Proceedings

2011
3rd Annual Conference
on
Higher Education
Pedagogy

Hosted by the
Center for Instructional Development and Educational Research

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Letter From the Conference Committee

The third annual *Conference on Higher Education Pedagogy* is focused on higher education teaching excellence and the scholarship of teaching and learning. The conference provides a forum for faculty members and graduate students to showcase their instructional research and model their pedagogical practice with the goals of demonstrating the quality of educational research and practice that is being conducted on campuses; providing a mechanism for faculty members to network with other like-minded faculty regarding pedagogy; and, expanding faculty members' understanding of and motivation for learner-centered teaching.

This conference would not be possible without the moral and financial support of our Conference Sponsors, General Sponsors, and Corporate Sponsors who have provided guidance and encouragement when needed, as well as funding. The conference organizers are also grateful for the support provided by the Vice President and Dean of Undergraduate Education at Virginia Tech, Dr. Daniel A. Wubah, who has supported this pedagogical project from its inception.

In this time of economic challenge, it is essential that we maintain the highest standards for higher education and continue to increase the effectiveness of instruction and the depth of student learning. We are pleased to join with our colleagues to foster educational excellence through the Conference on Higher Education Pedagogy.

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Opening Keynote Address

Terry Doyle
Faculty Center for Teaching and Learning
Ferris State University

Learning in Harmony with Our Brains:
What New Research in Neuroscience, Biology and Cognitive Psychology
Has to Tell Us about Teaching and Learning

This address will share with faculty ways to enhance their students' learning by adopting a pedagogy based on the most current research on how the human brain learns. It is my hope that faculty will use this information to construct learning activities and environments that are in harmony with how their students' brains learn. The presentation topics will include: the role of exercise and movement in enhancing learning, the brain as a pattern seeking device, teaching to enhance students long term recall and transference of information and the importance of using a multisensory approach when teaching.

<p style="text-align:center">�вин</p>

Terry Doyle is a professor of reading at Ferris State University and Senior Instructor for Faculty Development and Coordinator of the New to Ferris Faculty Transition Program for the Faculty Center for Teaching and Learning. Terry has presented over sixty workshops on teaching and learning topics at national and international conferences since 2000. He has also worked with faculty on forty-five different colleges and universities across the country on ways to develop a learner centered teaching practice in the past five years.

He is the author of the book *Helping Students Learn in a Learner Center Environment: A Guide to Teaching in Higher Education*, published by Stylus, 2008. He is the co-author of the book *New Faculty Professional Development: An Ideal Program* published in 2004. His most recent article on Learner Centered Teaching appeared in the NEA's *Advocate Magazine* October, 2008. He is currently working on a new book *Helping Teachers Teach in a Learner Centered Environment* to be published by Stylus.

Closing Keynote Address

Carolin Kreber

Institute of Education, Community and Society
University of Edinburgh

Why We Need The ' Scholarship of Teaching ' for Making Good Educational Judgments

Clearly, there is no one best way to teach. If we were to take snapshots of all our observations of 'good college teaching' and arranged them side-by-side, what might strike us is the countless versions of what it is to be a good teacher. And yet, the diversity that can be observed among good teachers does not mean that they do not have anything in common. What they seem to share is a capacity to make good professional judgments. But how have they learned to do that? And how might we understand 'good'? In this presentation I will explore the role of educational research in informing the professional judgments of college teachers. I will argue that educational research is a critically important but not sufficient basis for good teaching. The best teachers are likely those whose educational practice is characterised by a series of good judgements they make, which are informed, on the one hand, by knowledge obtained through educational research, but also ideals, and importantly, their attentiveness and reflectivity regarding the particularity of the contexts in which they attempt to promote the learning of their students

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Dr. Carolin Kreber is presently Professor of Teaching and Learning in Higher Education at the University of Edinburgh, Scotland, where until recently she also directed the Centre for Teaching, Learning and Assessment. From 1997 to 2004 she was a faculty member at the University of Alberta where she taught courses in adult learning and developmental theory, instructional design, research methodology and the administration of higher education. She obtained her Ph.D. degree from the Ontario Institute for Studies in Education (University of Toronto). She is the editor of several edited volumes including *Revisiting Scholarship: Perspectives on the Scholarship of Teaching* (2001) and The University and its Disciplines: Teaching and Learning Within and Beyond Disciplinary Boundaries (2009) and has authored numerous articles on the scholarship of teaching and learning including "Charting a Critical Course on the Scholarship of Teaching Movement" (*Studies in Higher Education*, August, 2005) and "The Scholarship of Teaching as an Authentic Practice" (*International Journal for the Scholarship of Teaching and Learning*, 2007). Other research interests revolve around the values guiding higher education and the role of reflection in teaching and learning. She is particularly interested in the different kinds of questions that can be asked as part of the Scholarship of Teaching and Learning and the linkages between theoretical, instrumental and ethical deliberation on university teaching and learning.

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1-1 Coaching With College Students: A Supplement To Organizational Behavior Classroom Learning

James H. Damico & Elin Cortijo-Doval
Reginald F. Lewis School of Business, Management and Marketing Department, Virginia State University

Abstract: This article generates supportive data for using 1-1 coaching with college students to supplement classroom learning.

Literature Review

Carl Rogers popularized "person-centered theory" that emphasizes teacher understanding, warmth and self awareness (Roger, C., 1951). Personal coaching in industry has been practiced since the 1930's. Since the 70s it has become trendy for companies to employ "personal coaches" to coach their executives to greater productivity (Zeus & Skiffington, 2002). Pfeffer & Fong (2002) believed that business schools need to do a better job of making sure their students can actually apply the academic and theoretical knowledge covered in class, in real-world situations. One on one coaching outside of class can be used as a vehicle to stimulate real world applications (Bain, 2004).

Methodology

The authors used a mixed method approach to explore whether the use of 1-1 instructor coaching with students outside of an Organizational Behavior and Leadership class will encourage students to apply new skills taught in the classroom and facilitate their actual behavior change (applied learning). Qualitative and quantitative data were collected from fifty-seven African-American college students (86% were business majors; 88% were in their third year; and 72% were female). Table 1, Instruments used to frame 1-1 coaching sessions (sample questions), identifies the instruments that were designed and utilized to assist the instructors and study participants in structuring their overall 1-1 coaching sessions to facilitate improvement in intrapersonal and interpersonal skills.

Table 1. Instruments used to frame 1-1 Coaching sessions (example questions)

Instrument A - *"Selecting"* *An Intrapersonal or Interpersonal Skill Area for Student Improvement*	1) What is your greatest performance challenge in college (e.g., an intrapersonal skill like managing your time, an interpersonal skill like making presentations, etc.); 2) The selected intrapersonal/interpersonal performance objective you would like to improve for this course assignment (e.g., an interpersonal skill like making presentations, etc.)
Instrument B - *"Designing"* *A Student Action Plan for Intrapersonal or Interpersonal Skill Improvement*	1) What specific things will I do to improve? (e.g., practicing/rehearsing my speeches; observing successful presenters; trying out new behaviors; visiting the Speech Center; etc.); 2) How and when will I measure my success? (e.g., monitoring my own increased confidence; observing audience response to the 6-C's; collecting informal and formal feedback from students and professor; tracking audience behavior; etc.)
Instrument C - *"Evaluating"* *Student Improvement in an Intrapersonal or Interpersonal Skill Area*	1) Here are specific examples of "action plan" behaviors I implemented; 2) Here are specific examples of "measurables" that support my skill improvement;
Instrument D - *"Providing Feedback"* *Supporting Student Intrapersonal or Interpersonal Skill Improvement*	1) Relationship to student (e.g., professor, family member, class member, friend, etc.); 2) Please list any/all examples you have observed this semester of this student's effort or improvement in (name the specific performance objective that the student has been working on).

Data Analysis And Results

Qualitative data was analyzed in terms of key words and common themes identified as being reflective of the author's pilot study hypothesis. Quantitative data gathered from student surveys (i.e. Likert Scales of: 1-not at all; 2-

to some extent; 3-to a moderate degree; 4-to a large degree; and 5-to the full extent) were polled for average frequency of responses.

Findings from student learning journal reflections:(1) One hundred percent of the study participants confirmed their perception of student intrapersonal and interpersonal skill effort and improvement; and (2) The overarching theme of the student's reflections strongly suggests that the use of 1-1 instructor coaching with students outside of an Organizational Behavior and Leadership class encouraged students to apply new skills taught in the classroom, and facilitate their actual behavior change (learning). Findings from student survey for 1-1 coaching experience: (1) additional qualitative data collected from the comments sections of the student survey also strongly indicates support of the hypothesis of this study; and (2) quantitative data indicated that participants that completed the survey (88% of the classes) felt the coaching helped them: tried out new behaviors (4.0/5.0); and became more skillful (3.8/5.0). They also indicated that they would recommend the 1-1 coaching to other business students (4.3/5.0). Findings from follow-up student survey for 1-1 coaching experience: Data collected six months after the study from a 19% sample confirmed to what extent students had been able to sustain what they learned as a result of the 1-1 coaching (mean of 3.8/5.0.

Discussion and Conclusions

The data indicates that the majority of participants perceived that the 1-1 coaching helped them try out new behaviors and become more skillful. What was apparent to the authors was that their ability to get students to try out new skill behaviors increased during and after the 1-1 coaching sessions. Of course there is the practical side of the issue...time. The authors spent at least 65 coaching hours with 57 students. Nevertheless, the authors' contention, is that outside of class, 1-1 coaching sessions allows the acceleration of the normal teacher-student relationship building process. What about students and instructors from other disciplines? Would not 1-1 coaching sessions allow the acceleration of their teacher-student relationship, and assist their ability to teach and learn as well? We believe it would. As we all know, most universities require professors to post regular hours and days each week that they are available to meet one on one, should a student need help. Our experience is that the current office-hour's system results in only the willing (vs. struggling) student and/or judicious professor getting together, and often not until the coaching assistance is "too little too late." Our conclusion, based on our initial success with this pilot, is that a more formal approach to 1-1 coaching sessions out side of class between student and teacher merits a closer look, regardless of the field or discipline.

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Adapting Lessons From the Classroom for Program Assessment

Kristy Byrd, Andrew Marx & Kimberly Zicafoose
Focused Inquiry, University College, Virginia Commonwealth University

Abstract: Now in its fourth year, Focused Inquiry is the two-part foundation course in VCU's recently established core curriculum. It emphasizes six competencies, including written communication, critical thinking, and ethical reasoning. Recently, the Focused Inquiry faculty has worked to incorporate ethical reasoning into major course projects. From the beginning, program assessment had been course-embedded and the faculty has worked to create program evaluation rubrics and an assessment plan that reflects the program goals of developing specific student skills. Because all faculty members (more than 40) are required to be involved in the assessment process and apply the program rubric to student work, calibration had been an ongoing challenge. In the program's third year, the assessment committee designed an ambitious experiment to utilize classroom clickers for faculty development to help align individual faculty members' rubric usage to help ensure reliable and consistent use of the program rubric to evaluate writing, critical thinking, and ethical reasoning. This was an overwhelming success that led to greater consistency in assessment results and aided in the validation of the new ethical reasoning rubric. In this research presentation, we will describe the process of developing our plan and share the results.

Literature Review

Throughout the history of our young core education program, we have strove to follow best practices in assessment. Leading trends in the practice of assessment in higher education focus on integrating assessment practices into the classroom experience in an embedded manner and on involving faculty in the program assessment process in meaningful ways that foster curricular improvement. In their 2004 book Revisiting Outcomes Assessment in Higher Education, Hernon, Dugan, and Schwartz describe multiple examples of developing learning outcomes and assessment plans in complimentary ways. Likewise, in her 2006 book, Catherine Wehlberg describes trends of integrating assessment into a curricular program can lead to improved outcomes of student learning by integrating the work of curricular development with assessment planning. More recently, Driscoll and Wood put forth a guide for faculty which addresses many common faculty concerns regarding assessment.

Methodology

In conjunction with VCU's Center for Teaching Excellence, the Focused Inquiry assessment committee designed a faculty development experiment to test the validity of program assessment rubrics and foster a discussion about rubric calibration. We decided to use classroom clickers for this process at a mandatory faculty meeting to ensure wide participation in the process. The three-part rubric included existing critical thinking and writing evaluations and a newly developed rubric to measure student achievement in ethical reasoning. Previously calibration exercises with the program rubrics had been haphazard and cumbersome. This new process borrowed technologies proven useful in fostering student engagement to attempt to engage faculty in the assessment process with great success.

Several samples of student writing were selected and evaluated in committee. These scoring results from the committee were used as a comparison point during the faculty development activity. All full-time and adjunct faculty, as well as graduate teaching assistants who were instructors of record, participated in the clicker activity to calibrate faculty responses to the rubric. The project was overwhelming successful, and gave immediate visually graphic results for initial evaluation.

Data Analysis and Results

The research experiment yielded two important results:
1. We were able to demonstrate that the vast majority of faculty used the program rubric in a consistent manner that would yield useful program assessment results, and
2. We were able to tentatively validate a newly developed ethical reasoning rubric prior to large-scale implementation.

Discussion/Conclusion

This program assessment project was a unique application of classroom clicker technology that allowed us to transfer technology designed for student engagement and use it to foster faculty engagement in measurement of student outcomes. As anyone involved in assessment knows, engaging a large inter-disciplinary faculty in that process can be an insurmountable goal.

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Assigned Positions for In-Class Debates Influence Student Opinions

Emily L. Lilly, *Biology, Virginia Military Institute*

Abstract: It is generally presumed that after participating in an in-class debate, students will form their own opinions. However, in a large course of Environmental Science, the opinions of the students surveyed after debates were remarkably consistent with the position that they had been assigned to argue. Thus, this study was carried out to determine the influence of an assigned debate position on student opinion. Prior to being assigned a debate position, 144 students in Environmental Science were polled about their opinions on six controversial issues. Then, each student was assigned to either the "Yes" or "No" position, without regard to opinion, for a debate on one of the issues. Students prepared for the debates by researching and constructing arguments and counter arguments for both sides, but only argued their assigned side of the debate in class. One week following the debates, students were again polled for their opinions. Prior to debating, only 41% of students agreed with their assigned position, yet following the debates, 77% of students agreed with their assigned positions (p = 0.0000005). This suggests that arguing an assigned position in a class debate influences student opinion toward that position.

Active learning (constructivism) has been shown to increase student learning and improve student skills, such as critical thinking (Gervey 2009). The educational debate is one form of active instruction, requiring students to prepare material, obtain evidence, create arguments, evaluate opposing data, and construct rebuttals (Bellon 2000), resulting in greater mastery of the material while encouraging students to thoroughly learn both sides of a controversial issue. For example, Turner (2010) has shown that when individuals are expecting a controversy in debate as opposed to a general discussion, they spend more time learning the opposing viewpoint.

Debates have not traditionally been a part of the curricula of the sciences. Yet, educated scientists often disagree on the solutions to complicated problems. This is especially evident in Environmental Science, where many potential solutions exist to a large number of environmental problems. Thus, in order to enhance student learning, foster critical thinking skills, and promote awareness of existing controversies, I introduced small group (12 student) debates into my large Environmental Science class. Given that previous research has shown that students may change position after debate (Gervey 2009), I had expected that after preparing material for both sides of the debate and participating in the debate, students would be better able to form their own, well-informed, opinions. However, after one semester, surveys showed a very large portion of students expressed views that agreed with the debate position to which they had been randomly assigned. This indicated that students were likely to take on the position that they argued during the debate, regardless of their initial view. This study was conducted to explore this issue.

Methods

A study was conducted using a large lecture course (144 students) of Environmental Science. To reduce complications due to debate topic, six separate issues relating to current class material were debated. They were:

1. Are biofuels the solution to our current energy crisis?
2. Should we use a cap and trade system to control carbon emissions?
3. Should we increase our reliance on hydropower?
4. Should we increase our reliance on nuclear power?
5. Is organic farming the answer to feeding our growing population?
6. Should we burn our trash for energy (waste-to-energy transfer, WTE)?

Students were initially polled on their opinions after a lecture on each topic, including scientific perspective for both the pro and con sides of each issue**.** Students were then assigned to a debate topic and position based on laboratory section and last name and given one week to prepare for their debates. Every student was to prepare for *both* the yes and no positions. They were to prepare a paper with a brief summary of each perspective, the top three justifications for each position, and a rebuttal that could be used against each justification, and a rebuttal to that response. Student were instructed not to look for a winning or loosing team, but to assess the infoirmation presented in the debate and use it to form their own opinions on the topic matter. Their opinions were polled again one week later.

Results

Prior to the debate, 41% of students agreed with the position that they were assigned. Following the debate, 77% of student opinions agreed with their assigned position. This diffierence was highly significant in a one tailed ttest (p = 0.0000005). For the debates focused on biofuels, cap and trade, hydropower, and organic farming, students were significantly more likely to agree with their assigned position after the debate (Table 1). More students agreed with their assigned position after the waste-to-energy transfer debate, but these data were not significant (p = 0.096). Data were clearly different for nuclear power. Prior to the debate, 76% of students agreed with their assigned position, and 76% agreed following debate. Interestingly, it was not that no students changed position; 4 students changed their views following the debate, 2 toward the assigned position and 2 away.

Table 1. Agreement with Assigned Position.

	Percent Agreement		
Debate Topic	Before	After	p value
Biofuels	21.1	68.4	0.004
Cap and Trade	50.0	83.3	0.019
Hydropower	21.4	71.4	0.014
Nuclear Power	76.5	76.5	0.500
Organic Farming	31.3	87.5	0.001
Waste-to-Energy Transfer	50.0	75.0	0.096
Total	41.1	76.7	0.0000005

Discussion

The students' tendency to change their opinion to agree with an assigned position is troubling. One of my objectives in using debates was to enable students to make informed decisions on important issues. This may have been the influence behind some shifts in opinion, but the directionality of the shift toward agreement with the assigned position should not have been so strong were students simply moving to the more compelling argument.

When preparing for a debate in which they will participate, individuals are more likely to seek information that validates their own opinions (Turner 2010), and may even ignore information that contradicts their personal opinions (Bell 2004). Such behavior in debates serves to reinforce students existing opinions (Kennedy 2007). If that were the case in this exercise, students should have reinforced the positions that they held prior to the debate. Instead, they were likely to change positions.

Based on the written assignments they prepared in preparation for the debate, students did research both viewpoints. However, it is possible that the students put more effort into researching the position that they were assigned. One possible control for this would be to ask students to prepare for the debate without knowing which position they would be assigned when they arrive in class for the debate. It is also possible that the experience of arguing and defending a position during the in-class debate was the factor contributing to their opinion change. A future study should use structured controversy debate format, in which students not only prepare information for both sides of the debate, but actively argue both sides (D'Eon 2007).

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Behind the Laptops in a Large Lecture

Jeffrey B. Connor, *Engineering Education*, *Virginia Tech*

Abstract: In the spring of 2009 a large lecture class, CEE 2814 Measurements, was observed to determine student laptop activity during lecture. This 185 student section met three times per week in a large lecture hall for 43 total classes in the semester. All students were required to own a laptop. For 26 of these lectures a graduate student sat in various locations throughout the room and recorded the students' participation levels during the class. The purpose of this study is to observe how students interact with the lecture during class and what distractions were presented with the use of laptops. Among other conclusions, it was found that computers caused more distractions than all other distractions combined, and 34% of the students brought a computer to class and 86% used them for purposes other than class related. It was further found that the majority of all distractions were computer related. Results suggest that laptop computers are not an overall effective tool in a large classroom environment.

Background

Observing any college campus today, a person can easily see the impact of laptops on students' study habits. Many take their laptops with them to all their classes and are encouraged to use them for note taking. It is safe to assume that utilization of personal computers has been fully integrated into college academia during the past fifteen years. In the mid-1990s, college universities began requiring all students to purchase laptops recognizing the potential personal computers had to increase the efficacy of a student's study and class time. Initially, it appeared that the results were positive. According to L.D. Fink, R.L. Kolar, and D.A. Sabatini, an experiment conducted at Oklahoma University in 1998 and 1999 for a junior level water resources course yielded favorable results for laptop usage as an aid to class participation. As described in the article, the students enrolled in this course were split into two sections, one that required the use of laptops and one that did not. The authors found that "class dynamics were consistently better in the laptop section, which is reflected in the much higher class participation score". Perhaps the most important conclusion was in the abstract of the article which stated "Evaluations do clearly show that, when the technology is used properly and when class time is not spent resolving technical problems, the laptop students had a more positive learning experience."

However, David Cole of Georgetown University had a different point of view concerning the use of laptops in his lecture class. Cole asked his law students to answer an anonymous survey asking whether or not they believe laptops were a useful tool in the classroom. As stated in his article "[a]bout 80 percent reported that they are more engaged in classroom discussion when they are laptop free." Additionally, "95 percent admitted that they use their laptops in class for "purposes other than taking notes, such as surfing the web, checking e-mail, instant messaging and the like." Cole also made reference to an article written by Carrie Fried. According to Fried, the results she obtained from observing a General Psychology course taught at Winona State University, "the more students used their laptops in class, the lower their class performance." Additionally, a survey answered by the students for this class "indicate that laptop use by fellow students was the single most reported distraction […] accounting for 64% of all responses."

Due to the different opinions concerning the effects of laptops in the classroom, a study was conducted in order to determine how students were using personal computers in the Spring 2009 CEE 2814 Measurements course at Virginia Tech. For a number of years Virginia Tech has required that all incoming freshman engineers purchase a tablet and many students bring their laptops to class in order to take notes electronically. The study's primary objective was to observe and record whether or not students used their laptops for classroom purposes.

Methods and Results

Ten random students were observed throughout each observed class. If a student was engaged in distracted activities two or three times during a class that student was considered distracted for the class. See Table 1.

Table 1. Sample Daily Data Collection Table

	Student 1	Student 2
Beginning:	Taking notes on laptop	Listening to lecture
Middle:	Surfing web on laptop	Taking notes in notebook
End:	Playing game on laptop	Listening to lecture

Figure 1 shows that about one third of all students used a computer during lecture, and of those computer users, the large majority were distracted. About one third of all students were distracted, and of those distracted students, the majority were using a computer.
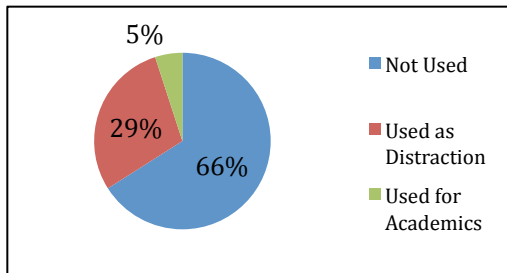
Figure 1. Student use of computers..
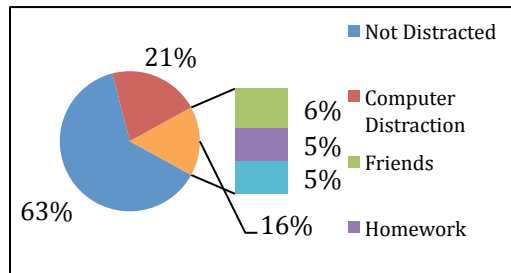
Figure 2. Student distraction by type

Conclusion

From the results, laptop use during the class distracted students from lecture more often than it assisted with note taking or other academic activities. Larger lectures appear to experience more problems with this issue than smaller classes. The CEE Measurements class had a total student count of 185 students while the General Psychology course observed in Fried's article had 137 students. In both cases, results showed laptops hindered student participation. Conversely, Fink's article had a total student count of 11 and 12 and yielded positive responses for laptop use. The key appears to be the ability for the instructor to interact with individual students during a lecture where laptops are used. In large lectures there are no clear answers, short of banning or introducing more technology, to the distractions involved with laptops.

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Composing Identities: A Challenge for International Students

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Abstract: This presentation reports on the findings of an ongoing research that examines the identity (re)-construction of Algerian EFL teachers who pursued or are currently pursuing their graduate degrees at American universities. These EFL teachers have to compose their identities at American institutions of higher education, and later re-compose their identities for their re-entry into Algerian higher education. Focusing on the teaching and pedagogy, the qualitative research reported on seeks to answer the following questions: (1) what does re-composing one's identity in a U.S. academic institution of higher education means for Algerian graduate students? (2) How is this re-composition subsequently negotiated in Algerian higher education? Much emphasis is put on the technologies of the self (Foucault, 1998) that are contingent to this transformation.

Literature Review:

Discerning the complex nature of the socialization if international graduate students attending American universities; Seloni (2008) proposes a comprehensive model for the academic socialization of graduate international students that highlights an "academic culture of collaboration". While her micro-ethnographic study focuses on the interaction of students with people, texts, events, and their textualized experiences that generate meanings, the present study focuses on the broader past, present and imagined future interactions of Algerian graduate students that impact their identity politics and ideologies. The research participants have to negotiate the complex integration of their previous personal, pedagogical and professional experiences with newly culturally defined academic roles, and rich and complex relations at American institutions of higher education. They were born, raised and socialized in a habitus (Bourdieu, 1977), and now they have to be re-socialized in a new habitus. Such re-socialization might be accompanied by instability and self-doubt, as well as the vicious circle of marginalization and self-marginalization (Kumaravadivelu, 2008).

Drawing on Foucault's (1998) concept of the "limit-experience", this presentation is based on the experiences of Algerian graduate students navigating their studies at U.S. institutions. "An experience," Foucault (1998, p. 239) asserts, "is something that one comes out of transformed." This ongoing experience unfolds the struggle, negotiation, and transformation Algerian graduate students go through while pursuing their graduate degrees. Hence in this study as a researcher and an Algerian graduate student myself, I set forth to investigate the experiences of these Algerian graduate students and how they re-compose their identities in a new socioacademic habitus. More specifically, I would like to address the following research questions: (1) what does re-composing one's identity in a U.S. academic institution of higher education means for Algerian graduate students? (2) How is this re-composition subsequently negotiated in Algerian higher education?

Methodology

The current study uses narrative inquiry as a research method conceived in a three dimensions. Using the three-dimensional framework, I looked at the research participants situated experiences in space depending on whether I collected their stories in the United States or in Algeria. These stories were temporally re-constructed in that regardless of how the stories are told, I analyzed them following the temporal continuity of past, present, and future which I labeled as the revisited past, negotiated presented and imagined future. The research participants past can only be revisited, their present is still being negotiated even at the time of the study, and their future is mainly imagined as they project themselves in their future teaching contexts in Algeria. The academic, personal, and social interactions that the research participants had and are having are embedded and situated within their revisited past, negotiated present, and imagined future; while at the same time having their past, present, and futures experiences are situated in space.

Participants: Five Algerian graduate students attending American universities in TESOL and Applied Linguistics have participated in this study. However, I will be reporting on only three of them. The research participants were all EFL teachers, two at Algerian universities and one at an Algerian high school. They are all in a leave for absence from their home institutions and will be going back to Algeria to teach at universities after the completion of their graduate studies in the U.S. The participants had four, six, and 14 years of teaching experience.

Data Collection process: The researcher conducted a narrative inquiry with the research participants whereby she was using face-to-face one-on-one semi-structured interviews; writing teacher's autobiographies and other shared course papers; focus group interviews; and follow-up interviews. The interviews were conducted on weekly basis for two to three weeks for one to two hours per each interview session. Building on the work of Florio-Ruane (2001), teachers' autobiographies were used to document how these Algerian English teachers have journeyed through becoming and being teachers of English. Autobiographies, and narratives do deepen our understanding as teachers, researchers, "[and] all participants of 'who we are and what we are doing" (p. 132). After reading through these written artifacts, I conducted a follow-up interview of the questions that emerge from the participants' writings as a way to co-construct and give them an opportunity to reconstruct their knowledge base as well as mine.

Data Analysis: Interviews were transcribed using a broad transcription, and along with the participants' teaching autobiographies and written artifacts were analyzed using Strauss and Corbin's (1998) grounded theory that is based on issues of importance in the individual's life. The important and recurrent issues that emerge from the participants' transcribed interviews, autobiographies, and written artifacts were analyzed and their content compared to each other. The recurrent themes were translated into categories. When the categories overlap or were ambiguous, the interviews served to clarify and elaborate on them so that I ended up with distinct categories. These categories, which stem from the field, ultimately ground the final theorizing of the participants' experiences.

Results

The findings of the study showed that the participants' current experiences at U.S. universities served as a critical lens to evaluate their lived experiences in Algeria and their teaching practices, and philosophies. Given that the multilingual and multicultural cachet of Algeria is often repressed and denied for political and historical reasons, students faced a lot doubt and guilt in accepting much of the theory and pedagogy they were exposed to here in the U.S. Yet when discussing their future praxis in Algeria, the research participants were cognizant as to the importance of what they learned here in the U.S. and how to implement it in Algeria in a context-sensitive way.

Discussion & Conclusion

Interestingly, the lived socioacademic experiences of Algerian graduate students at U.S. universities tell us that during their academic socialization, students need "to construct comfortable subject positions for themselves in the context of unequal power relations" (Leki, 2006). Hence, in order to better attune to the challenges and specific needs of these graduate students we might need to consider using a more socially oriented pedagogy adopting the socioliterate approach. Teachers at U.S. universities should be aware of the frustrations those students live in re-composing their identities because often times students come out of these academic experiences in the U.S. transformed. In other words, these experiences have "the function of wrenching the subject from itself, of seeing to it that the subject is no longer itself, or that it is brought to its annihilation or its dissolution….[Such experiences are] a project of desubjectivation" (Foucault, 1998). The participants were transforming the relationship they have with themselves, with teaching and learning, and were creating new discursive spaces for themselves.

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Developing Student Research Skills: Evaluated using a Pretest/Posttest Design

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Abstract: Research skills are among the most valuable tools students can acquire in college. Although many courses emphasize factual knowledge, current scientific understandings often have a short shelf life. On the other hand, analytic research techniques are applicable to many contexts over time. Whether attending graduate school or entering the workforce, students will continue to utilize information acquisition skills.

Research Skills

Recognizing these tools' value, the Southern Association of Colleges and Schools (SACS) and the State Council on Higher Education in Virginia (SCHEV) require that their member institutions demonstrate that students have gained facility in information literacy and fluency, as well as ethical research. The State Council of Higher Education for Virginia has identified "six areas of knowledge and skills that cross the bounds of academic discipline, degree major, and institutional mission to comprise the basic competencies." These core competencies include Technology/Information Literacy (SCHEV Task Force on Assessment 2007, 3). Information literacy and fluency goals also directly relate to the standards propagated by the agency that accredits Virginia Tech. The Southern Association of Colleges and Schools' (Commission on Colleges) Principles of Accreditation (2004) require that students can use technology tools (3.4.14), and require that students have instruction in information resources (3.8.2). Specifically, the Association of College and Research Libraries identifies five information literacy standards. The standards range from "Determining information Requirements" to "Locating information" to "Critical Evaluation" to "Ethical Researching" (ACRL 2006). The order of these standards roughly corresponds to the typical research project progression.

Identifying Increased Skill Levels

While pretest/posttest designs are commonly used in controlled experiments employing random assignment of treatments, the pretest/posttest approach has also been utilized in educational research. Although random assignment is not possible when students select their own courses, changes from the pretest to the posttest may be attributed to the course experience if proper statistical controls are employed. Disciplinary studies have examined topics ranging from changes in factual knowledge about mental illness (Sanders-Dewey and Zaleski 2009) to the effectiveness of online versus on campus natural resources lab courses (Reuter 2009). Information literacy and fluency instruction have also been the subject of pretest/posttest studies, where studies range from a pretest that is used as a self-evaluation to target learning (Ivanitskaya, DuFord, Craig, and Casey 2008) to a series of studies at The Citadel that primarily focused on student attitudes toward library research and resources (Carter 2002).

This Study

This paper describes a programmatic information literacy and fluency skills assessment project utilizing a pretest/posttest design. This study differs from previous research through its emphasis on measuring changes in correct usage of skills. Positive changes in students' performance within each category of ACRL information fluency were identified through comparing pretest and posttest results.

Conclusion

This study illustrates the value for assessing changes in knowledge of research skills during a term, and which pedagogical practices are associated with the largest gains in these skills.

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Effects of "Clicker" Formative Assessments in a University Physics Course

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Abstract: The present study investigated the effects of clicker use on student achievement and attrition in a large, introductory physics class. The design was quasi-experimental with data from two consecutive semesters of the same course with one using clickers. Preliminary results reveal that students who used clickers received significantly higher scores on the final examination than the other group while attrition rates were not significantly different. The implications of these results for including clickers in introductory science courses are discussed.

Introduction and Literature Review

According to the *National Science Education Standards (NRC, 1996)*, "assessments provide an operational definition of standards, in that they define in measurable terms what teachers should teach and students should learn" (pp. 5-6). Furthermore, "when students engage in assessments they should learn from those assessments" (p. 6). Extended to colleges and universities undergoing undergraduate science education reform (Siebert & McIntosh, 2001), this contemporary view of assessment and its function suggest that teaching, assessment, and curriculum are mutually reinforcing and need to be aligned in order to achieve effective learning experiences. With the curriculum already established in many university and college courses, and if assessment and learning are considered two sides of the same coin (NRC, 1996), it would seem reasonable that frequent assessment results could readily inform changes to instruction needed to facilitate and maximize student learning.

Formative assessments are frequent, and provide feedback to instructors and students as to the level to which course material has been mastered (Stull, Schiller, Jansen Varnum, & Ducette, 2008). Feedback to the instructor identifies both changes needed in instruction and the degree to which instruction was successful. Feedback to the students helps to identify problem areas and provides reinforcement for continued learning. Formative assessment is identified as a key predictor of student achievement (William & Black, 1998), and recommended for integration into curriculum as part of the learning process whereby students can self-regulate (Nicol & Macfarlane-Dick, 2006).

Used as a type of formative assessment, the 'clicker' system is one way to engage students in the learning process (Duncan, 2005). A clicker system is an in-class polling system where students use a hand-held device to respond to instructor provided questions (usually multiple-choice format) (Duncan, 2005). After a question is posed by the instructor, students' responses are tabulated and results displayed (usually in the form of a histogram). Although this strategy has shown to promote student discussion and engagement (Duncan, 2005), an extensive 2009 review of the literature reveals a need for published empirical peer-reviewed evidence to support the claim (Mayer, Stull, DeLeeuw, Almeroth, Bimber, Chun, Bulger, Campbell, Knight, & Zhang, 2009). This study provides preliminary empirical evidence from a university physics class in which clickers were used as a formative assessment.

Methods and Subjects

This National Science Foundation-supported quasi-experimental study was conducted at a large, public, urban university in the mid-Atlantic region. Data were obtained from a fifteen-week introductory physics course that met twice a week for 80 minute periods. One professor and 157 and 152 students in the fall and spring semesters of the course, respectively, participated. Both groups completed a physics and a mathematics test to assess prior knowledge and problem solving skills (week 1), two midterms (weeks 6 & 11), and a cumulative final examination (week 15). The spring semester students (clicker group) completed a total of seven formative assessments during weeks 5-7, 9-11, and 13. The fall semester students comprised the control group. The assessment dates were unannounced and occurred once a week.

Results

Equivalent Groups: Results of the pretests given at the beginning of the semester reveal the control group's physics scores (M=31.4, SD=11.3) were higher than the clicker group (M=30.7, SD=11.3), but the difference was not statistically significant, t(271)=.42. The clicker group's mathematics scores (M=57.3, SD=23.1) were higher than

the control group (M=56.8, SD=21.5), but again were not statistically significantly different (t(271)=-.21). Based on these results, the groups were equivalent.

Midterms and Cumulative Final Examination: Both groups suffered the loss of students. The attrition rate for the control and clicker groups was 20.4% and 23.0%, respectively; however the difference of proportions was not significant. Accounting for self-selection bias, it is acknowledged that the groups' content and skill sets are better at the end of the course when compared to the beginning. Thus, a test of change over time within a semester is not possible. Results reveal the control group's midterm 1 scores (M=56.7, SD=18.5) were higher than the clicker group (M=55.2, 29.6), but the difference was not statistically significant, t(288)=.52. The control group's midterm 2 scores (M=61.6, SD=13.8) were higher on their test than the clicker group (M=44.9, SD=24.8) on theirs. However, the clicker group's cumulative final examination scores (M=58.8, SD=11.3) were higher on their test than the control group (M=35.0, SD=38.3) on theirs. Overall, the change in mean scores from midterm 1 to the cumulative final examination reveals the control group had a decrease in test mean scores with an increase in the variability of those scores (ΔM=-21.7, ΔSD=19.8) when compared to the clicker group (ΔM=3.8, ΔSD=-19.8). Regression analyses have been performed to identify those students whose actual scores were higher than what was predicted. These analyses enable us to control for extraneous factors and to quantify the effect of using clickers.

Discussion

While the anecdotal information that advocates the use of clickers and related technology to improve student achievement abounds, it is imperative that empirical research substantiate these claims. This research offers promising preliminary evidence to support the use of clickers as one type of formative assessment to improve student achievement. Students who used clickers received higher scores on the cumulative final examination with less variability in scores when compared to the other group. It is also important to note that while the clicker group outperformed the other group on the final examination, the attrition rates for the two groups were similar. However, there are some unresolved issues that need to be addressed. While the students in both classes performed equally as well on the first midterm without using clickers, lower scores on the second midterm were obtained by the students who used clickers. To what extent is this phenomenon attributed to regression to the mean or to the clicker treatment? To what extent are there delayed effects on students' learning and their metacognitive learning when using clickers? These issues need to be studied as additional empirical evidence is gathered to support the use of clickers to improve student achievement and to corroborate anecdotal information about clicker use. In using clickers, instructors can know about students and what students know about themselves during the learning process, instructors can be better informed about changes to instruction needed to promote student learning and achievement.

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Discipline-Centered Learning Communities: Their Impact on Student Success at Two Universities

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Abstract: We report assessment results on student success that discipline-centered learning communities in Psychology are having at our respective universities. Both are curricular-based learning communities and design features of both will be described. The faculty coordinators of the programs began tracking the academic performance of learning community (LC) participants and comparing it to non-participating students when each program began, and we now have data for 11 cohorts across both universities. Results indicate that LC participants enjoy significantly higher first-year retention rates, GPA, and earned hours than non-participants, as well as higher levels of participation in formal research experiences. Results are discussed in the context of the learning communities literature.

Literature Review

During the past 10 to 20 years, learning community initiatives have experienced unprecedented growth. By recent estimates, over 500 colleges and universities now have implemented some form of learning community, cutting across all types of academic institutions (2-year vs. 4 year, liberal arts colleges vs. research-oriented universities, public vs. private, and residential vs. commuter). Efforts range from campus-wide interventions involving a majority of students to small-scale interventions for just a few students. Learning community proponents (e.g., Smith et al., 2004) have suggested that widespread interest in the learning community movement is fueled by a learning community's ability to promote the type of academic and social experiences that researchers have linked to college student success (e.g., Astin, 1993). Several studies have linked learning communities to a variety of desired outcomes of college including higher grades and persistence rates, greater levels of intellectual and social development, and higher levels of co- curricular involvement and engagement (Zhao & Kuh, 2004). However, much of the positive evidence is anecdotal and there is a need for more rigorous studies, including those that employ proper comparison and control groups. The current study reports the results of participation in a learning community at two universities on a range of student success outcomes using two different approaches to compare learning community students with non-learning community comparison groups.

Methodology

The Psychology Learning Community (PLC) at UNC Charlotte (Charlotte) is a non-residential curricular-based learning community for first-year psychology majors. It began in 2003 as part of a university-wide initiative to improve retention and academic performance. All members of the PLC in each of the six cohorts between 2003 and 2008 were participants in this study (N=171, with 27 men and 144 women); 171 comparison students participated in the study. These students were selected each year from the incoming freshman psychology majors not in the PLC to match the profile of the PLC students in terms of PGI (predicted GPA) and gender. The number and gender composition of comparison students in each cohort was therefore exactly the same as the number of PLC students in each cohort. We obtained the following measures of student success for all participants: first-year retention, first-year GPA and earned hours ratio (EHR); and 4- and 6-year graduation rates.

