	[*]
92. Discussion as to how to minimize each threat to internal validity is	1	2	3	4	4
adequair.	-				
93. Discussion as to how to minimize each threat to external validity is	1	Z	1 3	4	
aliquair.					_
Data Analysis Section					-
94. An adequate description is provided as to the analysis intended to address	1	2	3	4	
the remark question(s).					
95. The method of analysis is appropriate for testing the research.	1	2	3	4	
kypothesis(m).					
96. The significance level of the statistical tests is delineated.	1	2	3	4	
Appendix					
97. The appendix section contains samples of any researches-made instrument.	1	2	3	4	+
98. The appendix section contains an example of appropriate informed convent	1	2	3	4	
fauns.					
99. The information provided in the informed consent form is consistent with	1	2	Е	4	
the information provided in the methods section.					f
Appropriate use of APA Style – Title Page					-
100. The title page contains all essential components.	1	2	3	4	
101. The page header adheves strictly to APA guidelines.	1	2	3	4	
102. The maning head adheres strictly to APA guidelines.	1	2	3	4	
103. The title adheses strictly to APA guidelines (including margins).	1	2	E	4	7
104. The affiliations adhere strictly to APA guidelines.	1	2	E	4	4
Appropriate use of APA Style – Introduction	1	2	3	4	S C
105. This section of the proposal contains all salient information.	1	2	E	4	
106. No impropriate information is presented in this section of the proposal.	1	2	3	4	
107. This section of the proposal is informative.	1	2	3	4	- à

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Evidence-Based Teaching and Learning
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108. This section of the proposal is entirely accurate.	1	2	3	4
109. This section of the proposal is comprehensive.	1	2	3	4
110. This section of the proposal is informative.	1	2	3	4
111. This section of the proposal is written in strict adherence to APA.	1	2	3	4
gridelines (including margins)				
112. This section of the proposal is clearly written throughout.	1	2	3	4
113. The writing of this section of the proposal is of high quality (e.g.,	1	2	3	4
general, postation)				
Reference List				
114. All citations provided in the text are contained in the reference list.	1	2	3	4
115. All citations provided in the reference list are contained in the text.	1	2	3	4
116. The names of all authors provided in the text are consistent with the names	l	2	3	4
presented in the reference list.				
117. All authors are presented in strict adherence to APA guidelines.	1	2	3	4
118. All titles are written accurately and in strict adherence to APA guidelines.	1	2	3	4
119. All publication dates in the reference list are consistent with done in the	1	2	3	4
test and are written in strict adherence to APA guidelines (including margins).				
120. Every aspect of the reference list strictly adheres to APA guidelines	1	2	3	4
(including margins).				
Subjects Points				
GRAND TOTAL POINTS				
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Plenary Presenters

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Appendix B - Example of a Holistic Rubric

FROFESSIONAL SKILLS ANALYSES PROJECT FOR BUILDING LEVEL ADMINISTRATORS

Partfalia Project Scaring Guide:

Evaluation	Unacceptable	Basic	Proficient	Exemplary
Criteria:	1 Point	2 Points	3 Points	4 Points
Develop a Vision	The candidate's	The candidate's	The candidate's	The candidate's
(ELCC 1.1)	project does not	project provides	project provides good	project provides
	provide sufficient	some evidence the	evidence the	strong evidence the
	evidence the	candidate can design	candidate can design	candidate can design
	candidate can design	and support a	and support a	and support a
	and support a	collaborative process	collaborative process	collaborative process
	collaborative process	for implementing a	for implementing a	for implementing a
	for implementing a	school vision. The	school vision. The	school vision. The
	school vision. The	candidate's portfolio	candidate's portfolio	candidate's portfolio
	candidate's portfolio	includes a "Vision	includes a "Vision	includes a "Vision
	includes a "Vision	Development Plan"	Development Plan"	Development Flan"
	Development Flan"	that describes the	that describes the	that describes the
	that does not	development of a	development of a	development of a
	adequately describe	strong vision of	good vision of	strong vision of
	the development of a	learning that	learning that	learning that
	vision of learning	promotes the success	promotes the success	promotes the success
	that promotes the	of all students and	of all students and	of all students and
	success of all	includes the	includes the	includes the
	sindents and does not	collaboration and	collaboration and	collaboration and
	include the	involvement of	involvement of	involvement of ALL
	collaboration and	SOME key	MOST key	key siakeholder such
	involvement of key	stakeholder such as	stakeholder soch as	as school staff,
	stakeholder soch as	school staff, school	school staff, school	school
	school staff, school	administrators,	administrators,	administrators,
	administrators,	faculty, parents,	faculty, parents,	faculty, parents,
	faculty, parents,	students, and	students, and	sindents, and
	sindents, and	community members.	community members.	community members.
	community members.			



Candidate's Vision	Candidate's Vision	Candidate's Vision	Candidate's Vision
Development Plan	Development Plan	Development Plan	Development Plan
does not	demonstrates	demonstrates clear	demonstrates strong
demonstrates	stewardship which	vision stewardship	vision stewardship
effective vision	includes at least 3	which includes at	which includes at
stewardship and does	initiatives necessary	least 4 initiatives	least 5 initiatives
not include at least 3	to motivate staff,	necessary to motivate	necessary to motivate
initiatives necessary	students, and families	staff, students, and	staff, students, and
to motivate staff,	to achieve the	families to achieve	families to achieve
students, and families	schools vision and	the schools vision	the schools vision
to achieve the	includes at least 5 of	and includes at least	and includes ALL of
schools vision and/or	these plans and/or	7 of these plans	these plans and/or
does not include at	process: (a)	and/or process: (a)	process: (a)
The Vision	The Vision	The Vision	The Vision
Development Plan	Development Plan	Development Plan	Development Plan
does not include at	includes a general	includes a substantial	includes a
least a general plan to	plan to communicate	plan to communicate	comprehensive plan
communicate the	the vision with most	the vision with most	to communicate the
vision with most of	of the following:	of the following:	vision with ALL of
the following: staff,	staff, parents,	staff, parents,	the following: staff,
parents, students, and	students, and	students, and	parents, students, and
community members	community members	community members	community members
through the use of	through the use of	through the use of	through the use of
symbols, ceremonies,	symbols, ceremonies,	symbols, ceremonies,	symbols, ceremonies,
stories, and other	stories, and other	stories, and other	stories, and other
activities	activities	activities	activities
Candidate's portfolio contains a candidate clearly developed school vision statement that does not adequately support a respect for students and their families and community partnerships.	Candidate's portfolio contains a clearly developed school vision statement that adequately supports a respect for students and their families and community partnerships.	Candidate's portfolio contains a clearly developed school vision statement that effectively supports a respect for students and their families and community partnerships.	



	ast 5 of these plans	encouraging	encouraging	encouraging
20	nd/or process: (a)	challenging	challenging	challenging
e	ncouraging	standards, (b)	standards, (b)	standards, (b)
d	hallenging	facilitating	facilitating	facilitating
st	andards, (b)	collegiality and	collegiality and	collegiality and
fa	cilitating	teanwark, (c)	teanwork, (c)	teamwork, (c)
α	ollegiality and	structuring	structuring	structuring
te	amwark, (c)	significant work, (d)	significant work, (d)	significant work, (d)
st	nucturing	ensuring appropriate	ensuing appropriate	ensuing appropriate
si	gnificant work, (d)	use of student.	use of student	use of student
e	oaning appropriate	assessments, (c)	assessments, (e)	assessments, (e)
15	ae of student	providing autonomy,	providing automory,	providing autonomy,
29	siessments, (e)	(f) supporting	(f) supporting	(f) supporting
P	roviding autonomy,	innovation, (g)	innovation, (g)	innovation, (g)
(f) supporting	delegating	delegating	delegating
in	movation, (g)	responsibility, (h)	responsibility, (h)	responsibility, (h)
de	elegating	developing	developing	developing
re	sponsibility, (h)	leadership in others,	leadership in others,	leadership in others,
de	eveloping	and (i) securing	and (i) securing	and (i) securing
le	adership in others,	needed resources.	needed resources.	needed resources.
) आ	nd (1) securing			
	eeded resources.			
C	andidate's Vision	Candidate's Vision	Candidate's Vision	Candidate's Vision
D	evelopment Plan	Development Flan	Development Plan	Development Plan
- da	oes not discuss a	discusses a seneral	discusses a	discusses a
	eneral plan to	plan to involve	at male faitmatedue	commehensive plan
	wolve community	community members	involve community	to involve
	combers in the	in the realization of	members in the	community members
	alization of the	the vision and in	realization of the	in the realization of
10	ision and in related	related school	vition and in related	the vision and in
4	bool immovement	innuovement efforts	school immervement	related school
a d	finits	anger rannen tannta.	effects	increment efforts
1			Latin La.	T T T T T T T T T T T T T T T T T T T
			Candidate's northelin	Candidate's partfolia
		Candidate's portfolio	includes 4 complet of	includes 5 samples of
l c	andidate's portfolio	includes 3 samples of	effective	effective
	-	-	ALL	
de	oes not include 3	effective	communications to	communications to
de Sa	oes not include 3 unples of effective	effective communications to	communications to	communications to



Plenary Presenters

Conference Papers

Abstracts

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	stakeholders related to efforts of vision implementation including, but not limited to, all of the following: letters, PowerPoint presentations, flyers, and executive summaries.	to efforts of vision implementation including, but not limited to, all of the following: letters, PowerPoint presentations, flyers, and executive sammaries.	to efforts of vision implementation including, but not limited to, all of the following: letters, PowerPoint presentations, flyers, and executive summaries.	to efforts of vision implementation including, but not limited to, all of the following: letters, PowerPoint presentations, flyers, and executive summaries.
Evaluation	Unacceptable	Basic	Proficient	Exemplary
Criteria:	1 Point	2 Points	3 Points	4 Points
Promote Positive	The candidate's	The candidate's	The candidate's	The candidate's
School Culture	project includes an	project includes an	project includes an	project includes an
(FLCC 2 I)	"Evaluation of	"Evaluation of	"Evaluation of	"Evaluation of
(ELCC 2.1)	Internship Site	Internship Site	Internship Site	Internship Site
	School's	School's	School's	School's
	Instructional	Instructional	Instructional	Instructional
	Leadership Plan"	Leadership Plan"	Leadership Plan"	Leadership Plan"
	and based on the	and based on the	and based on the	and based on the
	results, does not	results, recommends	results, recommends	results, recommends
	recommend at least 3	at least 3-4 activities	at least 5 activities	at least 6 activities
	activities that would	that would apply	that would apply	that would apply
	apply researched	researched based	researched based	researched based
	based principles of	principles of	principles of	principles of
	effective instruction	effective instruction	effective instruction	effective instruction
	and curricular	and curricular	and curricular	and curricular
	materials necessary	materials necessary	materials necessary	materials necessary
	for accomplishing	for accomplishing	for accomplishing	for accomplishing
	school improvement	school improvement	school improvement	school improvement
	goals; does not make	goals; makes at least	goals; makes at least	goals; makes at least
	at least 3	3-4 recommendations	5 recommendations	6 recommendations
	recommendations	regarding the design,	regarding the design,	regarding the design,
	regarding the design,	implementation, and	implementation, and	implementation, and
	implementation, and	evaluation of the	evaluation of the	evaluation of the
	evaluation of the	programs,	programs,	programs,
	programs,	curriculum, and	curriculum, and	curriculum, and
	curriculum, and	instructional	instructional	instructional



instructional	practices that	practices that	practices that
practices that	strongly considers	strongly considers	strongly considers
strongly considers	cultural relevance	cultural relevance	cultural relevance
cultural relevance	and fully	and fully	and fully
and fully	accommodates	accommodates	accommodates
accommodates	learners' diverse	learners' diverse	learners' diverse
learners' diverse	needs; with	needs; with	needs; with
needs; with	collaboration from	collaboration from	collaboration from
collaboration from	key administrators	key administrators	key administrators
key administrators	and staff, offers a	and staff, offers a	and staff, offers a
and staff, does not	strong research-based	strong research-based	strong research-based
offer a strong	plan with at least 5-6	plan with at least 7-8	plan with at least 10
research-based plan	district approved	district approved	district approved
with at least 5 district	strategies for	strategies for	strategies for
approved strategies	monitoring school	monitoring school	monitoring school
for monitoring school	programs and	programs and	programs and
programs and	activities to ensure	activities to ensure	activities to ensure
activities to ensure	personalized learning	personalized learning	personalized learning
personalized learning	opportunities; with	opportunities; with	opportunities; with
opportunities; with	collaboration from	collaboration from	collaboration from
collaboration from	key administrators	key administrators	key administrators
key administrators	and staff, offers a	and staff, offers a	and staff, offers a
and staff, does not	strong research-based	strong research-based	strong research-based
offer a strong	plan with at least 3	plan with at least 4	plan with at least 5
research-based plan	new strategies for	new strategies for	new strategies for
with at least 3 new	recognizing,	recognizing,	recognizing,
strategies for	celebrating, and	celebrating, and	celebrating, and
recognizing,	incorporating	incorporating	incorporating
celebrating, and	diversity in school	diversity in school	diversity in school
incorporating	programs, curriculum	programs, curriculum	programs, curriculum
diversity in school	and instructional	and instructional	and instructional
programs, curriculum	practices; considers	practices; considers	practices; considers
and instructional	research-based	research-based	research-based
practices; considers	strategies for making	strategies for making	strategies for making
research-based	strongly appropriate	strongly appropriate	strongly appropriate
strategies for making	suggestions/recomme	suggestions/recomme	suggestions/recomme
strongly appropriate	ndations to key	ndations to key	ndations to key
suggestions/recomme	school administrators	school administrators	school administrators
ndations to key	and staff for the use	and staff for the use	and staff for the use
school administrators	of specific content-	of specific content-	of specific content-



and staff for the use of specific content- based learning materials and learning strategies; and includes clearly articulated and strongly research- based strategies for promoting trust, equity, fairness, and respect among students, parents, and school staff to be offered for adoption by the school.	based learning materials and learning strategies; and includes clearly articulated and strongly research- based strategies for promoting trust, equity, fairness, and respect among students, parents, and school staff to be offered for adoption by the school.	based learning materials and learning strategies; and includes clearly articulated and strongly research- based strategies for promoting trust, equity, fairness, and respect among students, parents, and school staff to be offered for adoption by the school.	based learning materials and learning strategies; and includes clearly articulated and strongly research- based strategies for promoting trust, equity, fairness, and respect among students, parents, and school staff to be offered for adoption by the school.
Candidate's portfolio includes a candidate developed assessment of school culture needs but does not include a plan to implement with at least 4 context-appropriate strategies that capitalize on diversity of the school community to improve school programs and culture and/or does not include at least 3 of the following: population, language, disability, gender, race, and socio- economic status.	Candidate's portfolio includes a candidate developed assessment of school culture needs AND a plan to implement at least 4 context- appropriate strategies that capitalize on diversity of the school community to improve school programs and culture that includes at least. 3 of the following: population, language, disability, gender, race, and socio- economic status.	Candidate's portfolio includes a candidate developed assessment of school culture needs AND a plan to implement at least 5 context- appropriate strategies that capitalize on diversity of the school community to improve school programs and culture that includes most of the following: population, language, disability, gender, nace, and socio- economic status.	Candidate's portfolio includes a candidate developed assessment of school culture needs AND a plan to implement at least 6 context- appropriate strategies that capitalize on diversity of the school community to improve school programs and culture that includes ALL of the following: population, language, disability, gender, race, and socio- economic status.



Plenary Presenters

Conference Papers

Abstracts

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Evaluation Criteria:	Unacceptable	Basic	Proficient	Exemplary
	1 Point	2 Points	3 Points	4 Points
Create and	The candidate	The candidate will	The candidate will	The candidate will
Evaluate	Designs and	Design and	Design and	Design and
Comprehensive,	Evaluate a	Evaluate a	Evaluate a	Evaluate a
Rigeroux, and	Curricular and	Curricular and	Curricular and	Curricular and
Coherent	Instructional School	Instructional School	Instructional School	Instructional School
Corricular and	Program that does	Program which must	Program which must	Program which mus
Instructional	not include good	include good	include strong	include strong
School Programs	evidence that the	evidence that the	evidence that the	evidence that the
(ELCC 2.2)	candidate solicited	candidate solicited	candidate solicited	candidate solicited
	and was granted	and was granted	and was granted	and was granted
	principal (or his/her	principal (or his/her	principal (or his/her	principal (or his/her
	designee) approved	designee) approved	designee) approved	designee) approved
	opportunities to meet	opportunities to meet	opportunities to meet	opportunities to meet
	with faculty to use	with faculty to use	with faculty to use	with faculty to use
	strong research-based	strong research-based	strong research-based	strong research-bases
	resources to select an	resources to select an	resources to select an	resources to select an
	effective	effective	effective	effective
	plan/strategies for	plan/strategies for	plan/strategies for	plan/strategies for
	evaluating the current	evaluating the current	evaluating the current	evaluating the curren
	curriculum to	curriculum to	curriculum to	curriculum to
	determine how well	determine how well	determine bow well	determine how well
	it is coordinated and	it is coordinated and	it is coordinated and	it is coordinated and
	aligned with district	aligned with district	aligned with district	aligned with district
	and state processes	and state processes	and state processes	and state processes
	and standards and	and standards and	and standards and	and standards and
	how well it is	how well it is	bow well it is	how well it is
	aticulated	articulated	articulated	aticulated
	throughout the	throughout the	throughout the	throughout the
	learning	learning	learning	learning
	environment. The	environment.	environment.	environment.
	candidate does not	Utilizing the data and	Utilizing the data and	Utilizing the data and
	develop an adequate	information yielded,	information yielded,	information yielded,
	"new" curriculum	and with the	and with the	and with the
	plan that provides	collaboration with	collaboration with	collaboration with
	some evidence of a	the faculty, the	the faculty, the	the faculty, the
	coordination with the	candidate will	candidate will	candidate will
	district and state in	develop an	develop an	develop a strong and



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its implementation;	sufficiently strong	moderately strong	innovative "new"
does not provide	and innovative "new"	and innovative "new"	currication plan that
adequate evidence of	curriculum plan that	curriculum plan that	provides well-built
conicular alignment	provides some	provides well-built	evidence of a high
with approved and	evidence of a	evidence of a high	level coordination
appropriate	coordination with the	level coordination	with the district and
standards; and is not	district and state in	with the district and	state in its
adequately complete	its implementation;	state in its	implementation;
with a description of	provides sufficient	implementation;	provides strong
its plan to articulate	evidence of	provides strong	evidence of
the "new curriculum"	curricular alignment.	evidence of	curricular alignment
to administrators,	with approved and	conicular alignment	with approved and
faculty, students,	appropriate	with approved and	appropriate
parents, and other	standards; and is	appropriate	standards; and is
stakeholders.	complete with a	standards; and is	complete with a
	description of its plan	complete with a	description of its plan
	to articulate the "new	description of its plan	to articulate the "new
	curriculum" to	to articulate the "new	currication ²⁰ to
	administrators,	curriculum" to	administrators,
	faculty, students,	administrators,	faculty, students,
	parents, and other	faculty, students,	parents, and other
	stakeholders.	parents, and other	stakeholders.
		stakebolders	



Plenary Presenters

Enhancing Learning Through Socrative, A Social Learning Platform

Loretta McLaughlin Vignier and Sharmila Pixy Ferris

Department of Communication William Paterson University, USA

Comparing Cell Phone to Traditional Test Taking: A Pilot Study

The cell phone, today's signature technology, is present in every university classroom, and so offers real potentials for teaching and learning. However, empirical research on the pedagogical use of cell phones remains limited. This study focuses on cell phones in test taking – an area in which many students feel anxious. This paper presents a pilot study utilizing a field experiment with a non-equivalent post-test only control group design, comparing test-taking via the medium of cell phones as compared to test-taking using traditional paper-andpen. While differences in test scores in the two conditions was minimal, qualitative feedback from students indicated an overwhelming preference for tests taken by phone over the paper-and-pen medium.