The PLC at James Madison University (JMU) is also a discipline-based, curricular learning community, open to first-year students who have declared a psychology major. JMU's PLC is designed for up to 20 first year students, and our first cohort began in Fall 2002. The current study included an assessment of the success of the first five cohorts bewteen 2002 and 2007. At JMU, we adopted a slightly different approach to evaluate the success of PLC students compared to non-PLC students that we think nicely complements the UNC Charlotte approach. We obtained university records for all Psychology majors in our program during the first five years the PLC has existed and extracted key variables that would allow us to evaluate how similar or different the experiences of our PLC students were from our other Psychology majors through a series of t-tests investigating student success on the following variables: first-year GPA, cumulative GPA, psychology major GPA, and participation in our more advanced research-related experiences (e.g., direct study, independent study, and honor thesis).

Data Analysis and Results

Charlotte. Statistical comparisons of PLC and non-PLC students showed significant differences on most measures of academic success and progression. T-tests revealed that PLC students significantly outperformed non-PLC students on first-year GPA and earned hours (EHR). PLC students' mean first-year GPA was 2.93 and non-PLC students' mean GPA was 2.52. This difference was statistically significant (t1, 171 = 6.98) at the $p < .005$ level, with a large effect size (Cohen's d = 1.07). Similar results were obtained for first-year EHR; PLC students' mean EHR was .94 while non-PLC students mean EHR was .84. This difference was significant (t 1,171 = 3.32) at $p < .05$ level, with a moderate effect size (Cohen's d = .51). Chi square results showed that PLC students had significantly higher rates of first-year retention (91% vs. 80%, $\chi 2 = 7.35$, p< .01) but, although PLC students enjoyed higher 4- and 6-year graduation rates (36% and 80%, respectively) than the non-PLC students (27% and 70%), chi square tests were not statistically significant.

JMU. We first conducted independent groups t-tests to compare PLC and non-PLC students' initial performance (first year GPA), overall subsequent performance (cumulative GPA), and specific performance in Psychology courses (Psychology GPA). On each GPA variable, PLC students outperformed our non-PLC Psychology students. Specifically, PLC's first year GPA (M=3.43), cumulative GPA (M=3.40), and Psychology GPA (M=3.55) were all significantly higher than non-PLC's first year GPA (M=3.11), cumulative GPA (M=3.22), and Psychology GPA (M=3.36). Effects sizes were strongest on first year GPA (Cohen's d = .72), but still remained moderate for cumulative GPA and Psychology GPA (Cohen's d of .42 and .40 respectively). Next, we investigated students' higher level involvement in research, and found that PLC students participated at a much higher rate than non-PLC students. In addition, PLC students began their initial PSYC 290 or 402 experiences significantly earlier than non-PLC students. In each case, the difference averaged a year earlier (Cohen's d effect sizes were 1.26 and .86 respectively for their first 290 and first 402). PLC students also enrolled more often in PSYC 290 and 402 experiences compared to non-PLC students (Cohen's d effect sizes .74 and .52, respectively).

Discussion

Results provide overwhelming positive support for the use of discipline-centered learning communities at two universities. There is support in the literature for broader implications to other departments. As Smith et al. (2004) pointed out, learning communities are "infinitely adaptable to different kinds of curricular and co-curricular settings… educators can shape and reshape the strategy around specific curricular or student needs" (p. 22). The flexibility of the learning community structure allows alignment of program design with the unique needs and goals of each department, making them a viable choice for most settings and a range of instructional and curricular objectives. If limited resources are a concern, it is possible to "start small"—either with a small cohort or with a more limited curricular model—and grow over time as assessment results and changing needs warrant. However, cost-effectiveness is another aspect of learning communities that broadens their versatility. Both of our LC programs operate on a very small annual budget, and we agree with the observation that learning communities offer "a unique opportunity to be resourceful in a time of limited resources" (Smith et al., p. 23).

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Effects of Using Incentive-based Cooperative Learning Models on Student Learning

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Abstract: This project examined the effects of using incentive-based cooperative learning models on student achievement. Two groups of undergraduate educational psychology students were exposed to two types of group-based learning activities for the duration of four weeks. Class time was provided for students to engage in interactive learning experiences. One of the classes was randomly selected to receive a modified version of Slavin's STAD model of incentive-based cooperative learning experiences. The second class (control group) received standard instructions to work in group settings. The static-group comparison design was used in the research study. The results indicated that the mean difference in student performance between the two groups was not statistically significant. The lack of significant difference was attributed primarily to the internal threat of treatment diffusion. Additionally, the instructor did observe that the performance of both the groups in this study surpassed the performance of the students in the previous semesters.

Literature review

Cooperative learning is one of the instructional models recommended for enhancing instructional quality in classrooms (Johnson, Johnson, & Smith, 1995; Slavin, 1995). Students are reported to be better motivated when teachers incorporate group work in classrooms. (Slavin, 1995; Whicker, K. M., Bol, L., & Nunnery, J. A, 1997). Constructivist models suggest that students learn to make sense of material thorough interpersonal communication (Bodrova, E.; & Leong, D.J, 2007). Additionally, the globalization of work space requires that students learn to collaborate with one another to complete projects. The current project was implemented because of the investigator's observation that despite using group-based approaches students did not have major increases in the average grades. Even though teachers use group-based learning strategies, and students are reported to be liking these approaches, one needs to take a critical look at the feasibility of using instructional time in promoting student learning. A question that has to be asked frequently is: Are students benefiting from group-based learning activities? Are some methods more effective than certain others?

Methodology

The static-group comparison design was used in the research study. One of the two sections of the educational psychology classes was randomly selected to receive the incentive-based cooperative learning experience. Based on STAD's model of cooperative learning (Slavin, 1995), the incentive group received additional bonus points for group average increments, as well as performance in the unit test. The incentive scale was provided to the students before the start of the unit. The second section was exposed to traditional group-based learning experiences. No special incentives were provided for any accomplishments.

Data Analysis & Results,

A t-test for independent groups was used to analyze the student achievement data. The following table provides the summary of the results of the t-test.

	N	Mean	S D	Median
Sample 1	48	65.4	9.36	68.2
Sample 2	47	65.8	8.93	67
t value	0.259			
P value	0.792			

Discussion

It was hypothesized that the students in the incentive-based group experience would achieve significantly higher scores on unit achievement test than the control group. However, the mean difference between the two groups was not statistically significant. Subsequent interview analysis revealed that the treatment

diffusion could have possibly contributed to this result. It is recommended that a better design (time-series design) should be used to eliminate the threat to internal validity. Despite the lack of significance in the mean scores between the two groups, the investigator did observe that the performance of both the groups in this study surpassed the performance of the students in the previous semesters. Additionally, both the groups reported positive reactions towards the use of cooperative learning approaches.

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Evaluating Learning Through the Use of Concept Maps

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Abstract: In educational research, measuring learning is a critical task. While there are many ways to assess learning, doing so in a reliable, valid manner is a difficult task. This is especially true when the learning being measured concerns high-level abstract concepts. Concept maps are one approach to handling this problem. Concept maps can be used to ascertain current understanding and measure change over time and between groups. This paper describes how concept maps were used to measure the effects of teaching technique (peer review) in a Computer Science classroom over a semester period. The concept maps were found to adequately assess student learning and changes in understanding where other methods could not.

Introduction

Evaluating learning is a critical task in educational research. Assessments must be in place to show that students are gaining knowledge and that teaching methodologies are effective. To do this, papers, exam, projects, final grades and many other measures are employed. In use, however, there are a number of problems that can crop up, including the validity of the assessment. Many things, like the wording of questions or instructions, can affect student performance on an exam or project and showing that these are truly valid measures is a time consuming task. Grades, final or otherwise, can be influenced by many factors, such as the weights of different assignments, grading schemes, etc., and may reflect more of their performance in the course rather than the amount they learned. In fact, students that perform well may still have significant misunderstandings (Turner, Quintana-Castillo et al. 2008).

These issues show a need for alternative, valid methods for evaluating learning that provide additional perspectives and more directly measure the ideas being learned. Concept maps are one possible technique as they provide a snapshot of a student's knowledge and how those ideas interrelate. Since it is asking them to describe their understanding, it gives a more direct look into their thoughts and offers an alternative approach to evaluation.

Literature Review

Concept maps are a way to display an understanding of a body of knowledge graphically (Novak and Gowin 1984; Marchand, d'Ivernois et al. 2002). Nouns (or noun phrases) are used as nodes and verbs are used to link the nodes together (see Figures 1 & 2). In practice, the maps' creators select concepts that they think are part of a topic and connect those concepts according to their understanding of the relationships between them. Since they are open-ended and non-linear, students have flexibility in how they express themselves and their choice of nouns, verbs, and connections (or lack thereof) describe their mental representation of the topic. This provides a different and more direct view into their thought processes than is obtained through the use of exams, projects and similar measures.
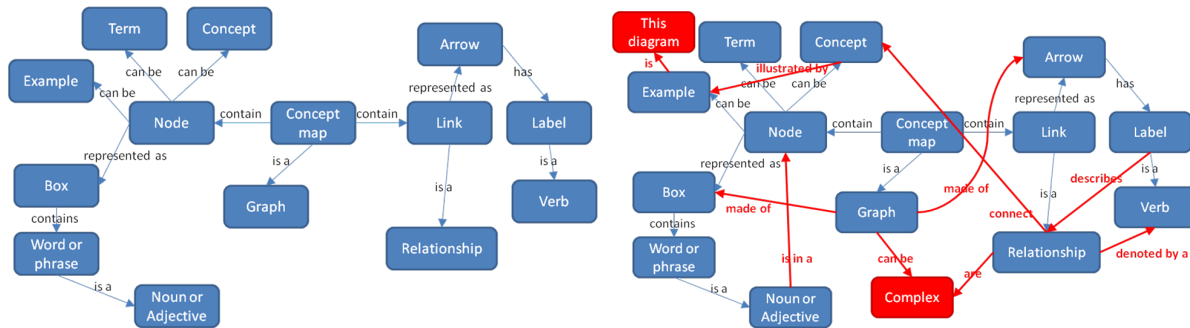
Figure 1. Concept Map of Concept Mapping **Figure 2**. Expanded Concept Map of Concept Mapping

There are a number of ways to score a concept map including evaluating the concepts used and whether important ones are missing, and calculating the difference with a master map. The Novak and Gowin scoring scheme is very commonly used in the literature (Novak and Gowin 1984). This system assesses the links in the map and rewards

hierarchical links and connections between branches of those hierarchies. The validity and reliability of some of these measures, including the Novak and Gowin score, are discussed in the literature (McClure, Sonak et al. 1999).

Kinchin and Hay provide insights into the meaning of the structure of the concept maps (Kinchin, Hay et al. 2000). Chains, or nodes linked in sequence one after another, was an indication of rote memorization. Spoke, or tree structures, showed a better understanding but one that is fairly rigid and is lacking connections. Nets, or nodes linked into a web, indicate a much more developed understanding and adjust well to changes. This can be used not only to see if a student knows if there is a relationship between two concepts but also to get an idea of how well they understand those relationships (see Figures 1 & 2 for an example of a spoke and a net structure).

Methodology

For this experiment, the students were divided into three groups. Two groups were given exercises as part of the experiment and the third was used as a control. Early in the semester, the students were given a brief (10-15 minute) introduction to concept mapping and asked to create a single concept map about their knowledge of three high-level Computer Science concepts. This provided a base line understanding for the data analysis. The students were asked to update their maps after the first two study interventions (about halfway through the semester) and after the fourth and last study assignment near the end of the semester. Changes between versions of the maps were viewed as changes in understanding over time (Marchand, d'Ivernois et al. 2002). The concept maps were scored using the Novak and Gowin scheme and weighted on how their structure matched those identified by Kinchin and Hay. These values were analyzed using a MANOVA with repeated measures over time. The experimental group was used as a factor in the analysis. Other measures used included a multiple-choice test on the concepts and the students' grades.

Results and Discussion

One of the lessons learned from this study came from comparing the results obtained by the measures used. Examining the concept maps qualitatively, there was clear evidence where students understood concepts, where they misunderstood concepts, and where they did not understand the concepts at all. This was apparent from how they explained the relationships, what relationships they used, and what concepts they did or did not use. The data analysis of the quantitative data from the maps reflected this and was effective in showing changes over time and between groups. This approach provided the level of detail needed for the study.

The finding with the concept maps did not correspond well with the other measures. The students' grades and the multiple-choice test did not provide much useful data. The grades tended to be grouped together and the test data has a very large statistical variation. Neither of which made them effective at measuring the concepts being studied.

In this study, concept maps proved to be a useful measure of learning. They provided a look at the learning of abstract concepts by having the students explicitly describe their understanding and this drew out important data that may not have been observed otherwise. This is a tool that can be used to complement other evaluation methods.

Acknowledgements

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Formative Feedback, Rubrics, and Assessment of Professional Competency

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Abstract: Professional competencies independent of discipline-specific knowledge and skills are addressed by most allied health professions. This paper presents the process of developing and testing a Graduate Student Development Profile (GSDP) in rubric format. In addition to documenting behaviors, a rubric system provides formative feedback helpful to student learning and development as a professional. A rubric for rating Responsibility for Learning, Critical Thinking, Cognitive Flexibility, Professionalism, and Communication, each with specific subcategories, was created, developed, and implemented by faculty and clinical staff to guide the three sequential evaluations each Master's level student receives during the five-semester speech-language pathology (SLP) program. Pilot scoring of master's students was used to calibrate and refine the GSDP before official implementation. Two evaluations were completed during faculty meetings to familiarize users with the GSDP. A third evaluation was conducted via a secured website. In each case, resulting scores and specific comments for each student were shared during a faculty meeting before being presented to students individually. The GSDP documents the speech-language pathology student's professional competency demonstrated across academic, clinical, and interpersonal settings. The web-based version brings convenience and efficiency to the often formidable, but fundamentally necessary, process of providing formative and summative feedback to students.

Literature Review

Epstein and Hundert (p. 226) define professional competency as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served." Assessment of profession-specific competence typically leads to detailed assessment tools focusing the acquisition of discrete clinical skills (Lewis, Stiller, & Hardy, 2008; May, et al, 1995; Miller et al 2001; Shriberg et al, 1975). Methods for identifying and assessing core professional competencies (e.g., critical thinking) are relatively uncommon in the speech-language pathology profession compared to other allied health professions (Verma, et al, 2009). The mission of our graduate programs must include skill-based knowledge and performance as well as preparation for professional careers. Implementing a formative assessment system that sets benchmarks and acknowledges progress communicates the value of personal development while providing support and direction to that end (Taras, 2002). Operationally defining both the student's current level of performance and the desired level of performance, combined with 1:1 discussion with advisors, gives the student concrete examples of what they must do to improve their performance in the future. We choose a rubric format for our assessments for several reasons, not the least of which were efficiency and transparency. We wanted a level of detail that would be helpful but not require extensive time writing comments. We also felt every student should receive comments (positive or negative) on the same concepts. By reviewing the faculty's ratings, a student can identify where he/she has and has not met expectations as well as review the descriptions of higher levels to strive for next (Stevens & Levi, 2005). Formative feedback is a type of assessment that contributes to student-centered learning and engagement in the learning experience (Taras, 2002; Weimer, 2002).

The *Graduate Student Development Profile* (GDSP) is a rubric-based assessment tool used by faculty to provide formative feedback in five core competency areas: taking responsibility for learning, critical thinking, cognitive flexibility, professionalism, and communication skills. Our faculty completes ratings three times during a student's two years of graduate study. The GDSP has two main purposes: provide formative feedback to students regarding their professional competency and document student progress *over time* throughout the students' graduate school experience, thus assisting our department in meeting ASHA's certification Standard V.

Methodology

Our faculty and staff began our discussion by reflecting on the questions: What professional skills do we want our students to exhibit when they graduate? What would our ideal graduate look like as they entered their Clinical Fellowship after graduation? There was general agreement that certain skills were necessary to succeed

professionally in the field of speech-language pathology. We then grouped the listed skills into five categories: taking responsibility for learning, integration of knowledge/critical thinking, cognitive flexibility, professionalism, and communication skills. Subcommittees of full- and part-time faculty and clinical staff were assigned to each skill area; subcommittees then developed subcategories and descriptions for a rubric using 1-5 scoring. After compiling the rubrics, the average score of the 20 subcategories could be calibrated to the progression of expectations through the program. For example, an average score of '3' is expected for graduate students at the end of their first semester in the program, whereas students near graduation should be scoring near '5.' To save time and ensure accuracy, the GDSP was formatted for a web-based data entry system.

Results

Repeated-measures ANOVA revealed a significant main effect for time (F=149.3, df=2, $p \leq$.000) and large effect size (partial eta squared= .867) indicating the factor of time accounts for 87% of the overall variance in the cohort studied.. Pairwise comparisons revealed differences in the cohort's ratings between time 1 and 2, 2 and 3, and 1 and 3 (all p-values for pairwise comparisons $\leq$ .000).

The mean ratings increased over time, from a mean of 3.3 out of 5 in the first semester to a mean of 4.4 out of 5 in the fourth semester. Over time, the standard deviation becomes smaller and the overall central tendency indicates a progression of overall improvement with less variation between students and underperforming students more of a rarity by the fourth semester. Thirty percent of our faculty re-rated a total of eight students two weeks later; a paired t-test comparing first and second ratings revealed no significant differences between the two ratings (t=1.52, df= 155, p=.130), indicating intra-rater reliability of the GSDP.

Discussion

The GSDP provides for standard and uniform assessment of students. Now, when we tell students they are 'doing fine' this means 'meeting defined expectations for this point in the program.' We are giving equal time to providing feedback to all students, not just those who are struggling. Informative feedback such as that provided in the GSDP makes the students' responses active: it gives them particular behaviors to act upon and change. Overwhelming as it may first appear, formative assessment of professional knowledge is not only possible in graduate speech-language pathology programs, it is helpful in shaping competent clinical professionals.

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From Peer To Peer: Issues About Observers In Peer Observation Of Teaching

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Abstract: Higher education teaching and learning in Europe faces challenging times and deep changes, largely due to many reforms originated by the so-called Bologna process (Moore et al, 2008; Leite, 2007; Vieira, 2005). The objective of this paper is to present the results of a training + research project that was proposed by a Teaching and Learning Lab set up jointly by the Faculty of Educational Sciences (FPCEUP) and the Faculty of Engineering (FEUP) at the University of Porto. Its underlying strategy aims to improve the quality of teaching and the quality of learning, and at the same time to capture information about teaching and learning practices used within the university.

Higher education teaching and learning in Europe faces challenging times and deep changes, largely due to many reforms originated by the so-called Bologna process (Moore et al, 2008; Leite, 2007; Vieira, 2005). The objective of this paper is to present the results of a training + research project that was proposed by a Teaching and Learning Lab (TLL) set up jointly by the Faculty of Educational Sciences (FPCEUP) and the Faculty of Engineering (FEUP) at the University of Porto. Its underlying strategy aims to improve the quality of teaching and the quality of learning, and at the same time to capture information about teaching and learning practices used within the university. Specifically, this paper wants to argue the idea that POT is an opportunity to improve observers' professional development. Research data comes from 31 observation forms and could aloud us to conclude that experiment gave an opportunity to reflect upon teachers' one practices as a result from observing peers.

Our training scheme follows the peer observation model presented by Gosling (2002), whose proposed solution differs from evaluation or developmental models (Hammersley-Fletcher & Orsmond, 2004; Cosh, 1998) . According to Gosling (2008, p. 5), on a peer-observation model, teachers observe each other with one clear objective – to discuss their teaching activities through self- and group-reflective exercises.. Bell defines POT as a "Collaborative, development activity in which professionals offer mutual support by observing each other teach; explaining and discussing what was observed; sharing ideas about teaching; gathering student feedback on teaching effectiveness; reflecting on understandings, feelings, actions and feedback and trying out new ideas" (Bell 2005, p. 3, in Bell and Mladenovic 2008, p. 736). POT in this sense is ideally a "continuous process of transforming personal meaning" (Peel 2005, p. 489), which ensures consolidated transformations in the participants' perspectives on teaching and learning, instead of just small changes in specific aspects of their performance. One main feature of our model is that it offers a symmetric distribution of power between the observer and the one being observed; it focus the observation on teacher performance, on the class, and on the learning content, and is followed by constructive, non-judgemental feedback.

The training + research instrument used in our TLL was inspired on similar work done at other universities (Leicester, Nottingham, Southampton, Queens at Belfast, Imperial College at London), and includes three stages: prior, during, and post observation. At prior-observation the observers obtain information about all relevant facts / data using documents and through an interview with their colleague that will be observed. The post-observation stage is related to the constructive feedback and reflective discussion. During observation a regular class is attended by the observers, who use an observation grid adapted from the model used at Southampton University. The observation scheme requires that all observers be observed as well, and also that each team member observes one class at FEUP and another class at FPCEUP.

A total number of 40 observation sessions were organised during the first semester of 2009 / 10, divided equally between FEUP and FPCEUP. The results that will be presented are based on these 40 observation grids, which were analysed with the objective of improving our knowledge about the teaching and learning practices at these two University of Porto schools.

The organisational model underlying this training + research project was based on teams with four elements, two from Educational Sciences (FPCEUP) and two from Engineering (FEUP). The observation grid was adapted from the model used at the Southampton University, and comprises three sections. The first section covers class-related

topics, namely "organisation", "presentation", "class mood", "content", and "awareness and flexibility". The second section asks the observer to compare the observed class with his/her own classes, offering the observer four leading questions addressing observation subjects that were not covered by the closed response items: 1) What was most striking? 2) What questions would I like to ask to the teacher? 3) What similarities / differences were found in relation to my own lecturing practice? 4) Can I make any recommendations? Finally, the third section covers the post-observation reflective discussion.

Are those two sections that are presented now as an exercise to highlight observers' concerns rather observed teachers' practices.Only 9 out of the 40 observation forms that were collected did not contain any qualitative information. This information was correlated to the School variable only when it was considered meaningful. All data content analysis was done using the N-VIVO 8 package, and the information was grouped into the following emergent categories: Negative aspects; Positive aspects; Technical aspects: Pedagogical aspects; Wider questions; Suggestions.

N-VIVO 8 offers source coding features that were used to associate the observation forms to categories, and reference coding, which in our case correspond to phrases or expressions representing an assertive proposition.

Results

The negative aspects were subsequently divided into three groups, relating to students, to teachers, and to organizational aspects. Likewise, the positive aspects were analyzed according to their dependency upon climate issues, upon the teacher's work, and upon the work done by the students. Finally, the recommendations made by the observers were grouped in two main types, relating to the specific teacher under observation, and to teachers in general (at institutional level).

Main results (which we have not enough space to present) show that those issues centred on intentional teacher actions achieve the highest scores, both in positive and negative aspects. Negative aspects related to organizational categories were, related to classroom management. Those referring students' inattentive behavior achieve the highest scores of negative aspects. Also negative were classes centred on teacher's presentation. On the opposite and referred as positive aspects were the opportunities for interaction with the students and promoting their participation. As an interpretation it can be said that there is a relation between negative issues connected with students' behavior and classes centred on teachers' presentation as it seems to be a relation between teachers' interactive behaviour and students' participation in class. This interpretation is reinforced by wider questions that concern observers – how to evolve students in the classroom is the huge challenge. In a wider approach we may conclude that experiment gave teachers an opportunity to reflect upon their practices as a result from observing peers. Future publications will include expanded results and discussion.

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Graduate Students' Knowledge Modus Operandi

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Abstract: Our research on graduate students' identity work revealed underlying orientations to knowledge. We characterize students' use of and relationship to knowledge as their Knowledge Modus Operandi (M.O.). Implications for those involved in a teaching and learning role with students include recognition that students are "up to" highly varied intentions as they pursue their studies and their Knowledge M.O. may influence their relationship to and expectations of faculty. It is likely that students who expect to obtain a degree or credential interact with faculty as if we hold something they want to possess. On the other hand, those who see how gaining new tools can be useful may expect us to provide tips and coaching and to design courses with utility in the forefront. Those who see the transformational potential of engaging with knowledge may take a more agentic approach to their studies, owning the process, being receptive to our intention to support deep learning.

Literature Review/Methodology/Data Analysis

We used a grounded theory (Strauss & Corbin, 1998) approach to the analysis of 2 questions: "How do you think obtaining your graduate degree will affect you professionally?" and "How do you think obtaining your graduate degree will affect you personally?" The population was 63 graduate students in an MA in Organizational Leadership, who interviewed each other as part of their professional development as researchers.

Using a process of consensus and constant comparison of emerging codes and categories in our data, we generated concepts directly from the data partly through content analysis and partly though "thought experiments" (Flick, 2002, p. 206). The responses to these two simple questions led us to the development of a distinct typology of students' use of and relationship to knowledge. Consistent with the grounded theory approach, we returned to literature to gain a better understanding of what was emerging.

While epistemology, or the nature of knowledge, has been central to discussions of adult development (i.e. - Belenky, Clinchy, Goldberger, & Tarule, 1986; King & Kitchener, 2004), our research on the student perspective concerning the purpose knowledge serves and what happens as a result of being involved with acquiring it, stimulates a different inquiry of the literature. For example, considering knowledge as something produced or learned by human societies in the study of human settlement, Agrafiotis (2002, p. 12-13) offers typologies he characterizes as "Forms of Knowledge" or "Mode of Knowledge." He distinguishes types of knowledge as tools, commodities, symbols or matrices of transformation. Although the scope of our concern is an internal psychological process, rather than societal level theorizing, his typology forms a close pattern to what we heard our research participants expressing.

Another discipline with insights into the use of and relationship to knowledge is evident in Pickering (1995) , who offers a contrast between "the representational and performative idioms" (p. 5) in his study of the practice of science. Representation is an effort to produce knowledge that reveals the real nature of the world. A performative idiom instead considers "the doings" (p. 21) – how we, as agents, interact with knowledge. We also note the processual concept of knowing, as discussed by Cook and Brown (1999), who emphasize that there is knowledge one possesses, as in, "'Robert knows auto mechanics'" (p. 382). Having, getting and being able to speak about a topic are all possible with a conception of knowledge as an entity that can be possessed. There is an additional view, however, that foregrounds the knowing that is contained in action and reflects the "epistemic work done by human action itself" (p. 382). In practice, there is *knowing*, as in, "Robert is fixing cars" (p. 382). In addition, we are influenced by the notion that learning or gaining knowledge can be transforming (Mezirow, 2000).

Like Agrofiotis (2002), our focus is on knowledge as something that is produced. Like Pickering (1995), we are interested in what occurs in interaction with knowledge. Like Cook and Brown (1999), we recognize that knowledge can be contained in action. Like Mezirow (2000), we see evidence that knowledge is or can be transforming. Our grounded theory of Knowledge M.O. emerged as we utilized an inferential and inductive process. We generated our framework as briefly summarized below.

Findings

Knowledge M.O. (Use of and Relationship to Knowledge)	Exemplary Quote
Knowledge is an entity N = 29	"I don't think a degree will affect me at all, but it will put me in a successful position."
Knowledge is a tool N = 19	"It will provide me additional skills to manage staff…and enable me to lead groups, organizations and people in the future."
Knowledge *can be* transforming N = 8	"I want to develop a more open mind…think more abstractly, deal with more concepts…and learn about myself."
Knowledge is transforming N = 2	"It has brought me happiness, first and foremost. It has given me a stronger understanding of myself, but also others."
I develop knowing and transform through experiencing and reflection on experience N = 5	"This is challenging me to dig deeper, my experiences and reflect upon them. It's given me an opportunity to grow and develop."

Discussion/Conclusion

Students who operate from an understanding that knowledge is something that one possesses, like an object, use school as a place to "get" knowledge. It isn't the textbook that represents knowledge, it is the diploma. (Knowledge is an entity.) Some use knowledge as a way to improve how they navigate their work environments and see the utility of what they learn. (Knowledge is a tool.) Others engage in a relationship with knowledge that either can, or already has, brought them new, more complex perspectives. (Knowledge can be transforming and Knowledge is transforming.) Finally, there is a set who focus on the experiencing side of engaging with knowledge, which when coupled with reflection, leads to a change in view and emergent knowing. (I develop knowing and transform through experiencing and reflection on experience.)

Our framing of a Knowledge M.O. is a new view from within an important question: What is "up" with students, as they use their graduate studies to develop themselves? From a teaching and learning position is it conceivable that students can move from one stance to another and if so, how can we support their movement?

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Innovative Technology-Mediated Collaborative Teaching Approaches for Construction Education

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Abstract: The predominant model of construction engineering and management (CEM) education remains similar to that practiced in the 1950's, with large classes and single-discipline, lecture-based delivery being the norm. Recent studies have indicated today's engineering graduates need to have strong communication and teamwork skills; they need to have a broader perspective of the issues that concern their profession such as social, environmental and economic; and finally need to know how to apply fundamental engineering science and computer skills in practice. To address these concerns, the authors co-designed and implemented a collaborative bi-coastal course that involved architecture, construction, and engineering graduate students from Virginia Tech and the University of Southern California (USC). The course focused on emerging collaborative information technologies and project-based learning, and facilitated self-learning, peer-to-peer learning, virtual instructional learning, and engaged industry mentors. This paper presents the course objectives and structure and the results of student feedback on learning outcomes. The findings reveal that virtual teamwork had a positive impact on learning the topics of construction engineering and management but also posed various challenges to achieve their tasks and overcoming technical problems.

Introduction

In recent years studies have been conducted (Lang et al., 1999) to determine the technical and personal abilities required of engineers by today's construction industry and have highlighted the widening gap between academia and industry (Nawari, 2010). In order to address these concerns, the authors collaborated to design a collaborative course that involved remote collaboration between 12 students from Virginia Tech and 12 students from USC.

The course was designed on the pedagogical principles of collaborative learning and experimental learning and built around technological platforms of collaborative design and engineering technologies, specifically three-dimensional model-based technology that is rapidly replacing traditional means of design and communication in the architecture, engineering, and construction industry. Collaborative learning objectives of the course encompassed team-based instructional methods, cooperative learning (Smith and MacGregor, 1992; Millis and Cottell, 1998) where students pursue common goals while being assessed individually. Virtual learning emphasized the needs to work efficiently within multicultural and geographically dispersed environments and role-based learning was applied to enhance students' motivation to engage them in active learning and social interaction to form a community of practice.

Experimental learning (Bary and Ress, 2006) was another underlying pedagogical aspect of the course to allow reflective practices that would transform experience to learning. The students were assigned to four groups and were challenged to work on two campus projects, the School of Cinematic Arts (SCA) at USC and the ICTAS II project at VT. Half of the members in each team had to work with their counterparts from their partnering university. A series of problems were introduced to the students to guide them through the experience of project execution. The students worked on design, modeling, and estimating, system interference checking and timeline visualizations. At the end of each assignment, students were asked to provide feedback on what they had expected to learn and what they thought they had actually learned.

Another important aspect of the course was to incorporate practical knowledge from practice into the classroom activities because many CEM courses only teach theories of engineering and construction leaving students with difficulties to apply theoretical constructs to real world situations (Rojas and Dossick, 2008). A total of twelve industry mentors who were actual project participants in the SCA and ICATS II projects, helped the students throughout the semester. Additionally, five software mentors were available to all teams for technical support.

Methodology

The research objectives of this study were to understand the impact of the innovative teaching approaches on learning outcomes. The following aspects of integrated learning environments, teaching approaches and technologies were evaluated: (1) understand effectiveness of introducing multiple collaboration and engineering

technologies that support various functions of CEM and collaborative teamwork compared to a traditional CEM course that focuses a specific solution or that covers a functional area; (2) evaluate the impact of various teaching approaches on student learning as the course focuses on an emerging area of knowledge, which is not well defined yet; and (3) understand the effectiveness of the virtual component of the course that facilitates the engagement and collaboration and compare the experience to scenarios in practice. A survey instrument which utilized a four-step Likert scale and open-ended essay feedback was developed and deployed via Qualtrics.

Data Analysis and Results

The feedback from students was collected via the survey instrument and analyzed. Table 1 summarizes the results.

Table 1. Summary of course components and student feedback

Pedagogical aspects	Description of assignment and Student feedback
Virtual teamwork	Generally, students valued teamwork as an important mechanism to address specific CEM tasks. There was disagreement in regard to the best way to achieve teamwork and the level of perceived readiness for real-world projects
Role-based learning	Teams were given autonomy about their individual role assignments. Some teams merged and rotated roles while others took fixed roles. Overall, students indicated that they learned from each other but variations exist in the level of satisfaction
Incorporating practical knowledge	The interaction between the students and mentors resulted in fruitful collaborations that helped the students to learn cutting-edge software tools and get feedback on organizational and procedural context and constraints and share novel ideas
Multiple subject matter experts	Five subject matter experts offered nine software workshops. With varying degrees of satisfaction, students positively accepted the role of multiple experts to learn specialized software
Virtual instructional approaches	The remote collaboration between VT and USC included synchronous lecture sessions, team presentations, and software sessions which were divided to be hosted from the two campuses. Generally, the students perceived these sessions positively but a larger number of students found that video conferencing was less effective than face-to-face sessions.

Discussion/Conclusion

This paper summarized the pedagogical approach of an innovative collaborative course development effort between VT and USC and discussed the student perceptions. The generality and validity of the study is limited because the course was offered for the first time. But it provides a baseline study to evaluate future improvements and developments. The study also identified a number of limitations that will be addressed in future studies such as the impact of student readiness, cultural differences, metrics for learning assessment, technological barriers, institutional differences of grading structures, etc.

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Linking Online Formative Assessment With Study Time And Student Learning

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Abstract: The lecture portions of an on-ground General Biology course and a Cell Biology course incorporated an online strategy of formative assessment using timed practice quizzes called quizlets which could be taken as many times as the students wished. Collected data from Blackboard grade book showed that students who do quizlets more tend to get higher grades on the exams that count. Because quizlets were taken outside the classroom, it was also possible to use the quizlet numbers as a verifiable estimate of study time and served as a method of instructor feedback to students wishing to improve their performance on exams. It was concluded that the use of online quizlets leads to higher student performance on summative assessments.

Literature Review

It has been reported that formative assessment strategies aimed at promoting student learning in the science disciplines are underutilized with biology faculty employing a greater variety of assessment options than chemistry or physics faculty (Goubeaud, 2010) Most science faculty, however, are not trained in pedagogy and end up teaching as they have been taught which translates to a teacher-centered rather than learner-centered instructional environment (Walczyk, Ramsey, Zha, 2007). Some examples of successful application of formative assessment strategies have been reported from professional schools in the areas of medicine (Kibble, 2007) and dentistry (Olson & McDonald, 2004) and also at the undergraduate level. (Kilitsky, 2008; Baggott & Rayne, 2007) Formative assessment has been defined as "assessment FOR learning" (Black & William, 1998) and has been implemented in a variety of ways ranging from classroom response systems (Fies & Marshall, 2006) to the use of online assessment options in on-ground (Olson & McDonald, 2004) and online courses (Kolitsky, 2008). In this study, a formative assessment strategy composed of timed, online practice quizzes was utilized as a way to verify study time outside the classroom and link time-on-task to increased performance on summative assessments.

Methodology

The lecture portion of a General Biology and a Cell Biology course incorporated a strategy of formative assessment using practice quizzes or quizlets. The quizlets were timed, composed of 10 questions randomly chosen from a larger pool of questions and could be taken as many times as the students wished. Quizlets did not count toward a student's final grade. The online quizlets were offered within Blackboard using its quiz tool and scores as well as the total quizlets taken were recorded and were then accessible in the grade book.

Data Analysis and Results:

As shown in Figure 1, on Lecture Exam 1, the quizlet average & standard deviation for 29 A students compared to 11 CDF students differs significantly with $p = 0.0099$. On Lecture Exam 2 , the Quizlet average & standard deviation for 22 A students compared to 14 CDF students differs significantly with $p = 0.000069$. On Lecture Exam 3, the Quizlet average & standard deviation for 30 A students compared to 8 CDF students differs significantly with $p = 0.0185$. On the Final Exam, the Quizlet average & standard deviation for 17 A students compared to 19 CDF students differs significantly with $p = 0.000005$. The values for Y-axis Quizlet numbers are not present so as to more easily compare data from four exams.
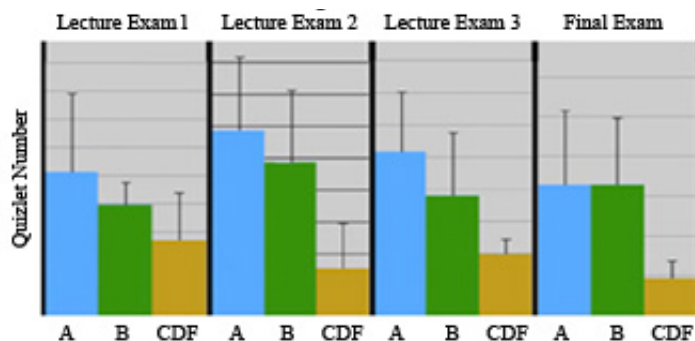
Figure 1. Comparison of quizlets taken with grade received in general biology.

Figure 2 shows a comparison for the cell biology class. On Lecture Exam 1, the Quizlet number & standard deviation for 7 A students compared to 4 CDF students differs significantly with p = 0.041. On Lecture Exam 2, Quizlet average & standard deviation for 6 A students compared to 7 B students differs significantly with p = 0.004. On Lecture Exam 3, there was no significant difference. On the Final Exam, the Quizlet average & standard deviation for 4 A students compared to 3 CDF students differs significantly with p = 0.027.
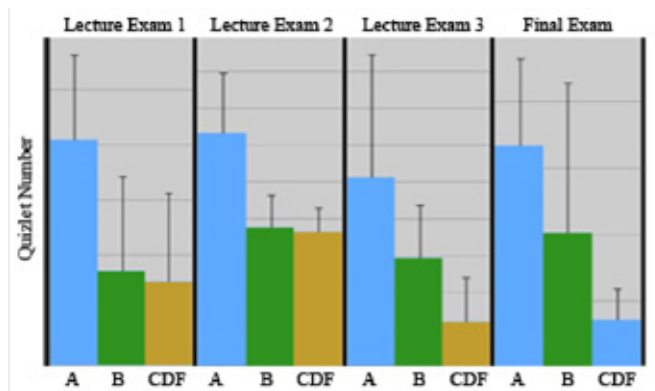
Figure 2. Comparison of quizlets taken with grade received in cell biology.

Discussion/Conclusion

Collected data support findings published for online courses (Kolitsky, 2008) that students on average who do quizlets more tend to get higher grades on the exams that count. Numbers for estimates of significance are small but p-values also support the view that quizlets can improve test scores in lecture exams and final exams. Quizlets can also be used as a verifiable estimate of study time providing a method of faculty feedback to students wishing to improve their performance on exams. Over 53% of students in the General Biology course mentioned quizlets as a valuable learning tool in the course evaluation without specifically being asked about their value to them. In this study, the use of Blackboard as a data collection tool can be seen as an easy way to gather data throughout the semester that both assist in student advising during the course as well as following the course completion when more comprehensive analysis of teaching strategies and data can be made. It was concluded that the use of quizlets as a formative assessment strategy in two college level on-ground lecture classes increased student performance on summative assessments throughout the semester and that the Blackboard course management system provides a way of collecting data for classroom-based research that is both manageable and possible for faculty who are new to the idea of assessing pedagogical options in their courses.

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Measuring Student Performance: Is Guided Inductive Teaching Effective?

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Abstract: This mixed-methodology investigation evaluated the effects of deductive and guided inductive approaches on the learning of targeted linguistic structures in an advanced French university grammar course. A quasi-experimental equivalent time samples design evaluated the effects of these two pedagogical conditions by measuring forty-one students' grammar performance on immediate quizzes and pre- and post-tests of advanced-level grammatical structures. This project also investigated whether students preferred to learn via the guided inductive or deductive approach. Results indicated that were no significant differences detected between the two conditions with regard to short-term learning of the targeted grammar structures. This project's findings also revealed that advanced students made significant gains in grammar performance from pre- to post-test when they were first exposed to the grammatical material via the guided inductive condition. Qualitative findings indicated that participants preferred to learn deductively. Most specifically, students described that deductive learning was more comfortable to them as it was the traditional approach to which they had been exposed throughout their educational experiences.

Review of Literature

Opposing views exist among foreign language (FL) and second language (SL) researchers and teachers regarding how best to teach grammar to improve learners' communicative competence. On one side of this debate are those who favor overt attention to grammatical forms (Chomsky, 1965). In contrast are those who propose providing students with little or no explicit grammar instruction (Krashen & Terrell, 1983).

Today, most researchers and theorists agree that learners benefit from some type of formal instruction as they acquire grammatical forms. Widely accepted findings of significant projects concluded that grammar instruction indeed made a difference in language acquisition. Instead of debating the usefulness of grammar instruction, studies in the area of Second Language Acquisition (SLA) have explored which types of instructional approaches were most effective. Still there is little agreement regarding what the formal instruction of grammar should entail (Herron & Tomasello, 1992).

The guided inductive approach to grammar instruction shifts learners into an active role where they interact with the teacher to discover the pattern governing a form's use. This is in contrast to traditional, deductive grammar instruction where learners passively receive rule information prior to practicing the form. Students are exposed to contextualized examples of the targeted structure in use. These examples are presented as they naturally occur within an oral or written text. The teacher provides opportunities for students to apply the structure in novel sentences without furnishing the rule that governs the structure's use. Students are actively engaged during inductive learning as they hypothesize about the rule and practice using it in context. The teacher, rather than providing the rule explanation for the students, gives immediate feedback to confirm or disprove students' emerging linguistic hypotheses about the structure.

Methodology

The data collection and analysis for this project featured a mixed methods design. The instrumentation for this project included, pre-, immediate and post-tests of grammatical knowledge, pre-and post-tests of students' perceptions, and oral participant interviews. Data were analyzed for forty-one students. They were enrolled in four sections of fourth-semester advanced French at a private suburban university during the Fall semester of 2009. To address some inherent limitations of classroom-based research, the four treatment groups were counterbalanced by an empirical *within subjects* design (Herron & Tomasello, 1992). This quasi-experimental equivalent time samples design was used to compare students' learning of the targeted grammar structures in the two conditions by evaluating their performance on immediate and post-test scores. Each student was exposed to both the deductive and guided inductive conditions an equal number of times. In this way, when evaluated across participants and structures, the results were counterbalanced. Each grammatical structure and each participant were represented equally in both conditions.

The four classes were randomly sorted into two groups (classes Y1 & Y2 and classes G and Y3). During the first week of this project, students in classes Y1 and Y2 received the deductive treatment for the first time. The other class learned the grammar structure in the guided inductive condition. The next week, classes G and Y3 received the guided inductive treatment while classes Y1 and Y2 learned the structure in the deductive condition. In the weeks to follow, the class groups continued to rotate among the two conditions for a total of 9 times.

Results

The results of statistical analysis revealed that long-term learning occurred in both conditions over the course of the semester, thus demonstrating that students made significant performance gains during the 15-week term. Though it is apparent that learning indeed occurred, it is not possible to attribute increases in learning to either of the two conditions.

Sixty-one percent of participants reported strongly preferring the deductive approach. An additional 29% reported that they mildly preferred the deductive approach. Two percent of respondents indicated a neutral preference for the two approaches. Similarly, 2% of participants indicated that they mildly preferred the guided inductive approach. Finally, 5% of respondents reported that the inductive approach was their preferred instructional method.

Qualitative results indicated that students preferred the deductive approach to grammar instruction. Deemed traditional and familiar, students reported that they were accustomed to learning this way. They found the deductive approach to be clear as they relied on explicit instruction based on rules at the outset of the lessons. Several respondents lauded the deductive approach for providing clarifying information about how grammar structures function, all prior to any type of practice. For example, "It's nice to know from the beginning how the grammar works. This information makes the rest of the lesson less confusing and easy to follow."

At the same time, students saw value to learning via the guided inductive approach, particularly for previously learned material. These students explained that if the structure under review was material that participants had learned previously, their exposure to practice sentences, followed by teacher-led guiding questions about the rule for the structure was valued. As an example, "It was ok to just throw me into the lesson with no rules if I had already learned the structure before." As students already had a base of knowledge related to the structure, they reported that they did not feel lost or frustrated with the lack of rules associated with the guided inductive approach.

Discussion and Conclusion

Cognitive theories of education as applied to language learning also support the analysis of these results and seem particularly applicable to the notion that the guided inductive approach promoted long-term gains in grammar knowledge regardless of participants' level of instruction. It is possible that outcomes from the current project are illustrative of the continuous process of restructuring described by constructive to occur as learners' proficiency improves. Further research should be conducted with advanced learners to investigate how they retain information and the ways in which guided inductive approach might improve retention over time.

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Motive and Motivation for Learning

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Abstract: In the organization of learning in formal situations, such as schools and colleges, motivation is generally treated as independent of what students are required to learn; it has to be induced by positive or negative reinforcement. Thus, for many "successful" students, the economy of grades provides the motivation and, even for them, what is "learned" is often not fully understood and so is quickly forgotten. Since this regime dominates from the primary years through undergraduate education, it is not surprising that many students who enter teacher education programs expect to be motivated, and to learn to motivate their future classes, by similar means. My task as a teacher educator is to interrupt this vicious cycle, which I attempt to do by drawing on cultural historical activity theory (CHAT) in planning my teaching. In this paper I describe the course that I teach at the beginning of a teacher credential/MA program for students who intend to teach in public elementary schools. I explain the rationale for the sequence of activities in which I ask them to engage. I then analyze student reflections and videorecorded data from the course to evaluate its effectiveness and to discuss has been learned in the process.

In cultural historical activity theory (CHAT), motive and activity are intimately related: according to Leontiev (1978), motive is what determines the nature of activity and activity realizes that motive through specific object-oriented actions; for Vygotsky (1987), motive is what underlies thought, which is realized in specific utterances in interaction with co-participants in activity or in inner speech. However, as used in this literature, "motive" is not identical to "motivation"; the former is what gives rise to activities that are important for a cultural group, whereas the latter is specific to the participation of particular individuals in an activity.

Outside formal education, cultural motive and individual motivation frequently coincide, as can be seen in such varied joint activities as: the early interaction between infant and caretaker (Tomasello, 1999); the pretend play of young children (Wells, 1986); the collaboration between artists (John-Steiner, 2000) and knowledge workers (Scardamalia & Bereiter, 2006). This coincidence is also integral to Lave and Wenger's (1991) account of situated learning and the construction of participants' identities. In all these cases, individuals' participation is freely chosen since they are committed to the object of the activity. By contrast, while students in HE are committed to the overall career activity in which they intend to participate, they are not necessarily thereby committed to the learning activities in which they are required to engage in order to acquire the entry qualifications for their chosen career. As a result, many students' motivation is to pass the necessary courses by fulfilling requirements rather than by engaging fully in the learning activities. Rather than being self-directed, their learning is essentially controlled by the grading system.

The evidence for this assertion is to be found in the learning autobiographies that my students write at the outset of a course that I have been teaching for more than five years in a teacher education program for prospective elementary school teachers. The course, which is entitled 'Teaching, Learning, and Schooling in a Diverse Society' occurs at the very beginning of the program and typically contains around 25 students. My goal is to have the students gain a greater understanding of how people learn as the basis for developing a "vision" of what it might mean to be an effective teacher. The learning autobiography is the first step in this process.

In their autobiographies, many of the students describe themselves as "successful students", citing their A grades as evidence, and some go on to describe how they have learned to provide exactly what their teachers are looking for - and no more. Indeed, prior to undertaking this assignment, many want to know exactly how long their paper should be and how it should be constructed. When told that these matters are entirely for them to decide, since the purpose of the assignment is for them to gain from reflecting on their experiences as learners rather than to satisfy my requirements, quite a number are concerned at the lack of specific instructions. Gradually, however, the majority adjust to the new expectations and begin to make important discoveries about learning through the activities in which they engage and through our class discussions about them.

The course has two main strands. The first consists of readings, starting with a comparative review of different theories of learning, leading to a fuller explication of CHAT and the principles for teaching that can be derived from

this theory. This strand is supported by short lectures and viewing of videorecordings of classes in which these principles are enacted in practice by elementary teachers with whom I have worked. The second strand consists of activities that enact some of these principles, culminating in a class project to design an Ideal School. Students are invited to choose some aspect of the school they would like to design (e.g. buildings, classroom layout, curriculum, extra-curricular activities) through carrying out the necessary research in collaboration with a small group of peers within parameters (e.g. age-range, basis for allocation of students to classrooms) decided on by the class as a whole.

Throughout the course, emphasis is given to collaborative group work under an umbrella theme, to which individual students contribute on the basis of research on their chosen sub-topic. There are also regular whole-class reflective discussions with a metacognitive orientation as well as weekly "instructional conversations" (Tharp & Gallimore, 1988), in which I meet with small groups to make connections between the week's readings and their own experiences and their anticipated future careers. Over the years I have made several changes to the activities in response to student feedback and on the basis of my own observations and reflections.

I shall draw mainly on the most recent iterations with a focus on the relationship between motive and motivation. To this end, I analyze various forms of student feedback and evaluation as well as videorecorded observations of whole-class and small group discussions. My tentative conclusions are: a) the vast majority of students come to appropriate the CHAT principles of learning-and-teaching, particularly if and when they realize that they are productively involved in an enactment of those principles during the course; b) while they align with the overall motive of the course, their motivation for engaging fully with the various activities seems to depend on the intrinsic interest of the activity, which may only become apparent through actual engagement; c) the opportunity to collaborate with like-minded peers also generates motivation; d) for a substantial minority, the lack of explicit guidelines as to how an activity is to be carried out can lead to a decrease in motivation. Since one of my goals is to foster self-direction in learning and problem-solving, this latter finding is one with which I continue to struggle.

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Negotiating Sexuality and Spirituality in the College Classroom:
Facilitating Student Learning Through Knowledge and Narrative

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Abstract: An academic environment provides a developmental context for informing and challenging students' most deeply rooted and private beliefs—the intersection of sexuality and spirituality. The scientific study of sex, from an interdisciplinary, global perspective, is designed to increase students' knowledge but is also likely to question lessons learned at home and from religious institutions. We conducted a qualitative analysis of 95 written narratives from undergraduate students regarding how their study of sexuality has challenged, informed, or strengthened their own family background and spiritual beliefs. Results indicated that most students, while raised with traditional religious training (e.g., Catholic, conservative Christian), currently described themselves as spiritual (not religious), questioning their faith (not devout), and more accepting (less condemning) of diverse sexual practices (e.g., premarital sex, homosexuality, contraception). Even for students who chose traditional sexual mores for themselves (e.g., virginity; being in love before initiating a sexual relationship), most reported that learning about the great variation in human sexual experience in diverse cultures and religions worldwide helped them to expand their earlier ideas about intimate relationships, procreation, and sexual behavior in and out of marriage.

Background

Two controversial subjects in the academic environment are sexuality and spirituality. Student dialogue on sex and religion is especially difficult because it requires self-exploration (McCarty, 2009). Both sexuality and spirituality are deemed inherently private and under the control of the family. Indeed, children learn most of their sexual information from parents. As they transition from adolescence to emerging adulthood, youth are inundated with new information from academic, peer, and media sources (Arnett, 2000). Although society is saturated with explicit sexual messages, adults are reticent to provide accurate sex education in homes and schools (Irvine, 2004; Russell, 2005), fueling a cultural tension between sexual exploitation and repression. This tension makes youth especially vulnerable to sexual risk taking and unprepared for making responsible decisions about healthy sexuality (Allen, Husser, Stone, & Jordal, 2008). A college course on human sexuality provides an opportunity for students to gain new knowledge and to fill in the gaps created by educational silences on the subject. At the same time, a sexuality course may cause dissonance and confusion, because religious teaching can be restrictive in its views that sex should be preserved for procreation and marriage. In addition to conveying scientific study about human sexuality, there is a practical reality about a college course on human sexuality: it may be a student's first opportunity to learn about and/or assess knowledge that is also practical for responsible adult behavior. To investigate these issues, this study was guided by the two research questions: (a) How do college students describe their family and religious backgrounds? (b) How has the study of sexuality challenged or strengthened their views?

Methodology

The data consisted of 95 (67 female, 28 male) first person narratives written by students of diverse backgrounds, religions, and ethnicities in an undergraduate global issues human sexuality course at a large research university. As a core curriculum course, students from every college on campus were enrolled, including majors in agriculture, architecture, business, education, engineering, human sciences, physical and life sciences. Enrollment averaged 160 students per class. Permission to conduct the study was granted by the university Institutional Review Board. The aim of the course was to examine the diversity of human sexuality using global perspectives from interdisciplinary sources, including biological, developmental, historical, psychological, and sociological approaches. Given the large lecture format, several learning assignments were used, such as multiple-choice exams, homework quizzes, and daily exit slips where students shared reflective responses. The study of human sexuality provides an opportunity for students to join personal and academic interests. To give students an opportunity to express insights about past and present experiences, we developed an extra credit assignment. Students could select a topic from among several posed by the instructors (e.g., sex education; jealousy in relationships; gender identity; sex and alcohol use on campus). Writing the extra credit paper was strictly voluntary, and students' views were not graded. Students submitted their paper to a teaching assistant, who recorded the extra credit points. A research assistant removed all

identifying information to prepare them for analysis. For this study, students responded to the following topic: *Based on our study of sex in other cultures and throughout history, how are your religious or spiritual views being informed, challenged, and/or strengthened? How do the issues we are learning about in class relate to your family background? What kinds of contradictions and ambivalences are you facing as a result of this course?*

Data Analysis and Results

The narrative approach allowed participants to give voice to their own experiences, and to explain how they make meaning of their knowledge on a controversial topic. Using qualitative analysis, we generated a coding scheme that reflected respondents' perceptions, as well as our integration of key themes (Bogdan & Biklen, 2007). Considering religious affiliation while growing up, the vast majority of participants claimed a Christian and/or Catholic. A few participants identified themselves as Hindu, Islamic, or Jewish. Only 10% indicated that they were raised without a religious affiliation. A common finding among all sample members was that they had a traditional religious upbringing in which parents "rarely discussed sex." A young woman stated: "When I told my parents I was taking a class on human sexuality, they asked me why I was doing such a thing. In my family, sex is very taboo and shouldn't be discussed as freely as we do in class. This class is allowing me to break free of those boundaries and discuss something that is a natural, human action without the fear of being judged, looked down upon, or shunned."

Now at college, most students reported that despite being raised in a traditional home, emerging adulthood led to a "struggle between religion and sexuality." As a 19-year-old male wrote, "I was born and raised Catholic. I was forced to go to church every Sunday. Now that I am free from my parents' tyranny, I have made the decision to go to church on my own accord. But I have this eternal struggle day in and day out between being a modern Christian in a sexually liberated society." Often, students found resolution for this struggle through new knowledge gained in class, knowledge that helped them understand that sex was "not a casual thing, but intricate and complicated." Another male student indicated, "I was raised in a Protestant Christian household. I went to church weekly, and I made a commitment to learn what my religion was all about. I struggled through hard questions and eventually came to the conclusion that I would devote myself to God. Since coming to college, I have been able to maintain my beliefs to protect my virginity until marriage. This class has opened my eyes to the wide world of sexuality. I have gained a new appreciation for the complex and incredible nature of sex." Only rare students found the course content completely at odds with their own convictions, as one man explained: "I am a Christian, and I believe that sex is meant for a male and female during marriage. All this talk in class about sex with multiple partners and promiscuous women is outrageous. Although I have found this class has helped me to see the points of view that others may have, I stand strong in my faith and rebel again anyone speaking differently."

Discussion and Conclusion

Sexuality and spirituality engage students' most deeply held beliefs. Their views about these controversial topics can be both challenged and informed in an academic setting. We combined pedagogy and research to further understand the complexity of this subject, finding that the majority of our students were invested in learning about the history and diversity of sexuality, over time and across cultures. Further, students reported the value of using that knowledge to inform them intellectually and personally, thus meeting the goals of the class and of our pedagogy.

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Reading Texts in an Active and Reflective Manner: Examining Critical Literacy

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Abstract: Critical literacy in the teaching of reading as an approach that fosters learners' ability to read texts in an active and reflective manner to better comprehend the relations among language use, social practice, injustice, and power has been widely examined in most western educational institutions. However, the world of EFL has been slow to acknowledge the socio-political, cultural and linguistic outcomes of incorporating critical literacy into EFL reading classrooms. Therefore, this study investigate four Saudi teachers' views on the concept of critical literacy in EFL reading instruction and its applicability, their concerns for the use of critical literacy, and an ideal strategies and/or lesson plans for teaching critical literacy in EFL reading class. The data was collected via a set of sequential activities: in-depth individual interview, eliciting interview by a means of lesson plans, and follow-up interview. The findings revealed that all the participants considered the notion of including critical literacy both feasible and important at Saudi colleges. Nevertheless, they reported factors such as students' linguistic, social, and cultural background, availability of appropriate teaching materials and student's autonomy should be taken into account when incorporating such valuable teaching approach into EFL reading classrooms.

Literature Review

Critical literacy in the teaching of reading has been perceived by many researchers (e.g.; Lander, 2005; McLaughlin & DeVoogd, 2004) as an approach that takes learners beyond the development of basic literacy skills such as decoding, predicting, and summarizing and it urges them to become critical consumers of the information they receive in the process of reading. It is a teaching approach that fosters learners' ability to read text in an active and reflective manner to better comprehend the relations among language use, social practice, injustice, and power. Such notion of critical literacy in teaching reading, in recent years, has gained great attentions in most western educational institutions in which a critical literacy perspective in the language and literacy curriculum has been widely implemented (e.g., Damico, 2003; Lander, 2005; Lewison, Flint, & Sluys, 2002). However, as Pennycook (1996) points out, the world of teaching English as a foreign language (EFL) has been slow to acknowledge a "fast-moving, fascinating, contentious and happening area of research, i.e. literacy" (p.163). In most Asian contexts, including Saudi Arabia, there has not been much focus on critical literacy especially in EFL reading classrooms. The argument is that EFL students in Asia may well have been left out of discussions concerning critical instruction due to the assumption that Asian cultures are mostly characterized by conformism (Ringmar, 2001). The 2004-2009 proceedings of TESOL Arabian Conferences, a primary annual conference of Arab EFL teachers, contained only four research papers on critical literacy. Similarly, the 2001 to 2005 EFL conferences in the Asian context namely Taiwan contained no research paper directly related to critical literacy/instruction, only three research papers were presented in 2006-2008 contained critical literacy (Ko, & Wang, 2009). With a small number of critical literacy practices in most EFL teaching contexts, including Saudi Arabia critical literacy can therefore be perceived as a new perspective in EFL instruction.

Given that critical literacy is a new way of teaching in most EFL contexts, it is imperative to investigate how college EFL teachers in Saudi Arabia conceptualize the ideas of including critical literacy into their EFL reading classrooms. It should also be noted here that critical literacy entails not only reading skills but it also encompasses listening, speaking, and writing abilities. The purpose of focusing on teaching the reading skill here is for the sake of examining one aspect of critical literacy (i.e., reading) as the entire notion of teaching critical literacy is still under examined in most EFL contexts. Moreover, in critical reading learners can also practice skills such as listening, and speaking. When learners read texts in an active and reflective manner to better comprehend the underlying ideologies of text and literacy as social practices, they will question, argue, negotiate with peers, and examine power relations through speaking and listening. They also construct their own interpretations of the reading text, informed by life experiences that go beyond specific social and cultural norms (Jones, & Clarke, 2007). Because critical literacy in teaching reading is conceptualized as an active and critical engagement with texts in specific social and cultural contexts, i.e. as a social practice, I felt it useful to investigate how Saudi EFL teachers conceptualize the needs for including critical literacy into their EFL reading classes. More specifically this study attempts to investigate the following research questions:

> ➢ What are the views of Saudi EFL teachers, who have recently learned critical literacy at American universities, concerning the needs for including critical literacy into their EFL teaching classrooms?
> ➢ What do they think of the feasibility of critical literacy in their EFL reading classrooms (i.e., constraints, difficulties and challenges)?
> ➢ Are they willing to implement critical literacy in their EFL reading classrooms? If yes, what strategies/lesson plans will they use to foster critical literacy in their EFL reading classrooms?

Methodology

Participants. The participants of this study are four male Saudi college EFL teachers. These four teachers are currently pursuing their Ph.D. degree in TESOL at American universities. They all taught English course (i.e., reading) at their colleges in Saudi Arabia after they obtained their master's degree in TESOL from American universities. As they now acquire more knowledge of critical literacy while .pursuing their Ph.D. at American universities, this study aims to explore how these EFL teachers conceptualize the needs for including critical literacy into their EFL reading classes? This research is guided by a set of sequential activities: In-depth interview, lesson plan and follow up interview.

Analysis and Results

Analysis of the data began with transcribing the recorded interviews for familiarity. Then, adopted from Creswell's qualitative data analysis framework (2007), I analyzed the data based on four core activities: (1) data coding by classifying the findings based on the research questions; (2) data display by reexamining the findings for data reduction and verification; (3) data reduction by screening out the findings relevant to the research questions, and (4) conclusion drawing by looking at the entire findings for idea generalizations. I went through such activities back and forward to allow for an emergent, careful, and detailed data analysis.

The findings revealed that all the participants considered the notion of including critical literacy both feasible and important at Saudi colleges. Nevertheless, they reported factors such as students' linguistic, social, and cultural background, availability of appropriate teaching materials and student's autonomy should be taken into account when incorporating such valuable teaching approach into EFL reading classrooms.

Discussion and Conclusion

As found in the present study, all the four participants showed positive attitudes and a willingness to incorporate critical literacy into their EFL reading classrooms and viewed critical literacy in EFL reading as an essential teaching and learning approach that can be utilized to help students read in a reflective manner (Torres & Mercado, 2006). The findings indicate that because all the participants acquired knowledge of critical literacy from American universities they espoused the assumption of critical literacy, especially its focuses on social practice and critical interrogation of social convention

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Student Motivation as a Cornerstone for Effective Online Instructional Design

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Abstract: To design effective instruction, determining the intellectual and motivational needs of the learner is a critical first step. The MUSIC model of academic motivation (Jones, 2009) consists of five components (i.e., empowerment, usefulness, success, interest, and caring) that instructors should consider when designing instruction. Using a mixed methods research design, we explored why certain components of the MUSIC model explained students' effort, course ratings, instructor ratings, and course characteristics better than others. To better understand the explanatory power of the MUSIC model, we investigated four questions within the context of a large, online, university course: (1) What characteristics of course design influence student motivation in that course? (2) Do the responses of men and women differ significantly for the components of the MUSIC model, effort, instructor ratings, and course ratings? (3) Are the MUSIC components statistically correlated with men and women's effort, instructor ratings, and course ratings in an online course? (4) Which of the MUSIC components best predicts men and women's effort, instructor ratings, and course ratings in an online course? Our presentation will highlight the findings of this research and address the implications for classroom practice and instructional design.

Introduction

It is the perpetual challenge of the effective educator to design instruction that leads to student learning. More than presenting information to a passive audience, effective instruction reflects a deliberate and purposive design that meets the intellectual and motivational needs of the learner (Chickering & Gamson, 1987; Svinicki, 1999; Theall, 1999). Determining these needs is a critical first step toward the creation of classroom environments most conducive to learning. Because "motivation is a dynamic construct in the learning process" (Li, Hung, & Chang, 2010, p. 32; see also Svinicki, 1999; Clayton, Blumberg, & Auld, 2010), a better understanding of student motivation will enable educators to tailor their pedagogies to address those specific variables that impact student learning (Heller & Sottile, 1996). By considering what motivates students to exert effort in academic settings and finding ways to tap into these key motivational areas provides opportunities to disambiguate the challenges of designing effective instruction.

The MUSIC model of academic motivation (Jones, 2009) was developed to provide a model for instructors to use when designing instruction. The model is based on current research and motivational theories and consists of five components that instructors should consider when designing instruction: empowerment, usefulness, success, interest, and caring. By examining these five components of instruction, educators are provided with insight into those motivational areas that impact individual student learning. Using a mixed methods research design, the present study sought to explore why certain MUSIC model components explained student effort, course ratings, instructor ratings, and course characteristics better than others. To better understand the explanatory power of the MUSIC model of academic motivation, we addressed four questions within the context of a large, online, university course: (1) What characteristics of course design influence student motivation in that course? (2) Do the responses of men and women differ significantly for the components of the MUSIC model, effort, instructor ratings, and course ratings? (3) Are the MUSIC components statistically correlated with men and women's effort, instructor ratings, and course ratings in an online course? (4) Which of the MUSIC components best predicts men and women's effort, instructor ratings, and course ratings in an online course?

Methodology

We developed an online questionnaire that was comprised of the Likert-type items similar to those used by Jones (under review) to measure the levels of the components in the MUSIC model of academic motivation. The questionnaire also included a series of open-ended items written by us to gain further insight into how the course characteristics motivated students. The questionnaire was administered to a convenience sample of 651 undergraduate students enrolled in a fully online "Personal Health" course at a large, public university in the eastern United States. Students were asked to complete the online questionnaire during the ninth week of a 15-week semester for nominal course credit. The participant response rate and demographic information will be included among the analyses of the findings.

Analysis

In analyzing students' responses of Likert-type and descriptive items on the questionnaire, we will employ a variety of quantitative analyses. To address potential statistical differences among men and women on MUSIC model components, we will conduct t-tests. We will calculate Pearson correlation coefficients to determine the associations among men and women's effort, instructor ratings, and course ratings. We will use stepwise regression to determine which of the MUSIC components best predicts men and women's effort, instructor ratings, and course ratings. Lastly, we will use descriptive statistics to address additional quantitative and demographic items.

For analysis of the open-ended items, we will use a thematic whole text analysis, which was informed by the analytic procedure developed by Glaser and Strauss (1967) to develop a grounded theory. The initial coding scheme for the item responses will be developed after the authors have read all of the responses, identified themes, and created coding categories within the themes. The inter-rater reliability rate will be calculated by adding the number of agreed upon codes per question among the raters, then dividing that number by the number of disagreed upon responses.

Results and Discussion

We will present the expository qualitative findings alongside the quantitative findings for each of the MUSIC model components. Ultimately, the results of the proposed research will contribute to the scholarship of teaching and learning by providing insight into the variables and practices that directly impact student motivation and, subsequently, student learning. Audience members will leave the presentation with a better understanding of the factors that can affect student motivation in a large, online, university course.

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Students' Perception Of Instructional Activities: Its Relation To Engagement And Motivation

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Abstract: Students' cognitive and behavioral engagement is linked to favorable learning outcomes and school achievement (Kuh, 2003). Among a sample of 215 college students in a French speaking engineering school, this research aims to use Bloom's Taxonomy as basis for analyzing the relation between students' self-reported perception of instructional activities, the intellectual skills they mobilize within the cognitive domain, classroom verbal participation and their motivation as measured by the MSLQ (Pintrich et al. 1991). Using partial and bivariate two tailed correlations, we found a number of small but statistically significant positive correlations between student cognitive and behavioural engagement and scores on the MSLQ. Faculty can therefore influence student's intellectual skill involved in the acquisition, organization, and use of information through adequate instructional activities.

Motivation and engagement are strongly related to student learning, academic achievement, and persistence (NSSE, Kuh, et al. 2001). The body of research focused on the question of what educational practices and student characteristics correlate highly with enhanced levels of student learning continues to grow. Exploring the relation between faculty practices and student engagement and learning, Klem and Connel, (2004); Levy et al., (1993) found positive relationships between student engagement and instructor's behaviour like fostering a supportive learning environment, being well organized, and holding high expectations. Bradley and Graham, (2000) found a positive relationship between instructor-student interactions and engagement. Others have found that instructional practices are related to student adoption of mastery and performance goals (Anderman, Patrick, Hruda, & Linnenbrink, 2002; Patrick, Anderman, Ryan, Edelin, & Midgley, 2001). The purpose of this study is to examine the relations between student's perception of instructional activities, student cognitive and behavioural engagement, and motivation. Students are cognitively engaged when they provide the required mental efforts to adequately accomplish a learning task. Bloom's Taxonomy of intellectual skills within the cognitive domain is used to reflect student's level of cognitive engagement. Behavioural engagement is an expression of student's intellectual effort and class participation, such as asking relevant questions, and contributing to class discussions (Pintrich and Schrauben, 1992). Student's motivation to learn is a multi-dimensional concept, made up of the following constructs: Mastery-goal, Performance-goal, Avoidance-goal, Task value, Control beliefs, and self-efficacy beliefs.

Method

The sample comprises 215 undergraduate students from a French speaking engineering school in Quebec, Canada. 79% of the respondents were male, with a mean age of 22.7 years (SD= 4.1). Students from seven different classrooms were asked to complete a condensed version of the MSLQ (Pintrich et al. 1991, 1993), and the Student Engagement Survey (Ahlfeldt et al. 2005), as well as a set of items capturing other relevant educational constructs during class. Students were asked to rate their motivation and engagement in the particular subject they were seated when they filled out the survey. Following Bloom's Taxonomy for the cognitive domain, students were asked to what extent this course has emphasized the following mental activities: Remember, Apply, Synthesize/Organize, Analyze, and Evaluate (scale ranging from 1, very little to 4, very much). Pearson correlations are used to test the magnitude of the relationships between these three constructs.

Results

Table 1 presents bivariate and partial correlations between students self-reported engagement scales, motivation, and classroom verbal participation measures. As shown in Table 1, we found a number of small but statistically significant positive correlations between student engagement and scores on the MSLQ, both before and after controls were added for a host of student characteristics (age, gender, GPA). Mastery-goal, task value, control beliefs, and self-efficacy yielded positive partial correlations of .17 or greater with Apply, Synthesize-Organize, and Analyze, which represent mostly higher-level academic challenges. On the other hand, Remember, a lower-level of fact and knowledge building, was correlated with Performance-goal and task value. Avoidance-goal showed a statistically significant negative partial correlation (-.22); while Mastery goal (.24), Task value (.29), Control beliefs (.23), and Self- efficacy (.34) showed statistically significant positive partial correlation with Verbal participation.

Table 1. Bivariate and partial correlations between student engagement and motivation

Measure	Remember	Apply	Synthesize-organize	Analyze	Evaluate	Verbal participation
Mastery goal	.14	.25**	.33**	.31**	.09	.24**
Performance goal	.20*	.15	.01	-.01	-.11	.15
Avoidance goal	.01	-.10	-.10	-.13	-.03	-.22**
Task value	.17*	.17*	.28**	.15	.17*	.29**
Control beliefs	-.06	.17*	.25**	.26**	.06	.23**
Self-efficacy beliefs	.04	.20*	.22**	.22**	.10	.34**

*correlation is significant at the 0.05 level (2-tailed), **correlation is significant at the 0.01 level (2-tailed)

Conclusion

This study aimed at identifying the relations between students' perception of instructional activities, cognitive and behavioural engagement, and motivation. Although the strength of the relationships was modest among these three constructs, one can see that students' perception of instructional activities is linked to the task level of intellectual skill and motivation. For the exception of Evaluate, higher-level intellectual skills are related to motivational variables (Mastery goal, Control beliefs, and Self-efficacy) known to generate deep learning, whereas surface learning is related to Performance goal. This study confirms previous findings that faculty can create a learning environment that can positively impact students' level of engagement and motivation.

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Teaching Practices that Influence Student Learning and Motivation

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Abstract. There are many factors that influence student learning and motivation, and this often creates challenges for teaching faculty within higher education institutions. Faculty must decide which teaching strategies and methods are most effective, promote learning, and motivation. Yet, often missing from many descriptions of effective teaching are accounts from the students' perspective. With this in mind, the purpose of this qualitative study was to explore the teaching practices that influence student learning and motivation. The specific research questions include: (1) How do students articulate what influences their learning and motivation? (2) How do students describe teaching practices that influence their learning and motivation? (3) From a student perspective, what attributes do ideal courses/class sessions include? The findings from this study will help higher education faculty as they plan their courses and class sessions, and faculty can use the data and associated findings design student-centered courses that promote learning and motivation for their students.

Introduction

Classrooms across university campuses possess a myriad of interactions that influence student learning and motivation. According to Schuh (2004), these complex interactions include interactions between "teacher and student perceptions, instructional practices, learning needs, and larger system issues" (p. 833). With this in mind, professors are faced with tough questions regarding student learning: What does it take to motivate students and help them learn? More specifically, what teaching strategies and methods are most effective within the classrooms and lecture halls? Researchers continue to explore teaching methods that promote student learning and motivation. Often, descriptions of teaching strategies and methods are placed on a continuum ranging from what some call "teacher-centered" to "learner-centered (Schuh, 2004). However, there continues to be disagreement about which is more effective: teacher-centered or learner-centered methods. For example, a method commonly identified as teacher-centered is direct instruction. Magliaro, Lockee, and Burton (2005) report that direct instruction remains an effective teaching method, despite its place as a "whipping post in some pedagogical camps" (p. 41). On the other hand, learner-centered practices are described as tools that promote greater student engagement and deeper, active learning (Schuh, 2004). Yet, missing from many accounts regarding the effectiveness of teacher-centered or learner-centered methods are student perceptions. With this in mind, the Department of Agricultural and Extension Education is examining the teaching practices that influence student learning and motivation.

Conceptual Framework

Learning is defined as the ability to retain, synthesize, and apply conceptually complex information in meaningful ways (Lambert & McCombs, 1998). With a new generation of students entering universities, coined millennials, researchers suggest that these students think, learn, and process information differently than generations past (Spencer, 2008). With this in mind, the researchers chose the American Psychological Association's (APA) learner-centered psychological principles as the conceptual framework for this study. The APA learner-centered psychological principles were developed as part of the American Psychological Association Presidential Task Force on Psychology in Education, and the principles reflect "five essential dimensions of meaningful learning that have been investigated in psychology and related disciplines for decades (Alexander & Murphy, 1998, p. 28). The five dimensions include: (1) the knowledge base, (2) strategic processing or executive control, (3) motivation and affect, (4) development and individual differences, and (5) situation or context (Alexander & Murphy, 1998).

The APA learner-centered psychological principles shift the focus to the learner instead of only focusing on teaching or curriculum. With an emphasis on metacognitive, cognitive, affective, personal, social, and developmental differences in learners, the learner-centered principles focus help emphasize that learning is influenced by a combination of the learner's goals and effective teaching (Alexander & Murphy, 1998; Schuh, 2004). In fact, the learner centered psychological principles provide a framework for developing and incorporating the components of new designs for schooling (Affairs, 1997). By using the APA learner-centered principles, this study will examine what engages and motivates students, and it will help teaching faculty as they design quality instruction for their students.

Research Design, Data Analysis, and Discussion

The purpose of this qualitative study is to explore the teaching practices that influence student learning and motivation. The specific research questions include: (1) How do students articulate what influences their learning and motivation? (2) How do students describe teaching practices that influence their learning and motivation? (3) From a student perspective, what attributes do ideal courses/class sessions include?

A qualitative research design was selected as the methodology for this study. Qualitative interviewing assumes that the participant's perspective is meaningful and can be articulated to the interviewer. The researcher recruited participants from a class at Virginia Tech. Next, semi-structured interviews will be conducted. In a semi-structured interview, a general interview guide is used. This guide includes a list of questions that the researcher is interested in (Patton, 2002). An interview guide provides topics within the specific area with room to probe and ask follow up questions based on the interviewer's responses. Each interview will be transcribed verbatim. In addition to participation in the interview, participants will also complete the GEFT, a learning style assessment.

After the transcription of the interviews, data analysis will begin. The researchers will use constant comparative data analysis. In the constant comparative method, each incident in the data is compared with other incidents for similarities and differences, thus generating as many categories of analysis as possible (Corbin & Strauss, 2008). Then, by comparing it with similarly coded data, the researcher identifies each possible dimension of the category and the relation of the category to other categories and themes (Corbin & Strauss, 2008). This identifies different aspects of the same phenomenon and provides elaboration and variation. Themes will be derived from the coded and categorized data, which will guide further analysis.

Currently, thirty participants have volunteered for this study. Data collection will begin on October 11th and will continue through November. Interviews take place until the researchers determine saturation has been met. Data collection and analysis will be completed prior to the end of this semester, and the results of this study will be shared at this particular conference. The findings will be used to further develop research questions and will be used by the faculty involved to help them plan for future teaching. Finally, by comparing the findings with the APA learner-centered psychological principles, the researchers hope to offer suggestions for enhancing student learning and motivation within university courses. The significant themes and findings that emerge will be explored in a second mixed methods study to be completed during the Spring 2011 semester.

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The Development Of Academic Readiness And The Evaluation Of The Process.

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Abstract: This proposal deals with the subject of academic skills and academic readiness, and how a teacher education college built a program, which aimed at teaching basic academic skills to the students in the college. A hierarchic program was built. A description of the courses, the teaching methods, the evaluation program and its results will be given.

A large group of students with a low level of academic readiness were enrolled at Kaye College of Teacher Education. The concept of "Academic Readiness" (with relation to higher education) includes: knowledge of subject matter, cognitive strategies, academic behavior and contextual knowledge that those students had to have in order to be prepared for higher education (see for example: Conley, 2007).

Dagan-Buzaaglo (2007) specifies three main difficulties:

1. Language problems: for most of the students Hebrew and English are either second or third languages and the students have difficulties in both of them.
2. Cultural alienation that results from the gap between the community and home culture and Academic Israeli-Western culture.
3. Lack of knowledge of the patterns of learning in institutions of higher education. The students have problems with a system which is based on independent search for material, sitting and reading in libraries and reading and writing papers. The system of learning in the high schools in the outlying areas is based on frontal lessons, rote-learning, a closed list of text books, and exams as the main system of evaluation.

The aim of the Department of Education in the college was to give students the principle academic skills needed for academic readiness. (such as: identifying a problem, learning from academic texts, summarizing information from several papers, critical writing, searching for and collecting information sources, creating a research question, choosing and creating research methods, collecting data, processing data and reaching conclusions from the data). The program is based on three principles:

Organizational approach: a hierarchical group of courses was created. The students are required to take two courses of academic reading and writing, and two courses of research methods in the first year. In the second year they are required to take a four-hour seminar course in which they apply all their studies from the first year in order to write a thesis paper. This approach stems from the concept of the activity theory which maintains that knowledge created from learning activity becomes a skill for new learning activities and so on (Angstrom 1987). This kind of organizational approach is an important step toward learning organization.

Teaching academic skills through different subject matters: The method used in specific courses for academic skills was proved to be ineffective. At the same time the students had difficulties with courses that focused on a particular subject. Many lecturers gave up on the decision to read and write academic papers because of this. (See for example: Newell-jones,K. Osborne,D.& Massey,D. 2005).

We decided to solve the problem by developing common academic skills in courses with different subject matters. For example: The reading courses are based on studying different subjects in education through reading and analyzing four academic papers. The work is very systematic and the students prepare a portfolio of the assignments they prepared during the semester. As a final project each of them choose a new paper on the subject and wrote a synthesis of all five papers. In the research methods course students work on a research question and prepare a mini research.

During the seminars the lecturers give a lot of individual help. They also agreed on common requirements such as: using at least 10 papers, giving a presentation or presenting a poster at the end of the first semester, and so on. We "infuse" the teaching of academic skills into content instruction. (Swartz, R.J. & Parks, S. 1994).

Creating a community of learners for the lecturers and for the students: The lecturers created different teaching methods working as a team and a community of learners (see for example: Shulman, L.B. & Sherin, M.G. 2004 and Keini, S. 2006). They learned from each other and created a common language and shared concepts. At the same time the students created learning communities in their classes by working together on their assignments.

Evaluation

After two years of working together as a learning community (Wenger, E. & Snyder, W. 2000) we conducted a survey amongst the second year students of the program. We wanted to know whether the program had helped the students. The team created a questionnaire consisting of open and closed questions. The results showed that the students used concepts and words from the common language created in the courses and they were very satisfied with the different courses.

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The Pedagogy of Clinical Practice: Student Teacher Supervisors Articulate their Role

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Abstract: The importance of field supervision of student teachers is well-recognized. However, the role of the supervisor is often unarticulated and ambiguous, left to the supervisor and the student teacher to delineate and define. The individual practices of supervisors are often idiosyncratic representations of the goals of the specific teacher preparation program. What are those supervisory practices, and are there differences based on the supervisors' professional backgrounds? Drawing on supervisor interviews, this qualitative investigation suggests that supervisors' professional backgrounds and affiliations with teacher preparation programs do influence how supervisors assist new teachers develop as professionals. Former teachers tend to focus on practical and concrete aspects of teaching while university faculty (e.g., teacher educators) and former teacher-administrators strive to connect classroom teaching to state mandates and teacher preparation program-identified curricular concerns. Supervisors represent teacher preparation programs in schools and classrooms, but teacher preparation program personnel may not be fully aware of how they are being represented and what lessons supervisors are sharing.