Today's "Net Generational" students are unique in their learning needs (Ferris, 2011). They are habituated to simultaneous use of multiple media (Oser, 2005), and are easily bored in the traditional single-medium classroom, in which they often display short attentions spans (Oblinger & Hagner, 2005). These students learn by connectivity and discovery. They are plugged into technology but learning is not about technology; it's about the learning technology enables (Sweeney, 2008). Given these learning characteristics, it is no surprise that faculty increasingly try to engage students in the classroom through the technologies with which they are comfortable.

Cell Phones and Test Anxiety

Mobile phones are not only the signature technology of today, but they are an essential part of our students' lives. Although cell phones are pervasive, pedagogical research on the use of cell phones remains limited. (Corbeil & Valdes-Corbeil, 2007, 2011; Ferris, 2011). However, some research does show that while instructors largely do not incorporate cell phones into their pedagogy, students use cell phones for many academic purposes. A survey of students at seven American colleges and universities found that students reported cell phones essential for writing; they regularly used cell phones to compose academic essays, take lecture notes and work on research papers (Grabill & Pigg, 2010).

Since the cell phone is present in every K-12 (TRU, 2012) and university classroom (Tindell & Bohlander, 2012) we feel that it offers real potentials for teaching and learning. While cell phones offer many potential uses in the classroom (a Wikipedia search of the above phrase got 5,220,000 hits in 0.28 seconds!), the investigators feel that students' comfort with this technology could help them in test taking – an area in which many students feel anxious (Cassady, 2010). While research on test-taking with cell phones is scarce, some research does demonstrate the potential of cell phones to diminish test-anxiety. For example, Stowell & Bennett (2010) found that the relationship between test anxiety and exam performance was weaker in an online setting than in the classroom. Their research is supported by a more recent study (Stowell, Wesley & Teoro, 2012), which found that the correlation between test anxiety and performance was weaker in the online conditions than in the classroom condition.

Evidence-Based Teaching and Learning

Purpose

This research therefore proposes an empirical comparison of test-taking via the medium of cell phones and traditional paper-and-pen methods. Independent empirical research is valuable as it adds to the opinions faculty have about the potential benefits or harm of cell phones in the classroom. As Weimar (2013) notes, "Most faculty have opinions about how much cell phone use is occurring in their classrooms, but those individual answers need a larger context and independent verification."

Methodology

The pilot study is a simple field experiment, utilizing a non-equivalent post-test only control group design. While lack of randomization of subjects is problematic, the field design (in the natural setting of an existing classroom) offers greater generalizability, if less control. As well, the non-equivalent post-test only control group design is probably the most frequently used design in social research.

Subjects

Subjects were students in two sections of a TV Studio Production course where students learn script writing, producing, directing and skills for all crew positions in television production. The course is designed as a "technology intensive" course for majors in the Communication Department of a mid-size comprehensive public university in the mid-Atlantic U.S. (The "technology intensive" requirement is part of the General Education curriculum at the university.)

Treatment

Nine quizzes were administered over the course of the semester to two sections of the same course. Sixteen (16) students in each section either took tests 1-7 on paper or by cell phone. For Quiz #8, the methods were exchanged so that the cell-phone section took one paper-and-pen quiz and the paper-and-pen section took one phone quiz; while for Quiz #9 both sections took the quiz by phone. Mediums were varied during the last 2 quizzes to provide all students with the experience of using both media (phone or paper) to take quizzes¹. The content of the quizzes were the same in both sections. Students taking the tests by cell phone used their phones to log into a test-taking website (m.scorative.com) designed to facilitate interaction within the classroom.

The Socrative website is a freeware site allowing instructors to create quizzes and examinations of varying formats including, true/false, multiple choice, and essay exams. After the instructor sets up the test on the t.socrative.com website, students access the test using a pre-determined "room number." (The "room number" can be changed for every test, to force students to log in only in class, after they receive access to that quiz.) The material on the tests can be presented in a randomized manner, and can be teacher or student paced. Instructor-oriented features include the option of monitoring each student's progress as they take the tests, editing tests, and sharing material with other instructors. Once students complete the test, scores are e-mailed

¹The study was conducted with university Institutional Research Board approval, but no informed consent was distributed as IRB did not require it.



to the instructor in Excel, with student's name or other identifiable marker, the answers, and the scores.

Data Collection and Analysis

Test scores were obtained as described above, over the course of the spring semester. In addition, at the end of the semester, students were invited to voluntarily reflect (in writing, and anonymously), on their test-taking experiences, with the goal of collecting qualitative data on students' experiences. Participation was voluntary, and anonymity assured.

Data analysis followed traditional means of analysis of a post-test-only control group design: measurements (students' test scores) from the control group (tests on paper) and the treatment group (online tests) were compared. Since sample size was only 16 students per section, statistical analyses were not conducted; instead frequency analyses were used. In addition, qualitative data was analyzed to further illuminate results.

Findings

Test results from nine tests in the paper and cell phone conditions were analyzed in conjunction with qualitative feedback obtained from students at the end of the semester. There were sixteen students in each section; i.e., the section taking tests by paper-and-pen, and the section taking tests with their cell phones. The quizzes were given one week after the subject was taught in class, or within a week of a study guide provided by the professor. All of the quizzes were short, typically including ten to thirteen questions in True/False format.

Findings and Discussion

The average scores received are shown in Table 1.



On the graph, series 1 (blue line) shows scores taken by the cell phone method, while Series 2 (red line) shows quiz scores taken by pen and paper method.

The quantitative comparison of test data suggests that pen/paper method results in only slightly better average quiz scores. The qualitative data suggests that cell phones for test-taking does indeed alleviate test anxiety. It was evident that many students overwhelmingly preferred the cell phone method. Immediately, when told they would take their quizzes on a phone, they were intrigued and excited. There were smiles and giggles.



One student who had taken quizzes the prior semester by cell phone told the class, "It's so easy; you will love it." As the students began taking the quizzes on their phones, they often responded with an "Ugh!" or a "Yes!" In watching their body language after completing the quiz and learning their scores, they seemed relaxed and ready to move onto the next class activity. There were no lingering questions concerning uncertain answers to questions on the quiz; they had a sense of finality. Students emphasized the convenience, as well as the instant feedback. For example, they said:

"I prefer taking the quiz on a cellphone. The regular paper effect adds stress to a test-taker. Using your phone pits (*sic*) you at ease and enhances confidence during test, exams or quizzes."

"I like taking the test on the phone because it's more convenient. There is no paper provided from the teacher and no pen/pencil needed from students. The teacher doesn't have to grade the tests one by one and it saves her time."

For the cell phone quiz takers, one quiz (quiz #8) was switched to pen and paper method to provide students with a basis for comparison. The student reaction to this was akin to giving them a rotary telephone! They wanted to know why their cell phone quiz had been taken away, and finding pens/pencils, and clearing their desks became a production. The following week, the class returned to the cell phone quiz method and the students seemed happier. The feedback from the switched methods was interesting; most of the students in the section that normally took the tests on paper indicated that they preferred to take the tests that way --although there were a few exceptions – three students, or 18.75% of the sample, stated they preferred the phone-enabled quizzes due to "convenience" "fun" and because it was "more interactive and gave you feedback right away." But the students in the phone-enabled quiz did not like their single experience with taking the quiz on paper. 81.25% of them indicated that they preferred to take the quizzes on their phones.

Interestingly, students believe they are learning the material better when taking tests via their cell phones, possibly because of the instant feedback from Socrative. This was a repeated theme in student feedback:

"On the phone, I instantly know if I got the answer right or wrong."

"I prefer taking the quiz online. I like the element of instant gratification rather than waiting to find out my grade. And I like that it gives you the right answer."

"I like the cell phone because it gives you the answers rite (sic) away if you get the answer wrong or correct."

We note that cell phones seem to work better than desktop computers and laptops for prevention of cheating. It was stressed to the students that they must be *in class* to take the quiz via cell phone. They could not log in from outside of class to assure that they were not cheating by using notes, books or a classmate or friend's help.

One issue that arose is some cellular carriers that are more Socrative-software friendly than others. T-Mobile does not interact well with the software on cell phones so students with T-Mobile need to move to a more private class space and use and iPad, laptop or classroom computer, if available. Some students may have cell phones but no internet access, or internet access may be spotty at times so the instructor was always prepared with paper copies of the quiz.

Conclusion

Findings from this empirical pilot study broadly demonstrated that students preferred to take tests using their phones over the traditional paper-and-pen medium. However, sample size was small and there was no randomization. To ensure validity and generalizability, the study needs to be conducted with a much larger sample and randomization of subjects. The authors plan to follow up on this pilot with just such a study in the fall, with students in two sections of a larger Survey of Communication course. The authors welcome feedback and suggestions. They can be contacted at: <u>McLaughlinVignier@awpunj.edu</u> and <u>FerrisS@wpunj.edu</u>.



Evidence-Based Teaching and Learning

Plenary Presenters

Conference Papers

Abstracts

Conference Proceedings | McLaughlin Vignier & Pixy Ferris

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Conference Papers

Abstracts

In alphabetical order

Program-Level Learning Outcomes Assessment: A Systemic Approach

Nezam Al-Nsair – Nursing, University of Mount Union

This presentation will describe the process used to develop assessment plans at the program level. At the program level, faculty collaborate to identify program learning outcomes and then design assessment plans to evaluate the critical learning outcomes students should be able to demonstrate as a result of completing the program. Program assessment plan includes establishing student outcomes, developing assignments that reinforce these outcomes, and utilizing both direct and indirect assessment measures. When faculty engage in program assessment, they discover the ways that are already being effective in teaching and the ways that could enhance student learning.

Refining the Role of Math Assessment in Improving Student Performance in Large Introductory Classes

Melanie Allwine – Economics, The George Washington University

This poster presents results from primary data on 1400 students in an introductory economics class with a prerequisite of Algebra I. Results support past research showing that math assessment scores predict course performance, and given a grade incentive, students take the math assessment seriously enabling them to perform well in the course. We tested to see if disallowing calculator use on the assessment leads to differences between assessment results and SAT math scores. Our results suggest that they do indicating that SAT Math scores may not be fully capturing the innumeracy we see in the classroom.

Applying a Set of Student Learning Priorities in Different Course Formats

Shivanthi Anandan – Biology, Drexel University Daniel King – Chemistry, Drexel University Janet Zimmerman – Nursing and Health Professions, Drexel University

As part of its educational mission, Drexel University has identified a core set of Student Learning Priorities (DSLP) that are a university-wide set of guidelines for the intellectual and professional development of students. In this session, participants will be introduced to different ways in which these learning priorities have been applied in a range of classroom settings. Participants will be introduced to technologies and techniques that can be used in both large and small face-to-face course formats, as well as in the virtual classroom.

Developing Multicultural Awareness in Higher Education Faculty Members

Joyce Armstrong – Center for Learning and Teaching, Old Dominion University

A sample of faculty members, from a variety of subject areas at a liberal arts college participated in a fiveweek study of multicultural awareness. A survey was administered pre and post to determine attitudes of multicultural practices of the faculty members. The participants met once a week where multicultural activities were conducted and assignments were discussed. Each participant also adapted one lesson they currently taught to incorporate the ideas presented in the five sessions. Each participant was asked to develop a position paper on their views of multiculturalism at the conclusion of the sessions.



Engaging Students via TedEd and YouTube

Melissa Awenowicz - Education, Ohio Wesleyan University

Educators are constantly seeking effective pedagogical approaches to engage students, approaches that make academic content meaningful in authentic contexts. Students crave instruction that is relevant, contextualized; they want to know how, when, and why the information they are learning will be useful. One approach is the "flipped lesson, an excellent tool to use to engage students, make connections, provide authentic contexts, and encourage perspective taking at various stages in the instructional process: pre-assessment, introduction, guided practice, independent practice, collaborative learning, stations or centers, closure. Flip the same lesson multiple times to provide specialized instruction for remediation or enrichment.

Assessment and Technology: WebSwami as Alternative Tool in the Language Classroom and Beyond

Silvia Baage – Foreign Languages, McDaniel College Carol Zaru – Foreign Languages, McDaniel College

Linda Suskie's groundbreaking work on Assessing Student Learning (2009) elaborates on the importance to create meaningful assignments to help students achieve learning goals. Designed in 2008, WebSwami is an interactive technology tool with video and audio function that facilitates asynchronous computer-mediated communication for multiple purposes. This session demonstrates how to use WebSwami as a creative assessment tool in language courses, addresses potential problems and students' perceptions, and concludes with an active exchange of experiences and new ideas on how to create alternative assessment options through WebSwami for courses of various disciplines.

Demonstrating the Crawford Slip Method Using the Topic, the Best Teaching Advice I Ever Got

John Ballard – Business Administration, College of Mount St. Joseph

This workshop will (1) describe and demonstrate the Crawford Slip Method, a highly effective, efficient idea generation technique that can be used in many situations, such as in teaching, curricula development, and assessment; and (2) identify and discuss some of the best teaching advice session attendees have ever received. Attendees will learn a method to use for collecting information that is anonymous, independent, and in-depth. From each other we will learn ideas about teaching that we have found especially valuable.

The Future of Online Instruction in Traditional Higher Education

Bruce Barker – Teacher Education and Family Development, Southern Utah University

The growth and interest in online – anytime, anyplace learning—has grown at an almost exponential rate among for-profit, proprietary higher education programs. Yet, this form of educational delivery is increasingly more common among highly respected and long established public and private traditional higher education institutions as well, particularly at the graduate level. This 20 minute session addresses the growth, acceptance, and future of online teaching/learning as a viable means of course delivery in traditional higher education institutions.



Beyond the CV: The Academic ePortfolio as a Formal Venue for Reflection

Gabriele Bauer – Center for Teaching and Assessment of Learning, University of Delaware Kevin Currie-Knight – Education, University of Delaware

Academic ePortfolios provide a powerful digital tool for doctoral students to demonstrate academic achievements and engagement, and present personalized portraits of teaching, scholarship, and service. ePortfolios offer a formal venue for integrative, evidence-based reflection—a core competency for future faculty—as they document academic and professional growth (Wulff & Austin, 2004). This session delineates how the ePortfolio presents a formal venue for evidence-based reflection that leads to students' articulation of their professional identity, academic accomplishments, and future goals. Participants will engage in reflective inquiry, and doctoral candidates will demonstrate the challenges and rewards of incorporating reflective practice in their ePortfolios.

Why Seeing is Learning: The Neuroscience Behind Visual Teaching

Pratt Bennet - Liberal Arts, Berklee College of Music

A host of recent neuroscientific studies show why teaching with carefully-crafted or selected visuals can help our students retain much more of what we teach than if they only get the information orally. In this session, participants will learn why the visual systems of the brain are so efficient at storing concepts, how to craft powerful visuals for key teaching points, and why to consider using a unifying system of SICC visuals for an entire course/semester. Guided by examples from several disciplines, participants will be helped to define and design ones for their own courses.

Incorporating the Research Experience into the General Chemistry Laboratory Curriculum Craig Benson – Chemistry, Trinity Washington University

The laboratory periods of first-year Chemistry courses typically reflect the material covered in the lecture portion of the class. However, first-year science students are often considering career options and choosing majors, so additional freedom in the laboratory can be used to help students explore options for each. To this end, a new laboratory format was introduced to the General Chemistry course at Trinity Washington University to incorporate aspects of research programs that students may encounter during graduate studies and beyond. Preliminary findings and student opinions of the new lab are presented.

Learning Spaces: How Classroom Space Impacts Student Learning

Spencer Benson – Center for Teaching Excellence, University of Maryland College Park

Learning can and does occur in a wide variety of formal, informal and virtual learning spaces. However the physical layout and attributes of a classroom's learning space can have profound impacts on student learning from enhancement to hindrance. This session will look at what we know regarding the influence that space can have on student learning, what makes for a good learning space and how one goes about designing highly functional learning spaces that facilitate effective teaching and learning. Participants will be encouraged to share their insights and thoughts regarding the role that physical space plays in their classrooms.



The Results of Creating Communities of Learning Through Course Redesign

Cassie Bichy – Learning Resources Center, University of Maryland Baltimore County Eileen O'Brien – Psychology, University of Maryland Baltimore County

In 2005, members of an interdepartmental committee at UMBC were charged with expanding the scope of a freshmen course to a one targeting the needs of upper-classmen at the suspension/dismissal level. The result of this collaboration is a course using learner-centered teaching methods in the core curriculum while concurrently using intrusive advisement, career exploration, and financial literacy as ways of engaging students. Currently in its fourth year, the multi-sectional course has been recognized by Institutional Research as a successful retention tool. Last year, the presenters demonstrated the pilot program. In this session, the presenters will describe their the current program, their current methods of assessing data, demonstrate how peer mentors work with students inside and outside of the classroom, and provide participants with activities to apply these to their course or program.

Wikis, Clickers, iPads, Blogs, Electronic Simulations, Video Parodies, What's next?

Marisa Birkmeier – Physical Therapy and Health Care Sciences, George Washington University Erin Wentzell – Physical Therapy and Health Care Sciences, George Washington University Laurie Lyons – Health Sciences Programs, George Washington University Linda Cotton – Health Sciences Programs, George Washington University Rhea Cohn – Physical Therapy and Health Care Sciences, George Washington University

Technology is changing daily making it challenging to remain current on the use of technology to enhance classroom learning. Adding to the challenge is the potential disconnect between the skill levels of teachers and learners. Many of today's learners are technophiles; while many of today's teachers are technophobes. This roundtable is designed to elicit conversation around advantages and challenges of incorporating technology in the classroom and solutions to those challenges. More importantly this will be a forum for participants to share strategies used and successes they have had in incorporating various types of technology into the undergraduate and graduate classrooms.

Do You Want to Teach More Effectively? Then "Grow" your Teaching

Phyllis Blumberg – Teaching and Learning Center, University of the Sciences

This presentation describes a new personal growth model. Using this model your teaching will promote deep and intentional learning. I will address four hierarchical levels of growth: (1.) define the essential aspects of your teaching, (2.) critically reflect on how you teach. Many valid information sources can inform your teaching, (3.) incorporate evidence-based teaching methods by reading the literature on teaching in higher education, and (4.) conduct rigorous systematic investigations of your teaching. You can incorporate one layer at a time and progressively teach better as you add each additional growth layer.

Wiki Wonderful: A New tool for Collaboration and Learning

Valerie Booth – English & Philosophy, Drexel University Laura Kelly – Nursing and Health Studies, Monmouth University

A "wiki" is a piece of server software that allows multiple users to freely create and edit Web page content using any Web browser, and is currently the most common collaborative tool used in online learning. The wiki function in recent LMS versions is a very versatile addition to our pedagogical toolbox. This session will describe how wikis function, how they can enrich the delivery of course content, promote peer-to-peer learning, assist faculty in collaborative research projects and, as a bonus, even assist instructors in administrative tasks.



Plenary Presenters

Conference Papers

Abstracts

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Leadership and Dialogue: Across and Through Lines of Difference and Diversity

Sheryl Perlmutter Bowen – Communication, Villanova University Carol Anthony – Peace & Justice, Villanova University Brighid Dwyer – Center for Multicultural Affairs, Villanova University Teresa Nance – Center for Multicultural Affairs, Villanova University Maurice Hall – Communication, Vaillanova University

The purpose of this session is to model an interactional and collaborative pedagogical approach to teaching and learning. Faculty members at Villanova University have developed a course in Multicultural Leadership and Dialogue that is paired with a 1-credit, 12 –hour experience in dialogue practice. Students learn about issues of social justice while also learning about such communication skills as dialogic listening, speaking and facilitation. Through a dynamic engagement of students' knowledge and understanding of justice and equity issues, students develop a dialogic perspective and a set of dialogic skills as one of the means of transforming themselves and their communities.

Providing Afterschool Professional Development to Teacher Education Candidates

Daniele Bradshaw - Education, Liberty University

The afterschool setting has distinct characteristics from those of the standard school day setting. College and university teacher education candidates should receive professional development that prepares them to work in afterschool settings. This presentation discusses the research and practical applications to facilitate afterschool professional development for teacher education candidates. Approaches for teacher education candidate afterschool preparation will be discussed. Participants will engage in brainstorming and information-sharing activities on the topic.

Development of an Undergraduate Public Health Program at a Four-Year Institution

Jennifer Breaux-Kutcher – Academic Affairs, Drexel University Shannon Marquez – Public Health, Drexel University

In the fall of 2009, the Drexel University School of Public Health (DUSPH) made the decision to move forward with undergraduate Public Health education. This presentation highlights the various approaches employed by the DUSPH to promote Undergraduate Public Health within the DUSPH and the larger Drexel University system. The presentation emphasizes how public health was integrated within undergraduate education through pertinent stakeholder identification, coalition building within various academic departments and utilization of multiple venues to promote the major. Discussion surrounding the major's creative process, curriculum development, faculty and staff requirements is explored.

What is a Drexel University Co-op and What Does It Mean for Undergraduate Public Health? Jennifer Breaux-Kutcher – Academic Affairs, Drexel University

The Co-op experience at Drexel is one of the largest 'cooperative educational programs' in the country. Drexel University views the Co-op as a pathway to exploring future employment within a student's discipline and also a means to apply in-class learning with real world experiences. What role will the Co-op play in the new undergraduate public health major? This presentation will highlight the Drexel University Co-op, examples of public health Co-ops, challenges related to undergraduate experiential learning especially when master's level experiential learning exists within the same university and next steps towards creating meaningful experiences for undergraduates.



The Evolution of a Hybrid Learning Faculty Institute: Lessons Learned and Changes Made

Andreas Brockhaus – Learning Technologies, University of Washington Bothell

While research shows that hybrid courses can produce better outcomes than face-to-face or fully online courses, learning how to teach in a hybrid format is often more difficult than teaching in either of those formats. At UW Bothell, we recently did a radical redesign of a 10-week hybrid learning faculty institute, changing to a 6-week model to make it easier for faculty to complete the institute and teach a hybrid class. This session will examine why and how we redesigned the institute including what improved and what still remains a challenge. We'll also discuss hybrid learning efforts at other campuses.

Scaffolding Up Doctoral Students' Knowledge and Skills in Research

W. Edward Bureau – Education, Drexel University Sacramento Kathy Geller – Education, Drexel University Sacramento

Doctoral students become successful researchers through a deliberate, scaffolded approach to developing their skills and knowledge. Built into a sequence of seven research courses that teach concepts through application, the tightly designed spiral raises their abilities to design, conduct, and report research, ultimately leading them to high quality dissertations. Both direct instruction and coaching support student progress, as do normalized faculty understandings of student success in each element of the sequence. Our session offers participants an interactive exploration of all elements and dimensions of this unique approach to teaching and learning in a doctoral program

Come Right In: What Students Want From Office Hours

Kristen Burson – Physics, University Of Maryland College Park Elizabeth Picciuto – Philosophy, University of Maryland College Park Steven Cohen – Communication, University of Maryland College Park Rachel Berndtson – National Socio-Environmental Synthesis Center, University of Maryland College Park Margaret Smith – Sociology, University of Maryland College Park Martin Camper – English, University of Maryland College Park

"Why aren't students coming to my office hours?" Office hours provide an opportunity for student-faculty interaction, one key benchmark of effective educational practice. Yet this potential goes unrealized if students do not show up, or feel uncomfortable. Come to this session to better understand students' expectations of office hours and the type of interactions students perceive to be most helpful. We will discuss our research on why students attend office hours and what they experience during these visits. We will address how we can leverage office hours to enhance student-faculty interactions and discuss how to better incorporate virtual communication tools.

Effective Teaching Methods to Engage Students: A Closer Look at Learner Centered Teaching

Lynann "Annie" Butler – Human Services, Metropolitan State University of Denver

The presentation will examine the new principles of learner-centered teaching as compared to traditional pedagogies. Participants will learn strategies to actively engage students in the material, ways to offer more choices in the curriculum without compromising student learning, and the benefits and challenges faculty may face when adopting this philosophy of teaching. Attendees will leave with specific goals of changes they would like to implement in the classroom.



Preface

Lessons Learned Over a Decade of Teaching Online

Charles Cannon - Science and Mathematics, Columbia College

This session describes the lessons learned over a decade of teaching a nutritional course both online and faceto-face. How the online course has evolved over time as compared to the standard classroom is discussed. Comparisons between the face-to-face instruction and online instruction on the dimensions of student engagement, assessment, and responsibility will be shared, providing a clearer understanding of teacher and student commitment required to ensure an effective online course. A case will be presented as to why this online experience is unique in many ways yet participants will leave with new ideas for online activities and content format to apply in their own courses.

Two Birds/One Stone: A Course-Specific Assessment Instrument That Measures Progress Toward Departmental Learning Objectives

Stephen Carroll – English, Santa Clara University Andrea Pappas – Art and Art History, Santa Clara

The SALG (Student Assessment of their Learning Gains) is a valid, reliable, FREE, online instrument developed with funding from the National Science Foundation to improve teaching by providing course-specific feedback on students' learning gains and the pedagogy responsible for those gains. It drives learning by promoting alignment of objectives and pedagogy. Originally designed for individual instructors, the newly redesigned SALG allows departments (and researchers) to collect and analyze data about shared learning goals while preserving faculty's privacy and ability to customize the instruments for their classes. In this session, you'll learn how it works then develop your own department instrument.

Developing Effective Discussion Boards for General Education

Francesca Catalano – Science, American Public University System

Generating online general education science discussion board topics that both develop class community and pique student interest is a daunting task. Join Dr. Catalano as she shares techniques that will generate results. This interactive and engaging presentation will discuss how to develop discussion board topics based on your student population, how to effectively incorporate technology and social media in the forums and how to use effective rubrics for assessment. Participants will leave with concrete ideas and an opportunity to continue the dialogue with fellow attendees on social media.

Classrooms Without Borders: A Case Study Analysis of Cross-Institution Collaborative Teaching and Learning across Cultures

Anne Cecil – Design & Merchandising, Drexel University Anne Peirson-Smith – English, City University Hong Kong

With the increasing need to prepare undergraduates for the global workplace and professional life that will operate in a digital mode, a cross-institutional course in Fashion Communication was devised and implemented. The intention is to activate an effective collaborative classroom experience around active cooperation where students interact across the globe and complete a project founded on input from both sides. Using technology to facilitate the teaching and learning process and global connections, groups of students in each city are partnered with their global peers to plan and promote a new fashion brand in an allocated zone in each other's city.



Cultural Perspectives on Teaching Hispanic Women Whose First Language is Spanish at a Community College

Melinda Chavez - Family & Consumer Science, New Mexico State University

This qualitative study explored difficulties of college acculturation of 11 non-traditional Hispanic women whose first language was Spanish and first generation college students enrolled in a community college in the Southwest. For non-traditional students, issues such as child-care, household duties, financial matters and domestic violence make obtaining a degree difficult and seem futile. The study offers recommendations in providing services and increase graduation rates to this population. The study suggests that when non-traditional Hispanic women attempt to succeed in college but do not, it may be they are not getting sufficient support at home or at the community college.

Why Do Students Fail? Faculty Perspective

Abour Cherif – Liberal Arts and Sciences, DeVry University Farahnaz Movahedzadeh – Biology, Harold Washington College Gerald Adams – Science and Math, Columbia College Chicago Jeremy Dunning – Geology, Indiana University

Failing college can cause lasting damage to student's self-esteem, and the consequences can influence an entire lifetime. In this presentation we describe a study we conducted with 50 college instructors in which we asked them to provide their own perspectives on why students fail college courses at the undergraduate level. The analysis of the study revealed surprising outcomes; we will share the results and discuss the implications of the findings on students, instructors, curriculum, and academic leaders. In short, being aware of how students themselves perceive the causes of student failure in academic settings is a necessary first step in clinically analyzing the complexity of the problem and in finding workable solutions that could productively lead to helping students.

How Often Do College Students Use YouTube to Learn Biology and Chemistry Concepts?

Abour Cherif – Liberal Arts and Sciences, DeVry University Farahnaz Movahedzadeh – Biology, Harold Washington College JoElla Siuda - Science, The Illinois Institute of Art, Chicago Charles Cannon – Science & Math, Columbia College Chicago Samar Ayesh – Physical Science, Harold Washington College

Over three hundred eighty college students were asked to provide their perspectives on the use of YouTube videos to learn biology and chemistry concepts, and how they perceive their educational usefulness in helping them learn the intended concepts. The results of the study were organized around ten main questions. In this presentation we will describe the study, share the results, and discuss the implications of the findings on students, instructors, curriculum, and academic leaders. We will also discuss the possibilities that may be afforded when YouTube videos are included in the teaching and learning of science concepts in the classroom.


Preparing Future Teachers through Deep Engagement, Contemplation, Collaborative Conversation, and a Framework of Holistic Thinking

Rupert Collister - Office of the Senior VP Academic, George Brown College

It is not news to many of us that "the single biggest problem bedeviling attempts to improve education is a profound misconception about what it means to actually know something" (Caine & Caine, 2001, p. 4,1). Despite, 300 years of educational reform, much compulsory and post-compulsory education still follows a largely transmissive approach, which "tend[s] to equate knowledge about the world with direct knowledge of the world". This workshop will explore how contemplative pedagogy can shift teacher education from knowledge about the world to direct knowledge of the world, and thus improve all education (Caine & Caine, 2001, p. 4,1).

Employing What We Have Learned From the Faculty Learning Community Movement to Build and Sustain Effective FLCs Today

Milton Cox – Center for the Enhancement of Learning, Teaching, & University Assessment, Miami University

Faculty learning communities (FLCs) were initiated in 1979 and have now been implemented at hundreds of institutions, including two-year colleges, four year liberal arts colleges, comprehensive and research universities, and medical schools. FLC programs have been initiated by individual entrepreneurs, teaching and learning centers, and system-wide consortia. We will begin our session with an overview of FLCs, some of the results about them reported in the Learning Communities Journal, and the experiences Milt has encountered in his work with colleagues engaged in starting and sustaining FLCs.

No Texting in Class! No Facebook in Class!

Ryan Curtis – Psychology, University of Maryland-College Park Scott Roberts – Psychology, University of Maryland-College Park

Here is the evidence for what we already knew; students who are distracted by technological devices during class don't perform as well. We will discuss our own research and past research that shows how distraction hurts class performance. So what do we do about it? Is it really possible to police how your students use technology in your classroom? We will discuss ideas on how to minimize distractions and change students' perceptions of how technology affects their academic success.

Kill the Term Paper; How to Leverage Student Writing to Resuscitate a "Living Democracy" Julie Daoud – English, Thomas More College

In the 21st century, some argue that the ubiquitous research paper has lost its value. According to G. Kim Blank, qualitative improvement in writing and critical thinking occurs less today through standard modes of writing (in which students often craft mediocre and predictable essays) than writing projects that foreground real-world currency and immediate applicability—socially-responsive writing that emerges from a qualified service learning program offering students multiple opportunities for engagement, reflective practice and ultimately, the mastery of nuanced styles of writing to complete projects for various purposes and audiences. This presentation offers a collection of exhibits (i.e. prototypes for projects and assignments as well as educational artifacts) to demonstrate how student learning is transformed by social-service in the local community.



Community-Based Research in the Liberal Arts: Creation of Applied Research Opportunities for Undergraduate Students

Susan Dauria – Anthropology, Bloomsburg University

This poster will show how we, at a medium sized university in Northeastern Pennsylvania responded to the lack of flexibility in traditional social science student research opportunities and created a unique program that allows undergraduates to collect local data from a diverse rural and local population. The data collected by students represents a unique application of anthropological and sociological methods, in an applied research program.

Relationships Among Cooperative Learning, Collaborative Learning and Problem-Based Learning

Neil Davidson – Mathematics, University of Maryland College Park

Cooperative learning, collaborative learning and problem-based learning are the group learning approaches that appear most frequently in the higher education literature. This presentation is a theoretical comparison and contrast of these three approaches to group learning. How are they similar and how are they different? We are making clear distinctions between approaches that are often conflated. Cooperative and collaborative learning are sometimes viewed as being interchangeable, or as one being a special case of the other. Problembased learning is sometimes considered to be a form of cooperative or collaborative learning. To clarify these conceptions and misconceptions, this presentation will include a cooperative learning experience, a collaborative learning experience, and a simulation of PBL. My co-author on the related paper is Claire Major.

Whole Brain [®] Teaching and Learning in Higher Education: Evidence Based Practice

Ann-Louise de Boer - Information Science, University of Pretoria

Articles acknowledging diverse thinking preference of individuals have been published the past 30 years, yet very little evidence based literature is to be found on the actual transformation of teaching practices. Our evidence-based practice, looks at individual faculties, and trends observed. The initiatives and activities in the School of Engineering are highlighted followed by the application of Whole Brain[®] principles to add value to a Information Literacy module, and the results obtained by students after being exposed to Whole Brain[®] teaching. Our final case study, looks beyond the classroom using the Whole Brain[®] model as a coaching tool.

Understanding What the Student Needs

Kristi Dean – Information Technology, Central Michigan University

Given the current economic market, the business environment has become more competitive; organizations are becoming leaner and more efficient with few resources. Zanazaw (2010) argues that to survive organizations need to retract to the core of their business. Human Resources expeditiously allocate and protect resources as economic scaling down. Such limitations stress the justification of employee education and training and emphasize the disconnect between theoretical learning versus application. How does higher education address adult learners' needs in relation to current employment? How do we keep in touch with what industry and adult learners need?



"Where's the beef?" Critical Analysis of iPadApps to Maximize Learning

Sarah Jane DeHaas – Education, Juniata College

The iPad has revolutionized the way we teach and how our students learn. Grateful as we are to have an abundant bank of iPad apps, it is often frustrating to determine which apps are truly useful for facilitating student learning. Within this session, participants will learn the importance of evaluating and selecting apps to maximize student learning as well as the critical considerations of doing so.

Women in STEM: A Cross-Disciplinary Conversation Outside the Traditional Classroom

Leonard Demoranville – Chemistry, Centre College Sarah Egg – History, Centre College

Building on the 2013 National Women's History Month theme of Women in Science, Technology, Engineering and Mathematics (STEM), we sought to initiate a campus conversation on diversity in STEM fields. Women have historically faced a number of obstacles to success in STEM careers. Even today, complete equality remains elusive. An on-campus panel presentation consisting of two students and two senior female faculty members considered the past, present and future of women in STEM. The main points of this panel will be presented, as well as a summary of attitudes and reflections from students who attended the poster.

Writing as a Learning Community to Promote Student Authentic Assessment and Transformation Maryann DiEdwardo – English, University of Maryland University College

Students from six cohorts at various levels of a Master's program indicated the value of 19 instructional methods and how much they facilitated engagement in learning. High values were placed on methods incorporating active learning. Lower values were placed on methods such as listening to a lecture without power point and online discussion boards. Methods such as visiting off-campus were viewed as highly engaging. Least engaging methods included having other students teach and online discussion boards. Teacher characteristics facilitating student engagement included knowledge of content areas, excitement for content areas, involving students in the processes of class organization and humor.

Lecture Free Learning Biology in all Classes, Great and Small

Robert P. Donaldson – Biological Sciences, The George Washington University Hartmut Doebel – Biological Sciences, The George Washington University

Students learn effectively and develop communication skills in an introductory biology course by engaging in team-work. We have adapted approaches used in the teaching of Chemistry (POGIL), Physics (Scale-Up) and Biology (Case Studies). The participants in the session will be provided with a Case Study and data for a Genetically Modified Organism (crop), GMO. They will be guided through the processes of forming a team, acquiring expertise (knowledge), assessment of that knowledge, team analysis of information in a Case Study, written and oral articulations of the analysis, and debating the safety of the GMO.



Plenary Presenters

Conference Papers

Abstracts

Thank Your to Cosponsors

Student-Facilitated Discussion Teams to Enhance Student Engagement and Vital Skill Development

Deidra Donmoyer – Communication & Women's Studies, Wesleyan College Matt Martin – English, Wesleyan College Jeff Prudhomme – Vice President Interactivity Foundation

This interactive workshop introduces a student-facilitated discussion process based on the collaborative development of divergent perspectives. This small group discussion process can be used in classrooms of all disciplines to enhance students' engagement with learning, improve communication and interpersonal skills, and positively impact students' attitudes about diversity and collaboration. Our workshop will provide a direct experience of this facilitated discussion process, offer a "how-to" account of how we used this pedagogical innovation, present preliminary observational and survey data about the impact on student attitudes and abilities, and collaboratively explore with participants how this innovative technique might have value for them.

25-Word Summaries: Engaged Reading, Critical Thinking, and Deep Learning

Peter Doolittle – Learning Sciences and Technology, Virginia Tech

Motivating students to read with intent, think critically about the reading and its meaning, and represent their learning can be a challenge. 25-word summaries provide an avenue for fostering engaged reading, critical thinking, and deep learning. This session will provide empirical evidence of the effectiveness of 25-word summaries as well as provide participants with guidelines on how to integrate 25-word summaries into their classes, how to write 25-word summaries, and how to evaluate and provide feedback on 25-word summaries. Please note: 25-words summaries are not writing assignments, but rather, thinking activities.

Intelligent Design: Web-based Tools to Facilitate Critical Thinking through Writing

Grace Earl - Pharmacy Practice and Administration, University of the Sciences

Educational technologies used in a large-class setting are growing rapidly. This session will portray the teacher as the navigator who directs students on their semester journey to use more than 10 tools posted on the course webpage to promote critical thinking. The audience will discuss the advantages and disadvantages of these webbased tools including use of links to readings and internet sites; database searching tutorials; PowerPoint[®] tutorials, and PREZI[®] tutorials. Participants will develop ways to aid students in navigating to the resources by addressing design features of your website; using games and meta-cognition strategies; and email and announcement features.

MOOCs: Benefits, Implications and Practices Facing Instructors and the Non-Linear Learner

Peter Eberle – Business, the Pennsylvania State University Fayette Anthony Hoos – Media Television, Howard County Community College William Gardner – Business, the Pennsylvania State University Fayette Michael Ridenour – Business, the Pennsylvania State University Fayette

Massively Open Online Courses provide new learning opportunities for a wide range of students traditionally challenged by common college entry barriers such as financial limitations, age and demographics, campus dynamics and socio-economic status. MOOCs also provide a non-linear learning experience with little intervention from an instructor, which challenges already new and evolving standards and practices in online collegiate academics. In a global online classroom where there are no international boundaries, setting the stage for massive enrollments and completely shared collaborations could serendipitously create an entirely beneficial learning experience for the student, the Instructor, the community, the local work force and beyond. This presentation will discuss the creation, management, risks and rewards of the MOOC environment and what it might mean to a growing campus community.



Preface

Plenary Presenters

Conference Papers

Generational Impact of Historical Trauma on Teaching and Learning

Kathryn England-Aytes - Social, Behavioral and Global Studies, California State University Monterey Bay

In today's global society faculty must understand the role of historical trauma, unresolved grief, and cultural decimation impacting individuals and generations. Mainstream education challenges cultural identification and traditional values; cultural conflict and negation of the individual results. This session guides mainstream faculty to better understand contemporary trauma in the context of historical, cumulative, and collective experiences of Native Indians. Recommendations will be provided to prevent further reinforcement of historical trauma as a contemporary experience. Application of such strategies creates a more inclusive, empathetic classroom environment which benefits non-Indian students who themselves may be suffering forms of trauma resulting from the structural inequalities their families have experienced.