According to the National Research Council (2010) the primary goal for field supervision is to ensure that student teachers "apply the knowledge they have gained" (p. 50) from their university preparation to classrooms in which they are placed. The teacher preparation program may expect supervisors to encourage reflective practice (Bates, et al., 2009) and offer critique and feedback in regard to student teachers' practices while creating a supportive environment for the student teacher (Moody, 2009). In practice, supervisors reinforce formal and informal teaching rules, especially in terms of writing lesson plans (Chalies, et al., 2010; Moody, 2009; Rennert-Ariev, 2008) and organizing classrooms (Ediger, 2009; Rennert-Ariev, 2008). In fact, most field supervisors' mentoring tasks are assumed, implicit, and/or unofficial (Killian & Wilkins, 2009; Zimpher & Howey, 2005), often more clearly defined by student teachers than the university (Rennert-Ariev, 2008). Student teachers prioritize practical, hands-on knowledge gained from classroom experiences and minimize ways in which understanding gained from educational theory adds breadth and depth to one's classroom practice (Chalies, et al., 2010; Rennert-Ariev, 2008). Many cooperating K-12 teachers dismiss the value of a strong theoretical background (Rennert-Ariev, 2008), thereby supporting candidates' weakness in analyzing complexities. Field supervisors are tasked with balancing the requirements of the teacher education program and the priorities of candidates and classrooms.

There are many assumptions about the roles of the supervisor yet these assumptions are neither consistent within the literature nor are they based on broad understanding of how supervisors themselves interpret their responsibilities in light of the mandates of teacher education. Although there is occasional mention of supervisors' affiliation with the university (NRC, 2010; Zimpher & Howey, 2005), there is minimal discussion of other relationships. When collaboration is discussed, the focus is on the candidate (Bates, et al., 2009) or cooperating teacher (Chalies, et al., 2010), not the teaching program. Therefore, the alignment of supervision with preparation program content is unlikely because supervisors rarely participate in meaningful professional development activities: while they may come to the teacher preparation program offices on a regular basis, their so-called professional development generally focuses on documentation procedures and administrative deadlines. In addition, little is known about supervisors' education and professional or their mentoring ability (National Research Council, 2010). An inquiry into their actual practice will contribute to the paucity of literature and perhaps a greater integration of supervisors into the fabric of the teacher education program. The objective of this project is to explore how supervisors at NCATE-accredited Schools of Education understand their role in the professionalization of student teacher.

The Interview Study

The pool of 26 field supervisors at a regional comprehensive university were recruited to share their perspectives. Transcripts and responses were coded regarding topic: their role as supervisors; how they become familiar with their candidates; how they maintain professional contact with candidates and K-12 teachers; which other professionals in the schools they worked with to support candidates; how they helped candidates negotiate theory into practice; how they understood their value to candidates, to schools, and to the teacher education program. Eleven supervisors (n=4

core faculty; n=3 retired administrators; n=5 retired teachers) participated in audio-taped individual, semi-structured interviews during which they described their work with student teachers.

Two groups emerged with clear difference between university faculty and retired administrators (FA) and retired classroom teachers (CT). All supervisors described themselves as mediators and negotiators, but FA interpreted that mediation/negotiation role more actively than CT. FA incorporated a more apprenticeship-model of student teaching, helping candidates interpret the joint, and at times contradictory, nature of the teacher preparation program versus cooperating K-12 teacher expectations. Simultaneously, these supervisors made overtures to cooperating K-12 teachers to offer informal professional development opportunities (e.g., "just in time" conversations) and made time to discuss all aspects of the teaching process with cooperating teachers. This included alternative educational pedagogies, technology support, and classroom management concerns. Finally, they valued the use of educational theories as a tool to increase flexibility of classroom pedagogy and practice. FA constantly incorporated a variety of expectations (professional, practical, theoretical) into their discussion. Their ability to reflect on the at-times conflicting expectations of the teacher preparation program and student teachers suggest that this group of supervisors deliberately self-monitored their presentation of professionalism to student teachers.

In contrast, CT focused almost exclusively on classroom practice and appeared less cognizant of the need to balance the differing expectations of professionalism. They tended to minimize the relevance and importance of theory to support pedagogical decision-making, suggesting that practice and pedagogical flexibility is associated solely with experience and is disconnected from theoretical and/or philosophical insight. They regarded supervisory responsibilities as separate from the role of the cooperating K-12 teacher. In fact, they minimized their contacts with the cooperating K-12 teacher and made little effort to include them in on-going supportive discussions with the student teacher. They minimized the need for self-reflection, educational theory, or on-going conversation with colleagues and peers, in direct contrast to the prevailing wisdom of the program and its accreditation mandates.

Discussion

This work considers how teacher preparation programs – as represented by student teacher supervisors – support both teachers' and supervisors' on-going, reflective practices and professional growth. The qualitative evidence gathered in this work has direct bearing on how teacher preparation programs can more effectively utilize the skills, knowledge, and expertise supervisors bring to the education process. More specifically, retired classroom teachers may need encouragement to reframe their own reflective practices to better consider, weigh, and balance the (at times conflicting) requirements of the teacher preparation program with expectations of the student teachers. Ultimately, improving teacher education requires that we reflect on, assess, and evaluate the success of every element of the education, training, and indoctrination process. Given national concern for quality teacher preparation, we are conducting a similar study at another regional comprehensive university in another state with more diverse population to identify any widespread trends and to see if the conclusions of this study are applicable. This phase of the inquiry includes development of a survey to prompt discussion of the same topics, in hope that the instrument will serve other programs trying to align field supervision with the program curriculum.

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There Is More than Gestures to Teacher Enthusiasm

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Abstract: Surveying the research topic teacher enthusiasm one finds a number of studies in which the construct is represented by an array of behaviors enacted by teachers in their classrooms. Among these behaviors or gestures are, moving in front of the classroom, gesturing and focusing on students´ eyes. In this study we intend to demonstrate that this approach misses the central focus of teacher enthusiasm. First, the etymology of the word is founded on inner dimensions of the human being. Second, the data obtained in a previous study pointed out to the source of enthusiasm as lying in deeper layers of personality of which gesture is a reflex. The bulk of the studies focusing on teacher enthusiasm is grounded on the presupposition that this trait is engendered by a number of actions the teacher performs in the classroom. In this paper we intend to explain, first, why the said presupposition is equivocal; second, to present data from two studies in which dimension beyond behaviors account for teacher enthusiasm and third, to propose a tentative scheme to guide the study of this important construct - teacher enthusiasm.

The Enthusiasm

The literature we reviewed comprises studies of two natures: experimental and *ex post facto.* Experimental studies are generally patterned after Campbell and Stanley´s classification design three (1963), that is, one classroom having the experimental treatment, consisting of actions and gestures denoting enthusiasm and other the control where the said behaviors were absent. *Ex post facto* studies used questionnaires to capture perceptions students had about faculty with focus on behaviors similar to those of the experimental studies.

We contend that, by centering on gestures and similar behaviors presumably indicative of teacher enthusiasm is equivocal. It reverses the axis of the phenomenon, bringing the effects to the forefront, therefore disregarding the causes. Our contention is based, first, on the etymology of enthusiasm. Enthusiasm is a Greek word combining the preposition εν (in, inside) and the noun θεος (god) (Arndt & Gingrich, 1959). The etymology does not change its focus as it unveils itself across different phases of the history of philosophy. Our contention is also supported by evidence originated from a study with seniors graduating (Rodrigues Jr., Pasquali & Moura, 2009).

institutions in Middle West and Southeast regions of Brazil. By means of a 24-propositions questionnaire associated to Likert scales representing perceptions concerning the enthusiastic faculty member and five items addressing demographics of the student. The data collected was submitted to factor analysis by means of Principal Components - PC. Six first order and three second order components emerged, which were submitted to Varimax rotation (See Figure 1).
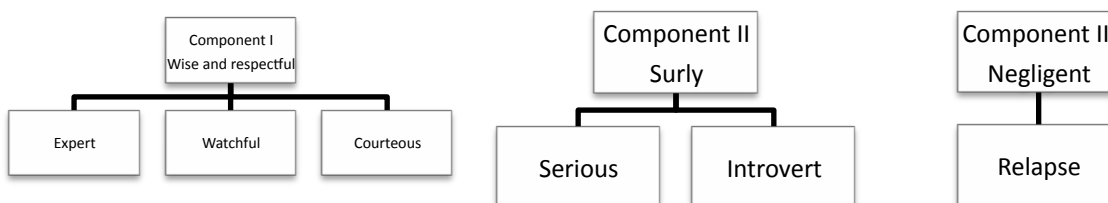
Figure 1. Components of enthusiasm

The components emerging from the study were, of second order, Wise and Respectful clustered three first order components: Expert, Watchful and Courteous. The second order Component, Surly, aggregated two first order components, Serious and Introvert. Finally, second order Component 3, Negligent, had first order component Relapse associated to it. Following the interpretation of the data, the authors point out new alternatives to be explored in studying the construct.

A second study, with a qualitative perspective sought to integrate findings concerning the nature of enthusiasm as manifested in higher education faculty originated from the first study. Interviews were conducted with six faculty members identified by students as enthusiastic. It constitutes a proposal of a mixed method study, a methodology blending the quantitative and the qualitative approaches. The interview protocol was made up of nine questions. The findings supported our claim that teacher enthusiasm lies in deeper layers than contrived gestures displayed in classrooms. The three factors emerging from the qualitative study were, that proposed to alter two factors, indicating: wise and respectful at the same way; the second were changed to committed and exigent, and the third to casual.

Discussion

Furthermore, since the respondents of the questionnaire were asked optionally to indicate the enthusiastic faculty they had in mind while responding to the instrument; it was possible to interview a sample of six faculty members perceived by students as enthusiastic. These factors, to which the interviews gave support and expanded, indicate that teacher enthusiasm recedes to causes deeper than the exteriorization of gestures.

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Undergraduate Research Experiences and Professional Presentations:
Variations in Mentoring Experiences by College Generational Status

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Abstract: This paper presents perspectives of undergraduates who participated in a mentored undergraduate research experience (URE) that resulted in a presentation at a regional or national conference. With a particular focus on differences by college generational status, I examine students' perception of the mentoring relationship along with the benefits of conference participation. A web-based survey was administered to two groups of undergraduates after they participated in a mentored URE that resulted in a presentation at the 2010 Southern Sociological Society's (SSS) Annual Meeting or the 2010 American Sociological Association's (ASA) Annual Meeting (N=59). The majority of respondents were women of senior status and continuing college generation families. Most students were presenting at a research conference for the first time outside their home institution and for most, this was the first professional research conference they attended. Overall students found the URE and presentational experience beneficial. Some anecdotal differences are suggested when comparing first generation to continuing college generation students. Future work should include larger samples of undergraduate researchers in various disciplinary fields to examine not only college generational status, but sex and race and ethnicity as well.

Literature Review

Undergraduate research experiences (URE) are seen as important pathways to graduate school and careers. The National Science Foundation (1996), the Council of Graduate Schools (2007), the Council on Undergraduate Research (Boyd & Wesemann, 2009), as well as disciplinary organizations such as the American Sociological Association (McKinney et al., 2004) have recognized the need for increased attention to the undergraduate experience. We have also learned that students regard the mentoring experience in undergraduate research as beneficial (Bauer & Bennett, 2002; Boenninger & Hakim, 1999; Davis 2007; 2008; Ichiyama, 2007; Nagda, Gregerman, Jonides, von Hippel, & Lerner, 1998). However, we know much less about how these students perceive (1) the role of mentors, (2) the benefits of the mentoring experience, and (3) the characteristics of a good mentor (Ichiyama, 2007).

The literature demonstrates the mentorship experience has significant benefits especially for women, racial and ethnic minority students, and first generation college students (Burke, McKeen & McKenna, 1994; Davis, 2007; 2008; González, 2006; Ishiyama, 2007; Lopatto, 2003; Ogan & Robinson, 2008; Whiteley et al, 1991). These groups (1) expect the mentorship experience to include psychosocial elements (except first generation white students), (2) report more psychosocial benefits of the mentoring experience, (3) identify a good mentor as being "personally concerned with the student's welfare" (Ishiyama, 2007) and (4) have higher retention and continuing education rates when mentored (Davis, 2007; 2008; Ogan & Robinson, 2008; González, 2006; Ishiyama, 2007; Lopatta, 2003; Whiteley et al, 1991).

While the literature demonstrates the benefits of student engagement and undergraduate research (see for example ASHE Higher Education Report, 2007), a particular focus on the benefits of undergraduate presentations of student research at conferences is nearly absent in the literature and only focuses on the natural sciences (Hunter, Laursen and Seymour 2007; Mabrouk, 2009; Seymour and Hewitt 1997). As such, I ask:

1. What are undergraduate Sociology student perceptions of their research conference participation?
2. Are there differences in perceptions of conference participation based on college generational status?
3. Are there differences in perceptions of students' mentored experience based on college generational status?

Methodology

Names and email addresses of undergraduate student presenters from the 2010 SSS Annual meeting were obtained from the program chair (N=83). Of the 79 valid emails, 51 undergraduate presenters responded yielding a 65% response rate. Names and email addresses of all student presenters (N=595) at the 2010 ASA Annual meetings were obtained from the ASA president. Of the respondents, only 8 indicated undergraduate student status and participated

in the study. The ASA was unable to differentiate between graduate and undergraduate student status. As such, I cannot calculate a response rate for undergraduates specifically.

A web-based survey was developed using *Qualtrics*. The survey was sent out in three waves for each population directly after the end of each conference. Each student presenter was contacted via email, presented with an informed consent statement, and invited to participate in the study. A link in the email took respondents to the survey in *Qualtrics*. The survey instrument was available to each conference group for three weeks after the initial email; I sent two reminder emails during that time seeking participation—one roughly mid-way through the three weeks and a final reminder three days before the close of the survey.

Data Analysis and Results

Fifty nine undergraduate presenters completed the survey. Of those 75% (N=36) were women and 69% (N=33) were continuing generation students. The sample contained juniors (23%; N=11) and (77%; N=36) seniors, with the majority of respondents (74%; N=40) presenting at a research conference outside of their home institution for the first time. Due to the small sample size, I was unable to examine meaningful differences in college generational status among the study variables of interest. The differences in college generational status discussed below are merely trends in the data and not statistically significant findings.

When asked about the greatest benefits accrued from attending the conference, 35% (N=17) of respondents indicated an "opportunity to present my research," followed by obtaining "general information about the field of sociology that interests me" at 17% (N=8) and 13% (N=6) reported an "opportunity to test my professional self-identity." No differences in college generational status appeared with regard to greatest benefits accrued.

Just over half of all respondents (51%; N=24) indicated that their participation in the conference motivated them to continue their undergraduate research project. Just under half (47%; N=15) of continuing students were motivated to carry on their projects and just over half (60%; N=9) of first generation students were similarly motivated. Conference participation appeared to have more of an impact on first generation students in their efforts to pursue future opportunities to present with 73% (N=11) either agreeing or strongly agreeing with this statement as opposed to 53% (N=17) of continuing generation students indicating agreement.

Respondents were also asked to rank the most important to least important characteristics of their mentoring experience that led to their conference presentation. Data indicate that the most beneficial characteristic of their mentor was as an "expert in their field." However, this varied with regard to generational status. Nearly half (47%; N=7) of first generation students selected "expert" as the most important characteristic whereas for continuing college generation students only 28% (N=9) selected this option. There was also agreement on second most important aspect of their mentor: being accessible. This was rated equally by both groups at roughly 30%.

Discussion and Conclusion

The findings of this project help us understand the impact of conference participation and mentoring experiences on students of continuing college and first generation families. Overall, undergraduate researchers valued the experience of presenting their research and over half found the experience educationally motivating. No anecdotal differences in conference participation based on college generational status were observed. However, some anecdotal differences in perceptions of students' mentored experience were observed based on college generational status. Future work should include larger samples of undergraduate researchers in various disciplinary fields to examine not only college generational status, but sex and race and ethnicity as well.

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Teaching & Learning in Practice

Presentation Sessions

http://www.cider.vt.edu/conference/

A Glimpse Inside the Zone: Graduate Education in a Virtual World

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Abstract: The Instructional Technology program in the Reich College of Education at Appalachian State is a distance education program in which faculty deliver instruction to cohorts of practicing teachers throughout western North Carolina. Unlike most distance programs, however, the primary delivery of instruction does not occur through a traditional learning management system, but instead leverages the features and capabilities of a large-scale multi-user virtual environment (MUVE), entitled AET Zone. This session will provide participants with insight into the over ten year history of the design and development process behind the Zone and will demonstrate the features utilized to create community and to facilitate learning amongst graduate students in the program.

Overview

As educational institutions continue to investigate avenues for effectively leveraging the capabilities of virtual worlds, there are many lessons to be learned from those who have designed and developed strategies for delivering instruction on a large, comprehensive scale. Appalachian State University's Instructional Technology program is one such graduate program. As such, participants in this session will be provided with information related to both the pedagogical and practical issues related to delivering instruction via MUVEs. Participants will be able to view many components of the MUVE as they are 'walked through' the virtual campus as tools and features are demonstrated.

Literature Review

As is the case when integrating technologies into educational settings, the utility and effectiveness of the tool is informed through a pedagogical framework and set of related instructional strategies. In this instance, the Appalachian Educational Technology Zone (AET Zone) was developed and implemented based on a pervasive belief that learning occurs best through social interactions (Vygotsky, 1978) and that learning communities develop around things that matter to people Wenger (2006). Graduate students in the Instructional Technology program interact with each other, and those online students who are enrolled in other distance programs in the department, by mingling and sharing space within the virtual world. All synchronous classroom instruction is delivered through designated virtual 'classrooms', which very rarely resemble traditional classrooms. Students are able to work in small groups, interact via voice, text or video, and collaborate on projects via many content collaboration tools. The instructor is then able to play the role of facilitator to the learning process as he/she can see, and interact with, students who are present within the same virtual space.

The AET Zone then becomes an environment that is characterized by "significant components of space, movement, physical presence and co-presence, conversational and presentation tolls with small and large group shared workspaces, and metaphors and artifacts that assist collaboration and learning online in new and different ways". The effectiveness of leveraging an environment characterized by presence has added to the social constructivist pedagogical foundation and, as a result, a new pedagogical framework, known as Presence Pedagogy (P2) has emerged. Therefore, goals of this session will be to provide participants with an overview of the pedagogical framework, knowledge of the design and development process, and exposure to the virtual world known as the AET Zone.

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A Multicultural Perspective and the Mitigation of Classroom Incivility

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Abstract: This practice session presents a framework for examining incidences of classroom incivility from multiple cultural perspectives. The framework builds on Robert Boices' research on classroom incivility, purporting that "the key initiator of classroom incivility may be teachers' deficits in immediacies (i.e. expressions of warmth and approachability (p. 453) and that increased teacher immediacy behaviors resulted in lower levels of classroom incivility; however, the call for instructors to engage in immediacy behaviors is too simplistic to such a complex phenomenon. Classroom incivility reflects cultural disconnects influenced by social power, manifested in social discourse and non-verbal behaviors. By examining classroom incivility from a cultural perspective instructors will be able to develop better strategies for mitigating classroom incivility.

Practice Session Framework

Broadly defined, "classroom incivility is any action that interferes with a harmonious and cooperative learning atmosphere in the classroom. Uncivil student behavior not only disrupts and negatively effects the overall learning environment for students but also contributes to instructors' stress and discontent" (University of Michigan, Center for Research on Learning and Teaching website: www.crlt.umich.edu/tstrategies/Incivility.php).

The discussion and strategies for reducing the level of classroom incivility are based on theoretical constructs and studies prominent in the field of cross-cultural communication (e.g., Richmond, 1992; Wood & Dindia, 1998; Golish & Olson, 2000) and social theories (Erikson, 2003; Banks, 2003). Participants will gain an understanding of classroom incivility as being based on interpretation of meaning and behavior within a given social context. Cultural perceptions and socio-cultural identities are hierarchical, defining individual's social place, role, and status (Alexander-Snow, 2004). They reflect the social, economic, and political characteristics of society and have an impact on how individuals are perceived and how others respond to them (Alexander-Snow, 2004; Schofield, 2003). Cultural perceptions influence classroom dynamics and when there is a disequilibrium of the consensus of social power between students and instructor, there will be cultural disconnect, and occurrences of classroom incivility will continue until social consensus is established. Essentially, mitigating classroom incivility will be a by-product of how the instructor and students assess the socio-cultural dynamics manifested in the classroom and how effectively the instructor adapts his or her immediacy skills accordingly (Alexander-Snow, 2004).

Practice Session Format

Presentation will be an interactive dialog between participants and presenter that models "best practices" and "not so good practices" in mitigating classroom incivility. The discussions will be based on actual case scenarios and incidences of classroom behavior that can occur in college classrooms.

Practice Session Goals and Objectives

Participants will be introduced to case scenarios in which they will identify best practices for classroom management and for reducing the incidences of classroom incivility. The best practices will be based on the research conducted by Robert Boice (1996) in which he concluded that "the key initiator of classroom incivility may be teachers' deficits in immediacies (i.e. expressions of warmth and approachability (p. 453) and that increased teacher immediacy behaviors resulted in lower levels of classroom incivility.

Participants will examine cultural perceptions in shaping student and instructor discourse from multiple socio-cultural lenses—that of student, instructor, class, race, gender. Instructors will learn the importance of social identities (i.e., class, race/ethnicity, and gender) in influencing classroom dynamics. Participants will learn how best to establish and maintain power imbalances, such that there is none to little incidences of classroom incivility.

Practice Session Deliverables

Participants will leave with a working portfolio of strategies and best practices for mitigating classroom incivility.

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Blogging for Reflection & Learning in Higher Education

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Abstract: According to Fredig and Trammell (2004), there are four benefits of student blogging: (1) Students become subject-matter experts; (2) student interest in learning increases, (3) students have legitimate chances to participate, and (4) blogs provide opportunities for diverse perspectives. This teaching and learning practice session will highlight reflection blog assignments as a tool for promoting student learning. The presenter will share an example framework and scoring rubric for blog assignments. Session participants will discuss best practices and share ideas and insights on related resources.

Introduction & Review of Literature

As an educator, I am always looking for ways to foster and facilitate learning with my students. I often get ideas from colleagues, and I came across a great idea that was shared at the 2009 conference of the Association of Leadership Educators. Dr. Greg Gifford shared about his experience using blogs for critical thinking development (Gifford, 2010).

According to Fredig and Trammell (2004), there are four benefits of student blogging: (1) Students become subject-matter experts; (2) student interest in learning increases, (3) students have legitimate chances to participate, and (4) blogs provide opportunities for diverse perspectives. Several researchers have noted the advantages of blogs and journals for improved reflective engagement with course material (Hall & Davison, 2007; Stiler & Philleo, 2003; Xie, Ke, & Sharma, 2008), as well as improved learning and performance (Loo & Thorpe, 2002; McCrindle & Christensen, 1995; Thorpe, 2004). A full review of empirical research suggests that more research is needed to confirm and verify the benefits of blogging (Sim & Hew, 2010). However, the findings to date suggest that practitioners should consider student blogging as a tool for enhancing teaching and learning.

Goal and Objectives

The goal of this teaching and learning practice session is to highlight reflection blog assignments as a tool for promoting student learning. By the end of the session, participants will be able to:
1. Identify the benefits of student blogging,
2. Describe an appropriate framework and scoring rubric for blog assignments, and
3. Find appropriate resources and guidelines for student blogging.

Description of the Practice

Depending on the course, my description of the blogging assignment varies somewhat. However, I always ask the students to follow a "what?", "so what?", "now what?" format, similar to the approach promoted by the Northwest Service Academy (Watson, 2001). Students are required to use a blogging service, such as Blogger or Wordpress, and I provide recommendations for creating high quality blogs. For example, I suggest that high quality blogs are typically 150-500 words in length, include three to five hyperlinks to related resources, and incorporate at least one image (graphic or photo). I also share with students my scoring rubric (Figure 1). Portions of the rubric have been adapted from Association of American Colleges and Universities' VALUE rubrics. (For more information on the VALUE rubrics, see Rhodes, 2010.)

Discussion

I'm convinced that blogging offers great promise as a tool for facilitating learning, so I have been incorporating it as an assignment in my classes. I know more research is needed to verify the benefits of student blogging, but in the meantime, I am doing what I can to perfect the practice, and I am excited to share my experience and examples with others.

Table 1. Example Scoring Rubric for a Student's Blog Entry

Criteria	Points Possible	Qualities of an A-Level Submission
Topic & Approach	20	• Offers one or more significant connections to the unit of study. • Follows an obvious "what?", "so what?", "now what?" format, similar to the approach proposed by the Northwest Service Academy, http://www.studentsinservicetoamerica.org/tools_resources/docs/nwtoolkit.pdf
Explanation of Issue	20	• Issue/problem to be considered is stated, described, and clarified so that understanding is not seriously impeded by omissions. • Systematically and methodically analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.
Credible Evidence	20	• Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. • Course material is specifically referenced at least once. • Includes three to five hyperlinks to other resources that add depth and dimension to the key points. (2 pts each)
Conclusions & Implications	20	• Specific position (perspective, thesis/hypothesis) takes into account the complexities of the issue. • Conclusion is logically tied to a range of information, including opposing viewpoints.
Writing Quality & Overall Appeal	20	• Entry is free from structural, grammatical, and spelling errors that might otherwise distract the reader. • Hyperlink URLs are embedded in the text rather than displayed. (2 pts) • Succinct entry; no more than 500 words in length. • Includes one or more images (photos or graphics) relevant to the topic. (2 pts)
Total	100	

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Closing the Distance between Professor and Student in Large Lecture Halls: Teaching with an Untethered Tablet and Other Strategies

Joseph S. Merola, *Chemistry*, *Virginia Tech*

Abstract: Technology has provided the educator with a number of new tools to aid in the presentation of material in the classroom. Tablet PCs are a particularly useful form of technology that allows the teacher to use the computer to project various types of media and annotate for explanation or emphasis with the Tablet pen. In a large classroom situation, this has the disadvantage of keeping the lecturer tied to the computer and at a distance from the students. In this talk, I will present my experience with using a convenient, inexpensive usb-based wireless video device that allows the lecturer to move about the room while still using the Tablet PC. In addition, a very convenient variant of the "clicker" – the use of cell phones for polling the students is discussed.

Literature Review

Tablet PCs have made a large impact in education on both teaching and learning(Cicchino & Mirliss, 2004; Stensaas, 2005). From the student perspective, a Tablet PC allows for natural handwriting for note taking. From the teacher perspective, the Tablet PC affords a style of lecturing that can include the best of the computer based (multimedia and high resolution graphics) and of more traditional methods (handwritten annotations). If both teacher and learner have Tablet PCs (and the appropriate infrastructure) then a high level of collaborative learning can be achieved in the classroom with programs such as Classroom Presenter providing direct electronic communication between the student and professor. Classroom experiences can be saved for later review including annotations by the professor, the student or both. Programs to facilitate the use of Tablet PCs first appeared in computer science courses, then in engineering in general(Tront, 2007; Tront, Eligeti, & Prey, 2007; Walker, Stremler, Johnston, Bruff, & Brophy, 2008). Of particular relevance to my field, Tablet PCs have been shown to facilitate lecturing in chemistry and software to take advantage of the Tablet PC's input capability in the drawing of complex organic structures has been developed(Arbuckle-Keil, 2005; Cooper, Grove, Pargas, Bryfczynski, & Gatlin, 2009; Derting & Cox, 2008; Ouyang & Davis, 2007; Pargas, Cooper, Williams, & Bryfczynski, 2008; Tenneson & Becker, 2005; Tofan, 2010).

Goals and Objectives

This practice session will focus on large classroom lectures in general chemistry, but the practices apply to all large lecture situations. The common method of projecting from a Tablet PC is to use a video cable attached to a projector or attached to a control system in the lecture hall. No matter the case, the effect is to tether the lecturer to the front of the lecture hall if he or she is to take advantage of the Tablet PCs annotating capability. (One can roam the room using a wireless controller to advance presentations such as PowerPoint but that does not take advantage of the Tablet PC.) This has the effect of solidifying the distance between teacher and learner in that environment. This is the same barrier that one would have in writing on a black/whiteboard or an overhead projector and so represents a step backward in the use of technology for the large lecture classroom. A second feature of the particular general chemistry classroom to be discussed in this session is that it is a diverse mix of students – engineering majors along with a variety of life science majors. This translates into a diversity of technological savvy and computer capability as well. Although the engineering students have Tablet PCs, they are not the majority of the class and so programs such as Classroom Presenter(Anderson et al., 2007), Ubiquitous Presenter(Wilkerson, Griswold, & Simon, 2005) or DyKnow Vision(Sneller, 2008) cannot be used for the benefit of all.

In this practice session, proven practices will be extended for the benefit of both the teacher and learner in a large classroom situation by using inexpensive solutions to break down the teacher-student distance and to extend the interaction between professor and student. The first solution is Warpia Wireless USB PC to TV Display Adapter. Currently, this device sells for just a little over $100 and consists of a very small usb dongle that plugs into the Tablet PC and a small base station that is attached to the projector via a standard video cable. The net result is that the professor is untethered and free to roam around the lecture hall and interact more closely with the students.

While Tablet PC programs are available for polling students and allowing for student submissions of answers to posed questions, a classroom without 100% Tablet users does not make their use practical. "Clickers" have proven

to be an effective way to poll the class on answers to questions during the lecture and getting a pulse on student learning. If the students show a mastery of the material by their responses, the professor can feel comfortable in moving forward. If the responses show that there is not a clear understanding of the concept behind the question, time invested in having the students discuss the question in small groups followed by a further explanation by the teacher is time well spent. The disadvantages of clickers, though, are several – mostly practical ones. Depending on the system used and how it is implemented, the clicker may be an additional expense for the student as well as requiring the student to remember to always bring it to class (a disadvantage not to be dismissed lightly when dealing with first year college students.) If the department chooses to purchase clickers to be used by multiple classes, the logistics and effort required to keep track of the clickers is not insignificant. One device that has become universal and which students always seem to have with them is the cell phone with texting capability. This practice session will demonstrate one such cell-phone based polling system and show how it can easily be included in PowerPoint presentations to provide exactly the same feedback as a clicker system(Geary, 2008).

The combination of an untethered Tablet PC, a cell phone based polling system and other miscellaneous software programs has helped to break down the distance between the teacher and learner in the large classroom situations I have experienced. A combination of my subjective feelings as well as student responses support that these strategies help make the large classroom lecture a friendlier and more favorable environment for both teacher and learner. I hope to mount a more directed research project in the future by teaching different sections of general chemistry one with and one without the tools described above. The future assessment will involve tracking performance as well as the subjective feelings of the students. These strategies will be demonstrated with the audience participating during this practice session.

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Common Ground: Collaborating to Increase Student Learning

Mary Ann Lewis, *First Year Experiences, Virginia Tech*
Leon McClinton, *Residence Life, Virginia Tech*
Kate McConnell, *Academic Assessment, Virginia Tech*
James Penven, *Residence Life, Virginia Tech*
Britta Petrich, *First Year Experiences, Virginia Tech*

Abstract: This presentation describes a collaboration that was formed between academic units and a student affairs unit. The partnership was developed to further enhance the university common book program at Virginia Tech. The goal of the common book program is to create a common academic experience among first-year students. Because the majority of first-year students live in on campus residence halls, a logical starting point was to use this environment as a forum. In addition to delivering the book to their respective residents, resident advisors (RAs) were asked to read the book and develop at least one activity for their residents that would address the topics raised in the common book. Guiding the RAs in creating this activity were five learning outcomes developed jointly by First Year Experiences, Residence Life, Center for Instructional Development and Educational Research (CIDER), and Academic Assessment. RAs also were provided guidance by their immediate supervisor in residence life who had received training earlier in the summer. Assessment models were developed to determine what resident students learned as a result of the common book activities in which they participated with their resident advisors. Lessons learned and suggestions for replication will be discussed.

Literature Review

It is widely acknowledged that partnerships between academic units and student affairs units have a positive influence on students. Although the empirical data to support this belief is somewhat limited, a study conducted between April 2002 and March 2004 revealed several positive outcomes from partnerships between student affairs and academic affairs (Nesheim, 2007). The study included 18 institutions. According to Nesheim (2007), acclimation to the institution, engagement, student learning, and academic and career decisions were the student outcomes produced by forming academic and student affairs partnerships. These outcomes support the need for more emphasis in producing collaborative efforts between academic and student affairs.

First Year Experiences, Residence Life, CIDER, and Academic Assessment at Virginia Tech all collaborated to create an intentional program revolving around the 2010-11 common book, *Animal, Vegetable, Miracle: A Year of Food Life*. Tagg (2003) referenced the quote, "learning outside of classes, especially in residential settings and extracurricular activities such as the arts, is vital. When we asked students to think of a specific, critical incident or moment that had changed them profoundly, four fifths of them chose a situation or event outside of the classroom." This quote was a summary of over 1,600 interviews of seniors from Harvard and other institutions conducted by Richard Light (2001). The goal of the Virginia Tech initiative was to complement the interactions first-year students had with the common book in their academic classes with a critical experience outside of the classroom that would enhance learning.

An additional goal was to situate these experiences with the common book within the set of learning priorities developed by the Division of Student Affairs. One of these priorities focuses on developing opportunities for students to develop curiosity. Curiosity can have positive influences on health, intelligence, meaning and purpose in life, social relationships, and happiness (Kashdan, 2009). Furthermore, "… higher curiosity is regularly tied to greater analytic ability, problem-solving skills, and overall intelligence. Together, high curiosity and high intelligence is the powerhouse combination that characterizes the best students, workers, managers, scientists, artists…" (Kashdan, 2009, p. 36). Curiosity creates opportunities for students to further explore issues raised in the book. The partnership resulted in an increase of opportunities for students to become more curious about the topics raised in the common book. Significant numbers of common book activities were reported by RAs, which show a positive influence on students.

Goals & Objectives

As a result of this session, participants should be able to…

- Understand the importance of partnerships between academic and student affairs on campus.
- Identify ways in which partnerships can be formed.
- Consider supporting data that show a positive influence on students as a result of a partnership between academic and student affairs.

Description of Practice to Be Modeled

Academic and student affairs share a common purpose in building an engaged community of learners. This often occurs in different forums. For faculty it occurs in classrooms and laboratories. For student affairs administrators it often is the residence halls, student unions, and other "non-classroom" locations on campus. However, when academic and student affairs create partnerships to impact student learning, the campus and local community can literally become the classroom. The common book project at Virginia Tech began in 1998 as an effort to create a shared academic experience among firstyear students. Since its inception, six books have been chosen for the project. Initially, books were distributed at residence hall check-in for convenience. Unfortunately, in the bustle of moving in, students often set the text aside, not to pick it up again until May, when they were moving out. Beginning with the third common book, a decision was made to shift distribution to orientation for new students in July. Moving distribution to orientation allowed students to read the book over the summer. Although some students took advantage of the timing, it was not uncommon for faculty to ask about the book in the fall, only to have students sheepishly reply that they left it at home. In 2010, Dr. Mary Ann Lewis, director of First Year Experiences began a conversation with Dr. Leon McClinton, director of Residence Life, to explore how these two offices could partner to intentionally engage first-year students around the topics in the common book. Central to this plan was the RA. In addition to using the RA to distribute the text to students, RAs were required to implement an activity to engage their first year residents with issues presented by the common book. Copies of the common book were distributed to the RAs prior to their departure from campus for the summer. They were asked to read it over the summer and consider how they might assist students in critically thinking about the text. A committee responsible for the partnership between First Year Experiences and Residence Life provided RAs with five learning outcomes to help them focus their thinking and planning for their work with the book in the fall. In July, professional staff members who supervise the RAs received training on how to assist them in developing activities that address at least one of the five learning outcomes. As part of RA fall training in a leadership workshop, Dr. Lewis addressed the RAs to explain expectations for the program, providing them with examples of activities they could implement.

Discussion

When the students arrived on campus, flyers posted in the residence halls alerted them that they would be receiving a copy of the book from their RAs. Unlike previous years, RAs did not distribute the book at opening, but waited until the first week of class. This method not only created anticipation among students, but also led to an intentional exchange of the text from RA to resident. Now that the semester has begun, RAs are engaging their residents in activities centered on the common book. The large attendance at the authors' presentation in September seems to indicate the book is creating opportunities for dialogue and learning. Assessments are being conducted based on the expected learning outcomes. In this practice session, presenters will share data collected from the RAs that will highlight the number and types of common book activities students engaged in during the fall semester. Descriptions of what students learned, what was most successful about the activity, and the challenges RAs faced will be shared. At the conclusion of this session, participants will discuss existing and possible future collaborations. Presenters will share their perspectives on what they learned from this collaboration. Partnerships among academic and student affairs professionals on campus are becoming increasingly critical. As colleagues move forward in meaningful partnerships, student learning and success will only improve as a result of the collaboration.

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Critical Discussion: Developing Self & Peer Assessment in Creative Disciplines

Kathryn Clarke Albright and Scott Poole, *School of Architecture + Design, Virginia Tech*

Abstract: Students enter the School of Architecture + Design at Virginia Tech having progressed through high school with a learning paradigm that often laid out the problem and the expected outcome, as well as, how to achieve the intended result. The process is most often completed by the student and assessed by the teacher, privately and individually.

The learning paradigm for architecture and design students in the Foundation Program at Virginia Tech involves a more public learning process that engages students in critical discussion of their work as a group of twenty-four, in teams of four and in pairs. Being critiqued and critiquing other's work requires criteria valued by all. Critical discussion as a way of teaching and learning allows students to develop better understanding of problems and issues, multiple potential outcomes, and judgment of design excellence based upon criteria derived through discursive examination of their work visa-vie clarity of thought, visible ordering system(s), hierarchy, etc.

This session will introduce an assignment and show outcomes generated by students followed by an overview of the critical discussion between faculty and students in which criteria were established for assessing design excellence in the students' work. A subsequent assignment and outcomes will be presented. Attendees will be asked to derive assessment criteria through critical discussion followed by assessment of outcomes that best demonstrate design excellence.

The Foundation Program of the School of Architecture + Design is based on the idea that students learn by doing, specifically making things. Each student "has to see on his own behalf and in his own way the relations between means and methods employed and results achieved. Nobody else can see for him, and he can't see by being' told', although the right kind of telling may guide his seeing and thus help him see what he needs to see." (Dewey, 1974) This creative activity involves a disciplined, comprehensive approach to observing, thinking, interpreting, and reflecting.

The primary learning environment is an interdisciplinary design lab comprised of twenty-four students in their first year of study in architecture, landscape architecture, interior design and industrial design. Students engage in a series of exercises and assignments that build essential skills, both thinking and making, through exploration of various materials and media. The outcomes include hand drawings, sketches, diagrams, and 3-D models, as well as, digital compositions and modeling. Initially a surprise to the students, none of the exercises and assignments is graded during the semester but students do receive a grade at the conclusion of the semester. However, students learn self and peer assessment of their work through critical discussion from the outset. Critical discussion involves critiquing and being critiqued by faculty and peers as students develop investigative, collaborative and integrative skills through extended practice elements of design. This strategy values iterative production that aims for comprehensive improvement over singular success. Students see that self and peer evaluation has value far beyond a grade. Learner-centered approach to assessment privileges iterative assignments and collaboration.

Goals and Objectives for Practice Session

Brookfield and Preskill (2005) list fifteen benefits to critical discussion however, three stand out as particularly significant for students learning how to assess creative work. Brookfield and Preskill write that critical discussion "helps students explore a diversity of perspectives and develop "new appreciation for continuing differences", as well as "increases students' awareness of and tolerance of ambiguity or complexity." These are crucial benefits for design lab as there are more gray areas in solutions to problems than black and white. Through critical discussion students with guidance of the faculty identify criteria that all can value as essential for their work to address and exhibit a high level of achievement.

Attendees will be presented assignment #1, student produced outcomes and assessment followed by presentation of assignment #2 and its outcomes. With the presenter's guidance, attendees will engage in critical discussion of outcomes and develop criteria for assessment that they will then employ for the outcomes of #2. The process is framed as opportunity for developing cohesion and comprehension within the group in tandem with individual learning of how critical discussion can enable self and peer assessment of work in creative disciplines.