The Success of Alternatively Admitted Student Athletes: Which Practices and Programs Contribute to Academic Retention?

Adrienne Ekas-Mueting – Social Work, University of Maryland Baltimore County

At the University of Nevada, Las Vegas, alternatively admitted student athletes were found to have higher retention rates than those of regularly-admitted non-athletes, by a margin of 10%. This poster will present the practices and programs delivered through the Athletic Department and other university Support Services, which were thought to be influential to the success of this sub-group of students.

Learning Intervention Assessment: Developing a Master Plan

Ozgur Ekmekci – Clinical Research and Leadership, The George Washington University

In today's complex social environment, anyone who has been assigned the task of leading an organizational change initiative has to approach the process in a systematic way in order to succeed. The crucial success factor is often creating alignment amongst components that constitute a well-articulated change proposal. This interactive workshop is designed for those who would like to better understand the four key questions that allow leaders to effectively envision, design, implement, and measure meaningful change in organizations.

Using Group Quizzes to Promote Student Learning

Samantha Elliot – Biology, Saint Mary's College of Maryland

Do you wish your students had actually done the reading before class? Do you want to promote robust discussion in the classroom? Would you like to tackle common misconceptions head-on? Do you need to create classroom content now that you've "flipped" most of your lectures to an online format? Group quizzes can help! This session will explore collaborative, cooperative and think-pair-share quiz formats with immediate feedback to reduce instructor time investment, maximize student learning, and elevate classroom discourse to tackle complex problems.



Preparing For Employment at a Primarily Undergraduate Institution (PUI)

Samantha Elliott – Biology, Saint Mary's College of Maryland

You have aspirations of teaching at a primarily undergraduate institution, but how do you get there? What can you do in graduate school to be competitive for employment at a PUI? How is a PUI different from a large research-intensive or even a medium-sized school? These are some of the questions that I will address in this workshop. I will talk about my path to tenure at a PUI, and what made me appealing to my hiring committee. Participants will analyze job advertisements and develop ways to target their own teaching statements and applications for PUIs.

Wikis: Motivating Internal And External Students to Engage And Work In Groups

Caroline Ellison – Disability and Community Inclusion, Flinders University Peggy Kincaid – Disability and Community Inclusion, Flinders University

Group work often results in moans and groans from students across a program. Student conflict around expectations and sharing of power points and other preparations is common. Wikis provide a motivating and efficient tool to engage students internal, external or combine to work cooperatively together. Participants will engage in constructing an evaluation tool to explore student experiences around group activities, including use of wikis. Current wiki activities undertaken by first year Bachelor of Disability and Development Education students will be reviewed.

Student Portfolio Activities Based on Job Descriptions to Facilitate Experiential Learning and Graduate Employment

Caroline Ellison – Disability and Community Inclusion, Flinders University Peggy Kincaid – Disability and Community Inclusion, Flinders University

Students often experience difficulties linking their university experiential learning to criteria in applications for employment. Reflective portfolios serve as a means of demonstrating and recording scholarly engagement, service and theory to practice. The process of creating a portfolio based on the analysis of criteria from job descriptions related to graduate positions is presented. The most common criteria can be developed into a staged approach to reflecting and recording experiences during practice. Upon graduation this portfolio can assist with addressing criteria in employment applications. Participants will analyzing job and placement descriptions to develop a conceptual portfolio framework across a program.

Better Designs for Online Education

Stephen C. Ehrmann – Vice Provost for Teaching and Learning, The George Washington University *Panel Presenters*

Julie DeLoia – School of Public Health and Health Services, The George Washington University Liesl Riddle – Graduate Programs, The George Washington University

The best online programs should use that technology to create experiences that are clearly better (in some ways) than what a campus-bound program offers. For example,

Online instructors can be drawn from famed experts around the world;

Online, it's easier to assemble students whose differences are an instructional strength;

Online, a course can be customized for students with different needs by offering several tracks of lectures, assignments, and tests.

Dr. Ehrmann will describe a dozen such strategies, some already in use at George Washington University, and show how such strategies redefine the high end of the online marketplace.



Impact of Peer Instruction Method Supported by Cickers on Student's Learning in Basic Maths

Rafael Escudero Trujillo – Mathematics, Uiversidad del Norte

The objective of this research was to determine the impact of Peer Instruction method supported by clickers on student's learning of basic Mathematics. There were founded significant results between pre-test and post-test scores that were applied to 224 students. Indeed, the students showed positive opinion about Peer Instruction method supported by clickers in a survey Lickert Scale as following: dynamic and interactive classes (80%), more participation (85%), improved learning (82%) and motivation (85%).

Global Warming/Climate Change and Sustainability Resources and Activities for Educators in Any Discipline

David Fallick – Reading, ESL, and Linguistics, Montgomery College

With a basic understanding of the amplified greenhouse effect and an interest in any of the many topics related to it, you, too, can incorporate global warming, its effects and mitigation, and sustainability into a class of any discipline. Through active participation and presentation, this session will introduce you to print and audio-visual resources, many free, organizations and teacher networks to support your endeavor, assignments and class activities that accommodate various learning styles and strategies and examples of working with both academic and non-academic colleagues for assistance with planning activities and getting resources.

Digital Storytelling: From Social Media to Multimedia

Dawn Fallik – English, University of Delaware Lydia Timmins – Communications, University of Delaware

Using iPod Touch cameras, journalism students learned to tell stories visually, requiring a different mindset and perspective than standard written assignments. We will discuss how these communication techniques could be used in any class, from biology to Beowulf. We will show a variety of multimedia and social media platforms to house student work and discuss the problems (technical and ethical) that come with visual reporting.

Technology in Teaching and Learning: Student and Faculty Usage and Attitudes

Lillian Feitosa – Foreign Languages, Literatures and Cultures, James Madison University James Ward – Philosophy and Religion, James Madison University

This poster presents results from survey and focus groups of James Madison University student and faculty regarding faculty and student technology usage and attitudes towards technology and learning. We report both the positive and negative implications of the use of technology for teaching and learning as reported through a survey and expressed during focus groups. From this data set we make recommendations for best practices for the use of technology in and out of the classroom, to ensure that course learning objectives are met.



Preface

Plenary Presenters

Conference Papers

Abstracts

Teaching as Performance

Leslie Felbain – School of Theatre, Dance and Performance Studies, University of Maryland, **College** Park

Passion for a subject does not always translate from the podium across a lecture hall to students who would rather be browsing on Facebook than engaging as an active listener. This workshop will explore foundational performance techniques and concepts in order to create a learning environment where performer (the teacher) and audience (the students) engage together in the performance (the class). Teaching as Performance is an interactive workshop where participants will have the opportunity to explore their multi-dimensionality, and apply performance techniques to the subjects they teach.

Outcome-Based Teaching with Social Media

S. Pixy Ferris – Communication, William Paterson University

Social media offer exciting ways to reach our students meaningfully while offering tools for professional and personal success. But we often do not make optimal use of social media to help our students meet disciplinespecific and general education learning objectives. A new book, The Plugged in Professor shows educators how to utilize social media effectively. Drawing from the book, this session demonstrates how to use five social media (Blogs, WIMBA Voice Board, Streaming video, Wiktionary, Clickers & Twitter) in ways clearly linked to student learning objectives (SLOs). Participants will leave with clear step-by-step directions.

Teaching Architectural History with Lecturing

Cynthia Field – Architecture, University of Maryland

Come learn how I used online tools such as Socrative.com, Pinterest and Dropbox to engage students, encourage active learning, enrich class-time discussions and invigorate my own teaching. I was able to activate a course on architectural theory—a heavily academic subject for future professional architects. Using these tools allowed me to devote myself to reviewing the readings, guiding the discussions and creating "buy-in" in the classroom. Most importantly, learn how by the end of my class my students made history relevant to their future as architects by creating personal text books on theory and the history of architecture.

RISK: Raising Intelligent Self-Reliant Kids

Regina Fontana – Faculty Center for Teaching and Learning, Seminole State College of Florida

The main tenets pushing teacher planning at all grade levels should be wonder and risk. Risk taking is a fundamental pre-requisite for learning. When risk is removed from the classroom, we remove discovery. We should want our students to experience their education. We should want our students to wonder and discover. "I wonder what will happen when I add sugar to potassium nitrate?" As more schools graduate worker bees, we need to change the educational system to encourage the inventor or entrepreneur.



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Contemporary College Algebra - A Non-Traditional Approach

Laurette Foster – Mathematics, Prairie View A&M University Ohn Gardner – Academic Enhancement, Prairie View A&M University

College Algebra for many institutions is a gateway course for a large population of students. It is also a course that presents a roadblock for many students as indicated by the grades received by those enrolled in the course. With this said, one would realize that something needs to be done. The presenters have been using a model that focuses on communication, technology, team work, modeling, confidence building and the enjoyment of the subject. We will share this model and with the participants and provide references and materials that they may use with their students.

iREAD...Do You? Increasing Reading and Engagement for Academic Development: Two Years in Review

Laurette Foster – Mathematics, Prairie View A&M University Elizabeth Noel – Research, Prairie View A&M University Shayla Wiggins – Academic Enhancement, Prairie View A&M University

The Plan, iREAD, "Increasing Reading and Engagement for Academic Development", raises expectations and educates first generation college students for meaningful societal participation and entry into desired professions. The iREAD plan grounds theme-based readings in the living learning communities with support from academic coaches, professional advisors, instructional faculty and learning community coordinators. A "Year in Review "of this program, will share selected activities that focused on the outcomes of the plan: 1) enhancing academic skills, 2) enhancing academically related habits and 3) enhancing academic self-concept. We will also share samples of student presentations and assessment data for year one.

Creating Meaningful Interdisciplinary Educational Activities for Your Classroom

Lily Fountain – Nursing, University of Maryland College Park Emily Grossnickle – Human Development, Learning, and Quantitative Methods, University of Maryland College Park

The value of interdisciplinary education is frequently reflected in academic curricula as well as funding initiatives, and it is regarded as essential for higher-order thinking in the 21st century. But how can interdisciplinary education be incorporated into courses already packed with learning objectives, and in a way that genuinely benefits student learning? This presentation will examine the advantages and barriers to interdisciplinary educational activities for undergraduates, and will engage participants in active teaching strategies that can be used to overcome such barriers. Participants will leave the session with concrete ideas for interdisciplinary educational activities to incorporate in their own teaching.

Proactive Strategies for Classroom Behavior Management to Maximize Students' Academic Success Laura Frey – Counseling and Special Education, Central Michigan University

This session will present ideas for proactive strategies for classroom behavior management that promote a positive classroom climate that will maximize students' academic success. This begins with a foundation of cognitive reflective strategies for educators use to support their teaching philosophy and teacher selfmanagement. This is followed by an overview of proactive: (a) classroom rules, (b) teacher 5-step in-class response template, (c) teacher-student coupling statements, and (d) student send-out template plan. The content is directly applicable to School-wide Positive Behavior Supports. This session is applicable for K-12 educators and teacher preparation professionals.



Student Academic Success: Teachers Need to Understand the "Function" of Behavior

Laura Frey – Counseling and Special Education, Central Michigan University

The foundation of student academic success is the ability to demonstrate classroom and school acceptable interpersonal and intrapersonal behavior. This session will introduce and apply the concepts of function and behavior pathways to student behavior as well as interactions with peers and educational personnel. In addition to function, this session will apply the components of setting events, antecedents, and maintaining consequences to a variety of classroom-relevant scenarios. The content is directly applicable to School-wide Positive Behavior Supports. This session is applicable for K-12 educators and teacher preparation professionals.

"Closing the Gap": Increasing Persistence and Success of Struggling Students

Kathleen Gabriel – Education, California State University Chico

Colleges have many diverse students, with increasing numbers of struggling students. The graduation gap remains among various student groups (i.e. first-generation, students of color, and traditional students). Professors can make a difference in "closing the gap" without lowering their standards. By using learner-centered pedagogy and motivational strategies (including "tough-mindedness"), we can help all students become engaged and improve their performance. Hence, peripheral students will have more than a merge chance of success in college.

Fostering the First-Year Experience (FYE) Philosophy: Faculty and Staff Learning to Engage in Communities

Margaret Garroway – English and World Languages, Howard Community College Laura Yoo – English and World Languages, Howard Community College

HCC's FYE program does not reside solely in a student seminar. To help faculty/staff learn more about FYE, a faculty/professional learning community was created in 2005. From one came many; members explore self-selected topics throughout the year. Learn how the program grew, how it works, and how it influences faculty/ staff development as well as our student experience. Explore ideas that might entice faculty and staff, build community, and disseminate the FYE philosophy to better engage students on your campus.

Maximizing Impact: Course Design for Engagement and Retention

Ellen Goldman – Human and Organizational Learning, The George Washington University Elizabeth Mahler – Human and Organizational Learning, The George Washington University

This workshop will help participants assimilate principles of adult learning and effective instructional design as they integrate active learning techniques into their existing or future courses. Participants will be provided with frameworks and resources to guide them through the design process, with intensive support from the workshop facilitators. Participants will leave the session with a Handbook of Design Resources (including a step-by-step class design framework, descriptions of 22 active learning techniques, and a reference list), a Class Design/ Redesign for one of their sessions, and a Personal Action Plan for their further development as adult educators.



Plenary Presenters

Conference Papers

Abstracts

Thank Your to Cosponsors

Concept Maps and Health: Literally Drawing Common Threads among Students, Health Disparities, and Social Conditions

Lisa Goodson – Exercise Science, The George Washington University

Health disparities are adverse determinants to health that disproportionately affect people throughout our immediate communities—our neighbors. Gender, age, ethnicity/race, and lower socioeconomic status, and lifestyle may be associated with societal inequalities that can lead to a collective poor health status of at-risk populations. Students not at risk for health disparities may find it difficult in reasoning that there are common threads between them and their neighbors whom suffer lower health status. This session will incorporate transformative learning by using concept maps; a visual inference of what students believe may lead to and eliminate health disparities.

Publish and Flourish: Become a Prolific Scholar

Tara Gray – Teaching Academy, New Mexico State University

Many scholarly writers are educated at the School of Hard Knocks, but it's not the only school, or even the best. Much is known about how to become a better, more prolific scholar and anybody can. Even when you can't work harder, there are important ways to work smarter. Research points to specific steps scholars can take to become better, more prolific scholars, including:

- Write daily for 15-30 minutes
- Organize around key or topic sentences
- Solicit the right feedback from the right colleagues

Effective and Critical Use of Discussion Boards: Creating an Online Community of Learning

Mary Jo Grdina – Education, Drexel University Vera Lee – Education, Drexel University Kristine Lewis Grant – Education, Drexel University Constance Lyttle – Education, Drexel University

In this interactive session, the presenters will talk about the vital role of a discussion board in fostering a community of learning for fully online teacher education courses. They will demonstrate how the discussion board can be used to enhance students' emergent understanding of course content, and to meaningfully engage students. They will also present actual discussion board data as a way of showing evidence of students' development as learners in each course. Finally, they will talk about the development of a practitioner inquiry group where they gained support and advice for challenges that emerged from their classes.

Using Facebook as an Instructional Network to Enhance Undergraduate Mathematics Instruction

Peter Gregory – Mathematics, Baruch College- CUNY Karen Gregory – Eduation, University at Albany-CUNY

Facebook is a website that is synonymous with social-networking. However, in this study, we explored the use of Facebook as an "instructional network". Two sections of an undergraduate calculus course were used to study the effects of participating in a Facebook group devoted to instruction. One section was given the opportunity to participate and the other was not. Based on test scores, homework scores, and survey results, we found that students who participated in the Facebook group were more engaged and satisfied with the course and performed better than those who did not participate.



The Psychology for the Social Good Project: Developing Media Literacy in an Introductory Psychology Course

Tabitha Grier-Reed – Postsecondary Teaching and Learning, University of Minnesota Alison Link – Postsecondary Teaching and Learning, University of Minnesota

Calling for innovative pedagogies, the Digital Age challenges traditional notions of teaching and learning and even the nature of literacy in the 21st Century. Today's young people have been described as "digital natives", and college students today are among the first to come of age in the digital era. Effectively using classroom technologies to build media literacy and address the challenges of participation, ethics, and transparency are new mandates for education. Expounding on media literacy and its challenges, we present the Psychology for the Social Good Project in which students create and critically evaluate media in an introductory psychology course.

Understanding Developmental Differences of Students in Your Classes

Linda Gulyn – Psychology, Marymount University M. Petrovich University of Minnesota Psychology Undergraduate, Marymount University

Do students arrive to your class at the same level of readiness to tackle course material? Of course not. In a class of 35 "juniors" it is not unusual to encounter a range of abilities, life experiences, ages and developmental stages. In this interactive presentation, participants will respond to a variety of social dilemmas. Similarly, they also will review a sample of college students' responses to these dilemmas and apply theories of cognitive development in adolescence and adulthood. Finally, as a group, participants will generate supplemental approaches to fostering continued cognitive development in our diverse groups of students.

Unlocking the Black Box: Facilitating and Capturing Thinking and Processing

Jennifer Halvaksz – Physical Therapy and Health Care Sciences, The George Washington University Chris Sebelski – Physical Therapy & Athletic Training, Saint Louis Margaret Place – Physical Therapy and Health Care Sciences, The George Washington University Rhea Cohn – Physical Therapy and Health Care Sciences, The George Washington University

Learning is a Partnership. Faculty is masterful at designing learning inputs but it is the students that must process the inputs appropriately for successful outcomes. For faculty, student processing can feel like a "black box". How do we unlock that "black box" to better understand how students think so we can become better partners in their learning process? In this session participants will explore a multi-step reflective process that enables students to deconstruct content and articulate their thinking and enables faculty to assess, refine and shape student processing. Outcomes of this process also can be used to further refine curriculum.

Becoming Engaged Citizens: Developing the Passion and Skills to Advocate for Social Justice Anne Marie Witchger Hansen – Occupational Therapy, Duquesne University

The purpose of this poster presentation is to share a model of providing students the opportunity to learn from vulnerable populations about the social injustices they face through the service learning pedagogy. The teacher/scholar will share the evidence she collected to develop and enhance this model that demonstrates the impact of these experiences on the lives of the students and their community partners. Participants who engage with this presentation will participate in a hands-on activity with the presenter to identify opportunities they can create for their students to engage with a vulnerable population that includes advocating for justice.



Fostering Critical Thinking Skills Via Online Discussions

Christine Harrington – History and Social Sciences, Middlesex County College Maya Aloni – History and Social Sciences, Middlesex County College

Online conversations are often a primary learning activity in online coursework and are also being used more frequently as a supplement to traditional class experiences. However, it can be quite challenging to craft questions or prompts that will serve as a springboard for high level conversations. During this interactive session, best practices in online conversations will be discussed. Participants will be engaged in dynamic exercises related to developing discussion prompts. Come discover how to get the most out of online conversations, building critical thinking skills, as we tackle difficult issues such as question creation and managing discussions.

Faculty Self-Disclosure of Identities: Decision Making

Catherine Herne – Physics, Colgate University Susanne Morgan – Sociology, Ithaca College

Come to this session to explore issues related to disclosure of some aspect of your identity. The presenters themselves embody multiple identities, visible and invisible. Both female, one is a beginning faculty member in the sciences and the other an emerita professor in social science and a faculty development professional. We will present some relevant research from social psychology and higher education, interspersed with faculty experiences. You will use a flow chart to identify some identity that is relevant to you, consider costs and benefits of disclosing to students or colleagues, and clarify your own decision process.

International Teaching Fellows (ITF) Mentoring Program: A Step Towards More Effective Teaching Practices

Nabila Hijazi – English, University of Maryland Bedrettin Yazan – English, University of Maryland Uchechi Okereke-Beshel – English University of Maryland

International Teaching Assistants are educated in different cultural environments and do not know specifics about U.S. educational settings. The University of Maryland College Park (UMCP) as a very diverse institution has experienced the ITA challenge in several instances with its own graduate students. In an effort to train ITAs to transition smoothly into effective teaching practices, the Center for Teaching Excellence at UMCP started a prominent program for ITAs known as the International Teaching Fellows (ITF) Program. With an insider approach, the presenters will share the initial findings of a case study evaluating the ITF program while acquiring valuable feedback.

Engaging Students through Critical Reading

Alice Horning – Writing & Rhetoric, Oakland University

This session will report on a set of case studies (conducted in an IRB-approved process) that show how highly engaged students respond to an assignment in critical reading and thinking as part of an inquiry project. The outcome of the study suggests that assignments that require the critical thinking and reading skills students need can lead to a much greater level of engagement in research, writing and course work. Participants will create their own assignments to engage students in critical reading and thinking in conjunction with research and inquiry assignments.



Using Course Design to Develop Reflective and Inquiry-Driven Students Despite Increasing Complexity and Diversity

Barbara Hornum – Center for Academic Excellence, Drexel University

This session will draw on one case study model for designing and implementing the development of an active, inquiry-driven course recognizing both cohort factors and student diversity. The model uses techniques such as group-work and team-building to incorporate reflection into major assignments which connect to specific learning goals and objectives. After a brief presentation showing how the model has developed and changed over several iterations — using student input for refining and restructuring activities and assignments— attendees will work in small groups to construct a course design linking learning goals to specific course activities, assignments and assessments.

Overcoming "Pinch Points" in the Quantitative Business Curriculum through Innovative On-Line Support

Ed Hutton – Finance, Niagara University

Student learning in quantitative class work does not seem to progress in a linear fashion, but rather through a series of ever higher plateaus of understanding, separated by conceptual barriers, which can be labeled "Pinch Points". By identifying and analyzing these points, a set of innovative on-line support materials was developed specifically to overcome the difficulty in understanding these concepts. Consisting of a series of twelve, very short, (usually of less than five minutes each), presentation videos was developed by using Camtasia software. Through students access to these materials understanding was enhanced and course satisfaction was significantly increased.

A New Course to Develop Students' Scientific Reasoning and Practice Skills

Debra Hydorn – Mathematics, University of Mary Washington Kathryn Loesser-Casey – Biology, University of Mary Washington

Recent research has identified characteristics that promote student success in science, including the use of inquiry-based science instruction, participation in an undergraduate research experience, and the use of collaborative quizzes. As a component of an NSF STEM Talent Expansion Program grant, we have developed a new course based on these and other research findings. The new course, Scientific Reasoning and Practices, was offered during a Summer bridge program for incoming first-year students and uses a lecture/activity format to prepare students for college-level science coursework. We will introduce the course, share some of our activities, and discuss some assessment results.

Incorporating More Writing in Humanities Courses (While Still Having a Life!)

John Immerwahr – Philosophy, Villanova University

Assigning writing is an essential way to enhance student learning, but reading and giving feedback on student writing is extremely time consuming, especially in large classes. In this presentation we'll review some strategies for using writing that can help students learn without taking quite as much instructor time. Specifically we'll focus on three areas: steps to take before students write that can save time later; assignments that help student learn but take less time to grade; time saving approaches for giving feedback on written work. Be prepared to contribute some of your own time-saving tips!



Building a Small Service Unit in First-Year Writing Classes

Leigh Johnson – English, Marymount University Holly Karapetkova – English, Marymount University

We know that service learning can engage students in their new communities as they move into college environments. Building semester long projects takes time and may only work for a few sections of a course. How do you make service meaningful to content in a writing course that all first-year students take? We'll discuss how we've implemented 5 hour service projects in English 101 classes at Marymount University, and we will share how we found and worked with community partners to best serve their needs and our needs for engaging first-year students in the community.

Pre-Clinical Simulation: Will it Impact Student Success in the Clinical Setting"?

Jacquelyn Jones – Nursing and Allied Health, Norfolk State University Alexis Davis – Nursing and Allied Health, Norfolk State University Angela Hayes – Nursing and Allied Health, Norfolk State University

This presentation will encourage clinical faculty to include a pre-clinical simulated clinical day as an innovative pedagogy to argument student's transition into the actual clinical setting. Under the direction of the Simulation Educator, for the Center for Innovative Nursing Education (CINE), at Norfolk State University, the freshman students were given the assignment/scenario of providing total patient care in a simulated healthcare agency. The objective of the assignment / scenario was to facilitate student's use of the nursing process, time management, critical thinking, and safe medication administration. The students were assigned by clinical groups. Standardized patients assisted with the simulation; debriefing was held after the simulation to provide real time feed back to the students. The pre-clinical simulation used as an instructional standard, will help foster student clinical readiness, decrease clinical errors, increase patient safety, and increase peer collaboration/communication. The pre-clinical simulation was a genesis for the nursing program and the freshman class; other clinical groups will participate next semester.

Perspectives on Democracy: A Cross-Curricular Approach

Deborah Keller – Education, Indiana University Purdue University Indianapolis Gregory Keller – Philosophy, Indiana University Purdue University Indianapolis

The presenters will share how they implemented a cross-curricular assignment to enhance students' understanding of democracy. Specifically, students in an introductory Ethics course and students in an introductory Education course engaged in online dialogue in response to Dewey's "Democracy and Educational Administration." Students examined Dewey's concept of democracy from ethical and educational perspectives, affording them an opportunity to consider how Dewey's concept relates to their respective disciplines, how Dewey's concept bridges the disciplines, and how it connects their educational experience with the larger world of democratic citizenship.

Digital Formative Assessment: Apprenticeship in Thinking, Seeing, and Talking

Jean Kelly – Communication, Otterbein University Jeffery Smith – Mathematical Sciences, Otterbein University Carrie Scheckelhoff – Education, Otterbein University

In this interactive discussion, faculty in education, mathematics and journalism design will demonstrate digital formative assessment tools for analyzing classroom interaction, coaching visual self-editing, and supporting professional internship. They will analyze such questions as How do I help students see and apply aesthetic conventions in their own work? How do I help students think like a teacher? How do I help students talk constructively about academic content? We will catalyze a conversation where participants will analyze issues in their own work?

their current practice.



Evidence-Based Teaching and Learning

Preface

Plenary Presenters

Conference Papers

Abstracts

The Missing Link to Competency-Based Course Design and Meaningful Classroom Learning

Elene Kent – Management & Leadership, Capital University Wen-Li Feng – Information Technology, Capital University

Students often find it difficult to understand how assignments in a course syllabus connect to the learning objectives, and what it means to them as individual learners. Often the course objectives are reviewed the first day of class as instructors go over the course syllabus, but students do not relate assignments to course goals. The purpose of this session will be to familiarize participants with our process to redesign learning outcomes in a way that helps students understand course expectations through meaningful assigned work and course activities. We will share results of student surveys comparing former and redesigned course goals.

Writing Professional E-mails for Today's Employers

Shahabudeen Khan – Law, Nova Southeastern University

This Presentation focuses on Writing Professional E-mails for Today's Employers. Specifically, to teach students how to write professional e-mails; whether to co-workers, supervisors, clients, or subordinates. E-mail communications have become the norm in the workplace. This raises tremendous professionalism issues particularly regarding the tone, format, and content of e-mails. The training for proper e-mail correspondence deserves more attention in the classroom. Teachers and students spend a tremendous amount of time communicating with each other by e-mail. This Presentation will give teachers a start on how to use those e-mail correspondences to teach their students how to write professional e-mails.

Using an Academic Service-Learning Based Capstone Course for Programmatic Assessment Jeannette Kindred – Communication, Media and Theatre Arts, Eastern Michigan University Kathleen Stacey – Communication, Media and Theatre Arts, Eastern Michigan University

Many academic programs either currently incorporate or are contemplating developing a capstone course. This presentation will explain the process of structuring a capstone course that is a meaningful experience for students and is beneficial in providing useful information for programmatic assessment. It will explore developing clear and specific learning outcomes that reflect the culmination of the students' program, using an academic service-learning requirement to prepare students for professional and civic life, creating meaningful assignments to capture learning, and using student work to conduct productive and ongoing programmatic assessment.

Bridging the Culture Gap – Military Veterans in your Classroom

Mary Kniskern – Sociology, University of Maryland College Park

The experience of military veterans in academia has been described as a culture clash. Less than five percent of students and higher education instructors have contact with military service personally or via a family member. Colleges and universities are recruiting veteran students, but support structures for both the students and faculty members lag behind the recruitment efforts on many campuses. In this session, a PhD-candidate, student-veteran spouse will lead discussions and role-plays to examine both sides of this culture clash and identify solutions to meet the challenges of incorporating this particular group of non-traditional students into your classroom.



How Learning Goals Mediate Learning: A Motivational Framework and Results from a Mixed-methods Study

Annalee Kodman – Education, University of Delaware

How would you teach differently if you knew what really motivates your students? Because motivation is key to academic success, understanding how motivation affects learning is important to developing a learner-centered classroom. This session will present the motivational framework of learning goals developed by Carol Dweck as one way of understanding how motivation mediates learning. The researcher will discuss results from a mixed-methods study that shows how students with different learning profiles (different combinations of mastery and performance goals) engage in revision of a research paper differently. Results will serve as a springboard for a discussion of implications for teaching.

Community Based Learning – A Pilot Bilingual Smoking Cessation Program

Katherine Koffer – Pharmacy Practice & Pharmacy Administration, Philadelphia College of Pharmacy / University of the Sciences

Community based learning requires the establishment of a mutually beneficial partnership. It is challenging to find the perfect "fit" with community needs and students' interests. Our students have participated in service activities but "stand alone" programs often do not meet the community's needs. Our pilot bilingual smoking cessation program was a successful collaboration between a community health center organization and a college of pharmacy. We trained bilingual, culturally sensitive students to provide smoking cessation "brief interventions" for Limited English Proficiency individuals. We will discuss how to adapt this type of community service to your teaching situation and solve common problems.

Student Course Evaluations: Class Size, Class Level, Discipline, and Gender Bias

Jacob Kogan – Mathematics & Statistics – University of Maryland Baltimore County

Based on approximately 20,000 Student Course Evaluation Questionnaires covering 15 semesters and publicly available at the University of Maryland, Baltimore County, we analyze the effect of class size, class level, discipline, and gender on student responses. We compare the results obtained and conclusions drown with those already reported in the literature.

Teaching and Learning in the 21st Century: An Examination of Students' Use of Technology in the College Classroom

Zachary Kornhauser – Psychology, Fordham University Anrea Paul – Psychology, Fordham University Veronica Georgeo – Psychology, Fordham University Karen Siedlecki – Psychology, Fordham University

Previous research has shown that students who use technology in the classroom for non-academic purposes suffer decrements to their academic performance. However, no current study has examined the sorts of technology that students use in class, their reasons for using it, and whether they feel that it is acceptable to use it. The current study sought to qualitatively explore these questions across a sample (N= 105) of college students. Results reveal that the most common use of technology in the classroom is text messaging and emailing, and that students commonly use technology for a variety of non-academic reasons.



Engaging Students through a Class Blog

Daniel Kotzin - Social Science, Medaille College

A perennial problem instructor's face is finding ways to ensure students actively engage with the material they are assigned in a given course. In this interactive session, I will explore the ways in which a class blog can provide a mechanism for enhancing students' learning experience. By sharing both research in this area and my own experiences with a class blog, my presentation will provide effective models for creating a class blog in ways that actively engage students. Participants will then be provided with the opportunity to develop ways for incorporating a class blog into their own classes.

Women in Math: Learning from the Women Mathematicians and Mentoring Middle School Girls

Emek Kose - Mathematics, Saint Mary's College of Maryland

The mathematics survey course "Women in Mathematics," studies the lives and mathematical contributions of women mathematicians throughout history, the current gender equity issues in education and mathematical careers. The students mentored 20 middle school girls throughout the semester. The MAA Tensor Women and Mathematics Grant made the design and teaching of this class possible. We present a typical lesson on Emmny Noether and symmetry groups, sample activities for the middle schoolers and the results of attitude change towards mathematics and equity by the students and middle schoolers.

Using What They Got- Designing Assignments for the Technology that Students Already Have Sabrina Kramer – Center for Teaching Excellence, University of Maryland College Park

When designing technology-based assignments, we can be very intimidated by all the myriad of options out there, and reluctant to assign anything that requires the students to own or use any one piece of technology or software. Even when we do, the logistics of loaner devices turns the technology into the distraction rather than enabling learning. I will present some ways that faculty are using the technology that takes advantage of what the students already own and use in their daily lives. We will also work on developing assignments for our own course, which takes advantage of students' technology.

Should I Flip My Class? Why and How?

Sabrina Kramer – Center for Teaching Excellence, University of Maryland College Park

The term, "flipped" has been used increasingly in the literature to describe a change in the way college, university, and even k-12 classes are taught. If you've heard this term, and are curious, or if you know what it means and are excited to flip your class, come and learn about some of the ways that other faculty have flipped their course. Explore if you should flip, and if so how?



An Attempt to Improve Student Engagement with Class Content via a Student-Produced Wiki Bethany Cobb Kung – Honors & Physics, George Washington University

This presentation describes an attempt to improve student engagement with and ownership of class content using a student-produced Wiki. This experimental Wiki was implemented in Spring 2013, in a freshman-level GWU Honors Program science seminar entitled "Revolutions in Astronomy." Students were required to make weekly contributions to the Wiki such as asking or answering questions, reflecting on readings, and adding links to related websites, articles or videos. This presentation will describe both the challenges with and successes of this Wiki, and reflect on how the assignment could be changed and improved for future implementation.

Using the Short Story as a Creative Alternative to the Traditional Research Paper

Angela Lanier – Arts and Sciences, Trinity Washington University

Research papers are common in many college courses, but some argue that the traditional research paper is unauthentic and stifling (Fister, 2011). Narrative writing is one method for engaging students in learning material and demonstrating student knowledge in an authentic way (Miele, 2010). This presentation will explain the use of the short story as an alternative to the research paper in a sophomore seminar course. Students researched social issues then "weaved" their findings into dialogue, setting and narration. This approach promoted creativity and helped students avoid plagiarism, which is often prevalent in research assignments (Smith, Dupre & Mackey, 2005).

The Student-Faculty Chasm: Looking at Where Student and Faculty Expectations Meet and Diverge

Elise Larsen – Biology, University of Maryland College Park A. Hameed Badawy – Electrical & Computer Engineering, University of Maryland College Park

What happens when faculty and student course expectations do not align? Not only can dissatisfaction within a course develop, but learning is also reduced. We performed two mirrored studies to assess student course expectations, and faculty's perception of these expectations. We looked at 19 student expectations, for 8 of these there were significant differences between student expectations, and faculty perceptions. Furthermore, when we examined what was most valued by both groups, significant differences were found. We will present the most striking differences and discuss what impacts this knowledge can have on learning and pedagogies.

Side-by-Side Guides on the Side: Team Teaching as Faculty Development

Wendy Larson – Adult Basic Skills Program, Tacoma Community College Annalee Rothenberg – Accounting & Business, Tacoma Community College Gina Hatcher – Business, Tacoma Community College Sylvia Summers – Accounting, Tacoma Community College

Framed using a collection of case studies edited by Kathryn Plank (2011) called Team Teaching: Across the Disciplines, Across the Academy, this team of colleagues from Tacoma Community College present a session on how teaching together changed them as they worked collaboratively to plan, teach and assess their courses.

Words to Numbers, Numbers to Words

Megan Leftwich – Mechanical and Aerospace Engineering, The George Washington University Edward Helfers – University Writing Program, The George Washington University

Studies suggest a positive correlation between the interdisciplinarity of research and professional success (Belmaker, et al, 2005). This applies not only to near-fields, but also to those that appear disparate. For example, a mechanical engineer's dossier is measured in large part by papers and grants—by writing. Conversely, humanities researchers rely increasingly upon quantitative methods, from journalists who use econometrics to linguistics scholars trained in computer programming. Unfortunately, at the undergraduate level, there is often little room in the curriculum to learn skills outside of one's major. This session will introduce pedagogical tools for interdisciplinary awareness within discipline-specific classrooms.

So What if They Can't Take Class Notes?

Gerald Long - Psychology, Villanova University

Following recent developments in the divided attention literature, the potential distracting effect of note-taking during lectures was examined. In a senior, capstone psychology course, student performance and student satisfaction were compared across two fall semesters in which extensive class notes were either provided or not provided by the instructor with the regular topic outlines. Student ratings revealed a significant benefit to the no-notes condition on measures of course/instruction quality and student engagement. Direct measures of student participation (e.g., types of questions raised) during lectures also indicated a beneficial effect of the no-notes manipulation. Implications for course design are discussed.

From Theory to College Classrooms: Collaborative/Cooperative Learning Techniques that Work

Judith Longfield – Center for Teaching, Learning & Scholarship, Georgia Southern University

Research demonstrates that engaging students in the learning process leads to improved attitudes, enhanced learning and student retention. In this session attendees will learn about the research behind cooperative and collaborative learning, how to form groups and create effective learning tasks, and be introduced to a variety of active learning techniques. Participant will also practice integrating collaborative learning techniques (CoLTs) into a course by developing a plan for using, grading and evaluating one or more CoLTs.

Technology As A Tool To Develop Problem Solving Skills

Madhu Mahalingam – Chemistry and Biochemistry, University of the Sciences in Philadelphia Elisabeth Morlino – Chemistry and Biochemistry, University of the Sciences in Philadelphia

Using Anderson et al's revised taxonomy, we classified General Chemistry problems: Level-1 problems involve a single concept or formula, Level-2 problems involve application of a concept or formula, and Level-3 problems involve multiple concepts and/or formulas in a different context. Using existing technology such as personal response systems, online homework systems as well as LMS systems, we planned to build students' problem solving skills (up to Level-2) prior to group work in recitations. In recitations, multi-skilled groups of four students are used to work on more challenging Level-3 problems. The method and results will be shared.



www.lillyconferences.com/bethesda | 125

Assessing Teacher Disposition

Alison Mall - Education, University of Alaska Anchorage

Teacher disposition, while challenging to operationally define, develop and assess, is a critically important construct in the field of teacher education as evidenced by an increased presence of research and scholarly articles. Yet are we any closer to meaningful assessment of teacher disposition as described and mandated by various national organizations? This session is intended to encourage a conversation around disposition as a construct and techniques for assessing disposition in teachers, with particular attention to Wilkerson & Lang's Disposition Assessments Aligned with Teacher Standards (DAATS) framework and Krathwohl, Bloom and Masia's Affective Domain taxonomy.

The Socratic Oath: A Right of Passage for Future Teachers

Alison Mall - Education, University of Alaska Anchorage

Historically physicians have taken the Hippocratic Oath, thus swearing to practice medicine ethically and honestly. What similar oath might we as educators take? Participants will actively engage in a discussion of the medical and teaching professions as analogized in excerpts from Parker Palmer's "The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life." Socratic Oaths written by secondary teacher candidates enrolled in a Master of Arts in Teaching program will be shared and discussed. This discussion will serve as inspiration for participants as write Socratic Oaths that represents the ethical and honest practices to which they subscribe.