Description of Practice to be Modeled

Each design lab session occurs over the duration of four hours in which the professor engages the students in multiple learning situations. Students may work individually, in pairs, in teams of four, or as a group of twenty-four. The professor engages the students in the various groupings to address the assignment at the outset, and the work in-progress or at its completion. At the start of the semester the professor focuses on developing the students ability to observe everyday objects and the environment through the mind of an architect or designer, which is defined through discussion of drawing exercises. Initially critical discussions occur with the entire group of twenty-four directly in the design lab amidst the students desks or around a large table where everyone has a chair. It is important to note that everyone is facing each other, which "shows respect for students' voices and experiences." (Brookfield and Preskill, 2005)

As the semester progresses the faculty shifts the focus to assessment, i.e. determining what constitutes design excellence. As the critical discussion turns its focus on evaluation, the students are asked to break out into groups of four and collaboratively assist each other in improving each one's work. After an hour or more the teams of four reconvene as a group of twenty-four and reveal where the findings for advancing the work. The professor then asks the students to formulate what criteria could assist in making the next iteration of each student's work approach design excellence. This process repeats itself for assessing the new iteration but the groups of four are mixed and additional findings emerge. Sometimes the professor asks each student to take another student's work and make the next iteration without consulting with the creator but using the visible idea and strengths exhibited. Over the duration of several design lab sessions most of the students are able to identify the work that exhibits the highest level of design excellence.

Discussion

Critical discussions over the duration of multiple sessions blend conversation and dialogue with critical discussion. Conversation is usually an informal exchange of thoughts between a professor and student but with in earshot of peers. Dialogue is more provocative and seeks counter argument. Students are pushed beyond their own thoughts and dialogue becomes an exploration of inquiry in which students engage as collaborators intent on finding well-designed solutions. Students learn there are no absolutely right or wrong solutions just one's better suited to issues and more comprehensive to addressing the particular situation. The varying number of students in pairs, teams and group also plays a significant role in utilizing all three modes of questioning and exploring ideas with openness.

One topic that much of the discussion focuses upon is the "default" proposal, often the first response that occurs without careful and thorough identification of issues and exploration of alternatives to the conventional solution. Students learn that exploration of the unknown or unpredictable is valued even in the face of "failure" as a suitable solution. Students find that initially there is low risk in challenging well-accepted practices. They become open to changing the initial intention and not forcing their intention into their work.

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Crowd Control: Promoting Civility in the Classroom

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Abstract: In recent years, faculty have seen an increase in latecomers, sleepers, cell phone addicts, and downright disruptive students in their courses. This presentation examines the literature on classroom incivility, summarizes a faculty survey on strategies to manage disruptive student behaviors, and proposes practical measures to prevent disturbances. Participants will engage in guided discussion assessing the scope and causes of classroom incivilities, then focus on instructional strategies to prevent incivility and, when necessary, deal with disruptive students. Participants will examine syllabi, classroom "ground rules," rubrics, and assessment techniques as tools to communicate expectations.

Objectives

Upon completion of the session, participants will be able to:
1. Define and describe classroom incivility
2. Recognize reasons for the increase in incivility
3. Develop strategies to communicate classroom expectations and prevent disruptive behaviors
4. Apply intervention practices to address and document incivility

Description

This presentation addresses the issue of classroom incivility by focusing on (1) practical strategies to prevent disruptions and (2) interventions to deal with unacceptable student behaviors. In 1998, *The Chronicle of Higher Education* reported that some courses are being hijacked by "classroom terrorists" who disrupt the teaching and learning process (Schneider, 1998). These disruptive actions include arriving late, leaving early, talking/texting on cell phones, talking loudly during lectures, sleeping, eating, cheating, plagiarizing, coming unprepared to class, making sarcastic comments, and a myriad of other inattentive, disrespectful behaviors. According to the literature, junior, adjunct, and female faculty report the highest incidences of immature and inattentive behaviors (Boice, 1992; Sorcinelli, 1994). Teaching assistants also experience high occurrences of rude, inappropriate classroom behavior.

The presenters will synthesize scholarly literature on classroom incivility, including examples of course syllabi, honor codes, interaction "ground rules," grading rubrics, and classroom management strategies. Materials to prevent incivility are all designed to communicate classroom expectations and actively engage students in a positive learning environment.

In addition, one of the presenters (B. Frey) will summarize a study with Indiana University of Pennsylvania faculty (n = 228) which noted the following disruptive behaviors as most common (Black, Wygonik & Frey, in press):
1. Arriving late and leaving early
2. Talking to others at inappropriate times
3. Text messaging
4. Packing or unpacking backpacks
5. Eating
6. Letting phone ring
7. Sleeping
8. Using laptops for unrelated tasks

Furthermore, faculty noted these strategies for managing disruptive behaviors:
- 68%: Speak privately to student offender
- 51%: Address the entire class
- 42%: Pause lecture until disruption clears
- 39%: Speak publicly to student offender(s)
- 10%: Ignore the problem
- 10%: Raise voice above disruptive incident
- 7%: Send email to offender(s)

The survey results indicated the following significant relationships:
1. Positive correlation between female faculty respondents and seriousness of disruptive behavior
2. Negative correlation between faculty member's status and seriousness of disruptive classroom behavior
3. Negative correlation between instructor's amount of training and frequency of disruptive behaviors

The survey administered in this study is available at: http://www.iup.edu/page.aspx?id=84328

If there is time, the session facilitators will lead discussion on a classroom incivility case study. One conflict resolution model (UNC Managing Classroom Conflict) consists of the following six steps: stop the activity, think of outcomes, assess the situation, react to the comments, use active listening, and prepare for the next time.

<div align="center">Discussion Questions</div>

1. What are the major classroom disruptions that faculty face?
2. What are the causes of incivility in the classroom?
3. What are some examples of instructional strategies that can promote civility?

<div align="center">References</div>

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Curricular Transformation: Human Diversity and Community

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Abstract: Virginia Tech is typical of many institutions that have struggled to educate students beyond the traditional disciplines, especially regarding students' values. This session addresses the processes that faculty, administrators and students used to consider human diversity and community in the curriculum. After the Provost's Task Force on Race and the Institution presented its 2008 report, a group formed to create a plan for the curriculum loosely envisioned by that task force. Ideas were plentiful, but conclusions were few. A new working group is building on the research and suggestions of those earlier groups to create a transformative curriculum that will embrace core values of the institution, including Ut Posim and the Principles of Community. The new plan will address campus climate, intergroup relations, education, and scholarship as identified in the Diversity Strategic Plan. Presenters will discuss the current initiative and its fit for Virginia Tech. They will also identify the process, key questions, and potential for assessment that can be useful for other institutions on the brink of this type of change. Participants will be encouraged to offer feedback and to discuss application at their own institutions.

Literature Review

In recent years, the subject of diversity has transitioned from an issue of tangential concern to a central focus for institutions of higher education (Brown, 2004). Overall, United States demographics are shifting and are becoming more racially and ethnically diverse (Berger, McClendon & Williams, 2005); therefore, more ethnically and racially diverse populations of students are entering our institutions of higher education, and will continue to do so. With this trend, there is a need for institutions to address how diversity affects the campus environment, climate, work force and surrounding community. Virginia Tech has adopted the Model of Inclusive Excellence (Berger, et al) to begin addressing some of the diversity challenges it faces. This model asserts that in order for an institution to achieve excellence, diversity must be a fundamental component that includes, though not exclusively, academic excellence for all students and a rigorous effort to educate these students to thrive in a diverse world, as well as endow students with advanced intercultural and multicultural skills (Berger, et al). Such a model includes the components of learning and development where students acquire knowledge about diverse groups and cultures, thereby fostering cognitive complexity (Gurin, Dey, Hurtado, & Gurin, 2002). The model is also characterized by formal and informal approaches to diversity, including intercultural courses, programs, and experiences across various academic and social domains within the campus environment and surrounding community (Smith, 1997).

Goals and Objectives for the Session

The session is designed to accomplish the following goals:
- Share brief background--including select institutions for comparison--pivotal moments, and key questions along our path toward the development of the Human Diversity and Community (HDC) initiative
- Identify major components of that initiative
- Invite feedback about that initiative
- Invite discussion of use/adaptation beyond the VT community

Although the session will focus on the HDC initiative as an example, participants will discuss and apply elements of the session to their own teaching and/or their own institutions.

Description of the Practice to be Modeled

The practice of this curricular transformation has multiple components including the following:
1. The process undertaken as a result of institutional demand for change, including key questions relevant across other types of institutions
2. The curricular features of the initiative, including a new course and a new concentration
3. Plans for assessment

4. Pedagogy for inclusion within and beyond the concentration

Given the time constraints of the session, the primary focus will be on the process and the curricular structures developed to address the current gap in our curriculum. Key questions will be shared, including the following:
- Should the initiative be framed as a requirement or an option?
- Should the initiative include co-curricular and extra-curricular possibilities?
- How will the initiative achieve legitimacy in an academic setting?
- How will the initiative offer opportunities for vertical integration across the undergraduate career?
- How will the initiative align with the University's core values so that it isn't marginalized?
- How will the initiative minimize the need for resources while attracting signs of institutional commitment?
- How will the initiative align with other mainstream undergraduate curricular initiatives at the institution?

Considerations about the course and the concentration will include course content and theoretical underpinnings, the need for an academic home, access to and/or requirement for the course, governance structures, instructional delivery, student reflection, oversight, flexibility, inclusion in a student's academic record, and assessment.

Discussion

Post-secondary institutions have long struggled to address issues of teaching and learning as they relate to diversity. The Association of American College and Universities offers research and workshops regarding approaches to this common concern across the country; their publications--including *Engaging Diverse Viewpoints: What is the Campus Climate for Perspective Taking?*—address campus climate and considerations for change. Clearly, no one solution fits every institution, and no solution comes easily. Curricular reform must be aligned with the institutional culture—its values and curricular structures—so that the initiative has a real chance at transforming the curriculum. At Virginia Tech, the new Human Diversity and Community initiative will embrace those concepts of service and appreciation for a diverse community as espoused in the university's motto, Ut Prosim, and its Principles of Community, a document approved by the Board of Visitors in 2005 "as fundamental to our on-going efforts to increase access and inclusion and to create a community that nurtures learning and growth for all of its members."

The pledge was clear; the manifestation of this pledge in the curriculum is finally emerging in the form of an elective diversity concentration, enabling students to study the issues, interact with those issues and an increasingly diverse community, choose course work across disciplines and activities to foster experiential learning, and integrate that learning over time assisted by reflection prompts and ePortfolio. Although one common course, housed in an academic department, is essential to provide foundational concepts, enriching and shifting students' perspectives takes time and experience. The concentration will allow students to move through select courses and experiences as they build skills and develop a richer appreciation for human diversity and community.

The plan is built solidly to fit with the University's mission, to match its curricular structures, and to make the most of the principles of inclusive pedagogy. The scholarship of teaching and learning informs the plan, influences the delivery, and dictates assessment. Once this team gets through the pilot phase with this initiative, members hope to contribute to that scholarship of teaching and learning as they disseminate the results.

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Delta Design Exercise: A Tool for Teaching Interactions Amongst Disciplines

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Abstract: Educators who teach engineering design to college students have to drive home a message to the students that a good design is an outcome of healthy interaction and give-and-take between disciplinary experts. It is often seen that if one disciplinary expert starts dominating the design process, the outcome is a lopsided design, which is likely to be non-optimal in an overall sense. This important design principle can best be taught in an experiential manner, or else the student may not realize its importance. The Delta Design exercise designed by a professor at MIT is one among the many tools available to a teacher for this purpose. This practice session aims to explain the working of this exercise, and to illustrate the key messages that students have learnt while performing this exercise over several years. Some modifications made to the original exercise for ease in its implementation in a typical class room environment, as well as to bring in a competitive element are also highlighted. The enhanced exercise will then be made available to any conference participant who wishes to use it for pedagogical purposes in their institution.

Background and Introduction

In almost all Engineering departments in universities that run an undergraduate program, the first two years are generally devoted to basic sciences and engineering, in which the students learn to apply the scientific principles to solving technological problems. The focus is more on "analysis" and, the graduates were perceived by industry and academia as being unable to practice in industry because of the change of focus from the practical to the theoretical. The universities have responded to this problem by introducing the so called Capstone design course in the senior year, with the strong encouragement of the ABET engineering accreditation criteria. Over the years, the Capstone design course has evolved from simulated projects devised by the teaching faculty to industry-sponsored projects where companies provide "real-life" problems, along with expertise, and, in some cases, even financial support. (Dutson et al, 1997)

The requirements from the students in pursuing the project based problems in the Capstone design course are quite different from what they are used to and taught in the theory based courses. Design has a very special meaning in an engineering context, making this complex, fascinating subject so hard to teach. Dym et al (2005) define Engineering design as:

> *A systematic, intelligent process in which designers generate, evaluate, and specify concepts for devices, systems, or processes whose form and function achieve clients' objectives or users' needs while satisfying a specified set of constraints.*

Bucciarelli (1994) defines design as a social process in which members of a team define and negotiate decisions. He argues that each participant possesses an ingrained set of technical values and representations that act as a filter during design team interactions, and that the resulting design is an intersection—not a simple summation-of the participants' products.

Due to the very nature in which undergraduate education is imparted today, the students feel more and more a need to "specialize" in a particular topic, and by the time they come to their Senior year, they have already decided which specific area to specialize in, an start tailoring their curriculum by choosing elective subjects in that area. When these students start attending the Capstone design course, they find themselves in an unchartered territory; they now have to deal with conflicting requirements and demands and make decisions about the configuration or shape in a fuzzy decision making environment.

One of the important requirements in teaching engineering design that has been identified by most experts in this field is to drive home a clear message to the students that a good design is essentially an outcome of healthy interaction and give-and-take between disciplinary experts. It is also felt that this message should ideally be passed on through a hand-on exercise, rather than just mentioning it, since this message does not firmly register in the minds of the students unless they experience it themselves. A number of pedagogical exercises to promote multidisciplinary discourse and constraint negotiation have been created, of which the Delta Design exercise developed by Buchiarielli (1997, 1999) is one of the most prominent and well established.

Description of Delta Design Exercise

The Delta Design exercise is meant as an abstraction of the engineering design process which brings explicitly to the fore this vision of designing as a social process of negotiation among participants who see, represent, analyze, and talk about the object, or subject, of design differently. It engages students, within a three or four hour time period, in an engineering design task that requires the collective efforts of four participants – an architect, a project manager, a structural engineer, and a thermal engineer. The team members are required to design a residence cluster for the residents of a hypothetical planet, using a standard building block called Delta. The inhabitants of this planet have some requirements on form, cost, thermal behavior and structural integrity of their residence. The team soon realizes that any alterations to the current design to improve one aspect of the design (such as the structural strength) usually result in worsening or unacceptable features in another aspect (e.g., cost or thermal or form related requirements). Over a series of give-and-take negotiations spread, the design usually converges to the best acceptable one to all the team members. The exercise has been made a part of the regular curriculum of the Capstone design course at the author's department since 2002, and has been found to be increasingly popular among the students, judging by the feedback obtained.

Modifications to the original Delta Design exercise

Delta Design exercise, in its original avatar, is essentially a board game with a basic paper template over which the triangle shaped Deltas have to be placed by the team. This is very cumbersome, since many a times, the Deltas get dislocated from their position during the (several) animated discussions and arguments that take place between the various role players. Once the design is completed, the only option to record it for further analysis and evaluation is to take a photograph; further, only one group of four students can carry out this exercise using one set of board and Deltas. To allow this exercise to be conducted at the same time for a large group of student teams, a software based version of this exercise was created. In this version, the template of the board was re-created as a master slide on MS-Powerpoint™, and triangular Delta elements were created using pictures. An element of competition was injected by asking several competing teams to do the exercise in parallel. The designs of the various teams are uploaded on a central portal, and are first evaluated using a suite of software programs (written in MS-Excel™ and MATLAB™) in which the formulae related to the requirements of each role are coded. This allows quick evaluation of the discipline-wise feasibility of the designs. All teams are then encouraged to make a sales-pitch to the customer about the superiority of their designs vis-à-vis those of the competing teams. A winning team is then declared based on the one whose design best meets the requirements, and which has made the largest positive impact on the customer.

A detailed presentation of the features of this enhanced version of Delta Design exercise will be given during the practice session.

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Designing Rubrics to Assess Critical Thinking

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Abstract: This practice session will begin with a discussion of critical thinking and reflection by participants in how they meet critical thinking learning goals in their specific disciplines and how they currently assess them. Presenters will then demonstrate how they developed primary trait assessments in their first year composition courses as a way to assess student critical thinking. Studies show that primary trait assessment rubrics can aid student critical thinking through instructor clarification of assignment expectations. Through their demonstration presenters will help participants implement similar assessments pertinent to their disciplines and classroom contexts. Participants will consider an assignment they currently use to develop a PTA in order to evaluate students' critical thinking.

Literature Review

It is a given that critical thinking is important in student learning, for a successful academic career, and in work and society; thus the contemporary focus in higher education is on the development and assessment of critical thinking (Schamber & Mahoney, 2006). It follows that an overt focus on the improvement of critical thinking (Willingham, 2008) is an essential part of general education (Schamber & Mahoney, 2006) including the instruction of college-level writing (Condon & Kelly-Riley, 2004). The use of primary-trait assessment rubrics leads to increased quality in student critical thinking.

Primary-trait assessment rubrics are a good way to measure the development of student critical thinking through classroom learning interventions. Studies show that these rubrics can aid student critical thinking through instructor clarification of assignment expectations. By "demystifying the expectations they have for students [and] articulating their values for the classroom and the types of disciplinary abilities they want to emphasize," instructors both improve teaching practice and the critical thinking of their students (Condon & Kelly-Riley, 2004, 65). Use of rubrics in this clarification process provides "explicit cues on how to think," and makes students more aware of self-regulation of their own thinking processes (Schamber & Mahoney, 2006, 108-09).

A classroom learning intervention such as a concept map exercise can measure any changes in students' critical thinking because "self-evaluation of individual knowledge may be done on a map-based representation of one's own knowledge" to help students evaluate "knowledge available or not available for coping effectively with a particular task situation" (Tergan, Gräber, & Neumann, 2006, 331). Concept maps are visual representations of how a person connects ideas to other ideas. Per Novak, the originator of this often-tested technique:

> Concept maps are intended to represent meaningful relationships between concepts in the form of propositions. *Propositions* are two or more concept labels linked by words in a semantic unit. In its simplest form, a concept map would be just two concepts connected by a linking word to form a proposition. For example, "sky is blue" would represent a simple concept map forming a valid proposition about the concepts "sky" and "blue." (Novak, 1989, 15)

Using this tool as Novak described allows students and faculty to see how students connect the ideas related to their research topic. The concept maps help students identify areas where they need more information for their research project. While debate continues on how to teach critical thinking, a primary-trait assessment rubric leads to increased student awareness of the importance of critical thinking.

Goals and Objectives

Participants will learn how to design rubrics that measure critical thinking through multiple modalities.

Description of Practice to be Exemplified

1. Define critical thinking
2. Explain the importance of using multiple measures in assessing critical thinking
3. Design multiple PTAs to assess student critical thinking in a variety of assignments: Our practice
4. Design rubrics to assess the assignments: Participants will develop their own PTAs with our guidance

Discussion

This practice session will begin with a discussion of critical thinking and its importance to help participants reflect on how they meet critical thinking learning goals in their specific disciplines and how they currently assess them. We believe that using multiple assignments to assess critical thinking offers students the opportunity to more accurately demonstrate their ability. A new assignment we have used in our first year composition course is the concept map to assess students' knowledge of their research topic. The concept map provides a visual representation of the concepts and relationships the student believes are important to the research topic. We developed a PTA rubric to assess students' critical thinking on these concept maps.

Additionally, we designed research log questions to determine the level of student competency in critically thinking about their sources. Students were encouraged to think about their process of searching for sources by completing a research log. Both the concept maps and research logs served as evaluative tools to determine students' critical thinking. Additionally, they helped students focus on their research topics and think critically about the search process as they went through the information literacy instruction. Student responses to these logs were assessed using a PTA designed for the assignment.

Presenters will demonstrate how they developed these PTA for their own classrooms as a way to assess critical thinking. In order to develop the PTA scales to evaluate the research logs, we examined the guidelines for information literacy developed in 2000 by the Association of College and Research Libraries.

Through their demonstration presenters will help participants design similar assessments pertinent to their disciplines and classroom contexts. Participants will consider an assignment they currently use to develop a PTA for evaluation of students' critical thinking.

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Digital Stories as Narrative Pedagogical Practice in Higher Education

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Abstract: Interest in digital storytelling in a multitude of settings has burgeoned in recent years. Although digital storytelling is not new in the world of educational technology, so far it has received little attention in the literature of higher education teaching and learning. Our aims in this session are to share our framework for digital storytelling as narrative pedagogy, to demonstrate the use of student-produced digital stories in both the undergraduate and graduate classroom, and to discuss the learning outcomes appropriate for the application of digital storytelling in higher education.

Digital Storytelling: A Brief Review of Literature

Most simply, the term digital storytelling refers to the use of digital technology to tell a story. We believe the following explanation from the KQED Digital Storytelling Project captures the key elements: "Digital storytelling is the manifestation of the ancient art of storytelling. Throughout history, storytelling has been used to share knowledge, wisdom and values. Digital storytelling uses digital media to create visual stories to show, share, and in the process, preserve as history. Digital stories derive their impact by weaving together images, music narrative and voice to give depth and dimension to the narrative" (KQED, 2008).

A growing body of literature has explored the types of digital stories, the purposes of digital storytelling, the ways in which digital stories enhance learning, build community, and much more. Higher education, as well as other fields of practice including health care, business, and human service, has been caught up in the promise of digital storytelling. Individual researchers and teachers have applied the instructional strategy in diverse ways. For example, digital stories have been proposed as alternatives to the traditional term paper (Burkholder and Cross, 2009). American Studies faculty have employed them as a vehicle for cultural analysis (Coventry, 2006). Benmayor (2008) in her Latina Life Stories course engages students in the production of their unique and individual *testimonios* in multimedia format. Since 2005, the University of Houston has been at the forefront in advocating the use of digital storytelling in teacher education courses and at both the primary and secondary levels. The use of digital storytelling as a reflective tool for teacher education portfolios has been widely explored (Barrett, 2008; Kearney, 2009). Undergraduate students in instructional technology classes are encouraged to create digital stories across a multiplicity of activities ranging from support for a technology-integrated unit under development (Robin and Pearson, 2005) to completing the story of *Angela's Ashes* as a digital diary (Hofer and Swan, 2006). Graduate students are asked to create digital stories that set the context for art history periods, historical documents/figures, literary genres, etc. One faculty member summed up the enthusiasm for the strategy as "digital storytelling can be seen as the signature pedagogy for the new Humanities in the 21st century." (Benmayor, 2008).

Goals and Objectives

Our primary goal in this session is to raise awareness and understanding of the potential of digital storytelling as a narrative pedagogical practice in the undergraduate and graduate classroom. Session participants will:
- Gain a fuller understanding of digital storytelling by viewing the variety of examples presented.
- Explore digital storytelling as a pedagogical method through sharing their own experiences.
- Be able to identify potential applications of digital storytelling in their own practice.

Practice to Be Modeled

In this session, we will demonstrate how digital storytelling may be employed to achieve certain learning outcomes in the higher education classroom. Because we understand digital storytelling as a narrative method, we will attempt to model the principles of narrative pedagogy. In this orientation, learning itself is conceptualized as a narrative process in which the learner strives to construct expanded narratives of meaning that encompass new content information. Rossiter and Clark (2007) have identified three general areas of narrative application in teaching and learning. The first and perhaps most widely understood is the use of stories in the classroom to illustrate content and highlight key points. Second, teachers 'story' the curriculum. That is, not only do teachers tell stories *about* the content, but also – through their countless pedagogical choices – they construct a narrative of the content, a curricular story. The third general area of narrative application comes is autobiographical learning— helping the learner to make autobiographical connections with the content. Autobiographical learning activities provide opportunities for learners' construction of their own narratives of meaning – ever modified and enlarged by the

learning process. In sum, a narrative orientation to teaching and learning involves an understanding of the human narrative impulse as integral to meaning making and learning. In this session, we will use stories from our own practice to illustrate main ideas, attempt to bring participants into interpretive relationship with the potential of digital storytelling, and engage the professional narratives of session participants through story-sharing.

Discussion

The outcomes of digital storytelling address, by definition, different constructs than those of an objective educational methodology. This difference must be considered as faculty determine whether it is *the* methodology to be employed in a given circumstance. We submit that narrative methods, including digital storytelling, are most appropriate for selected, not all, learning outcomes. Robin (2008) has pointed out that when students create their own digital stories, the learning experience results in strengthening of five literacies – digital, global, technology, visual, and information. We agree, but would add three additional types of learning outcomes that are particularly appropriate for digital storytelling. First, stories evoke empathic response and enable perspective-taking. The strength of stories is that they touch both our cognitive and affective sides – they can convey information and at the same time touch our emotions. Their effectiveness has to do with the power of stories to portray detail which informs us and touches us, and which at the same time connects us to something more universal. A second kind of learning outcome from the educational application of digital stories has to do with self-understanding. To tell one's stories is to reflect upon our knowledge in relation to the meanings we make of what we encounter in life. In this way, the narrative learning process fosters self-understanding. A third learning outcome appropriate for digital storytelling has to do with community-building. Sharing stories is a means of locating ourselves within larger familial and cultural narratives. As we share stories of experience, we find connections with others. Together we co-construct the meanings that extend beyond our experiences, and create a sense of community and group identity.

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Disciplinary Self-Examination: Implementing a Constructivist Approach to Teaching and Learning

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Abstract: Constructivist learning means that students create their own knowledge through a process of experience, reflection and integration, rather than by learning information from an instructor or textbook. Our class is employing what we believe to be a new method of constructivist learning, that we call "disciplinary self-examination." "Disciplinary self-examination" means that we are learning about our discipline, including subject matter (traditional content) as well as about the discipline as a professional practice, by examining the ways that practitioners write about our field. Our practice presentation will provide audience members with an overview of constructivist learning; demonstrate our "disciplinary self-examination" methodology through audience participation; provide audience members with the tools to modify the approach for use in their classrooms; and, discuss successes, challenges and lessons learned from our experience.

Introduction

Constructivist models of learning work under the premise that students learn through a process of experiencing and reflecting (Lebow, 1993), and that through this process students create, or construct, knowledge. Constructivist learning is an extension of social constructivism, as it is applied to learning contexts. Social constructivism is an ontological position that suggests knowledge is created through social interaction, as well as interaction with the subjects of knowledge themselves (Schutz, 1967; Berger & Luckmann, 1976). Social constructivism maintains that individuals interpret their surroundings differently, and that through social interaction different interpretations come together, merge, and produce new and integrative understandings. These interpretations themselves then become active participants in knowledge construction, by further influencing subsequent rounds of interpretation by participants in this process. Constructivism sits in contrast to more traditional ontologies such as realism and positivism, which suggest that knowledge exists "out there," and is separate from students who can, therefore, experience their surroundings objectively. Pedagogically, realism and positivism suggest that students "receive" knowledge from an instructor who transfers it to their students, rather than letting students experience and create their own understandings.

In the course that serves as the context for this proposal, our class—an advanced writing seminar for students majoring in Environmental Studies—is employing a constructivist approach to learning about, and improving, our writing skills. It is important to note that while our class focuses on writing and topics from within the environmental field, we believe our constructivist approach is easily transferable to other courses and disciplines.

The constructivist approach in our classroom looks like this: over the past two months, and throughout the remainder of the fall semester, our class is collecting writing samples from within our discipline, and analyzing their content, writing styles, conventions and formats, among other things. We are then working individually and collaboratively to understand key characteristics of writing within our discipline, and to scale our understanding up, into a "knowledge storehouse" that will help us, and future students, improve our writing. Our approach is constructivist, because we are creating our understanding of writing in our discipline through a research-based process that we have termed "disciplinary self-examination," rather than by reading about environmental writing in textbooks, or through direct instruction from a teacher. In other words, our knowledge about writing is growing through our interpretations and investigations of the writing samples we collect. These samples serve as our units of analysis, and it is by asking questions such as: What is the purpose of this document?; What can we learn from the discourse embedded in the document?; Who might the target audience be for this document?; What kinds of vocabulary, verb tenses and sentence structures are included in the document?; and, What can we learn from the format of the document?, that we experience our discipline and gain an understanding of its common writing conventions. As we collect writing samples we try our hand at mimicking their structures, styles and formats by writing in their images during weekly writing assignments.

Our practice presentation aims to provide audience members with the tools to employ our "disciplinary self-examination" model in their classrooms, through a demonstration and participatory activities. We also aim to hold a discussion with audience members about successes, challenges and lessons learned, that we are gleaning from our learning process.

Goals and Objectives for Practice Session

We hold five objectives for our practice session. These are:
1. To provide a brief overview of constructivist learning, and the benefits of this pedagogical approach.
2. To use audience participation to demonstrate the innovative way that we are implementing constructivist learning in our classroom. Our class calls this approach "disciplinary self-examination."
3. To provide audience members with a specific tool, a data collection sheet, for implementing "disciplinary self-examination" and that they may adapt for use in their classrooms. Our discussion of this objective will focus on how instructors may go about creating a tool that reflects their disciplines and learning goals.
4. To demonstrate how our class is scaling-up our knowledge into a knowledge storehouse that will help us, and future students, improve our writing.
5. To discuss the key learning outcomes of the "disciplinary self-examination" process that we are experiencing in our classroom, and challenges instructors may face as they modify the approach.

Description of Practice to be Modeled

The objectives stated previously will be met through a four-part presentation. First, we will offer a brief overview of constructivist learning and describe the context of the course in which our project takes place, placing special emphasis on the process of "disciplinary self-examination." Second, we will demonstrate "disciplinary self-examination," the method by which we are constructing knowledge in our course. More specifically, our presentation will address the processes of data collection and analysis, and the creation of a knowledge storehouse, that make up the methodology. In our case, data collection, analysis, and the knowledge storehouse focus on the specific characteristics of different writing styles, conventions and formats within environmental professions. Throughout our presentation, however, we will reiterate that the "disciplinary self-examination" method is easily transferable to courses beyond our discipline, and to courses that do not carry an explicit focus on writing. During the second phase of the presentation we will walk audience members through the process of "disciplinary self-examination." During this portion of our session we will group audience members into pairs, provide them with the data collection sheet used in our class, and with two writing samples. We will then facilitate audience members through the process of collecting data regarding the writing samples, and hold a brief discussion about the data they collect. Third, we will show audience members the knowledge storehouse developed by our class, and discuss the process of creating this product so that audience members may modify the method to meet their course goals. Creating the knowledge storehouse represents the "scaling-up" of the knowledge individual students construct over the course of the "disciplinary self-examination." Without this step, individual students may hold personal understandings of the knowledge they construct over the course of the semester, but do not gain the benefit of integrating their understandings with those of other students. Integration is the final, and perhaps most critical, phase of the constructivist learning process. The fourth and final portion of our practice presentation will focus on three elements: key successes of the project from both student and instructor perspectives; key challenges of the project from these perspectives; and lessons we are learning as we conduct our course.

Discussion

Our "disciplinary self-examination" methodology represents a new pedagogical approach. We are finding it uniquely successful in its capacity to teach us about our discipline as a professional practice as well as in its capacity to help us improve our writing. Additionally, because the methodology is firmly rooted in constructivism, we are creators and owners of our knowledge, rather than recipients of knowledge that is handed to us by others. As a result, we are finding our work as engaging as it is informative.

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Empowering STEM Students Earlier: A Hands-on and Minds-on Data Acquisition Approach

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Abstract: User-friendly, powerful, yet inexpensive computational and educational technologies are increasingly available. National InstrumentsTM recently developed a USB connected data acquisition (DAQ) device and associated software specifically to empower STEM educators and students with a fully functional and easy to use computer peripheral for collecting real-world data from various sources for computer analysis at the student's price point of a multi-function color ink jet printer. When coupled with the LabVIEWTM graphical programming language, the STEM student has a portable yet powerful laboratory system that is so easy to use it encourages exploration, development and fun with scientific tools previously reserved for expensively equipped secondary education labs. The pedagogical impact of this equipment is analogous to that of moving from time-sharing main frames to student-owned personal computers, enabling students to "do" real engineering and science anytime, anywhere. This practice session will briefly explore the capabilities, specific examples, and suggested uses in various STEM fields and academic levels.

Engaging Faculty and Students in the Power of Digital Storytelling for Reflective Learning

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Abstract: Digital storytelling (DST) uses digital tools to help people tell their own "true stories" in a compelling and emotionally engaging form. The availability of affordable digital cameras, low threshold production techniques, and Internet delivery make it possible to use this medium to engage higher education faculty and students in reflective learning by sharing experiences, histories, and ideas. In this session, a faculty developer and a faculty member engage participants in dialogue about DST and model the practices of DST by sharing how the program at Virginia Commonwealth University (VCU) builds digital literacy through the power of narrative. At VCU, faculty learned the craft of digital storytelling as a reflection on teaching practices before engaging students in developing stories of significant learning. Constructivist theories of teaching and learning provide the theoretical framework for understanding how digital storytelling enhances reflection on learning and develops digital literacy. DST practices are modeled through a digital story developed to illustrate a process that begins with a draft script of 300 words and engages learners in a story circle before developing a storyboard of images and music ready for editing and narration.

The Literature on Digital Storytelling and Reflective Learning through Narrative

Digital stories draw on the age-old craft of storytelling as a form of narrative expression. These short vignettes use digital images or video, music, sound effects, and the emotional expression of a human voice to generate meaningful learning as well as record it (Rossiter, 2002). The power of a three to five-minute digital story lies in how it can capture that which is poignant, memorable, or noteworthy about human experience and share it in a manner that has the potential to elicit learning on the part of the viewer as well as the creator (Rossiter & Garcia, 2010). Rossiter and Garcia (2010) note that that digital stories can serve may different functions in higher education settings, but that in the context of educating adults, DST is clearly a narrative method for facilitating learning.

Learning through narrative is a constructivist approach to teaching and learning. Constructivist theories define learning as a meaning-making process and hold that learning occurs through reflection. Adult learning theorists have conceived of reflection on experience in multiple ways, however. Kolb's (1984) concept of reflective observation and Schön's (1987) ideas about reflection-on-action are both retrospective sensemaking processes in which a learner consciously and deliberately engages in reflection on actions past. This type of reflection is evident in digital storytelling as a learner crafts the script of a story, distilling experience to its essence to condense the narrative to approximately 300 words, a length recommended by Joe Lambert at The Center for Digital Storytelling (2010). The very nature of analyzing what is most essential to tell the story involves this type of retrospective reflection.

Schön (1987) also believed that reflection can occur during action, "reflection-in-action," asserting that reflecting in the course of action can alter the course of events and result in meaningful learning. When a digital storyteller selects images or audio content to accompany narration of the story, reflection during the course of these acts of selection can result in new insights or realizations about a learning experience. Thus, DST generates potential learning as the story is crafted as well as through reflection on what has occurred.

Digital Storytelling in Higher Education: Goals and Objectives

In the context of higher education, why should a faculty developer invest time in teaching DST to faculty, and how might faculty then use what they have learned to enhance teaching and learning with technology in the classroom? A goal for faculty developers is enhanced digital literacy skills among faculty that will then be passed on to student learners. In this practice session, we share digital stories crafted from the perspectives of a faculty developer, faculty members, and students. By the end of our session, we expect that participants will be able to:

- Describe digital storytelling as a process of using still images, audio, and narration to create an emotionally compelling video vignette of 3-5 minutes duration

- Recognize why the focus is on the story first, and consideration of technologies second
- Recognize the importance of story circles and storyboarding as creative planning acts
- Identify the need to reduce a story script to its essence by limiting words
- Appreciate how various disciplines might use digital stories to enhance digital literacy
- Gain insight into the power of various media to contribute to or distract from the story
- Participate in a small group discussion on potential uses of DST

Building Digital Literacy through Digital Storytelling: A Description of the Practice

Digital storytelling involves the use of a simple editor, such as Microsoft Word's Photostory 3 (a free download), and selection of images, music, and other sound effects, if desired, from many freely available sources, including the learners' own personal photo collection. The technical skills involved are minimal and can be taught to learners fairly quickly. What takes more time is helping learners to appreciate the elements involved in telling a good story and helping learners understand that the message is most powerfully displayed through the imagery, mood, and effects created by these design elements. The story circle involves learners in refining their stories by sharing them with peers, and a storyboard allows learners to sketch the sequence of images and music to accompany narration.

Lambert and The Center for Digital Storytelling (2010) have identified seven distinct elements that are involved in this creative act:
- A readily identifiable point of view, focused on a specific audience
- A dramatic question that holds the audience's attention
- Emotional content that uses images, effects, music, and tone of voice consistently
- The gift of the storyteller's voice in narrating a script so well learned that it can be spoken naturally
- The power of the soundtrack to set the story in time and convey emotion
- Economy of elements so that only those that are necessary are used
- Pacing that includes music tempo, speech rate, image duration, panning, and zooming effects.

Discussion

Digital storytelling is a compelling medium for learning through narrative that allows learners to construct meaning from experience and deepen their learning as a result. It builds skills in digital literacy as learners are exposed to digital copyright issues and experience a variety of digital media sources for photos, music, and sound effects to build a story. Most importantly, however, the act of story creation involves reflection on experience, as well as reflection during the act of creation, providing both synthesis and evaluation of learning. As a creative process for sharing memorable and personal experience, it holds potential for both teachers and learners in higher education.

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Engaging Students in a SCALE-UP Class
(Student-Centered Active Learning Environment for Undergraduate Programs)

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Abstract: Virginia Tech as completed construction of two SCALE-UP classrooms, and sophomore-level Cell and Molecular Biology (BIOL 2104) is among the first classes to be taught there. SCALE-UP (Student-Centered Active Learning Environment for Undergraduate Programs) is a student-centered, technology-enriched, team-based method of learning in which students work in groups of three at round tables of nine students. The practice session will introduce participants to the SCALE-UP format and its benefits and challenges using data and experiences from BIOL 2104. Participants will then engage as SCALE-UP students and work in teams on adapting material from one of their own classes into a SCALE-UP activity. The overarching goal is for participants to experience a team-based, active-learning model and consider the benefits to their students' learning.

Literature Review

SCALE-UP (Student-Centered Active Learning Environment for Undergraduate Programs) is a pedagogy for inquiry- and team-based learning that originated for undergraduate physics programs at North Carolina State University. The SCALE-UP concept has since been adopted at over 50 universities for undergraduate courses in physics, mathematics, life sciences and the humanities. Studies have shown improved learning gains and student attitudes in SCALE-UP versus traditional instruction classrooms. (Beichner et al. 2007) The vibrancy and richness of the learning experience in a SCALE-UP classroom is captured in a 4 – min video depicting Robin Wrights' freshman biology class at the University of Minnesota: http://www.cbs.umn.edu/bioprog/courses/ interactiveclass/. Kuh (2008) identified 10 practices that "educational research suggests increases rates of retention and student engagement" (p. 9). Among these practices are collaborative assignments and projects and engaging in "science as science is done" (Kuh, 2008). The SCALE-UP model provides a venue for groups of students to engage in these practices even in a large class and is well suited to a large undergraduate institution like Virginia Tech.

Goals and Objectives for the Practice Session

Upon completion of the practice session, participants should be able to:
1. describe the physical set-up and general pedagogy of SCALE-UP
2. discuss both the benefits and challenges of converting a content-rich course to SCALE-UP
3. design SCALE-UP activities for a course of their choosing
4. reflect upon the experience of working in a SCALE-UP environment

Description of the Practice to be Exemplified

A typical class session of BIOL 2104 Cell and Molecular Biology in SCALE-UP consists of a mini-lecture and then introduction to the day or week's activities. Students are presented with learning outcomes (both universal and topic-specific), the specific tasks to be performed (may include data analysis, case studies, model building), the deliverables and due date, and the grading rubric. A condensed version of a typical week's activities is attached.

For the practice session, participants will likewise be introduced to the SCALE-UP concept and its specific implementation for BIOL 2104 in a mini-lecture. Then they will be placed in teams of three and set to performing activities that will engage them with SCALE-UP. These activities will include choosing a topic from one of their own courses and developing a SCALE-UP exercise. The group will reconvene at the end to share both some of their ideas as well as reflect upon the experience of being a SCALE-UP student.

If feasible, the practice session will be held in a room with round tables and the SCALE-UP computers (or other laptops) will be borrowed from the Derring classroom to make the experience more authentic.