How to Prepare Students to Become Evidence-Based Practitioners Carol Maritz – Physical Therapy, University of the Sciences Gregory Thielman – Physical Therapy, University of the Sciences

Marc Campolo – Physical Therapy, University of the Sciences

With an increased emphasis on the use of evidence in all professions, this presentation describes how one program added an experiential evidence-based project to help prepare graduates for the demands of practice. With faculty mentors, students created a project focusing on hands-on scholarly activity. Students came to appreciate the importance of finding evidence and how they can contribute to this scholarly process. Survey data revealed that teaching students how to become consumers and contributors to evidence-based practice helps them value and incorporate it into practice. Participants will engage in strategies for incorporating evidence-based practice.

There's No Short Bus to College: Special Education in Higher Education

Elizabeth Mason – English, College of Mount St. Joseph

In this paper, I investigate the ramifications that the rise in students, falling on the autism spectrum and successfully completing mainstream curricula may have on college faculty who may not be entirely prepared to meet the challenges of educating students with disabilities in a collegiate setting. While every teacher certified to educate students at the elementary school, middle school or high school level has likely taken or been required to take courses in special education, most college professors have little classroom or workshop training in meeting the needs of students with disabilities. Evidence indicates that this needs to change.



Are Assessment Rubrics Really Worthwhile?

Dianne McCallum – History Education, The University of the West Indies at Mona, Jamaica

The use of assessment rubrics is considered beneficial to assessors, instructors and students. Assessment rubrics are supported in the literature as learner-centered in giving students an organizing framework for completing their course assessment. However, Should students be involved in the development of these rubrics to make them truly learner-centered? How far should this concept of learner-centeredness be taken? Have we moved from one extreme to another in our conception of constructivist learning? This session presents preliminary findings of a questionnaire survey investigating student responses to assessment rubrics. This survey examines the role and utility of rubrics in the assessment of student learning outcomes in a Bachelor of Education Programme in a Higher Education Institution in Jamaica.

Integration of New Literacy Studies into Teaching at the Doctoral Level

Carmen McCrink – Leadership and Education, Barry University Priva Fischweicher – Leadership and Education, Barry University

In response to curriculum efforts at this institution, a web-based survey was conducted to explore doctoral graduates' perceptions about the relevance of a teaching methods course as a requirement in their program of study. Findings from this study informed the revision of the Teaching and Learning at the University Level course with a focus on teaching practices which take into account a diverse student population and the role of faculty as active members in the learning process. Presenters will share the revised course syllabus and doctoral students' work with emphasis on the integration of New Literacy Studies and inquiry-based practices.

Can Cell Phones Facilitate Test Taking?

Loretta McLaughlin- Vignier – Communication, William Paterson University S. Pixy Ferris – Communication, William Paterson University

The cell phone, today's signature technology, is present in every university classroom, and this offers real potentials for teaching and learning. However, pedagogical research on the use of cell phones remains limited. While cell phones have many potentials in the classroom, this study focuses on facilitation of test taking – an area in which many students feel anxious. This research presents an empirical comparison of test-taking utilizing a field experiment with a Non-Equivalent Post-Test only Control Group design, comparing test-taking via the medium of cell phones as compared to test-taking using traditional paper-and-pen.

No, I am not shy! : Engaging Students AND Empowering Introverts

Alexis McMillan-Clifton – English, Tacoma Community College Melissa Stoddard – Emergency Medical & Health Services, Tacoma Community College

Melissa Stoddard, Emergency Medicine, and Alexis McMillan-Clifton, English, have navigated academia first as introverted students and then introverted educators, and experienced the discomfort this brings. Now we embrace new research showing "the power of introverts." We would like to share this power's applicability to the college classroom. This session will view connections between introversion and academic performance. We will model practices designed to appeal to introverts, and invite you to share strategies as well. This session WILL NOT include small group discussion. This session WILL include participation activities designed to appeal to introverts.

Evidence-Based Teaching and Learning

Preserving the Natural Order of Learning

Scott Clifton – Philosophy, University of Washington-Seattle Alexis McMillan-Clifton – English, Tacoma Community College

We present evidence, based on the work of Wason, Cosmides & Tooby, and Zull, of there being a natural sequential ordering to learning: first, presentation of concrete situations embodying abstract content, second, the isolation of the abstract content. We contend that in courses one of whose goals is student comprehension of abstract content, in order to preserve the natural ordering, it's vital to allow students to confront abstract concepts embedded within a concrete context. We present strategies we have adopted in our own courses (philosophy and freshman composition, respectively) and ask audience members to share their own ideas and/ or strategies.

Rubrics to Assess Information Literacy: Aligning with Accreditation Standards and Guidelines Jeanette McVeigh – Information Science, University of the Sciences

Accrediting bodies for higher education identify information literacy as a necessary skill and require its assessment. This session will identify information literacy activities relevant to participants' courses, promote discussion of the activities across disciplines, create an assessing rubric and further discussion about the challenges of creating and using this type of assessment. If you require a literature search and references in a particular format, have assignments that develop summarizing and synthesizing of information, relate new knowledge to previous knowledge and/or culminate in a report or presentation aimed at a specific audience, you will leave with a tool to measure it.

Teaching Grammar to College Students with Engaging Activities

Ildiko Melis - Communication, Bay Mills Community College

The presentation argues that the current negative approach to teaching grammar in college level writing instruction needs to be reconsidered because it is not supported by research, and it hurts students, who are expected to perform well on grammar-based standardized tests. Classroom activities will be shared to demonstrate that student-centred methods can be used in grammar instruction, and the process of developing enhanced language awareness can engage students.

Creating a Video Dialogue with Streaming Video Clips

Sandra Miller – Instruction & Research Technology, William Paterson University

We can all remember when the instructor took class time to show a movie. Often, we discussed it afterwards that is, if there was time. However, today, methods of instructional delivery have changed largely due to the Internet, thus leaving more class time available for discussion. Moreover, with today's video teaching tools, discussion has evolved as well. Discussion can now be conducted electronically with annotated clips punctuating key points in debates created by reviewing a film or set of film clips (playlist). Using these tools and building interactivity into the experience removes the passivity of watching, making active learners of today's students.



Using Program Curriculum Components to Create a Community of Learners

Belinda Mitchell – Education, Shepherd University Laura Porter – Education, Shepherd University Dorothy Hively – Education, Shepherd University JB Tuttle – Education, Sheperd University, Dawne Burke – Education, Shepherd University Georgiann Toole – Education, Shepherd University

This presentation will briefly describe learning communities and why they are important for Institutes of Higher Education and their students in the 21st century. The main focus of the presentation will be to inform participants of Shepherd University's Teacher Education Programs curriculum design and how this design supports and encourages a community of learners. Participants will also have an opportunity to brainstorm ways that their own program design could support learning communities.

How Teachers Help Students Make Meaning

Carl Moore - Teaching and Learning Center, Temple University

Have your students ever seemed confused no matter how much explanation you provided? Ever feel like you are speaking a completely different language? Well maybe you are! Symbolic Interactionism (SI) theory suggests the way that individuals make meaning of content is based off of symbols, language, and thought they associate with it. In this session we will explore the ways that simple information delivery can become a complex barrier to teaching and learning in classroom settings. Come join us if you are interested in learning and reflecting on the symbolic teacher within you.

Participant Selection And Course Development For A Pilot, Cross-Discipline, Cross-Institution, Interprofessional Pharmacy Education Experience

Diane Morel - Philadelphia College of Pharmacy, University of the Sciences

The opening of the Cooper Medical School at Rowan University in fall 2012 and the elaboration of an affiliation agreement with the University of the Sciences in Philadelphia provided a unique opportunity for piloting interprofessional co-education of pharmacy and medical students through an ambulatory care clinic for under-served patients. The presentation describes the evolution of and results to date of the first year (of a planned 4-year longitudinal experience), from the perspective of pharmacy education. Recruitment and candidate selection, incorporation of the experience components into courses within a structured curriculum, plus students' perspectives and performance will be shared.

Re-visioning Curriculum: A Case Study of The George Washington University's Human Services Program

Emily Morrison – Sociology, The George Washington University

The field of Human Services strives to integrate interdisciplinary knowledge-based learning with actual needs in the community to benefit individual learners and communities. To what extent is an academic program providing the requisite knowledge, skills, and experiences for graduates to embody these aims? To discover how well one program meets those criteria, GW conducted a comprehensive assessment of its Human Services Program. The first part of this work entails research findings and the second part examines how the results are influencing curricular mapping, assessment, and re-vision of the academic curriculum and program.



Preface

"But I'm not a (fill-in some despised subject)-person:" Creating Comfortable Classroom Environments for Reluctant Learners

Candice Munoz – Humanities Division, Speech Communication, Mott Community College Sunni Samuels – Mathematics, Mott Community College

Are your students sometimes their own worst enemy? Do you often hear statements such as "But, I'm not a math-person," "But, I'm not a public speaker," "But, I don't enjoy writing"? Does their emotional "academic" baggage hinder their success? If so, this discussion-based workshop can help you address these concerns. This workshop will discuss Seligman's (1975) concept of "learned helplessness" and how creating a comfortable classroom environment can pull reluctant learners from their shells to achieve educational success. This workshop will focus on helping students move past discipline-specific stereotypes, scaffolding, self-fulfilling prophecies, self-esteem, and self-reflection. Join us for this discussion.

Assessment Incognito: Design Thinking and the Studio Learning FLC

Joanne Munroe – Faculty Development, Tacoma Community College

Based on her recent chapter in the 2013 publication Developing Faculty Learning Communities At Two Year Colleges: Collaborative Models to Improve Teaching and Learning, Joanne Munroe outlines the development of a faculty learning communities program that has resulted in sustainable, scalable faculty development that has design thinking techniques as its heart. In addition to providing a framework for effective grassroots focus on evidence-based learning design, the presenter addresses how one institution created a permanent learning space for teaching the skills we need in a digital age.

Seven Tools, Seven Classroom Applications and the 7-Minute Workshop

Joanne Munroe – Faculty Development, Tacoma Community College Christopher Soran – Interim E-Learning Director, Tacoma Community College

Panelists:

Alexis McMillan-Clifton – English, Tacoma Community College Alice Di Certo – Art & Studio, Tacoma Community College Danielle Ritter – Developmental Studies, Tacoma Community College Gina Hatcher – Business, Tacoma Community College Jonathan Eastabrooks – Health Information Management, Tacoma Community College Kristina Young – Written Communications, Tacoma Community College Mary Jane Oberhoffer – Business, Tacoma Community College Rebecca Jayasundara – Transitional Studies, Tacoma Community College Sylvia Summers – Accounting, Tacoma Community College Wendy Larsen – Adult Basic Skills Program, Tacoma Community College

This fast-paced, interactive session moves participants through 7 tools and classroom applications, Educause "7 Things" literature, and 7 minute presentation limits with a nod to Todd Zakrajsek's award - winning "5 minute workshop" model. Because they are using and teaching technology, session presenters playfully claim a two-minute handicap to implement Todd's strategy for quick, practical workshops that are immediately useful to faculty and prompt thinking while pointing to directions for future research. The session adapts Todd's 3-part model: 1) Teaser/problem/challenge 2) explore and engage 3) Provide tools/ solutions to demonstrate the connections between using technology and achieving deeper learning.

Evidence-Based Teaching and Learning

Team-Based Learning in the Quantitative Sciences

Kaiman Nanes - Mathematics and Statistics, University of Maryland- Baltimore County

Team-Based Learning is an overall pedagogical strategy aimed at using active learning techniques to turn students of all levels into active, engaged, and successful learners. We will start by using TBL to introduce TBL, discussing what the system empirically consists of. We will then discuss how specifically to adapt TBL to mathematical and quantitative sciences. We will finish with a presentation of the dramatic impact that TBL can have on student learning and student success, when properly used.

Engaging Students in Peer Review

Curtis Naser - Philosophy & Applied Ethics, Fairfield University

Asking students to evaluate their peers can instill expectations and provide for more meaningful participation by students, especially in the context of oral presentations. It is even better if students help define the criteria of evaluation (create a rubric). This session will first engage the audience in the development of an oral presentation rubric and then ask the audience to apply that rubric to the remainder of the presentation. The remaining time will focus on the advantages and results of using the electronic peer review system built into the Mentor course management system at Fairfield University.

"Don't Try to Be Cool: Three Simple Rules for Using Pop Culture in Your Classroom"

Jessamyn Neuhaus - History, State University of New York Plattsburgh

Do you love Buffy the Vampire Slayer? Comic books? Real Housewives? Rihanna? Or are you baffled by Bieber, Twilight, and memes? Whatever your own media consumption habits, and whatever field you teach, you can effectively incorporate popular culture into your curriculum. But pedagogical planning is crucial in order to avoid some common mistakes educators often make when using pop culture. I propose three easily implemented and practical rules for avoiding these pitfalls, effectively utilizing popular culture in the classroom, and fostering student learning. Participants will workshop these rules, brainstorming and discussing how they can apply them to their own courses.

The Culture Bump Experience: Teaching with a Global Perspective

Stacey Nickson – Biggio Center for the Enhancement of Teaching and Learning, Auburn University Carol Archer – Language and Culture Center, University of Houston

Imagine learning to use any difference you may encounter (gender, ethnic, religious, socio-economic, race, etc.) as a way to connect with others and being able to teach your students to do the same? This engaging and interactive introduction to the Culture Bump Approach will teach participants the change mechanism offered by Culture Bump theory, offering you a process to negotiate new insights into your own character or culture and explore with others beyond the "why" we are different and discover "how" we are the same. The Culture Bump Experience will leave you with teaching and communication techniques from a global perspective.



Abstracts

Preface

Plenary Presenters

Conference Papers

The Use of Online Problem-Based Assignments in Introduction to Chemistry Course: Innovative Pedagogical Approach

Nisreen Nusair - Math and Science, Walsh University

Online problem-based assignments are innovative pedagogical method to engage and motivate students in the Introduction to Chemistry course. Replacing quizzes by online assignments enhances student's performance and academic success by increasing student time-on-task outside the class. Correlation between online assignments' grades and exams' grades is strongly positive. Findings of the study indicate that online assignments have positively improved students' studying habits and achievement in the course. Students study more chemistry, understand chemistry better, and are more eager to rework and seek help from different resources in order to figure out mistakes on questions they answered wrong within the online assignment.

Factors that Promote or Inhibit Students' Reflective Habits

Rosemary Nyaole-Kowuor – Communication, Daystar University

This paper is based on an action research that employed class activities designed to foster reflective thinking to nurture different levels of reflection: habitual action, understanding, reflection, and critical reflection. We hypothesized that students actively involved in problem-based learning experience would demonstrate deeper levels of reflection as compared to those involved in passive learning. The results did support the hypothesis to some extent, but an interesting pattern occurred for students in their third year of study compared with their second year counterparts who displayed considerably higher reflective habits during studio sessions.

Using Formative Assessment in Library Instruction

Jessica Oberlin – Library, Lycoming College Mary Broussard – Library, Lycoming College Rachel Hickoff-Cresko – Education, Lycoming College

Although there is ample literature on formative assessment in higher education classrooms and K-12 library instruction environments, not much yet exists for academic library instruction. This literature is not easily transferred to these, typically, one-shot library lessons. Because of time constraints and the fact that we usually don't get to know the students before having them in classes, librarians must devise a way to assess their students in a quick manner to improve learning and instruction simultaneously. In this session, we will give and hope to gain some examples of what we and others are doing for formative assessment.

Wiktionary: A Tool for Improving Student Comprehension of Key Terminology

Jeffrey Olimpo – Teaching, Learning, Policy & Leadership, University of Maryland College Park

Introductory courses in the sciences are rife with terminology. This demand presents a challenge for novice students, many of whom will go on to major in a science field and whose success in the discipline is, therefore, predicated on their understanding of such concepts and processes. We have developed and implemented a Biology Taboo Wiktionary activity that provides students with an interactive opportunity to review and describe concepts they had encountered during their first semester in an introductory biology course at our university. Students collaboratively constructed an online wiktionary, which contained over 200 terms, with some entries receiving 100+ hits.



www.lillyconferences.com/bethesda | 132

Kick-starting Blended Learning: Lessons Learned from the UMD Blended Learning Initiative

Marcio Oliveira – Public Health, University of Maryland College Park Sabrina Kramer – Center for Teaching Excellence, University of Maryland College Park Deborah Mateik – Information Technology, Learning Technologies, University of Maryland College Park

How do you blend your course? What does it mean to have a successful blended course, and how do you assess success? What are some problems that you might encounter? These are some of the questions that we will address in this session. We will engage participants in a problem-based session to develop their own solutions to challenges that individual faculty and institutional blended learning programs face, and discuss lessons learned from the perspective of a faculty member, instructional designer, and a faculty developer in a Center for Teaching Excellence.

Asian-American History Online: Bridging Tactics From a Course Transformation Project at One Large Public University

Shufi Otsuka – Asian American Studies and History, University of Maryland College Park

This presentation assesses "best practices" for bridging online and face-to-face components of a large, introductory course at the University of Maryland, College Park: Introduction to Asian-American History. Using data I gathered from 2011 to 2012, I argue that tactics that bridge the online and face-to-face components must be articulated in advance and reinforced regularly throughout the semester. I have identified "bridging tactics" as central to what I call a universally applicable "Asian American Pedagogy" that relies on holistic approach to assessment and pays special attention to varying levels of student engagement that are well suited for the blended learning environment.

Designing a Course for First-Year Students

Claire Parham – Center for Faculty Excellence and Innovation, Siena College

After 15 years of teaching, I recently redesigned my course to better meet the needs of first year students, nontraditional, and diverse students. Redesigning the course allowed me to address the varying academic backgrounds of my students, as well as their diverse ethnic and socio-economic backgrounds. Reframing the presentation of course content with both the mindset and skill level of these first-year students led to the incorporation of innovative strategies designed to hold student attention, to evaluate the breadth and depth of their knowledge before introducing new material, and to scaffold both individual and team assignments. This session will describe how course redesign led to a better understanding of my students and helped me to develop new pedagogical skills.

Best Practices for Evaluation of Academic Field Work and/or Clinical Rotation

Arlene Pericack – Nursing, The George Washington University Erin Yeagley – Nursing, The George Washington University

This presentation walks through the evaluation of a student and preceptor in a field/clinical academic rotation using data from both clinical preceptors and student assignments. It behooves faculty to provide clinical preceptors tools in the form of specific rubrics to accomplish this (Medina, 2008). Evaluating preceptors is not always reliable as interpersonal relations are viewed distinctly from supervision, clinical skills and knowledge (Beckman 2004). In other words, students emphasize personal over and above how competent their preceptor is in teaching them. Feedback obtained when measuring teaching effectiveness can be utilized to motivate preceptors to be the best that they can be (Boerboom et al. 2011). This presentation looks at how preceptors model behavior and encourage clinical thinking from students. Additionally student clinical logs, Quality and Safety Education for Nurses (QSEN) competencies (Walsh, 2010), and standardized patients (Weathermon, 2000) may be used as dimensions for evaluating student performance.



Cognitive Science: How Deep Approaches To Learning Promote Metacognitive Strategies to Enhance Integrative Learning

Mildred Pearson – EC/ELE/MLE, Eastern Illinois University Daniel Harvey – Letters and Sciences, University of Wisconsin-Milwaukee

This research examines how deep approaches to learning assist students in developing meta- cognitive strategies to enhance integrative learning. A triangulational study was conducted through the use of two surveys. Student data consist of a questionnaire with adaptations from the National Survey of Student Engagement (NSSE) 2008. Faculty data stems from the Faculty Survey of Student Engagement (FSSE) with permission from Dr. Laird, Project Manager. Deep approaches to learning promote strategic thinking, critical thinking, reasoning skills, connections to relevant learning, and creativity. Thus, students are able to integrate information learned and apply it beyond the four walls of a classroom.

Engaging Voices of Disconnected Learners in Urban Environments

Mildred Pearson – EC/ELE/MLE, Eastern Illinois University Agnes Virgina Williams – Educational Policy, University of Wisconsin-Milwaukee

Success in school is critical for urban youth. This study reports on ten coaches effort to engage urban high school students in social action projects in a charter school that adopted the Public Achievement model of civic engagement. The coaches, who were graduate students, worked with ten groups of six to twelve students who were required to participate. This study draws from fieldnotes and interviews of each coach and examines their experiences of helping students think critically about community issues. This calls for families, communities, and schools to build social networks; providing children with social capital necessary to achieve.

iBooks for iPads for You?: Exploring iBook Author as a Collaborative Tool

Chris Penna – English, University of Delaware Debra Jeffers – Information technology Client Support, University of Delaware

This presentation explores iBook Author for the iPad as a tool for student collaboration. It describes how students in a literature course collaborated on writing a handbook using iBook Author. At the same time, students also had the opportunity to create similar content for a class wiki. At the end of the course, students were surveyed about the two approaches in terms of generating engagement with the subject matter and enhancing their learning. Building on this example, participants will discuss whether this tool can be purposefully integrated into a variety of disciplines to generate greater student engagement and interactive learning.

"Is anybody in there?" Promoting Intellectual Engagement in the Classroom

Lysandra Perez-Strumolo – Psychology, Ramapo College

Do you ever get the feeling that while your students are physically in your classroom they are really somewhere else? As part of a faculty development initiative, faculty members read Elizabeth Barkley's (2010) Student Engagement Techniques and then went to work to engage the unengaged. Focused on the need to improve participation in class discussion, presenters designed and implemented activities to engage their students in critical thinking and to promote intellectual discussion in the classroom. In this session, we will discuss engagement techniques and our experiences in implementing them. Challenges, successes and student data will be discussed.



Can We Talk? Addressing Barriers to Discussions about Race

Donna-Marie Peters – Sociology, Temple University Pamela Barnett – Teaching and Learning Center, Temple University Mary Etienne – Teaching and Learning Center, Temple University

Diverse perspectives are a tremendous resource in classes that address race, enabling students to encounter new knowledge about the world, look through different lenses, and feel connected and responsible to fellow citizens in a diverse democracy. But worldviews only expand when we get out of our comfort zones. Some discomfort, or what Piaget calls "disequilibrium," is good for learning. However, many educators find it challenging to facilitate class discussions so that conflict is productive. This session will introduce a framework for differentiating healthy conflict from counterproductive conflict and share strategies for facilitating conflict in the classroom.

Engaging City Landscapes: Built Environments Functioning as Text and Context for Curricular-based Learning Communities

Timothy Peterson – Center for Teaching and Learning, Warner Pacific College

This session investigates how urban environments can add an applied dimension to academic "learning communities" enhancing student learning and improving teaching effectiveness in both non-disciplinary and disciplinary programs. Extending the classroom to include the challenging paradoxes and dynamic patterns of city landscapes provides unique opportunities for achieving undergraduate academic success. A case study of implementing an urban-based "learning communities" model offers insight for how this approach could be implemented in various institutional and program settings.

"Welcome to My ePortfolio: The Mother of All Reflections!"

Margaret Plack – Physical Therapy & Health Care Sciences, The George Washington University Jennifer Halvaksz – Physical Therapy & Health Care Sciences, The George Washington University Rhea Cohn – Physical Therapy & Health Care Sciences, The George Washington University

ePortfolios support assessment and learning. Accreditors require programs to provide evidence of achievement of their mission. Faculty defines the mission, operationalizes objectives, and provides opportunities for student achievement. However each learner experiences these opportunities differently. The ePortfolio is a powerful tool to capture the students' perspectives. More importantly, the process of ePortfolio development engages learners in further exploration and deeper reflection on their experiences and the meaning they make along their journey. The ePortfolio provides insight to the student experience further enabling ongoing assessment of the curriculum. This workshop will prepare participants to implement successful ePortfolios for learning and assessment.

The Jigsaw Strategy: Docendo Discimus

Margaret Plack – Physical Therapy & Health Care Sciences, The George Washington University Maryanne Driscoll – Physical Therapy, Touro College Elizabeth Ruckert – Physical Therapy and Health Care Sciences, The George Washington University Marisa Birkmeier – Physical Therapy and Health Care Sciences, The George Washington University

Docendo Discimus, we learn by teaching. Learning requires work and we aim to have the students do the work of learning not the teacher! The Jigsaw Technique relies on cooperative learning and peer instruction and can be used to facilitate reflection and higher order thinking, encourage group work, and make all students accountable for teaching and learning from peers. We will present several examples of how the Jigsaw Technique has been used successfully throughout two graduate level curricula, including preparing students for a professional licensing exam. Participants will be encouraged to design a Jigsaw for use within their own curriculum.



Plenary Presenters

Assessment Made Easy: Writing Learning Outcomes

Byrn (Boots) Quimby - Honors College Integrated Life Sciences, University of Maryland

All good assessment begins with well-written learning outcomes. In this workshop the role of learning outcomes in developing an assessment plan will be discussed. Participants will classify learning outcomes using Bloom's taxonomy, write learning outcomes specific to their course or content and match learning outcomes to the appropriate assessment tool. These activities will give participants hands-on practice in writing learning outcomes for their courses and aligning assessment to those learning outcomes.

How Principles of Learning Can Drive Planning for Teaching

Crystal Ramsay – Schreyer Institute for Teaching Excellence, The Pennsylvania State University Kathy Jackson – Schreyer Institute for Teaching Excellence, The Pennsylvania State University

Few would argue that the job of an instructor is to design and deliver learning experiences that result in student learning. The process of course design and planning, however, often focuses on what students need to learn rather than how they learn. This session will demonstrate how a faculty Course Design Academy using the book, How Learning Works (Ambrose et al., 2010), utilized principles of learning to drive course design. This interactive session has implications for anyone interested in looking beyond the mechanics of course design and toward an approach grounded in the latest research on student learning.

Differentiating Instruction to Maximize Student Engagement

Matthew Ratz – English, Montgomery College, Rockville

Our classrooms are more diverse than ever, comprising students from a kaleidoscope of backgrounds, ages, beliefs, and levels of academic readiness and motivation. To ensure we engage this vastly diverse audience without sacrificing content or relaxing standards we must differentiate instruction within our classrooms. This workshop will explore more easy-to-incorporate methods to effectively and efficiently tailor content and learning experiences in a rigorous and academically responsible way. We will also engage in small and whole group discussion to share and explore differentiation methods, challenges, and strategies.

Enhancing Learning Through Curatr, a Social Learning and Game Theory Platform

Mary Anne Rea-Ramirez – Campus Dean, Stratford University Ravi Rathnam – Health Sciences, Stratford University Maria MacMeekin – Arts and Sciences, Stratford University

Case studies, lectures, and lab experiences have traditionally been used to teach college courses. However, new advances in learning technologies now allow integration of constructivism, social learning theory, gamification, and motivational theory to engage students in learning content while becoming active participants in a community of inquiry. Using an online social learning based platform called Curatr, teacher/researchers at Stratford University have designed a new Anatomy and Physiology course that, while maintaining its rigor and high standards necessary for the medical professions, provides a learning environment that motivated students to be actively engaged, socially interactive, and develop deep conceptual understanding.



Preface

Eight Techniques in Eight Weeks: Evaluating Discussion Tools from Discussion as a Way of Teaching

Dawn Reece – Sociology, Central College

I will demonstrate three specific tools which I recently debuted in a Sociology course as adapted from the book, Discussion as a Way of Teaching by Brookfield and Preskill (2005). Participants will be divided into small groups to actively engage in discussions while employing these techniques. I will present the results of student's ratings of these three tools (along with five others) and discuss my assessment of the overall strengths and weakness of the techniques. In addition, participants will be asked to share the results of their small group experiences and their own evaluation of the techniques used.

Using iPad Technology to Meet Program and University Learning Objectives- Actively Engaging Students and Faculty

Cyndi Rickards – Criminal Justice, Drexel University Liesl Wuest – Criminal Justice, Drexel University

This session will give a history of the iPad in higher education through case studies, research and findings from other institutions. We will discuss our process of implementation of the iPad to Drexel's Criminal Justice program including, iPad distribution, technical support, and faculty development. The session will identify important uses for the iPad both inside and outside of the classroom and connection to University and program learning objectives. Attendees will then participate in a hands-on demonstration using iPads for active and collaborative learning in the classroom.

From Distress to Success: Improving Individual Performance

Deborah Rifkin – Music Theory, History, and Composition, Ithaca College

In subjects that are skill-oriented, assessment can be problematic. Performing individually for a teacher can be harrowing for a student because it requires on-the-spot application of complex concepts in a time-pressured context. Performance assessments are not always accurate because students are too nervous to perform up to their abilities. In this presentation, I describe the advantages and disadvantages of my redesigned assessments. In the revised assessments, students develop skills for: identifying problems, discussing difficulties, and strategizing solutions. In light of my revisions and how they interact with learning taxonomies, presenters will explore possible revisions to their own assessments.

When Faculty Learning Communities Focus on Designing Backwards: Collaboration to Improve Teaching and Learning

Danielle Ritter – Developmental Studies, Tacoma Community College Alice Di Certo – Art & Studio, Tacoma Community College Honathan Eastabrooks – Health Information Management, Tacoma Community College Kristina Young – Written Communication, Tacoma Community College Mary Jane Oberhoffer – Business, Tacoma Community College Rebecca Jayasundara – Transitional Studies, Tacoma Community College

As Sipple and Lightner note in the recent work Developing Faculty Learning Communities at Two-Year Colleges: Collaborative Models to Improve Teaching and Learning, FLCs provide a variety of benefits for faculty, professional developers, the institution, and students. In this session, members of three different FLCs at Tacoma Community College present the results of collaborating together in FLCs convened specifically around designing for the student experience of learning.



Should I record my class meetings? Effects of online videos on student attendance, engagement and performance.

Scott Roberts – Psychology, University of Maryland College Park Caitlin Murphy – Psychology, University of Maryland College Park Dylan Selterman – Psychology University of Maryland College Park

The present study aims to determine the relationship between providing online recordings of in-class meetings and several educationally relevant variables, such as attendance, overall performance and course evaluations. Meetings of three traditional courses were captured on the classroom computer and videos were posted to the course management website. We will discuss the pros and cons of recording meetings, the effect videos had on student engagement and the barriers that prevented or discouraged some students from viewing the class recordings.

Faculty Development+Instructional Development+Organizational Development = Student Success

Mary E. Robinson – Communications, Montgomery College

Using Gaff's (1975) Alternative Conceptions of Instructional Improvement Model as a conceptual framework, a set of research questions were selected for the purpose of examining Gaff's three dimensional construct of faculty development practices (faculty development, instructional development, and organizational development) at community colleges. The findings from this study suggest that a major concern for community college leaders and their faculty development coordinators will be in the identification of ways to effectively implement faculty development practices.

Use of Mobile Devices in the Classroom: Comparison Across Disciplines

Ruth Robinson – Department of Chemistry and Physics, St. Cloud State University Plamen Miltenoff – Learning Resources and Services, St. Cloud State University Joanne Larson – Teacher Development, St. Cloud State University Annette Lee – Physics & Astronomy, St. Cloud State University

A community of faculty members from different disciplines collaborated on the use of mobile devices in the classroom. Projects developed by each faculty greatly varied: 1. Creation of video narratives for Astronomy class; 2. Use of Twitter for engaging students in a Chemistry class; 3. Use of Goodreads for Teacher Development students. A CMS-based communication hub was used for relevant literature and asynchronous discussions outside of the regular monthly meetings. The group involved in the process of developing their projects a faculty teaching technology instruction and a computer staff to assist with fine-tuning the projects.

Transformational Teaching: Leading Your Class to Deeper Learning and Increased Productivity Tamara Rosier – Education, Cornerstone University; Leadership, Pondera Advisors

Teaching is much more than simply dispensing content with the expectation that students will do more than memorize the information for the next exam. Even in the most collaborative of classrooms, learning requires a leader. Classrooms are dynamic environments and you, as the teacher, are expected to be the leader of the group. Classroom leadership skills are often overlooked, but essential in creating deep and meaningful learning. This interactive workshop is designed to help you to create independent, self-directed, self-motivated learners who are capable of developing higher-order thinking skills and also both critiquing and directing their own work. Come learn a few fundamental skills to be an even stronger leader in the classroom.



Redesigning Curricula Using "Priming Activities" and an Instructional Designer to Maximize Student Engagement in Class

Elizabeth Ruckert – Physical Therapy, The George Washington University Laurie Lyons – Health Science Programs, The George Washington University

Curriculum re-design is an ongoing process and consideration of adult learning theory and preferences of millennial learners is essential to effective teaching. We describe a model of collaboration with an instructional designer in course re-design. The model includes: 1) Reviewing and aligning course objectives; 2) Designing "priming activities" using technology to have students prepare ahead of class; 3) Implementing class activities utilizing the knowledge gained through the "priming activities" to engage learners in higher order thinking; 4) Assessing outcomes; 5) Revising the course based on feedback. This process highlights the dynamic nature of curricular design and ensures continuous improvement.

It Takes A Village: Building Learning Communities in a First-Year Women's Leadership Program

Steven Salchak – Women's Leadership Program, The George Washington University Elise Hovander – Women's Leadership Program, The George Washington University Michelle Jurkovich – Women's Leadership Program, The George Washington University Alyssa Abraham – Women's Leadership Program, The George Washington University

Learning communities in higher education have been used to achieve goals such as promoting deep learning and the ability of students to make connections across disciplines, enhancing student motivation and engagement, and encouraging the transfer of knowledge across contexts. In this roundtable discussion we share the strategies we have used in building a learning community that supports leadership development by creating a shared mission, cultivating a culture of valuing expertise, and providing opportunities to adopt the identity of leader, colleague, and emergent scholar.

Student-Led Interdisciplinary Pedagogy: A New Strategy

Rebecca Sammel – Languages & Literature, Ferris State University

To make my writing courses interdisciplinary, I've hitherto focused on assigning readings from across disciplines, asking my students to answer analytical questions about them. That practice is supported by small-group discussion and presentations. With my new strategy, students approach a problem from a discipline other than their own, and write an essay from that discipline's perspective. In their research, students look at a problem through the "lenses" of a range of disciplines and professions. E.g., with the topic of Fair Trade, students approach the problem through economic, sociological, cross-cultural, political, and business lenses.

I Present "Exhibit A": Using Evidence-Based Teaching and Learning Strategies to Ensure Students' Success

Karen Schramm – English, Delaware Valley College

According to students, most teachers are bores who don't "get" what they're supposed to accomplish: motivate real learning. No wonder students don't find courses value-adding; We need to engage them through authentic, innovative pedagogical approaches, not bore them to death. Taking insights from neuroscience, business, legal profession, ad psychology, I ensure success by presenting Evidence-Based Teaching practices featuring field-research, feedback loops, and fun. This approach has students lining up to take my classes. The evidence is incontrovertible: with this method, the "A" in "Exhibit A" will be their grades--and yours!



Global Citizenship by Design: From the Research to the Classroom

Ingrid Schutte – Staff Office Education & Applied Research, Hanze University of Applied Sciences Carolyn Oxenford – Center for Teaching and Learning, Marymount University Janine DeWitt – Sociology & Criminal Justice, Marymount University Loes Damhof – Institute for Communication & Media, Hanze University of Applied Sciences Marca V. C. Wolfensberger – Hanze Honours College, Hanze University of Applied Sciences

This session will present preliminary research findings from an experiential, globally-networked, honors course "The Global Village" co-taught by instructors from the United States and The Netherlands. This research evaluates the effectiveness of a conceptual model with associated design principles that was developed as part of a doctoral research project on global citizenship education and service learning. Using the Global Village course as a case study, qualitative and quantitative data focusing on aspects of cultural and ethical sensitivity were measured before and after completing the course. We will discuss this conceptual model, implementation and our initial results.

Carpe Diem: Making the Most of a Paired Reading Course for First Semester Students

Suzanne Shaffer – Educational Technology Services, Pennsylvania State University York Campus

The college reading course on our campus has always been taught as a standalone course for students whose placement scores indicate a need for assistance. Concerns about successful transfer of skills and subsequent college readiness created an opportunity to consider a major redesign of the course. The new course was designed to be paired with an introductory psychology course for immediate application of reading skills and strategies. A wide variety of activities and assessment types were used to address both hard skill development and student success behaviors. Course activities and assessments, student reactions, and learning outcomes will be presented.

Vetted Model to Prepare Future Faculty for Evidence-Based Teaching

Kari Sherwood – Education, American Society for Microbiology Kelly Gull – Education, American Society for Microbiology

Recent calls for science education reform from organizations like AAAS and The National Academy of Sciences means that universities nationwide are encouraging evidence-based teaching. While there are resources available to current teachers, future faculty will be more marketable if they receive training before pursuing a faculty position. We offer a behind-the-scenes look at how to establish a successful scholarship of teaching and learning (SoTL) training residency, support the resulting graduates, and assess the impact of the training. Participants will receive tips for success and materials to apply the training program to their own disciplinary field.

Multi-faceted Curriculum Designed to Meet the Needs of Students with Multiple Learning Styles

Casey Shillam – Acute and Chronic Care, Johns Hopkins University Jocelyn Anderson – School of Nursing, Johns Hopkins University Laura Taylor – Acute and Chronic Care, Johns Hopkins University Susan Rush – Acute and Chronic Care, Johns Hopkins University

This interactive learning session promotes engagement by the attendees in experiencing first-hand the modalities used by an academic health center's School of Nursing to engage and promote learning in students with various learning styles. These modalities include visual, kinesthetic, and auditory approaches to learning (Diekelmann, 2004; Kohtz, 2006). The theoretical and clinical components of any nursing program are demanding and often stressful for students. High- and low-fidelity simulations can enforce theoretical learning, support clinical learning and provide an opportunity for the application of skills to maximize learning in a safe environment.

Student / Teacher Communication – Retention Intervention

Jennifer Simpson – First Year Learning Community, Texas A&M University Corpus Christi Amanda Marquez – First Year Learning Community, Texas A&M University Corpus Christi

The first year at a new college for a student can be quite intimidating especially when it comes to going to an instructor's office to discuss class work and grades. It is so important though for students and teachers to build that connection for student success. In this presentation, we will be discussing five different strategies / lessons that have been shown to get students more comfortable with not only asking questions in class but also with getting them to start making a connection with their instructors. A CD will be provided to attendees that contain lesson plans and grading rubrics for these lessons. These strategies have been shown to be successful in a variety of themed learning communities.

Enriching a Course with Technology is Easier Than You Think

Howard Slepkov – Education, Niagara University

Recent publications refer to the dumbing down of university students or how the Internet has changed the way we think and create. It is common to see articles referring to the changes that need to be made to teach 21st Century learners. How does this get accomplished in universities courses such as foundations course in pre-service education or history courses for undergraduates or graduates? This presentation will show how one professor went from a program of teacher education without a dedicated stand-alone technology course and integrated the teaching of technology skills and dispositions into already existing course outlines.

Using EduBlogs to Teach Pre-Service Teachers How to Integrate Technology and Encourage Authentic Learning

Howard Slepkov – Education, Niagara University

This presentation will walk participants through the steps taken to integrate the use of an EduBlog (a blog dedicated to classroom instruction) and used to open up the walls of the classroom. It will exam the pedagogy underpinning its use aside from strictly as another way to integrate technology. It will show how the use of such a strategy can be an invitation to learning in the classroom and help students see beyond a specific subject area, such as science and understand how STEM all fits together. It will also highlight its role in overall literacy growth.