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Condensed Version of a Typical Week's Assignments for BIOL 2104: Week 2, Tools in Cell Biology

Learning Outcomes (what you should get out of this week):
- Identify properties of value to a model organism.
- List commonly used model organisms in cell and molecular biology
- Choose model organisms best suited to different experimental questions
- Critique the practice of limiting the practice of cell and molecular biology to a small number of model organisms.
- Name some of the most commonly used tools in cell biology.
- Begin to develop skills in designing experiments by choosing an appropriate tool to answer a scientific question.
- Distinguish among the characteristics and uses of different kinds of microscopes.
- Explain the "grind and find" approach and its strengths and limitations.

Big Outcomes Addressed:
- Problem solving
- Inquiry/information literacy
- Communication
- Teamwork

Assignment 3 - one assignment should be submitted per team.

1. For each of the following situations, design a set of experiments to answer the question or test the hypothesis. Your experimental designs should include the following:
- -what cell type and/or organism will you use? Why did you choose this system? Advantages? Any disadvantages?
- -outline the experiment or experiments and how they will lead to the answer. Why did you choose these experiments? What alternatives might have you considered? Do not go into detail about how each experiment was performed or copy a protocol from somewhere.
- -what source of information did you use for this assignment? How did you determine these were accurate?

  Situation A: You are working in a lab that studies lung cancer. A recent microarray study conducted by your group has identified several genes whose expression is significantly higher in tumor biopsy samples from patients who ultimately respond to a particular chemotherapy (tumors regress) than from patients who do not respond (tumor remains or grows). Most of the genes identified encode for proteins with known functions but one, gene X, encodes a protein of unknown function. The lab PI asks you to design a set of experiments to determine the function of this protein in cells. (*other questions not shown*)

2. For any *one* of the three situations above, please answer the following additional questions.
   a. How long will this project take you? Explain how you arrived at your answer.
   b. How much will it cost to complete this project. Explain how you arrived at your answer.
   c. What ethical issues did you have to consider in designing your project?
   d. How would your project be different if it were 1968 (what techniques and tools were available or not available back then?

3. What properties should we look for in a model organism for molecular and cellular biology? Several years ago, the National Cancer Institute convened a panel that identified 7 non-mammalian model organisms to be targeted for funding for cancer research. What do you think about this idea? Look at the Bolker article for some perspective.

Grading Rubric: (not shown)

Engaging Voices, Sharing Ideas: Digital Storytelling in the University Classroom

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Abstract: This practice session will demonstrate the ways digital storytelling can be used in university classrooms to engage student voices and share ideas about a variety of subjects. Digital stories combine multimedia, a strong authorial perspective, and personal or academic experiences into a fluid digital narrative. Participants will view sample digital stories from a university course in Education and Cultural Diversity, discuss ways to incorporate digital stories into their pedagogy or curriculum, practice the steps for creating digital stories, and learn technological skills to improve the storytelling process.

Literature Review

Storytelling, some would argue, is man's oldest form of communication and the core of human interaction. In today's technological world, then, digital storytelling is a way to incorporate the centuries-old tradition of sharing stories with contemporary multimedia in a way that demonstrates personal perspectives on a range of important issues. In brief, a digital story is "a short, first person video-narrative created by combining recorded voice, still and moving images, and music or other sounds" (Center for Digital Storytelling, 2010), an innovation that developed from a collaboration of artists, practitioners, and scholars in San Francisco in the early 1990s. Since then, various centers have developed at private institutions and universities around the country, and educators have learned the value of combining storytelling and technology in classroom practice (e.g. Emory University, 2010; The Ohio State University, 2010; University of Maryland, Baltimore County, 2010; University of Houston, 2010). In particular, universities have realized that digital stories "can serve as a bridge" between disciplines and generations and allow students to "experiment with self-representation… think critically… [and] develop a discerning eye for online resources, increasing their technology and media literacy" (Educause, 2007). The importance of including student voice and dialogue in the classroom (e.g. Freire, 1970; Ladson-Billings) and the need for media literacy (e.g. Alvermann & Hagood, 2000; Kellner & Share, 2005) have both been well-documented in research literature; as an effective pedagogical combination of the two methods, digital storytelling is a practice that merits inclusion in university curriculum.

Goals and Objectives

Participants in this session will review the history of the digital storytelling movement and discuss its emergence as a pedagogical tool at university campuses around the country. They will then evaluate samples of student work from an undergraduate course, Education and Cultural Diversity, and consider how faculty or students at their institutions could utilize digital storytelling in their courses. This could include using digital stories as an introduction to professors' research or personal history; an introduction to course content; student-produced research; or summative assessments. Further, the group will learn methods for creating digital stories—such as using I-movie, Camtasia, video recordings, photography, music mixing, or original artwork—and methods for disseminating and sharing digital stories with the university community. At the conclusion of the session, participants will have learned the five basic steps of creating a digital story (Brainstorm; Script; Storyboard; Gather Assets; Edit and Produce) and will have begun development on their own digital story.

Description of Practice

I will model the creation of a digital story, a first-person narrative that combines recorded voice with other multimedia. I will first show samples of my students' digital stories and allow participants to analyze the students' work: What did they learn about the storyteller? What did they learn about the topic? How are the storyteller and the topic related? How was technology used? How was "voice" used? Then, I will walk the participants through the five steps of creating a digital story. First we will brainstorm, or create a list of potential ideas for their own digital story. Then, we will script, or generate a bulleted list of points to cover in a recording; I will point out that a digital story is meant to sound "authentic," so the speaker should not read directly from a script, but should use it as a guide. Next, I will explain the process of storyboarding, where one visually illustrates the story with images and audio. Then, we will discuss gathering assets, including how to find images, video, and other resources online. Finally, I will briefly demonstrate the process of editing and producing a digital story using either Windows or Macintosh software.

Discussion

As an education scholar, I teach courses about privilege, power, and oppression in education; often, our discussions focus on issues of "voice"—whose voices are heard, whose are silenced, and why. In teaching a course on Education and Cultural Diversity, I decided to extend the course theme of voice to the students' final project: a digital story about an issue in education about which they felt strongly. Throughout the course, we built in small deadlines that lead to a final "viewing party" in which students showcased their work. Student-selected topics included the school-to-prison pipeline, the English-only movement, multicultural education, and urban educational reform; stories were informed by class readings, discussions, tutoring, outside research, and personal experience. The final products showcased students' critical and thoughtful analysis of important issues, and their end-of-semester evaluations indicated that they felt that producing their digital story was an educative, entertaining, and meaningful experience. As one student commented, "This is so much better than a PowerPoint presentation. I feel like I am sitting down with someone, hearing [their] personal story. Plus, it was fun to produce. I will remember this for a long time."

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ePortfolios and Reflective Practice at Virginia Tech

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Abstract: Proponents of electronic portfolio pedagogy consistently agree that reflection is a key component of the portfolio creation process (Yancey, 2001). To investigate reflective practice within several different curricular and professional contexts, we developed a qualitative investigation. The subjects were students enrolled in one of four different ePortfolio-engaged programs at a research I institution. Subjects in these programs were asked to take a pre- and post-survey to measure the amount of effort and planning that went into the portfolio, and perceptions of the usefulness of the portfolio in academic and professional settings. In addition, seven evaluators rated a random sample of sixteen portfolios from these programs. Early data analysis shows certain cognitive anomalies. Two in particular seem to correspond to the amount of guidance and support a program provides to the students. First, students seem to indicate little connection between ePortfolio and other activities in their curricula, but at the same time do indicate some level of understanding and learning coming from reflective activities within the ePortfolio. Second, while the students claim an extraordinary amount of effort is required to complete the work required, often indicated as "extra work," the data shows that most complete the work in much less than 2 hours per week, and it requires about the amount of effort they expected it to in the beginning. This research seems to indicate a better integration of ePortfolio to other curricular activities, as well as a more guided approach to integrative reflections to make their purpose more seamless and useful to the students.

Literature Review

Proponents of electronic portfolio pedagogy consistently agree that reflection is a key component of the portfolio creation process (Yancey, 2001). When portfolios established at the programmatic level emphasize student learning, they can "lead students to deeper reflection on programmatic goals and objectives that are promulgated to wider audiences" (Reese & Levy, 2009, p. 4). Portfolios that emphasize reflection contribute to the facilitation of student inquiry, encourage students to state, analyze, evaluate, and synthesize information, and challenge students to set and work toward both professional and learning goals (Yancey, 2001; Zubizaretta, 2004).

Further, the reflective processes in which students engage as they create portfolios can better prepare them for their professional communities of practice. For example, as students reflect on portfolio design, they weigh the impact of display materials on their audience; by doing so they actively choose how to digitally represent themselves to this audience. Through theses choices, the individualized portfolio offers each student a unique way to document for their potential employers the cognitive processes that demonstrate understanding within a field of practice. Through this process, students create a more effective pre-professional web presence, as called for by Ward and Moser (2008) who challenge universities to facilitate closer connections between students and potential employers.

Finally, ePortfolios allow faculties in higher education to directly assess student learning. At Virginia Tech, we are engaged in a long-term assessment of student learning using ePortfolio pedagogies and technologies. Our ultimate goal is to determine best practices for using ePortfolios within higher education based on the findings of several widely varied subject groups. The researchers in each of these groups have collaborated to investigate the effects of using ePortfolios to enhance student reflective practice within different disciplinary standards. Our central research questions are: How can ePortfolios facilitate the development of reflective practitioners? Do different levels of curricular guidance encourage or discourage reflective practice?

Methodology

To investigate reflective practice within several different curricular and professional contexts, we developed a qualitative investigation. The subjects were students enrolled in one of four different ePortfolio-engaged programs: (1) the Department of English, which requires students to express their learning and professional development over the course of their major; (2) the Didactic Program in Dietetics, which requires students over the course of the major to construct a professional portfolio to use for internship applications; (3) the Masters of Music Education, which requires students to demonstrate many professionally-defined learning and performance outcomes; and (4) the Earth Sustainability general education program which requires a two-year-long cohort of first and second-year students, to reflect on their knowledge of sustainability and connect that knowledge to personal and civic action.

From the survey respondents (n=212, pre-survey; n=145, post-survey), a random sample of four portfolios from each of the four groups was drawn and a team of seven evaluators reviewed the sixteen portfolios. The faculty evaluators were asked to determine specific qualities of the reflection in the portfolio based on a rubric. The rubric was developed using and modifying items from AAC&U's VALUE Rubrics project. After developing the rubric, the evaluation team conducted a norming session to encourage similar scoring between evaluators. The portfolios were then randomly assigned to the reviewing evaluators; however, evaluators were not allowed to rate portfolios from their own disciplines. Then, three to four of the evaluators reviewed each of the sixteen portfolios.

Data Analysis and Results

Though the trends in the surveys will be examined in more depth during the presentation, in this space, the data can be discussed on a general level. First, several obstacles were consistently noted from the students: learning to use technology, and overcoming technological barriers, seemed to take a predominant amount of their time and thinking about what the ePortfolio effort required. Second, the students did not see a clear connection between the reflective work of the ePortfolio and their professional development or personal learning. Third, the ePortfolio effort was noted several times as a "distractor" from their other courses.

In terms of effort and difficulties with technology, though a significant number of students report difficulty and an extraordinary amount of time spent in working with challenging technologies, the numbers show a different story. On the presurvey, 82% of the students in the four programs expected to take less than 30 hours to develop their portfolio (over the 1-4 semesters of their program); 26% of the students expected to spend less than 10 hours. On the postsurvey, 80.7% of the students reported taking less than 30 hours to complete their ePortfolio, with 40% reporting less than 10 hours of work required. This indicates that the ePortfolios took as much time or less than the students expected, and for most, 30 hours represented less than 2 hours per week of work. More data will be shown during the presentation that illuminates possible sources of these cognitive disparities, providing a possible suggestion for the integration of technology and curricula.

Discussion

Our overarching research goal is to determine how ePortfolios can facilitate the development of reflective practitioners across the spectrum of higher educational programming. In this study, we have investigated how different levels of curricular guidance have encouraged or discouraged reflective practice. Our findings indicate that ePortfolios can encourage an individual to participate in a community of practice in a public and social way. By developing the reflective/connective elements of a portfolio and then receiving feedback, a learner engages in reflective practice, which better enables them to function as a contributing member within that community of practice. With a focus on assessment and accountability in higher education, our findings indicate that ePortfolios can contribute significantly to assessing and improving student learning.

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ePortfolios as Institutional Process:
Progress and Challenges for Adoption at a Large Research University

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Abstract: For the University of Cincinnati (UC), the process of moving towards an adoption of ePortfolios has resembled the assembly of a large and cumbersome ePortfolio itself: a heavy emphasis on process, charting the setbacks as well as the progress, the difficulties as well as the opportunities, resources, and allies. Much of this process has played out within our Honors Program, which has served as an incubator for ePortfolios at UC. In addition, our participation in Cohort V of the Inter/National Coalition for Electronic Portfolio Research (I/NCEPR) provided us with further focus and impetus towards institutional adoption. This session will review this multi-faceted process, including the perspectives of the Honors students who field-tested ePortfolios as part of their required program. Our session's goal is to help other institutions to plan and to envision their own ePortfolio-adoption process as strategically as possible.

The National Context through a Literature Review

From the beginning, our overall approach to ePortfolio adoption looked ahead to possible future uses of ePortfolios for assessment purposes as well as for facilitating student learning. In this regard for our institution, we await further answers, within the national conversation, to the questions that Terrel Rhodes raises in his Foreword to Chen and Light (2010). In his role as AAC&U Vice President for Quality, Curriculum, and Assessment, Rhodes wonders: "Is there a way for students to demonstrate their learning through the cumulative work they are asked to produce across the curriculum and cocurriculum, rather than just through a snapshot test? . . . Is there a shared set of expectations for learning that individual faculty members can use in the classroom, that can be aggregated for programmatic evaluation and sampled for institutional reporting?" (p. v)

Within Ohio, we also faced State-level demands for accountability and assessment that centered on the Voluntary System of Accountability, particularly with the Collegiate Learning Assessment (CLA) as the standardized test of choice. In looking towards the alternative possibilities of ePortfolio assessment, Banta (2007; 2008a; 2008b) has also played a particularly strong and prominent role in these debates and has served as a major influence in our own UC-based discussions. Banta (2007) concludes that "The most authentic assessment will be achieved through electronic portfolios for which students themselves develop the content," (p. 12) a position more recently taken up by commentators such as Batson (2009), executive director of the Association for Authentic, Experiential and Evidence-Based Learning (AAEEBL).

The title of Hutchings' paper for the National Institute for Learning Outcomes Assessment – "Opening Doors to Faculty Involvement in Assessment" – points toward the recurring theme underlying her six recommendations (2010). All of Hutchings' recommended strategies are designed to help advance "what happens when faculty are significant participants in the assessment process – not just token members of a committee cobbled together for an accreditation visit or an after-the-fact audience for assessment results they had no part in shaping but central voices and shapers of activity" (p.7). One strategy for our overall assessment program, then, looked towards use of the AAC&U's VALUE rubrics as ways of assessing ePortfolio artifacts and of documenting student learning in more rigorous ways.

Approaches to ePortfolio Adoption

Our University Honors program began the wider process of focusing UC discussions of ePortfolios with a presentation in winter 2007 that showcased the results of their own software-selection process. Driven by an awareness of specific Honors requirements, this process sought to define a vision of ePortfolios more generally: "Establish a best-practice system that engages students in establishing a life-long digital identity that is actively reflective of their curricular, developmental, and professional learning in the University Honors Program at the University of Cincinnati." More specifically, students were to
  • Develop a sense of identity in a digital format
  • Integrate curricular learning through student experiences
  • Establish a learning map for professional and personal development and growth

- Showcase and reflect on learning opportunities through one or more of the thematic areas of the University Honors Program (Community Engagement, Global Studies, Leadership, and Research/Creative Arts)

Now in the third year of implementation within the Honors program, ePortfolios are poised at a crucial balance point. On the one hand, initial results are promising, suggesting that the ePortfolio provides a valuable "crisis" moment when a student's work will be presented more publicly. Via the structure of the ePortfolio and the checkpoints that it defines, this need to present has the effect of crystallizing learning in transformative ways. On the other hand, the pressures of time (for faculty) and funding (for students) keep ePortfolios in a state of uncertainty for a wider impact on our curriculum. Another possibility within Ohio is a State-wide ePortfolio system, which would provide a basic platform – a "starter" ePortfolio, in many cases – that might also serve to promote wider usage.

Our Honors students have thus blazed much of the trail for wider adoption, but the ePortfolio superhighway remains confined to the planning stage for non-Honors students and programs at UC.

Further institutional contexts create other occasions that might be either barriers or opportunities, depending on next-steps developments:
- UC's transition from quarters to semesters, starting in autumn 2012
- A more purposeful attention to student learning outcomes through increased assessment activities
- The crafting of an Academic Master Plan during the current academic year
- The crafting of a strategic plan for academic information technology
- Our institutional response to major budget cuts

Our conclusion to this institutional process has yet to be written. We look forward to the Conference on Higher Education Pedagogy as an opportunity to add a further chapter.

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Fostering "Interdisciplinarity" through Collaborative-based Curriculum and Instruction: The Case of the Civic Agriculture and Food Systems (CAFS) Minor at Virginia Tech

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Abstract*:* Drawing upon the insights learned from an interdisciplinary team of faculty, staff, students, and community partners during the development of a new Civic Agriculture and Food Systems (CAFS) Minor at Virginia Tech, this presentation aims to explore the role of collaborative-based curriculum development and instruction for enhancing student and teacher understanding of *interdisciplinarity*. We specifically focus on the interdisciplinary, collaborative teaching and learning experiences of the *Introduction to Civic Agriculture* course teaching team, as a novel case study within the CAFS minor. This course is rooted in an experiential and community-based learning framework to provide students with knowledge and skills to identify, examine, strategize, and integrate agriculture and food system sustainability philosophies and activities into personal and professional practice. Referring to our collaborative approach to curriculum and instruction, this presentation illustrates the rationales and practices of fostering interdisciplinary understanding. We explain our teaching model and strategies, including community partner participation in the process. Furthermore, we discuss how our approach reflects a growing trend in collaborative teaching in higher education, and the challenges associated with such an approach.

Literature review

The practice of collaborative teaching in higher education has emerged in recent years. This practice is often characterized as a complex interweaving of scholarship in interdisciplinary studies and transformative education (Colwill & Boyd, 2008). Collaborative teaching models, however, are not the same to all scholars and educators. Various approaches are used to describe the practice, including such terms as *team teaching*, *co-teaching*, and *panel instruction*. A growing interest in interdisciplinary forms of collaborative teaching further characterizes this discourse (Lattuca, 2002). Interdisciplinary, collaborative teaching aims have particularly surfaced in agricultural and life science agendas. For example, the U.S. National Academy of Sciences (NAS) (2009) states that interdisciplinary, collaborative-based curriculum and instruction is essential to transform agricultural and life science education for better addressing our rapidly changing agricultural and food systems needs. Specifically, the NAS claims that interdisciplinary, collaborative teaching in colleges and universities of agriculture could enhance the integration of agricultural and life science scholarship in curriculum, whereby laying the groundwork for developing new kinds of approaches and strategies to solve critical, agricultural and food system problems. Despite this interest in developing a collaborative teaching and learning environment, the literature that supports the connection between interdisciplinary approaches delivered through collaborative teaching is lacking. Drawing upon Boix Mansilla and Duraising (2007, p. 219), we argue for developing a framework that defines *interdisciplinary understanding* as "the capacity to integrate knowledge and modes of thinking in two or more disciplines or established areas of expertise to produce a cognitive advancement." As part of our collaborative-based approach, we aim to foster students' achievement of interdisciplinary understanding, as well as improve the intellectual capacity of the teaching team. The educational research demonstrates that interdisciplinary learning is enhanced through similar educational practices that are currently being developed through the CAFS minor: common intellectual experiences, capstone courses and projects, experiential and community-based learning.

Goals and Objectives

Goal: Through this session, participants will gain an understanding of the framework and strategies that reflect "best practice" regarding collaborative-based teaching that simultaneously fosters interdisciplinary student learning, as well as augment participating instructors' intellectual capacity.

Objectives

- Describe the collaborative curriculum development and instruction model and strategies that frame the course experience as a novel case study within the CAFS minor.
- Describe the role of community partnerships for reaching authentic teaching and learning aims.
- Identify values-based, experiential learning framework and subsequent critical reflection strategies for enhancing interdisciplinary student learning.
- Summarize student learning outcomes by emphasizing community-based fieldwork and ePortfolio coursework.
- Describe the successes and challenges that are associated with this approach to collaborative curriculum and instruction.
- Contribute own experience and suggestions to the discussion for further exploration of collaborative teaching approaches for developing interdisciplinary teaching and learning in higher education.

Description of the Practice

This practice session will function as a brief introduction to the theory and practice of interdisciplinary, collaborative-based curriculum development and instruction using an experiential and community-based learning framework. The presenters will open the session by describing the pedagogical process of how they developed the curriculum for the *Introduction to the Civic Agriculture* course, the first course of the new CAFS Minor at Virginia Tech. The presenters will also describe key analytic concepts and procedures that are useful in understanding and applying collaborative curriculum and instruction; share student learning outcomes from undergraduate student projects; and describe the successes and challenges that are associated with this approach to teaching in higher education. The session will come to a close with a large group discussion of the importance for understanding the notion of *interdisciplinarity* from the perspective of teaching and learning.

Discussion

Students in colleges and universities of agriculture and life science are in a good position to articulate a sophisticated yet practical account of their learning as an interdisciplinary pursuit. Of growing importance is the role of collaborative teaching and learning experiences that are authentic and critically developed to challenge conventional conditions in our communities and classrooms. Engagement with interdisciplinary, collaborative teaching philosophy and practice can provide key insights for educators to help generate new kinds of knowledge and ethical positions that transcend the traditional boundaries of disciplines to seek new and better ways to constitute meaningful and equitable outcomes for agriculture and food system development; this collaborative-based methodology can perhaps help us achieve this critical goal.

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Implementation of Capstone Requirements in Diverse Departments

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Diane Zahm, *Urban Affairs and Planning, Virginia Tech*
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Abstract: Capstone experiences are designed to provide students the opportunity to integrate knowledge and learned abilities within—and sometimes across—discipline and were included as one way of reinventing undergraduate education by the Boyer Commission (1998). Implementation of capstone requirements, however, can be challenging. We will share three models in use in three colleges at Virginia Tech. Animal and Poultry Sciences (APSC), with more than 500 students, chose to include a variety of ways for students to complete their capstone experiences. Urban Affairs and Planning (UAP), with 175 students, has had a capstone requirement in place since 1997 and uses community project-based studio courses for its capstone requirement. In the Materials Science & Engineering (MSE) and Engineering Science & Mechanics (ESM) departments, teams of students develop, plan, and execute an open-ended project during a two-semester course sequence. Parallel to these efforts, Career Services has a program that offers credit to students who complete a full-time, paid internship. Interacting with the audience, we will discuss some of the challenges encountered during the formation, implementation, and management of the capstone requirements. Undergraduate presenters will give their perspectives, and we will also present a possible linkage between capstones and career services.

Literature Review

Capstone experiences can be found across disciplines and across institutions (Hauhart and Grahe, 2010; Chamblee and Morgan, 2009; Keefe et al., 2007; McGoldrick, 2008). Despite differences in structure, resource allocation, and other details, most capstones share very similar goals: integrating knowledge acquired during a student's academic career; contributing to students' future roles as informed citizens; improving writing and interpersonal skills; and even assessing the major (Beyl, 2010). Given the current climate, however, fulfilling the potential of capstones calls for creativity in designing, implementing, assessing and improving capstone experiences.

Goals and Objectives for the Practice Session

This practice session will focus on several aspects of the capstone experience: what they are (and aren't), where and how they fit in a curriculum, and assessment. To lay the groundwork for an interactive, "thinking outside the box" discussion of the capstone experience, three models currently in use by four departments at Virginia Tech will be presented, including student perspectives. A potential link with a Career Services program designed to maximize the benefits of a full time paid internship will also be described. The remainder of the session will be devoted to brainstorming possible solutions to challenges inherent in capstone experiences.

Description of the Practice to be Modeled

Animal and Poultry Sciences
Each APSC student must complete a capstone experience. The experience can take a wide variety of forms, but must meet specific parameters, including: (1) taken within 45 credits of graduation; (2) minimum of two credits; (3) 4xxx or 5xxx level course; (4) approval obtained no later than the term prior to undertaking the capstone experience. Upon completion of the capstone experience, students will have integrated new skills and knowledge with those previously attained by completing a major project and accomplishing at least five of the following seven learning objectives: (1) analyze, interpret, and synthesize information from a variety of sources; (2) solve "real-world" problems in "real-world" situations; (3) improve verbal, visual, and written communication skills; (4) practice critical thinking skills; (5) be a contributing member to a team effort; (6) gain an understanding of the "bigger picture"; and (7) enhance self-confidence and preparation for a career and/or post-baccalaureate education.

Materials Science & Engineering (MSE) and Engineering Science & Mechanics (ESM)
Capstone experiences for engineering students are mandated by ABET, Inc., the international accrediting body, and they are intended to provide "a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints." The structure of these courses varies somewhat by institution and program, though there are common trends. In both MSE and ESM at Virginia Tech (as well as several other departments here), the experience is a two-semester sequence in which students work in teams to develop, plan, and execute an extended open-ended project in their chosen field. The projects are intended to demonstrate all 11 of the ABET, Inc.-defined outcomes for engineering students. Individual assessment includes a series of reports and presentations throughout the project at major milestones; programmatic assessment includes expert review of the entire project portfolio.

Urban Affairs and Planning (UAP)
UAP offers two liberal arts-based pre-professional programs, in public and urban affairs, and in environmental policy and planning. The focus of these majors—planning and policy—necessarily requires that students understand the complex nature of real problems involving real people in real places. At the time of graduation the expectation is that students will have the knowledge and skills they need to work as professionals, that they have achieved the learning objectives we have developed for the program. The learning objectives fall into five basic areas: (1) written, spoken and visual communications; (2) data analysis and research methods; (3) plan and policy development and evaluation; (4) community/stakeholder engagement; and (5) project management and group processes. The capstone courses, a studio and a seminar, are both community project-based, allowing for integration of the full array of learning objectives into a single course.

Career Services
The Career Services Cooperative Education / Internship Program is an undergraduate academic program designed to incorporate real world work experience and learning into the student's college academic experience. The program is a partnership among the undergraduate student, the employer and Virginia Tech - represented by Career Services and the academic departments. Each partner has responsibility to be honest and ethical. Each student represents not only him or herself, but also her/his academic department and the university. Conduct and performance should be of the highest standards. Co-ops and internships give students educationally-related work and learning experience that integrates theory learned in the classroom with practical application and skill development on the job, and contributes to the development of personal and professional maturity and ethics. The coursework involved within the program gears a student's thought process toward future employment, preparing them to identify their interests and skills which they learned during their experience, as well as articulating those skills during an interview.

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Increasing Student Success and Engagement through Curricular-Based Learning Communities

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Abstract: Learning communities are touted as an innovative intervention to promote student success in all types of educational environments. However, the steps needed to get started to form a learning community can initially seem daunting. This interactive session will walk participants through the initial planning stages of creating a curricular-based Learning Community. Two examples of Psychology Learning Community programs from the University of North Carolina-Charlotte and James Madison University will be showcased, and session leaders will share successes, challenges, and lessons learned from their combined 17 years of experience with Learning Communities at these institutions. Take-home resources to assist participants with planning and implementing learning communities will be provided.

Literature Review

Learning Communities in higher education are typically classified into four general types—those centered on the curriculum, campus living arrangements, a targeted student population, or in a particular classroom. While all four types of learning communities have enjoyed widespread popularity during the past two decades, curricular-based learning communities are the most common and the most widely reported on in the literature. The emphasis on curricular-based learning communities is evident in most definitions of learning communities, e.g.: "a variety of curricular approaches that intentionally link or cluster two or more courses, often around an interdisciplinary theme or problem, and enroll a common cohort of students" (Smith, MacGregor, Matthews, & Gabelnick, 2004, p. 20) and "small groups of preselected first-year students brought together in a block of courses, based on some common interest, to form a community of collaborative learning and social development" (Buch & Spaulding, 2008, p. 189). Learning Communities in some form are being used at more than 500 institutions and their scope is matched by their variety in terms of size, structure, methods, and focus (Barron, Buch, Andre, & Spaulding, 2009). Historically, the curricular focus of learning communities has been on general education and most are built around interdisciplinary themes or linked courses spanning two or more disciplines. Recently, learning communities with a curricular focus on a particular discipline or major have been gaining popularity. These discipline-based learning communities are still relatively rare, though, accounting for fewer than a quarter of all learning communities in higher education (Henscheid, 2007). A recent on-line search identified a handful of curricular-based learning communities within the discipline of psychology, including the ones we coordinate at UNC Charlotte and James Madison.

Session Goals and Objectives

The primary goal of this session is to describe the use of curricular-based learning communities (LCs) as an effective pedagogical approach to student success and engagement. We will organize the session around our three session objectives. In Part 1, we will provide a brief overview of what learning communities are and how they have been used in higher education. In Part 2, we will showcase two examples of Learning Community programs that we created at Charlotte and James Madison. In particular, each university will address the following questions: 1) What are your overarching goals for the program? 2) How did you choose the classes for your curriculum? 3) What additional experiences do you engage in with students? 4) How are students recruited and accepted into the program? 5) What support did you need to start your program, and still need to maintain the viability of the program? 6) What challenges or unexpected issues have you faced creating your program? 9) What impact is the program having on students/faculty/the department? In Part 3, we will facilitate an open l discussion with audience members about LCs and share additional resources for those interested in starting LCs on their campuses.

Description of our Curricular-Based Learning Communities

UNC Charlotte. The PLC at UNC Charlotte is a non-residential curricular-based learning community for first-year psychology majors. It began in 2003 as part of a university-wide initiative to improve retention and academic performance. As Buch and Spaulding (2008) described, the PLC was designed to incorporate the principles of good practice in undergraduate education, particularly enhanced contacts between students and faculty, reciprocity and cooperation among students, and active learning techniques. It consists of a 4-course block schedule during first semester and a 2-course linked schedule the second semester, into which a cohort of majors is co-enrolled each academic year. Only one course was developed exclusively for the PLC: a 3-hour course called The Science and

Practice of Psychology which is the academic and social core of the PLC. The primary goal of the course is to facilitate academic and career planning by teaching students about the science and practice sides of their discipline, its many sub-disciplines, and corresponding career paths. In addition to its curricular components, the PLC includes in-community academic advising and a community-wide service learning project.

James Madison University. Like UNC Charlotte's PLC, the PLC at JMU is a discipline-based, curricular learning community, open to first-year students who have declared a psychology major. However, JMU's program also combines a residential component. JMU's PLC is designed for up to 20 first year students, and the first cohort began in Fall 2002. The curriculum of JMU's PLC is best labeled as a linked or clustered courses approach. Sudents participate in three courses over their freshmen year that are only open to students in the learning community. During the fall semester, students are co-enrolled into two courses. First, students participate in PSYC 200 (Orientation to Psychology and the Major). Similar to UNC Charlotte's Freshmen Seminar, this is a special course that was developed for the PLC that introduces students to the diversity of areas studied in psychology, to different careers connected to these areas, and to the unique opportunities of being a psychology major at JMU. Second, students take PSYC 212 (Psychological Research Methods and Data Analyses, Part I) to begin important pre-requisite coursework for the major and their methodology training. Then in the spring semester, students are enrolled in their third course, PSYC 213 (Psychological Research Methods and Data Analyses, Part II), to complete their methodology training.

Discussion

This interactive practice session is designed to explain our use of curricular-based learning communities (LCs) as an effective pedagogical approach to student success and engagement. We hope participants will emerge from this session with an appreciation for curricular-based learning communities and how similar initiatives could be easily started on their campuses. We also will take participants through a closing exercise on brainstorming ideas for curricular-based learning communities on their campuses, and how to work through any barriers that they foresee in thwarting this type of learning community initiative.

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Instructional Design to Develop Critical Thinking Skills

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Abstract: Higher Education is under an increased amount of public scrutiny as our constituents question whether educational promises are being kept (Murchu & Muirhead, 2005). Using antiquated teaching methods in modern day learning environments is no longer acceptable. Many educators understand the importance of a student-centered learning model that encourages critical thinking skills. However, the methods that can be used to attain such a learning environment can be perplexing. This session will present a five-step process, built upon existing theory and best practice, which will provide educators with a useful means in which to move their courses, in any discipline, toward one that inspires and encourages the development of critical thinking skills. The challenges of the 21st century demand that educators seek out and utilize new methods to enhance the education of students. The five-step process can be used in any teaching-learning setting, but will be presented and demonstrated with an emphasis on the online course.

Literature Review

A strong pedagogy necessitates the study of teaching methods, which includes the study of specific ways in which teaching goals may be achieved. One of the most common goals of teaching is to develop critical thinking skills in students (Halpern, 1999). This higher level thinking is what allows students to excel and achieve intellectual freedom. Thinking is the cognitive process used to make sense of the world; questioning everyday assumptions will direct students to new solutions that can positively impact the quality of their lives. According to Lunney, Frederickson, Spark, and McDuffie (2008), "thinking processes can be improved through teaching, coaching, and practice, so specific educational strategies can be used in online courses to facilitate students' critical thinking processes" (p. 87).

Goals and Objectives for the Practice Session

The purpose of this practice session is to introduce a pedagogical process that can be utilized to develop in students the critical thinking skills deemed necessary for a quality life. The five-step process will be shared, actively modeled, and discussed with session participants. Upon completion of the session, participants will be able to:
- Define and justify the importance of critical thinking in instructional design
- Apply the five-step process to a common learning situation
- Integrate the five-step process into personal instructional design

Description of the Practice to be Modeled

The authors have developed and propose the following five-step *Process for the Development of Higher Level Thinking Skills*, can be implemented in virtually any teaching setting (including online) to create a more active learning environment and to move learners toward higher level thinking.

Step 1: Considering the importance of a course, its placement in a program, and its role in providing a base of knowledge, a teacher should carefully identify key learning objectives that recognize what students should know when they exit the course. To make critical thinking happen, these learning objectives, as well as the activities and assessments, must require students to perform and demonstrate higher level thinking. Thus, a well-written lesson plan should target a specific behavior, introduce and practice the desired behavior, and end with the learner exhibition of the behavioral response. The development of well-written objectives will greatly accelerate a learner's movement into higher level thinking (Ball & Garton, 2005).

Step 2: Questioning is a vital part of the teaching and learning process. The art of questioning begins with establishing what is known and allows the teacher to extend beyond to develop new ideas and understandings. Clasen and Bonk (1990) posited that although many strategies exist that can impact student thinking, teacher questions have the greatest impact. They went on to indicate that the level of student thinking is directly proportional to the level of questions asked. When teachers plan, they must consider the purpose of each question and then develop the appropriate level and type of question to accomplish the purpose. All students need experience with higher level questioning once they become familiar with a concept.

Step 3: To make learning more active, teachers need to add experiential learning and opportunities for reflective dialog. For students to participate in higher level thinking, they must pose arguments, state opinions, and critique

evidence using primary and secondary sources. Practice is necessary to master any skill; students must have the opportunity to practice the knowledge, skills, attitudes, and behaviors that will be evaluated. Therefore, choosing learning activities that allow them to practice, while causing them to critically think, is important (Schafersman, 1991).

Step 4: Teachers should strive to continually refine their courses to ensure that their instructional techniques are in fact moving students toward critical thinking. Students become responsible for their own learning when teachers monitor class activities, create a supportive environment, and carefully track student participation. Collecting feedback from students about what they have, or have not learned, may present the need to offer opportunities for re-learning and expose areas in need of improvement.

Step 5: Feedback, like assessment, compares criteria and standards to student performance in an effort to evaluate the quality of work (Ko, 2004). Prior to providing opportunities to practice what is to be assessed, students must first understand the standards by which they will be assessed. Next, students should be provided with constructive and relevant feedback by the teacher and peers, as well as assessing their own performance. Student feedback and assessment provides an immediate and significant source of information for the outcomes-based assessment process in evaluating instructional techniques, student achievement, specific learning activities, the course, departmental program, and/or curriculum.
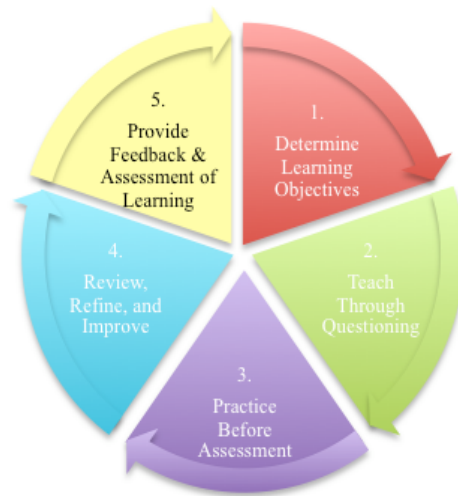
Figure 1. Process for the Development of Higher-Level Thinking Skills

Discussion

The successful implementation of the *Process for the Development of Higher Level Thinking Skills* in the online environment requires the thoughtful consideration of current instructional techniques and the commitment to embrace changes and differences so as to flourish in an active, student-centered learning environment.

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Integrating Inquiry: Student-Centered Approaches for Inspiring Lifelong Learning

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Abstract: Virginia Tech's Quality Enhancement Plan highlights *inquiry*, the ability to "explore and use information appropriately and effectively," as one of the three foundational skills essential to students' development and success during their first year of college life. Academic librarians have long focused on developing this skill in undergraduate students, using the term *information literacy* rather than *inquiry*. Assessments conducted by peer institutions reveal a clear correlation between library involvement in First Year Experience courses and the success of students completing these courses geared toward developing lifelong learning. During this practice session, librarians from Virginia Tech's University Libraries will offer unique insight into the research surrounding librarian integration within First Year Experience programs like Virginia Tech's Pathways to Success, summarizing relevant case studies, assessments, and best practices. Presenters will then discuss practical methods and ideas for faculty members interested in taking advantage of the expertise offered by academic librarians. Ideas discussed will include embedded/integrated librarianship, librarian-faculty collaboration on assignments, and leveraging technology to augment face-to-face instruction related to inquiry and information literacy.

Literature Review

The Association of College & Research Libraries' (ACRL) *Information Literacy Competency Standards for Higher Education* define "information literacy" as the ability to "recognize when information is needed and have the ability to locate, evaluate, and use effectively" that information (ACRL, 2000). Endorsed by the American Association for Higher Education and the Council of Independent Colleges, these standards closely align with the Virginia Tech Quality Enhancement Plan's definition of inquiry: the ability to explore and use information appropriately and effectively (VirginiaTech, 2010). Academic librarians at Virginia Tech have been using the guidelines found in these standards to help students develop these skills. On a national scale, Colleen Boff and Kristin Johnson found that the growth of First Year Experience (FYE) programs in universities has paralleled that of information literacy within the university environment (Boff & Johnson, 2002).

Academic communities agree that these skills are essential for developing lifelong learners, and that FYE programs must utilize a student-centered, holistic approach to succeed in their goals (Johnson, Lindsay, & Walter, 2008; Kelleher & Laidlaw, 2009; Samson & Granath, 2004). Deborah Tenofsky focuses on the distinct characteristics of the Millennial generation of students, arguing that truly integrating library instruction helps meet students' expectations of the university environment and encourage lifelong learning (Tenofsky, 2005). Literature advises various methods for integrating librarians in courses beyond one or two instruction sessions. Johnson, Lindsay, and Walter mention librarians participating in classes on a regular basis, while Nancy Frazier discusses librarians at the University of Buffalo taking a leadership position in the FYE program and leading 1-credit hour courses (Frazier, 2006; Johnson, et al., 2008). Trudi Jacobson and Beth Mark suggest that librarians assist faculty members in developing research assignments, an idea also mentioned by Scott Evenbeck and Nancy Foster (Evenbeck & Foster, 1996; Jacobson & Mark, 2000). Additionally, other researchers recommend using digital tutorials to bring in web-based, interactive components that deal with information and research (Bullard, Bolorizadeh, Bright, & Gray, 2007; Germain, Jacobson, & Kaczor, 2000). Assessments of programs that include profound librarian-faculty collaboration indicate that students gain a better sense of research and information through the integration of librarians into courses (Baker, 2006; Beutter Manus, 2009; Hayek & Kuh, 2004).