Redesigning Teaching: A Learner-Centered Approach to Enhancing Teaching, Learning, and Assessment

Brian Smentkowski – Political Science, Southeast Missouri State University

This poster examines the paths to, and the benefits of, true learner-centered teaching at both the institutional and individual level. Drawing on experiences built upon the foundation of a Teacher-Scholar Model and gleaned through the development and productivity of an active and renowned Scholarship of Teaching and Learning (SoTL) Fellows Program; efforts contributing to, and emanating from, active leadership in CASTL's Building SoTL Communities Institutional Leadership cluster; and progressive faculty development initiatives supporting Course Redesign and Student Learning Outcomes initiatives, this work presents a method for navigating and influencing the tides of institutional change in order to accomplish the goals of student learning, student engagement, and assessment. Faculty and faculty developers alike will learn how a backwards-design approach to learner-centered instruction can serve as a key to successfully redesigning teaching in order to enhance student learning and assessment.


Changing Student Attitudes Toward Learning: A Framework from Social Psychological Research on Persuasion

Brian Smith – Psychology, Graceland University Sal Meyers – Psychology, Graceland University

Students often have negative attitudes toward new approaches to teaching (e.g., learner centered teaching). How can we persuade students to adopt more productive attitudes? Participants will apply the Elaboration Likelihood Model of persuasion (Petty & Wegener, 1999), which highlights the importance of student motivation and ability to process our persuasive messages. Using Krathwohl's affective taxonomy, participants will choose an attitude that is important to them, and use the ELM and others' comments to plan a persuasive approach to apply to their own students. Each participant will leave with a written plan to change students' attitudes toward learning.

Lean on Me: Mentorship and Building Communities of Learners at Cabrini College

Courtney Michelle Smith – History & Political Science, Cabrini College Lisa Ratmansky – Center for Teaching and Learning, Cabrini College

For our presentation, we intend to share our experiences building a community of learners at Cabrini College. In our college, the Center for Teaching & Learning stands as the hub for mentorship at both the student and faculty levels. Our presentation introduces the Center for Teaching & Learning and then proceeds to analyze and interpret mentorship in three different forms. We outline how our students and colleagues use mentorship to create a community of learners at our college. Once we conclude, we intend to provide time for our audience to consider how they build similar communities at their institutions.

Scaffolding Habits of Mind: How Guided Reflection Helps College Students Become Independent Writers and Revisers

Jeanne Smith – English, Kent State University

Research writing has long challenged college and university instructors at every level and in every discipline because research writing demands a great deal of self-regulation, self- assessment and independent writing and revising on the part of relatively novice academic writers. Reflection assignments can promote the critical thinking and self-regulation necessary for successful research project outcomes; and they can improve the quality of students' independent writing and revising behaviors. However, novice writers need substantial scaffolding to reflect in ways that deliver these results. This session will help faculty create prompts that will teach students how to "teach themselves" to write research projects and that can be adapted to any course content where faculty wish to encourage independent learning.

Increasing Rigor and Engagement to Improve the Outcomes of Student Internships

William Spear – Business Administration, Colby-Sawyer College

Student internships provide significant benefits when properly designed and managed. Students gain work experience but yield limited learning when internship programs fail to engage students, lack proper faculty supervision, provide poor site placement and supervision, or fail to require meaningful reflection, (Bulger, 2006; Evans and Mori, 2005). The business administration internship program at Colby-Sawyer College has evolved since 2009 with excellent results. The purpose of this session is to discuss the benefits and challenges of student internships, describe the internship program at Colby-Sawyer College, provide recommendations for improving internship programs at other institutions, and discuss areas for future consideration.



Evidence-Based Teaching and Learning

The Parts and The Puzzle: Mastering The Essentials of Curriculum and Course Design Mary Stewart – Art, Florida State University

This hands-on workshop will provide the essentials of curriculum and course design. A curriculum (the puzzle) is constructed from multiple parts (the courses, the lessons, and the evaluation). By developing a clear and authentic mission, thoughtfully organizing courses using a scope and sequence chart and applying effective assessment strategies, we can create a compelling curriculum that serves student needs while engaging faculty. Focusing on undergraduate curriculum/course development, we will use a concise process that can be adjusted to meet the needs of individual disciplines. Alternating between presentation and hands-on work, participants will gain skills that can be applied to their own situation.

Academic Bullying: Invading University Campuses?

Cath Stilwell – Social Work, St. Cloud State University Jan Kircher – Social Work, St. Cloud State University Susan Hubbs – Learning Resources Services, St. Cloud University

Acts of academic bullying are being noted on campuses across the United States in increasing numbers. In the United States, academic bullying and it's' consequences are receiving increasing public recognition. Faculty, in their teachings students, have an obligation to model professional and ethical behaviors to students. Faculty should live and work by a professional code of ethics, and also need to acknowledge that academic bullying is invading our higher education departments. Departments on campuses across the United States are not immune from academic bullying. Some research has been completed to address the concerns of academic bullying by university faculty and the devastating effects of bullying to faculty, to departmental programs, to students, and to the university. A contravene in the literature regarding academic bullying and social work departments exist. As such, our beginning research initiates the process of summarizing the literature on workplace and academic bullying including defining academic bullying, the reasons bullies bully, and the consequences to departmental programs, Professional Code of Ethics and professional behaviors of faculty. Our presentation concludes by identifying solutions for academic bullying and exploring ethical considerations for faculty.

"Race and Revolution" First-Year Seminar: Reclaiming the University of Mary Washington's Social Justice Tradition

Suzanne Sumner – Mathematics, University of Mary Washington Mary Beth Mathews – Religion, University of Mary Washington

In 2011 the University of Mary Washington honored the legacy of Civil Rights leader and our distinguished late history colleague Dr. James Farmer by celebrating the 50th anniversary of the Freedom Rides he organized. Our faculty honored Dr. Farmer by creating a first-year seminar titled "Race and Revolution: James Farmer and the Struggle for Civil Rights." The multidisciplinary perspectives and pedagogical approaches of faculty representing a broad range of disciplines inform each year's course design. We will introduce participants to this model of a first-year seminar, designed to motivate students to engage with the social justice tradition of our university.



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Preface

Plenary Presenters

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Abstracts

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Raluca Teodorescu – Physics, The George Washington University Elisabeth Rice – Special Education and Disabilities Studies, The George Washington University Michelle Allendoerfer – Women's Leadership Program, The George Washington University Hartmut Doebel – Biological Sciences, The George Washington University Patricia Dinneen – Teaching & Learning Collaborative, The George Washington University

Besides its strong commitment to research, the George Washington University is also committed to outstanding teaching. An important part of the teaching commitment refers to training doctoral students to become future faculty. We will present how the university and the Physics Department initiatives led to an approach to train these students that includes: a) a graduate teaching assistant certification course, b) a training program within the department, and c) a future faculty training program. We will also discuss the multi-dimensional assessment we use that features graded papers, graded classroom observations, interviews with outstanding teachers, surveys, and instructors' and students' evaluations.

Using Emerging Technologies to Engage Students in an Online Classroom

Jennifer Thompson – Psychology, University of Maryland University College

Engaging students in an online classroom setting can be challenging. However, the appropriate use of emerging technologies can mitigate and enhance that engagement factor. It is not enough to simply put these tools into practice, but rather one must also understand how the use of these tools contributes to the desired outcome of student learning. In this presentation, participants will discuss the role of student engagement in the online classroom. In addition, they will view several emerging technologies in action and will discuss their potential application as a means to enhance student engagement with the course material.

Increasing Pre-Professionals' Engagement in the Reflective Process of Active Learning Classroom Activities

Gayle Thompson – Human Performance & Health Education, Western Michigan University Suzan Ayers – Human Performance & Health Education, Western Michigan University

An increasing amount of research has attempted to investigate the effectiveness of various forms of active learning although there is little conclusive evidence to pinpoint 'best practice'. The ideas associated with active learning align fully with the practical application of material required in the fields of Athletic Training (AT) and Physical Education Teacher Education (PETE). This presentation will describe how mixed methodology was used to investigate students' engagement on a daily and weekly basis in two classes. General trends revealed students' perceptions of high relevance among class content and active learning instructional activities relative to pre-professional practice.

First Experience of Cooperative Learning Methodology in Calculus Classes

Ruth Trubnik – Mathematics, Delaware Valley College

This poster will confirm that cooperative learning environment has helped Calculus students to overcome math anxiety. List of all group activities used will be provided. How these activities benefit students will be stated. Comparison of students' success with traditional Calculus classes will affirm effectiveness of shifting teaching from traditional to Learning-Centered methods.



Dialogue as a Tool for Motivating Multicultural Learner's Critical Thinking in Business Education

Hui-wen Tu – Humanities and Social Sciences, Berkeley College Chris Ehiobuche – Management and International Business, Berkeley College

One of the common challenges business educators face in America today is that of cultivating and growing critical thinkers from classrooms to workplace. Several approaches have been postulated by scholars ranging from teaching styles focus to learning styles. This paper sustains that dialogue could be an effective tool for stimulating student's critical thinking skills. While many researchers have studied the relationship between learning and teaching, few have shown particular interest on how to motivate multicultural learner's critical thinking across business disciplines. Thus this study sought to demonstrate how dialogue can be used across learning styles in business school.

Teaching-to-Teachers: Strategies for Using Rubrics as Student Teaching Tools

Yvette Turner – Educational Leadership, Jackson State University

Using performance tasks as assessments for learning requires that students be familiar with the rubrics that will be used to evaluate the final performance or product. Simply giving out a rubric in advance and asking students to read it is, more often than not, insufficient. A good rubric can be a very effective and versatile teaching tool and enhance learning over the long term. The purpose of this paper is to present strategies for incorporating assessment for learning into daily teaching activities while introducing the rubric to students in a way that develops their understanding of their appropriate use.

Innovative Online Teaching and Learning Strategies

Clifford Tyler – School Counseling, National University

With the massive amount of on-line classes offered, universities are starting to offer equivalent quality classes compared to more traditional on-ground courses. The components of high quality on-line courses will be defined, along with strategies for providing quality on-line courses. Multiple course assessment means will be used to demonstrate student learning and mastery of course learning outcomes in the syllabus and course quality. Important course components, design and technology will be defined for inclusion in course shell. Most importantly, the role, training and strategies of online instructors will be analyzed to assure quality instructional delivery.

Using Facebook to Advance Civic Engagement and Global Learning in a First year Seminar Carlton Usher – First Year Programs, Kennesaw State University

This presentation examines the convergence of social media and in-class instruction to identify effective methods to use social media. Students' perception of the efficacy of this convergence was collected using an automated response and data collection system to assess learning effectiveness and participation. Pre and post course surveys, real-time assessment of learning outcomes and a questionnaire on Facebook use yielded a mixed assessment of viability and effectiveness consistent with the literature. Accordingly this presentation offers a narrative on how to best execute these learning opportunities to advance global learning, civic awareness and engagement.



Abstracts

Preface

Plenary Presenters

Conference Papers

Becoming a Reflective Teacher: Jump Start Your Teaching Philosophy Statement and Portfolio

Kimberly Van Orman – Institute for Teaching, Learning and Academic Leadership, University at Albany, State university of New York

What makes YOU a good teacher? Many of us hope or believe we are, but our knowledge of our ability can be tacit. When you are on the job market or applying for tenure, you need to be able to demonstrate how you are (or will be) a good teacher in a teaching philosophy statement. Participants will complete the Generate Knowledge Inventory to draw out this knowledge and better articulate their strengths as an instructor. We will use the information gathered through this process to start drafting a teaching statement and plan to develop this statement into a portfolio.

Supercharge Your Classroom Discussions!

Kimberly Van Orman – Institute for Teaching, Learning and Academic Leadership, University at Albany, State university of New York

Many people like the idea of Team Based Learning or Clickers, but aren't ready to completely redesign their course around permanent teams or invest in technology just yet. In this session, we will have a group discussion about how classroom discussions have gone well (or not) in our courses while experiencing how adapting some of the techniques from these teaching approaches can be used to great effect with small groups in the "regular" classroom. Participants will learn a dialogic notebook technique, how to use low-tech clicker substitutes, and how to apply TBL's "4Ss" to their classroom discussions.

Bingo Rubrics: Self-Regulation Strategies to Engage and Motivate Students

Marileno Olgua (Olga) Vilceanu – Public Relations, Rowan University

This session compares the use of learning journals and rubrics as strategies to engage and motivate students in upper-level undergraduate courses, while helping them develop self-regulation strategies. Rubrics can also be used in class activities focused on self-reflection, self-assessment, and peer review. Bingo rubrics are a fun way to address serious issues that trigger student success or failure. Modeling the use of rubrics in class will help students understand how to make the most of rubrics provided by instructors for graded assignments.

Preparing Effective Pre-services Teachers using an Integrated Approach

Luchara Wallace – Special Education & Literacy Studies, Western Michigan University

This research bridges the gap between what is currently offered and what has been empirically proven as essential components of effective teaching. Upon embarking upon this scholarship of teaching and learning, it was determined that more was needed to best serve pre-service teachers pursuing a teaching certificate in special education. The research utilized five essential methods to ensure the success of students pursuing a teaching certificate in special education. This presentation will show how using an integrated approach to preservice teacher preparation increases the effectiveness of pre-service special education teacher candidates.



Preface

Plenary Presenters

Conference Papers

Using Gaming to Develop Interviewing Skills

Michelle Wang – Business Management, Borough of Manhattan Community College

Game-based learning (GBL) is a relatively new pedagogy that can be applied in higher education. A review of past and recent literature reveals a dearth of research focusing on GBL pedagogy in teaching job search skills. A game called "Interview Me!" was created from a group project assigned to students in 2011. This game was developed with the intent to build interviewing skills in an enjoyable, interactive and collaborative learning environment. A research study about "the effects of using the interview game on students' interview self-efficacy and employment confidence" will be presented in the session.

Multitasking and Learning: What Research Tells us About What Students Can and Can't Do

Charles Watson – Center for Teaching and Learning, University of Georgia Peter Doolittle – Center for Teaching and Learning, Virginia Tech

This session examines the digital native conception of college students with a particular focus on teaching practices that are often coupled with such narratives. Empirical research regarding what we actually know about today's college students will be presented that suggests strategies and practices that are in stark contrast to the digital native mythology. Key among the issues to be explored will be conceptions of students as skilled multitaskers. Research-informed guidance for those who teach, especially at the undergraduate level, will be a hallmark of this session.

Understanding the Psychology of Today's College Students: Engaging a New Generation of Learners

Mary Wells – Psychology, Sinclair Community College Elaine Isbell – Psychology, Sinclair Community College

To successfully engage a new generation of learners, it is important for educators to understand the motivational and psychological factors that drive the behaviors of college students. This presentation will give participants an opportunity to better understand the psychology of the current generation of college students based on empirical evidence and research findings. Personality traits, demographics, learning preferences, educational choices and expectations, and mental health issues will be examined. Classroom and teaching implications will be explored and discussed. Participants will have opportunities to assess their own knowledge and share their teaching experiences and challenges.

Seek, Find and Apply – Free Web Resources for Creative Thinking

Susan White - Finance, University of Maryland

This session will explore using web tools to find content and create assignments. The session will first present a variety of content tools, how to search them, and how to save/display the content when found. Participants will explore ways to include this content, including embedding in a power point presentation, and screencasting. The session will demonstrate class activities and assignments created using web tools. Participants will then create assignments and activities in small groups to share with other session participants. Participants should bring a laptop or IPad to this session, if possible.



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Guiding Biology Graduate Students and Postdocs into Effective Teaching Methods

Sue Wick – Plant Biology, University of Minnesota, Twin Cities

We established an informal Scientific Teaching Program for interested postdocs and advanced graduate students to promote evidence-based teaching of undergraduate biology. After introducing principles of effective teaching, participants worked in disciplinary groups to devise short modules addressing difficult concepts. Participants presented their work to each other and some modules were also presented to undergraduates and assessed for their effectiveness. The enthusiasm of participants and generally high quality of the modules that were developed suggests that this is a useful way to introduce the next generation of faculty to effective approaches to teaching.

Two Heads Are Better Than One: Cooperative Learning in a Practicum Setting

Robert Wieman – Teacher Education, Rowan University

In this presentation participants will learn about a collaborative approach to the practicum element of a mathematics teaching methods class. Teacher candidates plan lessons with a partner, teach the lesson while being observed by their partner, revise the lesson, and the partner re-teaches the lesson using the revised plan. Such a structure provides opportunities for teacher candidates to see how small changes in teaching effect student learning, and to see lesson planning and reflection as an intellectual exercise connected to instructional improvement. It also helps teacher candidates connect theory learned in the classroom with their experiences in the field.

Using Process-Oriented Guided-Inquiry Learning (POGIL) for Increased Student Satisfaction and Self Reported Knowledge Acquisition

Lisa Wilson – Nursing, Colby-Sawyer College

One overwhelming problem in higher education today is that teaching and learning have somehow become removed from practice. Our students learn theory in the classroom and learn application in the clinical setting. As Benner, et al. (2010) indicates, this is distressing because it suggests a separation of learning and experiences, with theory being delivered in the lectures and then applied knowledge being gained through clinical rotations. Process-Oriented Guided-Inquiry Learning helps engage students and promotes the restructuring of knowledge which allows students to explore and develop an understanding of fundamental concepts, thereby effectively meshing theory and applications (Hanson, 2011).

Online Classroom Resource Project for the Social Science Classroom

Daniel Winchester- The Institute for Humane Studies, George Mason University

Our preliminary polls of university faculty suggest online resources are quickly becoming commonplace in residential classrooms. This round table will be a discussion of the effectiveness of current online resource offerings, what needs still exist, and ways participants have effectively engaged their classrooms using external sources. It will have a particular focus on the social science disciplines, but anyone with an interest in innovative curriculum are welcome to attend.



Plenary Presenters

Conference Papers

Abstracts

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Perception of Classroom and Online Group Learning Activities by College Students

Thomas A. Wrobel – Department of Psychology, University of Michigan-Flint Martin Rivera-Salas – Department of Psychology, University of Michigan-Flint

Attitudes of students enrolled in online and traditional classes toward group work were assessed using items modified from Hillyard et al (2011) and (Cavanagh 2011). Items were organized to assess perceptions of the group, effectiveness of the technique, and peer experiences and presented online. Results presented indicate students from both classroom and online modes rated the group method positively which is felt to be the basis for positive learning, and further support for the usefulness of a specific teaching method in online and traditional contexts. Specific strengths of the method and areas of caution are presented.

How Do They Learn to Learn? Teaching Students Effective Strategies for Succeeding in your Course

Todd Zakrajsek - School of Medicine, University of North Carolina Chapel Hill

Students arrive in our classes with a wide variety of skills, motivational levels, and experiences. Historically, our primary challenge was to cover material and to assess for learning. Over the past decade there has been a steady shift from a "teaching-centered" to a "learning-centered" approach. With this shift comes the added responsibility of helping our students to learn. We still need to cover content and assess learning, but we are now also coaches, tutors, and even motivational speakers at times. In this session we will explore some very easy to implement research-based strategies to help your students be more effective in their learning. In the area of selfish byproducts: better students make our jobs easier and more fun.

Managing Student Internships Online: Incorporating Ethics and Professionalism via Electronic Delivery

Kevin Zeiler - Health Professions, Metropolitan State University of Denver

Track student hours, receive timely feedback from students and preceptors and monitor student learning as it applies to ethical and professional responsibility. The key to managing an online internship is the faculty's ability to use a multitude of tools to monitor all aspects of learning and keeping the student engaged.

The Reflective Learning Portfolio: Enhancing and Assessing Student Learning

John Zubizarreta – English, Columbia College

Interested in learning basic approaches to designing learning portfolios for significant learning? Wondering how reflection, collaboration, and evidence promote higher-level learning? Curious to see what diverse, new models of learning portfolios exist in a variety of courses and programs? Want to see some actual examples of student portfolios? Come find out about the benefits and challenges of learning portfolios. Bring your experiences and varied models for active sharing of ideas and resources on learning portfolios.



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Preface

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