Objectives & Discussion

Because of their unique skill set and professional training, academic librarians are especially equipped to contribute to the success of *Pathways to Success* courses at Virginia Tech. Several of the courses that received funding for the inaugural year of the program listed University Libraries as a partner, and invited College Librarians (subject librarians) to participate in providing instruction and resources that engender inquiry skills. The librarians are very enthusiastic about this partnership, and as Dean Hitchingham said in her recent letter to Deans, and Associate Deans for Academic Affairs, "we stand ready to support your efforts to meet the expectations for a successful five-year review of your Pathways to Success FYE programs" (personal communication, 2010). Librarians will partner in the

development and integration of content and resources that are tailored to the needs of respective FYE programs and participants, including, but not limited to co-teaching, web-based tutorials, and engaging activities and assignments.

Research indicates that strong librarian-faculty collaborations yield students that are better prepared for academic research and ultimately, lifelong learning. During Fall 2010, librarians worked with the Office of Academic Assessment to develop the inquiry assessment tool that will be used in *Pathways to Success* courses. Virginia Tech librarians are prepared to collaborate with *Pathways to Success* instructors on many levels in order to facilitate student development in the area of inquiry. Through research and examples, presenters hope to generate a dynamic discussion between themselves and attendees during the 3rd Annual Conference on Higher Education Pedagogy.

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Intergenerational Experiential Learning: An Effective Teaching Pedagogy

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Abstract: Experiential learning has been regarded as an effective teaching pedagogy in education. Experiential learning, including Service-Learning, field studies, and internships, provide collaborative learning opportunities where students connect course material on theories, research, and academic content to "real life" practice. Although commonly practiced at higher education institutions, research on experiential learning or discussion on faculty perceptions and experiences in S-L (Kuh, et. al., 1994; Balot & Johnson, 2006). Intergenerational experiential learning is a novel means of providing students with lived experiences with human services populations that constitute the "bookend" generations. The purpose of this presentation is to define the basic elements of intergenerational experiential learning based on lessons learned at the Virginia Tech Neighbors Growing Together (NGT) intergenerational care program. NGT has supported interdisciplinary intergeneration experiential learning for 12 years in a unique shared site care setting. The Child Development Center for Learning and Research and the Adult Day Services promote intergenerational programming, teaching, and research. Faculty in child and adult development supervise students. This presentation will focus on faculty roles, including in-service education, the need to understand life-span development, planning and implementing intergenerational experiences, program evaluation, learning outcomes, and lessons learned. Videotaped intergenerational experiences will be presented.

Interventions that Support Epistemological Development and Integrative Thinking

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Abstract: The Earth Sustainability project in integrative liberal education was designed to support students' cognitive epistemological and social development while also providing them with the learning skills advocated by AAC&U's (2007) Essential Learning Outcomes. Our preliminary longitudinal findings indicate that increasingly sophisticated personal epistemological positions lead to more robust learning beliefs and greater motivation for learning, which in turn leads to improved critical thinking skills and greater engagement in learning. In this session, we will explore how students' reflective writing can be used to assess their changing personal epistemological positions as well as their ability to integrate disciplinary knowledge with personal experience. We will also describe those classroom interventions that students indicate were integral to supporting their adoption of more sophisticated and integrative ways of learning and knowing, and acting. Finally, a panel of ES students will describe the pedagogical practices and activities they found most valuable to their development as learners, knowers, and emerging citizen-leaders. Participants who attend this session will receive examples of prompts and rubrics that were used to successfully evaluate changes in students' epistemological positions and integrative thinking, as well as descriptions of classroom activities and practices that stimulated epistemological development and integrative learning.

Virginia Tech began a six-year experiment in general education in 2004 when the first cohort of 23 students enrolled in the Earth Sustainability program. Since then, over 200 students from three cohorts have successfully completed this promising alternative liberal education curricular model. The *Earth Sustainability* (ES) two-year course series is an innovative, interdisciplinary thematic model for general education that was specifically designed to support students' cognitive epistemological and social development while also encouraging first- and second- year students to develop learning skills aligned with most of the fifteen VALUES Essential Learning Outcomes (Rhodes, 2010). Results from longitudinal assessment of students' epistemological positions, knowledge beliefs, learning beliefs, motivation, critical thinking skills, and student engagement (Olsen et al., 2010, Bekken et al., 2010, Walter et al., 2009, Drezek et al., 2008, Olsen, et al., 2007) indicate that:

- Students in the ES program are significantly more advanced than their peers in a traditional menu-style general education program on all of the aforementioned characteristics,
- As students develop more sophisticated epistemological positions, their motivation to learn, their ability to think critically, and their level of engagement in learning increases, and
- These promising results are sustained for the two college years that follow the ES series intervention.

Based on these findings, we argue that it is critical to provide first and second year students with learning environments that will encourage development of more sophisticated personal epistemological positions, which will, in turn, lead to more robust learning beliefs (Walter et. al., 2009), greater motivation for learning (Drezek et al., 2009), improved critical thinking skills (Olsen et al., 2010), and greater engagement in learning (Bekken et al., 2010). However, while models for teaching to encourage cognitive epistemological and social development exist (e.g., Baxter Magolda, 2004), few programs have made cognitive epistemological and social development a primary outcome, in part, because while teaching to encourage development is significantly challenging, assessing whether it has occurred is even more challenging (Hofer and Pintrich, 2002). To that end, we have expanded upon the descriptions of phases of epistemological and social change as described by Baxter Magolda (2004) and Kegan (1996) based on what we have witnessed during the six-year and three-cohort longitudinal mixed-methods study of student learning both within and outside the ES experience. Using these descriptions of epistemological change as well as the VALUEs meta-rubric for integration, we have evaluated students' reflective writing over the two years of the third cohort of the ES series. These evaluations have allowed us to determine how students' epistemological positions have shifted over time, and which classroom interventions they cite as having been most significant in supporting their adoption of more sophisticated and integrative ways of learning and knowing.
In this session, we will:

- Describe how students' epistemological development is linked to knowledge beliefs, learning beliefs, motivation, critical thinking, and student engagement based on the results of our three longitudinal studies,
- Introduce participants to the expanded descriptions of epistemological positions as well as the prompts, modified from Baxter Magolda (1992), that can be used to assess students' personal epistemologies,
- Introduce participants to the VALUEs rubric on integration that can be used to assess integrative thinking,
- Describe the classroom interventions that were most effective in supporting both epistemological development and integrative thinking and knowing,
- Introduce participants to a panel of ES students who will describe how their views on learning, knowing, and integrative thinking evolved during the ES program.

During the session, participants will:
- Assess students' reflective writing for epistemological development,
- Assess students' reflective writing for integrative thinking,
- Hear and ask how ES students' personal epistemologies and ability to integrate knowledge has changed as a result of the ES intervention.

Participants will leave the session with:
- Prompts and a rubric for assessing epistemological change modified from Baxter Magolda (1992),
- Prompts for assessing integrative thinking,
- Coded samples of students' reflective writing,
- Examples of classroom interventions that students have identified as integral to their development toward more sophisticated and integrative ways of learning, thinking, and knowing.

This session is designed for those who are engaged in discussions to develop more integrative curricula at either the course or program level. This session is also appropriate for those interested in adjusting their pedagogical practices to stimulate increased student agency, which is an outcome of increasingly sophisticated cognitive epistemological and social development.

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Innovation to Scholarship: The Transformative Power of Undergraduate Research

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Abstract: The National Science Foundation recognized engaging undergraduate students in meaningful research as one of the most transformative pedagogical methods (Henry, 2005). This practice presentation addresses the question of how to facilitate undergraduate research by fostering student inquisitiveness, innovation and civic responsibility and applying that student interest to scholarly inquiries and dissemination. The rationale for this presentation is that engaging students in authentic and real life research experiences serve as powerful pedagogy. Students are actively involved in the process of discovery and the scientific method. Undergraduate student research that emanates from community problems engages students critically and is deeply meaningful, and skills learned are highly transferable. As Elizabeth Paul (2006) states, "students are awed by the power of their learning experience…and the significance of their work" (p. 15). In addition, partnerships between different university departments, community organizations and students provide a rich environment for ethical reasoning and multiple perspectives taking. This work contributes to the understanding and practice of the Scholarship of Teaching and Learning by highlighting the process of engaging undergraduate students in student-directed, community based research. Positive outcomes of the student research are seen in the peer-reviewed dissemination of the research.

Literature Review

The evidence is in regarding the importance of student engagement as the key factor of student learning and personal development (National Survey of Student Engagement, 2008; Pascarella & Terenzini, 2005). Engagement of students in research and other creative activities during the college years is described as "relatively potent" in terms of desirable outcomes according to the synthesis of Pascarella and Terenzini in their 2005 analysis (p.406). The following are a number of those positive outcomes of engagement in undergraduate research:

- Improved writing and communication skills (Light, 2001)
- Undergraduate research is relevant and 'real work', a powerful learning experience (Light, 2001)
- Frequent and meaningful student-faculty interaction (Pascarella & Terenzini, 2005)
- Interaction with other students and collegiality with their peers (Laursen & Deantoni, 2004)
- Increased confidence about student abilities to solve problems and engage in critical thinking (Seymour, Hunter, Laursen, & Deantoni, 2004)
- Higher levels of satisfaction with undergraduate education related to higher levels of collaboration with faculty (Bauer & Bennett, 2003)
- Higher student retention, clarification of career goals, and pursuit of graduate school for first generation students or from under-represented groups (Nnadozie, Ishiyama, & Chon, 2001)
- Increased interest and enthusiasm of students in their fields (Seymour, Hunter, Laursen, & Deantoni, 2004)
- Enhanced student cognitive development and personal skills (Bauer & Bennett, 2003)
- Enhanced student critical thinking and reflective judgment (Bauer, 2001)
- Greater student intellectual gains and academic achievement (Ishiyama, 2002)
- Increased likelihood of students enrolling in graduate school (Russell, 2006)

Goals and Objectives

Participants will:

- Understand and be able to duplicate a one-semester model of social science undergraduate research
- Learn rationale and strategies of student engagement in undergraduate research
- Explore strategies to overcoming challenges generated by student-directed, undergraduate research
- Hear experiences of undergraduate research-community projects and the steps taken to facilitate them, including successes, struggles and challenges
- Hear how students have benefited personally and professionally from this research process

Practice Description

This undergraduate research practice model is a high impact practice. A "high impact practice" is one that increases rates of student retention and student engagement (AACU, 2010). This practice is a step-by-step, one-semester model that guides students, starting with their own student-generated research question, to go through the IRB

process, collect and analyze their own data, write their research manuscript, and then disseminate their work in a variety of venues.

Discussion

This work contributes to the understanding and practice of the Scholarship of Teaching and Learning by highlighting the process of engaging undergraduate students in student-directed, collaborative research. Positive outcomes are seen in the peer-reviewed dissemination of the student research. For example, nine student pairs from this Human Development and Family Studies research class conducted poster presentations at the 24th National Conference on Undergraduate Research in 2010. Students have presented at "Posters in the Rotunda: A Celebration of Undergraduate Student Research, professional conferences, and published in the university's Journal of Student Research as well as beyond the student journal.

Although this breath of dissemination demonstrates the quality of student work, it is important to highlight the transformative nature of this experience for students. For example, one student researcher said; "My endeavors in research as an undergraduate student were far greater than a school assignment. Through my research project, I was challenged mentally in a way that made me a better student… I am convinced that I would not be the person and student I am today had I not engaged in research. I have a renewed passion for learning, one that has driven me to pursue graduate studies." This level of deep learning is indeed transformative. Future research that strives to understand which aspects of undergraduate research make the process empowering would continue to move the field forward and add to the growing body of work in student retention and engagement.

National Conference on Undergraduate Research 2010: University of Montana, Missoula

James, Dewey, and Vygotsky at Hogwarts: Theory to Practice and Back Again

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Abstract: It is often difficult to take somewhat abstract theories of teaching and learning and conjure up pedagogical practice concretely based upon those ideas and principles; however, this session will engage participants in that process by examining the teaching practices of a select group of famous professors… those at Hogwarts. Key concepts from the works of William James, John Dewey, and Lev Vygotsky will be detailed, as they will provide the foundation for activities in this interactive session. Select teaching moments from the Harry Potter films will be viewed and discussed within the context of these learning theories, providing participants with concrete ideas regarding how theory translates into functioning pedagogy. This session will conclude with opportunities for participants to challenge and reconsider their own teaching practice utilizing the works of James, Dewey, and Vygotsky.

Goals and Objectives

After attending this session, participants will
- Know key concepts and theories espoused by William James, John Dewey, and Lev Vygotsky;
- Be able to recognize those theories as practiced in the pedagogy of others; and
- Have increased self-efficacy in their ability to incorporate relevant learning theory into their own teaching practice.

Literature Review and Discussion

It has been theorized that the teaching practice that most faculty employ is essentially a cumulative cultural text. That is, our "conceptions of teachers, [students], and schools are socially and dialectically constructed in personal biography, children's and young adult literature, childhood, and popular culture" (Birch, 2003, p. 104). Just as those who taught us certainly influence the pedagogy of the instructor we eventually become (Britzman, 1991; Lortie, 1975), so, too, have literary and cinematic icons. Robin Williams' desk standing in Dead Poets Society (Henderson & Weir, 1989) and Ben Stein's droning of "Bueller" in Ferris Bueller's Day Off (Hughes, 1986), among others, influence our conceptions, and the conceptions of our students, regarding what is often viewed as excellence and mediocrity in teaching. Given these internalized and well-practiced cultural texts coupled with the complexities inherent in theoretical and empirical articles on learning, it can be a challenge for even the most seasoned instructor to effectively and deliberately incorporate theory into classroom practice (Moreno & Valdez, 2007; Ormrod, 2008).

This session is designed to provide participants with active opportunities to engage in the theory-to-practice process while utilizing the cultural texts (the Harry Potter novels and films) that are currently shaping and reshaping the popular perception of what it is to teach. The work of William James, John Dewey, and Lev Vygotsky will be introduced and will serve as the theoretical framework for this session. William James, famously beloved by his students, wrote about teaching in passionate terms where the role of the instructor is to motivate students and fill them with "devouring curiosity to know the next steps in the subject" (James, 1958, p. 27). Summarizing the work of James, Parjares (2003) details what he terms "James' Blueprint for Effective Teaching." In this model, instructors are encouraged to be aware of learners' native interests; bring forth learners' existing knowledge of the subject matter; and connect old knowledge to existing knowledge. How does such an awareness of the learner translate to practice?

John Dewey (1916) framed formal education as a process of growth and emphasized the value of authenticity in instructional settings. He encouraged pedagogical practice that centered on the examination of thorny, real-life problems. He suggested that these problems be explored through systematic observation and data collection. Solutions should be generated through reflection and tested in orderly ways "to make their meaning clear and to discover… their validity" (Dewey, 1916, p. 163). How might the Deweyan principles of experience, reflection, and authenticity shape practical classroom activities?

Lev Vygotsky believed that "social phenomena (both interpersonal and cultural-historical) and individual characteristics combine to affect development" (Tudge & Scrimsher, 2003, p. 222). He saw teaching and learning as

simultaneous and reciprocal acts. As such, he advised that students "be actively involved in teaching/learning relationships with more competent others" (p. 224). This enables learners to "grow into the intellectual life of those around them" (Vygotsky, 1978, p. 88). Vygotsky further described this social component of learning as an essential feature of teaching practice. How, then, does one structure instructional activities to ensure successful and meaningful social learning moments?

The questions that conclude the three previous paragraphs are among those that instructors may ask when they encounter these theorists. To explore these questions, we will visit the Hogwarts School of Witchcraft and Wizardry. The Harry Potter novels and films certainly offer a range of teaching archetypes with which many of us are acquainted from our tenure as students and/or our time as faculty in academe. What we may not initially recognize are the apparitions of the theorists that provide grounding for some of the instructional practices employed at Hogwarts. Through lively discussion and interactive activities, participants will consider key teaching moments within these films that echo the works of James, Dewey, and Vygotsky. Through this process, participants will come to a richer understanding of these three theorists while increasing their proficiency translating theory into their own teaching practice.

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Overcoming Aliteracy, Part II: The Large Lecture

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Abstract: Aliteracy--the habit of avoiding reading, even though one has the ability to read--is widely acknowledged as a hurdle to student success across disciplines. However, that acknowledgement is less likely to be found in syllabi than in teachers' unrehearsed harangues to students and commiserations with each other. The absence of well-planned strategies for mitigating aliteracy is due in part to two linked and commonly-held assumptions: (1) that aliteracy is primarily the symptom of a moral defect in students and (2) that students bear sole responsibility for overcoming aliteracy. Participants in this session will critically examine these twin assumptions. A well-tested method for dealing with aliteracy in the large lecture class, where neither class discussion nor weekly in-class quizzes are viable ways to motivate reading, will be presented, along with results. The method involves extensive use of online alternative-choice quizzes, together with an appropriate grading formula (research supporting alternative-choice questions, as compared to the more common multiple-choice, will be discussed). Session participants will be invited to critically examine the costs and benefits of this strategy and offer ideas for improvement or alterations for various circumstances.

Literature Review

The challenge of motivating students to read has been described in first-person accounts (Skipper 2005; Howard 2004) and formal studies of student behavior (Hassel & Lourey 2005). Aliteracy, the avoidance of reading by those who are already literate, has a number of ill effects on the college student, all of which are compounded by aliteracy's feedback mechanism: By foregoing reading opportunities, aliterate students fail to develop reading skills, and as reading assignments become increasingly sophisticated, these students find it even less attractive, from a cost-benefit standpoint, to read. This downward spiral can begin quite early in a student's education (Nathan and Stanovich, 1991).

The problem is exacerbated when instructors underestimate the difficulty of assigned texts and the students' need for guidance. Take, for example, the ability to simply decode the individual words in a text. A reader who is decoding at a rate even as high as 90% is at his or her frustration level. Independent reading is not reached until the decoding rate is 99%. In between is the decoding rate, approximately 95%, for instructional level reading. The instructional level is where reading can be successful with the assistance of the instructor (Manzo, Manzo, & Thomas 2009).

In a large lecture course without the small group follow-through, it is difficult to address quality of reading very effectively. However, quantity of reading can be improved by supporting self-monitoring, which has been shown to be effective for a variety of behavioral improvements ranging from adults' health management to children's classroom behavior (Blick & Test, 1987; DiGangi, Maag, & Rutherford, 1991; Boutelle & Kirschenbaum 1998; Daly & Ranalli 2003).

Goals and Objectives for the Practice Session

Session participants will become familiar with research on aliteracy and will share their own observations and inferences about students' reading habits. Participants will become acquainted with the details and results of one strategy for overcoming aliteracy in the large lecture. Participants will be invited to critically examine the costs and benefits of this approach and to offer suggestions for its improvement or its adaptation to various circumstances, including different disciplines.

Description of Practice

Tools such as Blackboard and Moodle offer instructors the opportunity to provide a framework for student self-monitoring via ongoing, online, low-risk assessment in the form of a large body of alternative-choice reading quizzes. The term "quiz" is used here only because it is familiar. Because the assessment is at-home and open-book, it is not so much a quiz as a way for the student to keep a record of his or her reading and share that record with the instructor for modest but tangible course credit.

The present instructor has had consistent success encouraging self-monitoring. In one course, seventy-seven per cent of the students completed ninety percent or more of the 765 questions on 101 on-line chapter quizzes covering two textbooks and five biographies.

The alternative-choice format was settled on by the author and is recommended to others for a variety of reasons. First, an objective format was required by the large lecture. Second, an objective format can yield immediate feedback to students, which is conducive to encouraging a new habit. Third, alternative-choice takes less time to prepare than multiple-choice, yet is no less useful as an assessment tool (Ebel 1982; Haladyna & Downing 1993). Finally, student affect was taken into account in the rejection of a true-false format, which is widely perceived as intentionally deceptive (Roberts 1993), a perception which might be justified if indeed the true-false format is less reliable than multiple-choice (Frisbie 1973).

Because a less motivated student could "click through" the online chapter quizzes and receive a score of approximately 50% while having read 0% of the assignment, a formula which gives no credit for a score of 50% was settled on: (%-50)*2.

Discussion

Most of us can predict that a percentage--not a very small one, either--of our students will fail to give adequate attention to assigned readings. If our goal is to educate, not merely assess, then our students' failure to read should interest us as teachers and not just as moralizers. How to meet that challenge will vary from discipline to discipline, and from classroom to classroom. It is hoped that the strategy presented here will serve merely as a foundation or touchstone for constructing a variety of solutions to one of the most basic hurdles for student--and teacher--achievement.

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Pathways to Success: Embracing New First Year Experiences

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Abstract: This presentation describes a new university-wide program at Virginia Tech from the planning through the implementation and initial assessment stages. Fundamentally, Pathways to Success programs are an indication of Virginia Tech's commitment to providing support to first-year students. The university's response to the SACS QEP requirement was an opportunity to institutionalize that commitment. Five programs serving approximately 1,000 students are ongoing and are based on best practices literature and grounded in AAC&Us essential learning outcomes. Currently funded programs will be described, future plans discussed and participants will be given the opportunity to apply best practices and desired learning outcomes to a program design.

Literature Review

A widely accepted notion in higher education is the importance of providing entering students with the tools to function successfully within that particular institution. Typically referred to as first-year experiences, this term entered the nomenclature of higher education practices more than 30 years ago with the implementation of a program at the University of South Carolina called "University 101". (Pascarella & Terenzini, 2005). Barefoot (2000) reports that thousands of programmatic interventions targeting first-year students have been implemented over the past 20 years. Although they have varied goals the most common practices are seminars, learning communities, courses that are part of a curriculum and intentional advising practices. (Barefoot, 2000). Kuh (2008) identifies 10 teaching and learning practices that "educational research suggests increases rates of retention and student engagement" (p.9). Intentional first-year seminars and experiences lead the list, the very best of which "place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. (Kuh, 2008) The Association of American Colleges and Universities (AAC&U) (2007) articulated essential learning outcomes for undergraduate education as a framework for student's progression through their college studies and to help prepare them for 21st century challenges. The Pathways to Success first-year programs at Virginia Tech are based on best practices articulated in the literature on first-year programs, derived from the AAC&U learning outcomes and adapted to fit the culture and context of undergraduate education at Virginia Tech.

Goals and Objectives

The goals of this session are to describe the rationale for the emphasis on programs for first-year students at Virginia Tech, explain the principles on which the programs are based, identify contextual benefits and explore additional opportunities. As a result of this session, participants should be able to:
- describe the current programs
- identify the best practices and desired learning outcomes on which they are based
- apply the best practices and desired learning outcomes to a program design

Description of Practice to be Exemplified

Virginia Polytechnic Institute and State University developed as part of its Southern Association of Colleges and Schools – Commission on Colleges (SACS-COC) Reaffirmation of Accreditation process a Quality Enhancement Plan (QEP) that commits the university to develop, implement and sustain comprehensive first-year experiences. Called Pathways to Success, these programs are consistent with the literature on first-year students and experiences designed to support them as well as learning outcomes described by AAC&U. As a result of participating in a Pathways program, first-year students will build foundations and skills for life-long learning through curricular and co-curricular learning opportunities designed to foster their abilities to (1) solve problems, (2) explore and use information appropriately and effectively, and (3) integrated ideas and experiences and apply them to new learning situations. A distinguishing feature of Virginia Tech's approach to first year experiences is that the programs are based in academic units and must be consistent with the mission, strategic directions and culture of the proposing academic unit.

Five programs emanating from five different colleges with more than ten academic departments represented are funded for the 2010-2011 academic year with approximately 1,000 first-year students involved. Each program incorporates essential learning outcomes that are common across all the programs and maps them to activities required of students while maintaining consistency with the mission, strategic directions, and culture of the proposing unit. The common learning outcomes are

1. Problem-Solving Skills: the ability to define a problem, identify problem solving strategies, and propose solutions/hypotheses,
2. Inquiry Skills: the ability to select a topic of inquiry; access and evaluate existing knowledge, research, and/or views; and use information effectively, ethically, and legally to accomplish a specific purpose,
3. Integration Skills: the ability and disposition to make connections between ideas and experiences, apply them across disciplines and to new learning situations within and beyond campus, and reflect upon and assess themselves as learners.

Additionally, each includes the electronic course planner, ePortfolios, university's common book and a partnership with a unit from the Division of Student Affairs. The comprehensive assessment plan incorporates assessment strategies for each Pathways program as well as for institution-wide assessment and is grounded in the commitment to the improvement of teaching and learning for the betterment of Virginia Tech's undergraduate experience.

Discussion

In this session, the presenters will describe the programs in which they are involved and identify the issues that have been most challenging and rewarding. Results of some of the formative assessments will be shared. Participants will be given an opportunity to ask questions and to explore their thinking about implementation of a Pathways to Success program for first-year students.

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Providing Culturally Appropriate Virtual Learning Experiences for Non-Mainstream Learners

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Abstract*:* Learners from non-mainstream cultural groups are likely to be enrolled in distance education programs now or in the future. These learners come from generations of families who have always lived according to their cultural norms and learned in culturally appropriate ways. Many have difficulty leaving their families, responsibilities, and culture to attend school. They can experience difficulty with distance education designed for mainstream students. This presentation will present ways to address designing and providing distance education for these learners based upon findings from a recent qualitative study. Featured will be the story of Salish Kootenai Tribal College working for over 15 years to provide culturally appropriate distance education to traditional Native American learners. Dr. Lori Lambert will present the history of distance education efforts of the Tribal College where now 90% of their students take online courses progressing towards bachelor's degrees. Research findings show that effective online learning for these Native American students is a reality, because of the culturally appropriate pedagogy and the support of resources such as access to funding, assistance with learning through technology, online tutoring , and support from faculty through hard times.

Literature Review

Native American and non-mainstream populations are being offered more and more distance educational opportunities through a Western-developed technology. However, studies make it clear that online learning is not culturally neutral and often represents the worldview of the dominant culture (Chen, Mashhadi, Ang, & Harkrider, 1999; Smith & Ayers, 2006).

Distance learning for Native American learners occurs within a larger social, economic, and political context, and it is consequently necessary to examine the learning not only through the experiences of the learners but also through the perspectives of those who guide the standards and administer the learning, those who develop and facilitate the learning, those who connect the distance learning with the learners, and finally, those who are involved in learning. As tribes design their own online learning for their people, they encounter technology and knowledge systems developed by the dominant culture, contradictions posed by the dominant culture, and ways of knowing dialectically opposed to Native Ways of Knowing.

The work of Cajete (1994) has implications for culturally responsive online learning, the learning environment for this study. This online environment requires that learners assimilate content, participate in learning strategies, and communicate with other learners. Cajete's work considers the core values of Native American learners.

Goals and Objectives

By participating in this session, attendees will be able to:
- Describe key components which can support culturally appropriate virtual education for remote, Indigenous learners.
- Share student and faculty stories which describe these essential components.
- Discuss challenges inherent in developing and sustaining these components.
- Discuss recommendations for further research and practice.

Description of the Practice to be Exemplified

From this qualitative study, involving the voices of over 30 students, faculty, and administrative staff of the Tribal College, emerged a model for involving students from remote Indigenous communities in higher education through technology. This session will describe and exemplify the model through stories told by a key faculty who developed much of this process and worked with the people in the college to make education a reality for many previously underserved students. The description of this emerging model follows.

The students are at the center of this model. The students bring their culture and ways of knowing which have developed dynamically over time through many generations. When given the support and the freedom to engage

their own ways of knowing in the learning process, these students experience an increased capacity to contribute to their own communities, develop self-reliance, develop higher levels of understanding, and learn more about themselves and the ways they learn.

In the center of this model, along with the students, is the instructor who assumes more than a typical teacher role. This instructor plays an integral role in creating a safe learning environment, nurturing the learners, assisting the learners to make sense of the course content by scaffolding the curriculum from the known to the unknown, and helping students apply the new learning to their own lives.

Just outside the center of the model, providing key support and influence, are services provided by the college by key people who are very involved in the lives of the students. Some of these essential services include online tutoring in such areas as writing, assistance with acquiring funding to pay tuition and purchase necessary equipment, help with using technology to learn, personal support from a librarian from a distance, and access to articles and readings and other tools used in the course adapted for low bandwidth transmission.

In the next layer of support services are those provided by key people responsible for working with faculty either on site or at a distance. The supports for faculty come from faculty development, IT services, and administrators who assign faculty loads. They also come from the collegial support provided to one another as they engage in this work with Indigenous students.

The cultural community is a part of the model as well. Elders and others from these communities advise faculty and help build a bridge for students to higher education. The writings and other artifacts from the community are key components of the curriculum. Engaging the wisdom and support of the community is essential for faculty to foster understanding of ways of knowing that are far different from their own.

Discussion

This session will include a discussion in small groups so that attendees can process and internalize some of this model. Questions used to foster discussion will include:

- How can we know our remote students well enough to be culturally appropriate?
- How can we make our content and teaching relevant to remote students?
- How can we assist our remote students with the technology?
- How can we assume this nurturing role and create a safe learning environment online
- How can we retain our remote students?
- What is the value of hybrid courses?
- How can this happen with remote students?

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Short-term Immersion Field Experiences: Real World Service Learning

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Abstract: Experience-based learning is needed to promote an understanding of global healthcare and disaster medicine to develop globally-minded, community-focused physicians and to improve the health of those most in need. "Short-term immersion field experiences" in medically underserved regions hold promise for "real world" service learning. A field tested Medical Field Experience Inquiry Model (MedFEI) is an assessment tool that demonstrates the efficacy, outcomes and value of medical mission trips as a strategy for immersion experience.

The purpose of this practice is development of a Medical Field Experience Inquiry Model (MedFEI) and pilot research on application during medical field experiences.

Literature Review

Medical Field Experiences can promote an understanding of global healthcare and disaster medicine to develop globally-minded, community-focused physicians and to improve the health of those most in need. Kolb proposes that the educational purpose of field experiences is primarily the development of a "professional mentality" that combines profession-specific essential knowledge, skills and attitudes with a mental shift Kolb calls a "fundamental reorientation of one's identity" (182). Zeichner also asserts that field experiences can be designed to encourage a shift of perspectives and perceived roles for students within their field of study and cultivate attitudes that support reflective behaviors (3, 6). The service aspect of a field experience can create a more meaningful and effective context, an "impelling" event which has real-world impact and provides a lens for students to study the "historical, sociological, cultural or political dimensions of the human needs" addressed through the field experience (Gagner 35; Davis 166). The WHO Framework for action on Interprofessional Education and Collaborative Practice describes interprofessional education as "a necessary step in preparing a 'collaborative practice-ready' health workforce that is better prepared to respond to local health needs" (7); and valuing multiple perspectives is a key attitude that can be cultivated through student field experiences (Hursh and Borzak, 72). Although there is substantial literature on experience-based learning, there are limited models in medicine for measuring development of knowledge, skills and attitudes; along with reinforcing values of altruism, compassion and duty in medical care. Models grounded in sound theory and conceptual underpinnings can both guide experiences of medical students and physicians and provide a framework for research on outcomes.

Description of the Practice to be Modeled

The MedFEI practice strategy includes medical short-term immersion field experiences typically 7-9 days in a medically underserved setting due to remote site location, poverty, or other extenuating factors. Medical clinical activities may include attending clinical skill review sessions, assisting with triage and vital assessment, communications in exam rooms, observation and assistance with patient diagnosis and treatment. Related medical logistical and administrative activities may include attending planning and orientation meetings, packing and sorting medications and supplies, and village clinic site set-up. To ensure deep learning, each student completes a Clinical Case Study encouraging reflection on a wide variety of patient data and analysis on potential dilemmas related to diagnosis, treatment and patient care in a resource-scarce setting as well as the experience of working within interprofessional country health teams.

The analytical domains represented in MedFEI include medical topics, clinical practice, logistics and planning, intercultural interaction, global health service, and interprofessional teamwork. These domains support the essential value of MedFEI which is to ensure that every student receives the best quality training and experiences in the U.S. and abroad.

Data collection and analyses are taken from international sites located in the Dominican Republic, El Salvador and Honduras developed by the Edward Via College of Osteopathic Medicine (VCOM) as permanent satellite clinics and branch educational centers. It provides a setting for a pilot to determine the efficacy of the MedFEI model through use of a pre-post survey instrument and reflection. Respondents include first- and second-year VCOM medical students as well as mission trip participants in pre-medical preparatory programs including a Post-Baccalaureate program and Virginia Tech undergraduate pre-medical honors society.

Figure 1. Medical Field Experience Inquiry Model

Discussion

Results indicate the efficacy of MedFEI, demonstrate student gains, and indicate the value of field experiences. Students demonstrated significant gains on outcome measures from the pre- and post-tests from mission trips to Honduras and the Dominican Republic at .05 Alpha. In conclusion, experience-based learning promotes understandings and experiences to develop globally-minded, community-focused physicians and to improve health through service. "Short-term immersion field experience" is a viable "real world" service learning event that enhances student learning and can be a valuable component of medical education. Future research is planned to determine application in other settings and across learner groups. Lessons learned from the research will be incorporated in the learning activities. Further research on specific variables will provide additional insights in theoretical and conceptual dimensions of experience-based learning.

Goals and Objectives of the Practice Session

The goal of the practice session is to provide a model for reflection and assessment of "short-term immersion field experience" as a viable "real world" service learning application in medicine. Objectives are to: 1) provide a literature review of experiential learning and immersion experience; 2) describe MedFEI model and potential application in a variety of settings; 3) illustrate application of MedFEI in two international settings; and 4) provide opportunity for audience interaction to ensure knowledge and skills are acquired in use and adaptation.

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Sparking the Brain Rules: Practical Applications

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Abstract: Besides being experts in their disciplines, exceptional educators actively search for ways to enhance student learning outcomes. Many educators embrace technology or student centered approaches to influence student learning. However, new research indicates that exercise is a key element for improving the brains potential for learning (Ratey, p. 35, 2008). Attaching treadmills to desks in the college classroom as suggested Brain Rules (2008) author John Medina is impractical for most. With a renewed interest in the links between physical activity and cognitive functioning, the proposed practice session will outline, discuss and demonstrate practical applications of movement in the classroom. Two instructors introduced movement in three different classes with the goal of enhancing the student learning experience. Each instructor assessed different elements of the movement innovation. Either the impact on student learning based on quiz or test scores, student perceptions of learning, and/or student motivation on the learning outcomes or goals of the class or activity was examined. Results from the assessments of student learning will be briefly discussed. It is expected that participants in the session will participate in sample activities while brainstorming and developing activities for use in their classrooms.

Image this scenario on the first day of the fall semester. Students enter your classroom to find that all their desks have been replaced with treadmills and attached writing surfaces. You instruct students to find a treadmill and walk at 1.5 miles per hour while you proceed with typical first day class activities. Would students rush to a computer to drop this course? Would they stay just to see what would happen in this crazy torture chamber? As impractical as it may appear this is exactly the suggestion of molecular biologist and author of Brain Rules (2008), John Medina. Along with Medina, Ratey, author of Spark: The Revolutionary New Science of Exercise and the Brain (2008) and other researchers advocate for exercise, movement, and multisensory stimulation as a way to positively affect learning and retention (Winter et al., 2007; Shams & Seitz, 2008). Ratey states that exercise is a key element for improving the brain's potential for learning (p. 35, 2008).

If exercise is the key to cognitive development, and the human brain evolved while our ancestors were on the move (Medina, 2008) then one could reasonably conclude that movement in a classroom would allow for positive student outcomes. The following table highlights the efforts of two faculty members (Department of Nursing, and Department of Health, Human Performance and Recreation) to incorporate practical movement activities into traditional lecture/discussion college classes. The activities are also the basis of the activities to be discussed in the practice modeling session.

N	Activity	Research Question	Assessment/Measurement
48	Scavenger Hunt	Will student perceive the scavenger hunt as a positive learning experience?	Student self- report evaluation of activity.
28	Movement activities each day	Will movement activities provide an increase in academic performance?	Student self report on the attainment of daily learning objectives, test scores compared to control group.
32	Blended lecture/activity class	Does the placement activity in relation to lecture and quizzes impact student academic performance?	Quiz scores for each treatment compared to each treatment and overall scores compared to control group.

The goal of the session is to develop awareness of the benefits of adding movement to college classes. Expected participant outcomes include 1) understanding the impact of incorporating movement into college classrooms, 2) identifying resources that are adaptable to content 3) developing activities for discipline specific content.

Practice to be modeled: The presenter will share brief video clips and discuss the impact the activity (ies) had on student learning or student perception of learning. After the brief introduction of the concept, participants will engage in movement activities (no treadmills needed) while learning a process for developing and adapting movement activities based on course content or learning objectives.

Discussion: Preliminary evidence suggests that by replacing lecture activities with movement activities one can positively affect student learning or student perception of learning.   Many college students are familiar with the concept of playing games to learn but very often the games are still somewhat static in nature (i.e. sitting at a computer monitor and clicking puzzle pieces) or playing jeopardy or quiz type games. Students are also familiar with initiative games where teamwork or cohort bonding is the goal. In this proposed model the emphasis is the course concept to be learned.   The development starts with the daily learning objective proceeds to students' cognitive engagement and social engagement while on the move and ends with formation new concepts or interrelations of those concepts within the course.

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Student Engagement Through Problem-Based Learning

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Abstract: Problem-Based Learning seeks to involve students directly in their own acquisition of knowledge through class exercises requiring the resolution of a real or hypothetical problem. A strategy with many pedagogical benefits, Problem-Based Learning can enhance student understanding and appreciation of course material. After providing an introduction to, and example of, problem-based learning, this session will challenge faculty to consider how to incorporate it into their own classes.

Literature Review

Problem-Based Learning (PBL) was defined by Torp and Sage (2002) as "focused, experiential learning (minds-on, hands-on) organized around the investigation and resolution of messy, real-world problems" (p. 15). In PBL, it is the problem begging resolution that is the starting point for student and teacher efforts, and learning occurs as that problem is examined, researched, discussed, debated, etc., and ultimately, resolved. Afterwards, instructors assist students in processing relevant concepts, seeking to identify lessons learned and to help students see where material fits in the context of a field, other theories, and so on (McKeachie, 1999). This is the inverse of the more conventional "teach, learn, and apply sequence" (Torp & Sage, 2002, p. 14), in which application exercises are designed (often secondarily) to follow lecture presentations that are the primary means of course content delivery.

PBL matches the desire for discovery and collaboration held by the current "net generation" of learners (Tapscott, 2009, p. 121). Furthermore, the pedagogical benefits of PBL are compelling. First, PBL can promote lifelong learning and an appreciation for the nuances of complex theoretical material. As a student-oriented pedagogical strategy, PBL empowers learners to understand and integrate theory and practice, while applying and building knowledge in collaborative environments (Sarvey, 2006) – skills that can be applied outside the classroom as well as inside. Second, Hmelo-Silver (2004) notes that students learn best when presented with problems that do not have a single correct answer; this is a major theme of PBL, as students are empowered as problem-solving learners. Third, PBL can help build skills such as critical analysis of complex problems, evaluation and synthesis of material, and effective communication of findings (Duch, Groh, & Allen, 2001). Research has found PBL to be associated with increased ability to apply and retain knowledge (e.g., Dochy, Segers, Van den Bossche, & Gijbels, 2003).

PBL is a recognized pedagogical paradigm, even boasting its own research journal (*Interdisciplinary Journal of Problem-Based Learning*). It has successfully been applied in disciplines as disparate as chemistry (Williams, Woodward, Symons, & Davies, 2010), marketing (Wee, Kek, & Kelley, 2003), art history (Lindner, 2005) international relations (Burch, 2000), and many others.

Goals and Objectives

The goal of this presentation is to challenge instructors to consider how they may incorporate PBL activities in the context of their courses. Strategies will range from the simple occasional activity to more complex practices involving course redesign, all with a focus on empowering students to learn through the PBL model.

The objectives of this presentation are for participants to: (1) understand the key principles of PBL; (2) participate in a brief PBL demonstration exercise; and (3) develop one means by which PBL can be integrated in their courses.

Description of the practice

There are many techniques by which PBL may be integrated in the college classroom. This presentation will address, and provide examples of, the following practices:

- *Problem-Solving Scenarios*. These are brief activities that ask students to reflect upon and write about a real or hypothetical scenario in advance of class discussion of the topic. Discussion can then process the scenario and extract conclusions that become the basis for an understanding of theoretical concepts.
- *Tabletop Simulations*. This is a simulation conducted in real time in which students must, in class, work collaboratively to resolve a problem. The work proceeds in stages, allowing for "stop action" discussions at critical points to assess results and address questions progressively as the class works toward an end.

- *Role Playing Activities*. In these activities, students take on roles which they must research ahead of time and from which they must frame their responses to a problem. These activities are useful for integrating sometimes disparate perspectives related to a problem, and understanding the alternate objectives and theoretical perspectives that different actors may bring to an issue.
- *Case Method*. The case method is a means of organizing a course as a whole, utilizing case studies to structure course design. Discussion and written exercises generate knowledge holistically that may transcend the need for lecture, as students learn through carefully guided explorations of a collection of thematically related cases.

Discussion

Originating in the medical field to train future physicians, the basic premise of PBL is that learning should be a constructive and active process (Gijselaers, 1996). Therefore, the role of the instructor is not one of providing direct instruction through traditional lecture-discussion format, but rather one of facilitating student learning through innovative, challenging and collaborative problem solving exercises. This requires careful and intentional efforts and course preparations, but yields rewards for students and faculty, alike.

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Taking the Red Pill: Ontological Transformation in Online Teaching and Learning

Fred Milacci & Trina A. Stephens, *Center for Counseling & Family Studies, Liberty University*

Abstract: Developing an online course in Teaching and Learning to prepare advanced graduate students to engage the academy, not only as learners, but also as facilitators of learning, challenged and impacted the course developers as teachers and learners themselves. This session provides both a chronology and phenomenological description of the course development process, including course content, methodology, and technology, to achieve the overall objective of positioning the course so as to further both the academic and spiritual mission of the sponsoring institution. The session will include excerpts and evaluation data from the live course, and will summarize the developers' experiences and views, particularly the sapiential and transformational aspects, regarding the ongoing interchange of online teaching and learning.

Literature Review

The primary challenge inherent in the course development process concerned the selection of relational inputs to achieve sapiential results within an 8-week course timeframe. Course inputs were primarily based on Adult Learning literature with Paulo Freire's (1970) seminal work, *Pedagogy of the Oppressed*, compatibly juxtaposed with the teachings of Jesus Christ as an apex of not only effective, but transformative, teaching and learning. To support this focus, additional viewpoints regarding the spiritual nature of scholarship were examined and included in the course through Jacobsen and Jacobsen's' (2004) work on reconciling scholarship with the Christian faith. Another voice from the discipline of Adult Education includes that of Vella (2002), as her work emphasizes dialogue (as contrasted with monologic) education – a method adopted (with great difficulty) for use in the online arena. Branching out from this foundational emphasis, other inputs of a more practical nature were characterized through Baptiste's (2003) three phases in *Teaching with the Grain: A Situationally Grounded Approach to Teacher Training*, and, to make application for face-to-face teaching and learning, McKeachie's (2010) work, *Teaching Tips: Strategies, Research, and Theory for College and University Teachers*, was included via reading and a case study assignment. All course assignments and evaluation were couched within Paul and Elder's (2006) model of critical thinking.

Goals and Objectives

The overall goal of this session is to present the transformational teaching and learning experiences and final course product of two course developers while co-creating an online, graduate course in teaching and learning emphasizing dialogic education. The course must be understood within the context of the sponsoring university; Liberty University, founded in 1971, has grown to become the largest evangelical institution of higher education. The first objective is to provide the back story of the course development by linking the developers with the task, and to discuss structural areas, such as overall format and supported technology, which were largely pre-determined by organizational requirements. A second objective is to provide, through video clips and screen captures, a tour of the course in action. During this segment, participants will be given the opportunity to work through one of the course assignments. The final objective is to discuss known outcomes of the course for both participants and developers.

Description of Practice

The course under consideration, *COUN 747: Teaching and Learning*, originally developed for a face-to-face context, is taught in an eight-week online format through Liberty University Online (LUO). A two-year development—or transformational--process resulted in the following course modules and assignments shown in Table 1.

The course initially invites learners to take the "red pill" (*The Matrix*, 1999), and this motif is subtly referenced throughout the course. The motif culminates in Module 6 where learners are challenged to compare the teaching ministries of Brazilian educator, Paulo Freire, with that of Jesus Christ. This zenith assignment is intended to assist learners in reflecting on the transformative power of education primarily through dialogue (online or face-to-face). Through weekly blogs and other "real world" assignments, learners are guided towards further developing their own personal philosophies of teaching and learning, with a specific emphasis on an emerging Christian pedagogy.

Table 1. Modules and Assignments for COUN 747: Teaching and Learning

Module	Title	Assignment(s)
1	The Red Pill or the Blue Pill?	Blog: Educational Semantics
2	Called to Teach	Blog: Good to Great
3	Critical Commitment to Faith and Scholarship	Blog: Scholarship & Faith
4	How Shall We Then Teach? Part 1	Blog: Dialogue Education; Case Study: Part 1
5	How Shall We Then Teach? Part 2	Blog: Teaching with the Grain; Case Study: Part 2
6	Praxis: The Ongoing Cycle of Theory and Practice	Book Review: *Pedagogy of the Oppressed* Blog: The Red Pill
7	Christian Pedagogy	Blog: Christian Pedagogy; Conference Paper
8	A Pedagogy of Hope: Deeper Rabbit Holes	Blog: My Final Blog Reflective Essay: What I Learned About Teaching and Learning

Discussion

Although the online arena presents unique challenges, it provides a venue for facilitating transformational outcomes in teaching and learning, for both course developers as well as students. As Morpheus (*The Matrix*, 1999) intones to Neo, "*I'm trying to free your mind, Neo. But I can only show you the door. You're the one who has to walk through it*," teaching and learning practitioners can creatively elevate higher education pedagogical practices in learner-centric ways that include a spiritual component and consequent ontological transformation.

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Teacher-Centered Versus Learner-Centered Teaching: A Personal Comparative Approach

Kelly A. Parkes, *Teaching and Learning*, *Virginia Tech*

Abstract: The purpose of this practice session is to illustrate two methods of teaching: one in teacher-centered mode of delivery, and the second in learner-centered; in graduate education for a pre-professional program of study. To demonstrate these two formats of teaching, the author will present theoretical frameworks for the two formats, and then illustrate with examples of her own syllabi, curricula, and units, to connect theory to practice, especially with concepts and methodologies. The author will share evidence from students as to the perceived differences in teaching formats at the higher education level, and this session will explore one professors' perceptions of the inner workings, successes, and failures within the two pedagogical designs. This presentation will examine teaching and learning with emerging technologies, specifically the use of powerpoints, blogging, vlogging, video collage, performance assessment, self- and peer-assessment, and the use of the Learning Management System Sakai (Scholar @ Virginia Tech).

Literature review

There is a great deal of literature supporting learner-centered teaching (eg, Doyle, 2008; McLoughlin & Lee, 2008; Weimer, 2002) in addition to teaching with emerging technologies (Brill & Park, 2008). As a teacher educator, I am often examining my students' teaching and I believe in examining my own teaching as well. As is the case for most faculty, I started by looking at my official '*students evaluations of instruction*' and saw an interesting trend for the two semesters that I have my cohort. The scores were low in the Fall semester, and then high in the Spring semester. By examining my own practice (Dees et al. 2007) and finding that I was intuitively teaching with more learner-centered approaches in the second semester, it became clear those methodologies were more successful in reaching my students. I set out in the Fall of 2009 to deliberately set up my syllabi to reflect the teacher-centered methods that my students were used to, and then expand into learner-centered methodologies in their second semester.

Table 1 represents the differences in instruction where my fundamental goal is to allow my students to show me what *they know* and *can do*, and my approach uses methods available from the work of Doyle (2008) and Weimer (2002). For my work, this involves technology in web, audio, visual, and text applications.

Table 1. Phases of technology-immersed activities in Music Education Pre-Licensure Program Coursework

Phase 1	Phase 2
Teacher-centered methods class Teaching Music in Secondary and Middle School 1 - EDCI 5724 Field studies in Education - EDCI 5964	Learner-centered methods class Teaching Music in Secondary and Middle School 2 - EDCI 5744 Internship in Education- EDCI 5754
Enriched student evidence	*Enriched student evidence*
Prompted blog reflective practice	Unprompted blog reflective practice
Teacher work sample website	Vlog reflective practice
GA filmed videos of teaching	Student-made video collage of teaching practices
Traditional feedback/ assessment/ quizzes	Immediate feedback/ self assessment
Static syllabi	Student choice of work weight and due dates
Blog hosted in Sakai	Blog/vlog hosted independently
Cumulative online final exam	Self assessment
Product: Creation of a Matrix and Presentation ePortfolio – a non-thesis ePorftfolio defense	

Goals and Objectives

The goals for the participants of this session are as follows:
- Participants will recognize the basic tenets of learner-centered and teacher-centered instruction
- Participants will gain an understanding of emerging technologies used to support learner-centered instruction and will engage in examining specifics of successful examples connected to theory
- Participants will be encouraged and assisted to develop their own learner-centered approaches via the model exemplified

Description of Practice to be Exemplified

Teaching with emerging technologies, in a purposeful manner to move away from teacher-centered and toward learner-centered methodologies in higher education.

Discussion

Purposeful and transparent use of both teacher-centered and learner-centered approaches represents a different kind of education, one in which all previous ideas that my students hold are challenged – their values, their expectations, and their motivations to become teachers. Within our classroom a new sense of pride flourishes in their learning. Student' evaluations of instruction increase significantly. Students are more aware of what they know, what they need to know, and how they can find answers to important questions with this type of education. I would like to share my approach with other interested faculty who may not have had the opportunity to see examples of learner-centered compared to teacher-centered instruction from an individual personal perspective. Essentially, my commitment to experiential education is founded in the philosophies of John Dewey and David Elliot. My work as a researcher and teacher educator supports the concept of Schön's reflective practitioner, and Van Manen's way of knowing with ways of being practical. My teaching strategies in higher education are primarily set within Weimer's practices, and Boyle's environments. Through these perspectives, I work to impact my students in higher education, where I promote learner-centered engagement through many modalities.

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Teachers Who Inspire

Gloria Howell, *Psychology*, *Blue Ridge Community College*

Abstract: Contemporary students have a robust sense of entitlement, are diverse, unique, techno-savvy and worldly, creative and talented, confident and demanding. They miss deadlines, have excuses, they question and challenge. In this practice session you will learn to teach responsibility by designing firm but fair policies concerning attendance, missed exams, and late assignments and learn the "no excuses" technique for grading subjective assignments. Inspire your students to look forward to coming to class with the strategies you learn, demonstrations you observe, and activities in which you participate. Learn to motivate students without sacrificing academic standards yet increase student achievement, satisfaction, and success.

Literature Review

The irrefutable traditional teaching methods of the past are now refutable by the contemporary student population, (Zmuda, 2008.) Long lectures, strict discipline and authoritative attitudes no longer work. According to Robertson, Yun, and Murray, (2009) innovation is essential, methods other than traditional methods can improve the quality of teaching and learning in higher education, (Deignan, 2009, Gomleksiz, 2007, Pedro, 2005) and faculty are critical in student success (Levin, Cox, Cerven, Haberler, 2010.) Creating a culture of warmth and support builds trust in the learning community and not only influences student achievement, but can also contribute to improvement in attendance and tardiness and, in one case, the complete transformation of a failing school (Cianca and Lampe, 2010.)

Teachers who inspire care about their students enough to invest time in learning. They do more than facilitate an increase in knowledge in students ((Van der Zee and de Jong, 2009.) Contemporary students question and challenge course content, test questions, and the grades on their assignments. They demand clear expectations, specific guidelines, individualized attention, and personalized feedback. It takes work to connect with some students, and for those who feel disconnected, success is difficult. Teachers who inspire listen, get to know their students, connect with them (Glasser, 2000) and learn how to challenge and motivate them, (Zmuda, 2008.) When teachers are genuine, have high moral standards, and serve as remarkable role models, they instill in students a degree of social virtue (Van der Zee and de Jong, 2009.) Teachers who inspire get excited when their students succeed and care enough to search for innovative ways to make up for the deficiencies of traditional teaching methods, (Wang, 2010.) Teachers who inspire scrutinize scoring tools and recognize the need to provide the messiness of engagement and the time for discovery, (Zmuda, 2008.)

Teachers who inspire use a plethora of active learning, non-traditional teaching strategies that won't sacrifice academic standards and will result in student achievement, success, and satisfaction, (Cianca and Lampe, 2010.)

Goals and Objectives for the Practice Session

As at result of this session, participants will be able to:
- Explain how contemporary students developed into the unique yet diverse, creative yet demanding, confident and worldly generation of students
- Identify teaching methods of the past that no longer work
- Specify the wants and needs of contemporary students that will result in student success, satisfaction, and retention
- Observe demonstrations of strategies that can be used immediately to build relationships, connect with students, and get them to look forward to coming to class and participating in activities
- See examples of course policies and grading rubrics and revise their own syllabus so that it has clear and specific policies concerning attendance, missing exams, submitting late assignments, and grading subjective essays, papers, and other projects and assignments.

Description of the practice to be modeled

Participants who attend this session will learn the developmental issues unique to this population, what these students want and need, and what motivates them. They will observe demonstrations of strategies that build relationships, connect with students, and get students to come to class.

Participants will be encouraged to actively participate in class activities that they will be able to use to motivate and engage their own students. They will also have an opportunity to take the Essential "Es" Assessment to evaluate their potential to be a Teacher Who Inspires.

Discussion

This presentation is based on The Essential "E" Strategy that was developed over 20+ years of dealing with a diverse population of traditional, non-traditional, classroom and online students. It entails EDUCATION about diversity, the use of clear and specific course EXPECTATIONS, the use of good quality assignment instructions and EVALUATION checklists, a strong sense of EMPATHY for these unique students, holding and living by high moral standards and ETHICS, and ENTICING students as a teaching method.

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Teaching Ethical Theories Through Virtual Experiences

Rick Houser & Steve Thoma, *Educational Studies in Psychology, University of Alabama*

Abstract: Teaching ethical reasoning to undergraduates is an effective method of promoting abilities to synthesize and evaluate information. We want to present how ethics may be taught using experiential learning in a virtual world, Second Life. We will demonstrate how one can use such teaching practices through description of teaching ethics to undergraduate students through virtual learning experiences. We will discuss how one can use the presentation of ethical theories such as Utilitarianism, Natural Law, Buddhism and Utilitarianism in teaching ethics. Secondly, we will discuss ethical reasoning from five relevant perspectives: ethical self-awareness; understanding different ethical perspectives/concepts; ethical issue recognition; application of ethical perspectives/concepts; and evaluation of different ethical perspectives/concepts. There will be discussion of how students can complete assignments based on experiences in Second Life that may be then linked to ethical theories discussed. A virtual world, Second Life, will be used in our teaching demonstration. We will show how students can find evidence of residents of the virtual world of Second Life using or not using ethical principles which influence their actions. Finally, we will discuss the ethics of using a virtual world as an open classroom experience.

Literature Review

The Association of American Colleges and Universities (AAC&U) (2007) have identified essential learning outcomes for undergraduate education. They proposed a number of essential learning outcomes such as promoting ethical reasoning. Ethical Reasoning can be separated into five categories: ethical self-awareness; understanding different ethical perspectives/concepts; ethical issue recognition; application of ethical perspectives/concepts; and evaluation of different ethical perspectives/concepts. AAC&U further proposed that acquisition of various complexities of understanding, application, and evaluation be taken into account in teaching ethics to undergraduates. However, no recommendations are proposed as to the format for teaching ethical reasoning.

Methods of teaching ethics have varied significantly without any agreement on what constitutes "best practices" (Canary, 2007; Castleberry, 2007; Corey, Corey, & Callanan, 2005; Kyle, 2008). Some of the methods that have been used in teaching ethics include: role playing, review of vignettes, informational field trips (visiting a prison), and written case analyses. Smith, Fryer-Edwards, Deikema, and Braddock (2004) suggested that the intent of ethics education is to increase sensivity and understanding of ethical issues and develop an ability to use reasoning to solve ethical issues. A major question that remains focuses on what is the best approach for teaching ethics; and what are foundational issues in the developing best teaching practices for ethics education.

A teaching approach that has been found to be helpful in imparting knowledge about specific disciplines or topics is experiential learning (Kayes, 2002; Kolb, 1984; Moon, 2004). Experiential learning allows for the use of simulation and role playing based on experiencing real world issues within a closed and relatively protected environment. O'Sullivan and Copper (2003) provided a critique of traditional teaching and concluded that "The traditional method of lecturing to classes is not always the most successful approach. Encouraging students to formulate their own ideas, draw conclusions from experiemental evidence, and participate in other similar activities can be more effective" (p. 448). Sickle and Kubinec (2003) futher concluded that "People need experiences if they are really going to understand and apply what they know" (p. 260).

Jarmon, Traphagan, Mayrath and Trivedi (2009) suggests that a virtual world such as Second Life is an ideal setting for experiential learning. The practice of using a virtual world in learning is increasing for a number of reasons. Virtual worlds such as Second Life provide opportunities to experience both similar and different real world experiences. In Second Life, SL, one can fly with his/her avatar. However, many other activities of real life may be replicated in a virtual world such as SL. There is a robust economy with the buying and selling of items such as clothing, furniture, housing, etc. Second Life provides extensive opportunities for social interaction. Such social interaction may take place in a virtual bar or on a dance floor. Social interaction also may take place in a small group meeting, an informal or formal meeting of members of education or social groups. There are a number of opportunities in a virtual world to observe and practice social interactions and include those involving ethics and ethical dilemmas.

4. Session Goals and objectives
The major goal is to provide those attending with knowledge and skills in using a virtual world in teaching a topic such as ethics.

- Objective One: introduce a viritual world as a teaching medium
- Objective Two: Demonstrate specific activities, assignments, that may be used in teaching ethics in a virtual world.
- Objective Three: Demonstrate how instructors/teachers may link experiences in a virtual world to real like experiences and concepts

Description of Practice to be Exemplified:

The practice to be exemplified is the use of a virtual world, Second Life, in teaching a discipline such as ethic to undergraduate students. Second Life is a place to simlulate and conduct regular life activities through a virtual world. Specific opportunities include: socializing, making money, learning, and exploring

Discussion:

A virtual world such as Second Life is an opportunity to integrate theories and concepts of ethical theories with experiential learnings through interactions and observations. The observations and analyses that can be completed can be used to: apply concepts and theories in a virtual and real world; show ethical issue recognition; the skills to differentiate ethical perspectives/concepts; and evaluate different ethical perspectives/concepts. A virtual world such as Second Life provides unique opportunities to observe how humans demonstrate ethical or unethical behaviors in a minimally controlled environment with minimum consequences. Teaching practices with virtual worlds are just developing and there is great potential with this medium.

Teaching Race While White; Strategies for Inclusivity, Comfort and Understanding for *all* Students.

Faye Allard, *Sociology*, *Montclair State University*

Abstract: As higher education becomes increasingly diverse, educators must consider how best to teach a range of races and ethnicities, so that classrooms are inclusive for all students. This is especially the case for those who teach race. Given whites hold 80% of faculty positions in higher education, invariably whites often must deal with issues with race in the classroom. Based on the multiple years of experience of a white race relations instructor at a large diverse institution in the North East, some common issues will be explored. First, we shall investigate how higher education is perceived to be "white space" and the repercussions of this. Issues of white privilege, colorblindness and institutional discrimination will be explored, as well as how to best foster meaningful participation of white students. Second, we shall discuss how best to include a multitude of diverse voices into the classroom in a meaningful, authentic and responsible manner. Here we shall consider the how best to avoid presenting races monolithically, avert placing the burden on students to be racial spokespeople and circumvent the burden of being a "racial educator" to others.

Introduction

As institutions of higher education are becoming more conscious of the need for curriculums to reach and reflect a wide range of students, courses on race and ethnic relations are increasingly prevalent in the general education requirements of undergraduates, and the discussion of racial issues feature more often among all classes. Thus, as we move towards not only a more inclusive curriculum, but also an increasingly diverse campus, teaching race is becoming ever more important. The majority of higher education institutions, however, consist mainly of white faculty, who sometimes struggle to find ways to create an inclusive, comfortable and understanding classroom while teaching race.

This practice presentation will look at the two main areas of concern I have encountered while teaching race as a white woman over the past five years, though many of these concerns transcends teachers of all races. We shall do this by reviewing some real life classroom examples and contextualizing them not only into the pedagogy literature, but also that of sociology. Then the author and audience will share strategies as how to best overcome these challenges. First we shall investigate how the very institutions we teach at can be construed as "white space" – a seemingly invisible fact to some, but as we shall see, consequential nonetheless. Second, we shall look at how to inject diverse voices into the classroom in a meaningful, authentic and responsible manner.

Issue one: Classrooms as "white space."

It is no coincidence that the academy is ivory. Figures released this year by the U.S. Department of Education paint a grim, but increasingly hopeful picture. Enrollment of minorities in higher education has almost doubled over the last 35 years and on average nearly a third of the student body is non-white. While the student body is becoming (somewhat) more diverse, research findings do not paint the same picture for faculty. Whites make up 80% of all university faculty, with Blacks, Asians and Hispanics constituting the remaining 7%, 6% and 4% respectively (US Department of Education 2008). Given the apparent lack of diversity in university faculty, it may not come as a surprise that numerous studies have shown that minority students often perceive campus' to be racially hostile environments (Sedlacek, 1999, Aguirre & Messineo, 1997). Katz (1991) found that many minorities, especially African Americans, report that faculty appear to be surprised when they perform well, reflective of studies that indicate that faculty have lower expectations for minority students (Spaights et al.,1985). McCormack (1998) found that in a large public university in the North East, approximately 30% of the minority students reported they had experienced some form of personal discrimination in higher education.

It follows that Feagin (1996), among others, have argued that colleges and universities are "white space," where the majority group determines the rules of interaction. Feagin contends that often the racial elements of these "spaces" are invisible to whites for they appear normal and natural to them. Indeed, within my own classroom, I have noticed that some white students are unaware of how higher education may be construed as "white space." Having taught race relations many times, it has become apparent that the inability to see this form of "white privilege" is closely tied to the belief held by some that to be white is to be raceless. As one of my white students stated, "Race is

something we study about *other* people." Some white students, and some faculty too, do not see the institutional discrimination on campus because they perceive both themselves and the academy to be without race. Thus, one of the hardest challenges we face as educators is shaping our classrooms to be inclusive "diverse space," a feat in itself given we are operating with the backdrop of long term institutional discrimination. An important part of this challenge is also to educate white students to be conscious of their race and the privilege it brings. In this session, after sharing some of the techniques I have developed and tested over my five years of teaching to address issues of whiteness, the audience will be also be asked tackle these challenges and to think of class activities to get their students to understand the significance whiteness, and in doing so, think of strategies to make classrooms "diverse" and not just "white space."

Issue two: authentically and meaningfully injecting diverse voices into teaching

One obvious remedy to diversify the "white space" that is higher education, is one that actually poses a great challenge for *any* teacher of race; how do we bring multiple racial narratives into the classroom, for we have but one set of personal experiences to draw upon? This can be challenging, especially for white professors, as often attempts to bring in narratives about other racial experiences can appear disingenuous or inauthentic (McKinney, 2002). Worse still, as warned by Celious and Oyserman (2001), all educators run the risk of painting a monolithic racial experience, in which students are left with the impression that all members of a racial group experience race identically. How do we present these diverse voices in a way that is authentic and meaningful, yet avoids the pitfalls of stereotypes and a universal racial experience?

The easiest answer to this question is to use the natural diversity that exists in the classroom. Certainly, when students share experiences these stories have the potential to make a great impact on their peers, indeed, some of the most memorable learning experiences in my own classes have come from such interactions. However, there are important drawbacks from relying on students to diversify voices in our classrooms. Quite simply, not all classrooms contain the kind of diversity needed to tackle this issue. Importantly, in these situations where classroom diversity is scant, looking to those few minorities to be spokespeople for their races run a twofold dilemma. First, by asking our minority students to inform a class of the "minority experience" we run a great risk of falling into the aforementioned threat of presenting a monolithic racial experience, in other words we condone one student to represents an entire race. Second, as Ladsen (1996) found, students of color can grow to resent having the burden of teaching white students about race, this being none the more obvious than by being forced to share their stories for the benefit of others. Thus, it is imperative that not only do we find ways to foster *voluntary* class participation, but also have strategies in place that supplement students voices and offer a variety of voices both between and within a race. This session will address these issues, offering pedagogical techniques I have found to be successful, and then turning to the audience to share their ideas and techniques as to how best to include diverse voices in classrooms.

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Team Term Projects that Develop Teams Skills and Innovative Thinking

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Abstract: Businesses today are looking for individuals that can work well in team settings and produce innovative and creative solutions. Developing team projects in a university setting that provide practical application of the content theory of the class while at the same time providing a realistic and practical simulation of teamwork provides a double benefit to students. Individuals exhibit different critical and creative problem solving styles. Successful teams learn to harness these differences to spur both creativity and performance. This session will describe a total process for embedding a team project in a course. The intent is to provide students with a process that assists them in the development of team skills, giving and receiving feedback, and making best use of the skill base available within their teams and to manage and complete a major piece of work.

Literature Review

Effective teamwork is an important component in organizational success in today's fast paced environment. (Basadur and Head 2001). Many organizations fail due to their inability to cope with the demands of their changing environment. Mott (1972) in his research of characteristics of effective organizations highlighted the importance of adaptability. Constant change adds to the complexity of decision making in organizations and is a key reason for the increase in the use of teams. Cox (1991) and Cox and Blake (1991) argue that creative thought processes are stimulated when diversity in perspective is evident among team members. Kling (2000) suggests that a measure of team conflict can encourage creative solutions. The issue becomes how do team members manage team conflict in a way that is productive rather than destructive? Min Basadur, through years of research, university teaching, and consultation in many organizations has developed a process to provide teams with the tools to manage and embrace the differences between members in a way that enhances the output of the team. His process is the focus of many articles and is set out in detail in his book Simplex: A Flight to Creativity (1994).

Kent and Hasbrouck (2003) indicate that group activities are being used more and more as teaching tools. Common problems that continually arise however are "social loafing" (Latane, Williams & Harkins, 1979) and "groupthink" (Janis, 1972). Michaelsen, Fink, and Knight, (1997) describe issues pertaining to team members who dominate the discussion while quieter members are ignored. Another common issue is the difficulty in remaining focused on the task (Michaelsen et al 1997). Kent and Hasbrouck (2003) describe seven factors related to team performance. These factors had been described earlier by Katzenback and Smith (1993): small in number; common purpose; common goals; mutually agreed upon approach; mutual responsibility; complementary skills; mutual commitment. The study by Kent and Hasbrouck (2003) reveals that "the instructor can affect the team's sense of having a common approach by having teams develop strategies for dealing with the class project and sharing those strategies with the total class." The study discussed several ways the instructor might improve the learning impact and the outcomes, for example devoting some class time at the outset for teams to work on development of common purpose and goals and plan their team's approach to completing the project.

Goals and Objectives for the Practice Session

- The session will show and discuss the team process and tools in a way that is interactive and dynamic
- Participants will leave this session with a comprehensive team project process
- Participants will discuss ways to select teams that ensures diversity to encourage creativity and innovation
- Training in key team skills will be discussed
- Experience a feedback process that provides continuous improvement in team meetings effectiveness.

Practice to be Exemplified

As indicated in the literature review, teams are extremely important in business today and so it is important to develop a system of teaching that includes team projects. What I have developed over the past several years is a system of training, support tools and practices that integrates best practices used in business with those in academia. Kent and Hasbrouck's article (2003), confirmed that the structures I had been creating to improve performance in student teams was indeed supported by a considerable body of research. I have intertwined this approach with the creativity process described by Basadur (1994) to create a team experience for the classroom that builds content knowledge by application of the course content in the team project, within a structured process of creative thinking

and team support mechanisms to produce high quality output at a sophomore level. The experience challenges the students to hold each other to high standards. The experience begins with several classes at the beginning of the term on creative thinking and team skills. All students complete a creative thinking profile and learn about the 4 thinking styles. They form their teams based on these styles ensuring that each team has all four styles represented within its membership. Initial preparation (preconsult) for the first team meeting is done in class (about 15-20 minutes). The following class is the first full team meeting. The agenda for this meeting is set and includes the setting of the common purpose, goals, team ground rules and a detailed timeline of the project. Each team decides on a business that they would like to start and run. The project then becomes the development of a detailed business plan. The process I will demonstrate can be used with any content and thus can be utilized in any discipline to create a viable team project that helps build accountability and responsibility among the students in the team, develops their team skills and interpersonal skills and through use of various process tools develops their facilitation skills and effective meeting skills. At the conclusion of the project, each team delivers a presentation and classmates and the instructor provide feedback. The team then reflects on their experiences throughout the project, what worked well, what hindered their progress and what learnings they will take with them into other classes and the workplace. Each team member completes two evaluations, one midway through the project and one at the conclusion of the project. The mid-term evaluation provides each team member with feedback from their team members as to how they have performed in relation to the standards set at their first meeting. The final evaluation becomes an individual factor for each student that is applied to the team grade to produce the individual grades. This system deters free loaders and rewards those students who are recognized by their team members as going "above and beyond". Throughout the project the instructor treats the teams as self-managed. They are assigned "a project", given some training and access to resources. They are encouraged to ask questions. The business plans are used in class as application of the material being taught. Teams can arrange meetings with me during office hours as they desire. An official one hour meeting is set with each team about two weeks before the final written plan is due. The expectation is that drafts of all sections will be available at that time. The sections are discussed and feedback and suggestions are given.

Discussion

Since I began developing this team process the quality of the final product has increased. Students comment it is a lot of work but worthwhile. The overall grades on other components in the course have also increased. I believe this is because the project helps the students to better understand the material because they work with it each week as they develop their business plan. The feedback components of the process has helped me to fine tune the process to meet the ever changing needs of our student body in terms of learning styles and lifestyles. What remains constant is an expectation of excellence and respect for each other. Free loaders discover that their low level of effort is met with a similarly low level of "pay" or grade level. With input from students, a system to help then give the necessary feedback to students who are simply not pulling their weight has been developed. Teams handle the situation within the team but when those steps are exhausted with little improvement they can request my involvement. Knowing that there is a process for dealing with these issues goes a long way to preventing them from occurring.

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Technological Literacy in the Undergraduate Curriculum:
Why and How Should We Teach Tools?

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Abstract: Our students are "digital natives" who have grown up with and connect to the world through technology. According to Prensky, their ongoing exposure to technology has resulted in enhanced thinking skills, in addition to an unprecedented level of technological literacy. Although Prensky's arguments are popular, those who advocate this perspective rarely provide empirical evidence to support their assertions. This session begins by asserting that college students may not be as technologically savvy as the digital natives argument claims. Using data from a survey of over 500 undergraduates, we argue that, while students may claim proficiency with word processing and presentation software, they are less likely to have skills with image editing, illustration, and web authoring. Additionally, they are not overly comfortable learning new technologies independently. We then focus on students' perspectives regarding technology instruction using data from two surveys—conducted seven years apart—of professional writing majors and minors. The data reinforce the notion that students are not particularly confident in their technological abilities as they prepare to enter the workforce. Finally, we discuss the level of technological literacy our students are likely to need, and how we might help them achieve it, focusing on best practices in teaching software.

Literature Review

The students who populate our classrooms are known as digital natives—millennial learners who have grown up with a host of new technologies, including computers, cell phones, and video games; they connect with friends and family through social networking, text messaging, and other technology-mediated approaches. According to Prensky (2001) and others, repeated exposure to these technologies has resulted in enhanced thinking skills in several areas, in addition to a level of technological literacy that outstrips that of previous generations. For example, Coates (2006) claims, "This generation is as comfortable with technology as a fish is with water. While older generations are intimidated, mystified, or entranced by new technology, today's young adults will increasingly demand the applications of technology to learning as well as to work" (p. 124).

Although Prensky's arguments, and extensions thereof, have become very popular, those who advocate the digital natives perspective rarely provide any empirical evidence or classroom accounts to support their assertions. For example, Bennett, Maton, & Kervin (2009) argue that the digital natives arguments "have been subjected to little critical scrutiny, are undertheorised, and lack a sound empirical basis" (p. 776). Other scholars concur, offering empirical data that suggest our students may not be as technologically literate as the digital natives arguments would have us believe (see, among others, Holliday & Li, 2004; Kennedy et al., 2006; Kvavik, 2005; and Smith, Salaway, & Caruso, 2009).

The data suggest that our students do not necessarily have the level of technological literacy that they will need to be successful in the 21st century. For example, some have suggested that technologically literate individuals not only demonstrate conceptual understanding of technology, but also view themselves as proficient technology users. They are capable of effectively using technology tools to increase productivity, to access and evaluate information, and to identify and solve complex problems. Thus, students must have both conceptual and practical understanding and must be able to apply their technology skills to real-world situations (*21st Century Skills,* 2003, p. 22). Yet, a survey (Brumberger, 2008, unpublished) of over 500 undergraduates indicates that, while students may claim proficiency with word processing and presentation software, they are less likely to have skills with image editing, illustration, and web authoring. Additionally, they are not overly comfortable learning new technologies on their own. Two additional surveys, conducted seven years apart and distributed to professional writing majors and minors in one undergraduate program, reinforce the notion that students are not particularly confident in their technological abilities as they prepare to enter the workforce.

If our goal is to graduate students who have the technological skills outlined above, we must incorporate technology instruction into the undergraduate curriculum. But, we also must re-envision what it means to teach technology.

Research on technology education pedagogy suggests a number of best practices that contradict many of the practices of technology workshops. One of the major efforts is to move beyond declarative and command knowledge (what knowledge) to procedural and conceptual knowledge (how knowledge). Bhavani, Reif, & John (2001) call this strategic knowledge, or knowledge that enables users to complete complex tasks by choosing among multiple different ways to complete that task. Beauchamp & Kennewell (2010) suggest loosely structured tasks for students to complete, discuss, and questions. Others, including Eisenberg & Johnson (2010) and Hennessy & McCormick (1994) argue for problem-solving approaches situated within specific tasks. Students in this re-envisioned technology classroom would become lifelong learners of technology by examining the ways they learn technology through experimentation, structured tasks, and immersion.

Session Goals and Objectives

The primary goal of this session is to identify and discuss effective approaches for helping students achieve the level of technological literacy they will need to succeed professionally in the 21st century. In order to support that goal, the session will present empirical data that suggest where students' technological strengths and weaknesses may lie. Subsequently, it will examine best practices in teaching software, including structured experimentation with a focus on play and situated tasks.

Description of Practice

This session shares, discusses, and demonstrates the best practices in teaching software. We will offer the audience concrete suggestions for teaching technology and provide examples of these pedagogical strategies.

Discussion

The session is grounded both in technology education scholarship and in the presenters' personal experience developing a lab course on visual design software. It should be of interest to administrators, curriculum designers, and faculty faced with programmatic and pedagogical concerns about technology instruction.

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The Challenges of Creating Interprofessional Courses:
Getting Around Faculty and Student Attitudes, Hindrances, and Bad Habits

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Abstract: When faculty and students from different disciplines come together, the results are not always so pleasant. Although interprofessional/interdisciplinary courses are gaining in popularity in higher education, there is a strong need to address the problems that hinder collaborative success in interdisciplinary environments. This interactive presentation will cover the common problems that arise in interprofessional or interdisciplinary courses and how participants can solve and potentially avoid them.

Creating interprofessional or interdisciplinary courses is not an easy task. There are often attitudes and behaviors – regarding interprofessionalism, teamwork, or team members – that interfere with the process. This presentation will address the common problems that arise when faculty and students from different disciplines come together to work and learn and how we can address those issues effectively.

Literature

Interprofessional education has recently become a focus in healthcare education, particularly after the Institute of Medicine's (IOM) Health Professions Education: A Bridge to Quality report (Greiner & Knebel, 2003). This report focused on the role that higher education can play in addressing healthcare quality deficits and provided a common vision for healthcare education: "All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics" (Greiner & Knebel, 2003, p. 45). Interprofessional education (IPE) is "an interactive learning activity that involves participants from [two] or more professions" (Reeves, 2009, p. 142). The goals of IPE are to build those qualities in individuals that lead to collaborative practice: knowledge, skills, attitudes, and behaviors (Oandasan & Reeves, 2005; Reeves, 2009). For the purposes of this presentation, IPE is considered synonymous with interdisciplinary education: both work to familiarize students with concepts and ideas from others' fields in order to encourage more effective practice of one's discipline and promote teamwork.

Despite the benefits of IPE for students, it is not an easy task to integrate interdisciplinary approaches into existing curriculum (Cooper & Spencer-Dawe, 2006). Furthermore, there are multiple models to implementing IPE. Cook (2005) specifies five models:

1. no specific instruction
2. team building exercises
3. inclusion in general education curriculum
4. courses including IPE content
5. specific IPE courses

Regardless of the model for IPE that is used, certain competencies are expected to be included in the curriculum. Greiner and Knebel (2003) outline these eight competencies in the IOM report:

1. Learn about other team members' expertise, background, knowledge, and values.
2. Learn individual roles and processes required to work collaboratively.
3. Demonstrate basic group skills, including communication, negotiation, delegation, time management, and assessment of group dynamics.
4. Ensure that accurate and timely information reaches those who need it at the appropriate time.
5. Customize care and manage smooth transitions across settings and over time, even when the team members are in entirely different physical locations.
6. Coordinate and integrate care processes to ensure excellence, continuity, and reliability of the care provided.
7. Resolve conflicts with other members of the team.
8. Communicate with other members of the team in a shared language, even when the members are in entirely different physical locations. (p. 56)

However, what does one do when the faculty charged with creating such courses cannot exhibit these competencies? In particular, how can you resolve conflicts with each other? How does one handle those attitudes and habits that serve as hindrances to the collaborative process we want students to learn? This presentation seeks to provide some solutions to the common problems that arise when faculty and students from different fields come together.

Goals and Objectives

The major goal of this presentation is for participants to leave with an understanding of how they can solve common problems that arise when faculty and students from other fields come together to learn. The learning objectives for this presentation are that participants will leave

- able to identify potential problems before they arise,
- able to identify potential attitudes within themselves that may prohibit strong collaboration, and
- able to develop solutions to these problems.

Description of Practice and Discussion

Participants will be asked to rate their own attitudes and self-efficacy related to interprofessional teaching during this interactive session. This activity will serve to encourage self-reflection and get participants to think about their own attitudes toward teaching interprofessional courses. After this reflection, participants will get in small groups to discuss what challenges they think exist in planning and executing this type of course. After the group discussion, groups will share their results and compare them against those the presenters reveal.

Real educational examples will be used from the presenters' own institution, including what attitudes, hindrances, and habits interfered with making the courses as successful as they could have been. Solutions to handling these hindrances will be presented. Additionally, current problems encountered with creating new interprofessional courses will be shared.

Participants will leave this session with a better understanding of what faculty and student attitudes and habits hinder the success of interprofessional courses. To help participants combat theses attitudes and habits, a "toolkit" of solutions will be presented.

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Thinking Critically in the Context of the Common Book and FYE

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Abstract: Virginia Tech embraces core values that support the development of critical thinking and a sense of community. Virginia Tech's Common Book Program started in 1998 as a way to create a sense of community among incoming freshmen and to engage their critical thinking skills. As an academic exercise, critical thinking enables students to become more effective and innovative. In this workshop, concepts addressed with the objective of helping students develop stronger critical thinking skills as a result of engaging in dialogue about the Common Book cover three main areas: (1) Understanding critical thinking and its implications toward the development of community, (2) Classroom application for developing critical thinking as a vital part of students' first-year experience and (3) the dividends that students reap when they learn to think critically in the classroom and effectively transfer that approach to life outside the classroom.

Literature Review

Bloom's Taxonomy highlights the dire importance of developing critical thinking skills to make sense of the world in which we live. Initiating the process of fostering these critical thinking skills in the freshmen who enroll at Virginia Tech each fall represents a key ingredient in setting them on the path to success in their academic journeys in the college arena. One piece of that puzzle has become the use of a common book. Virginia Tech's decision to utilize a Common Book began in 1993. Since that time, the Common Book Committee has introduced four additional texts to the university's freshmen, prior to the 2010-2011 selection of Barbara Kingsolver's *Animal, Vegetable, Miracle* (2009). Virginia Tech joined other universities and communities throughout the United States that have found merit in generating meaningful discussion about a common book to build community. This effort to galvanize communities has been quite the success story. The National Endowment for the Arts (2010) encourages the use of a common book through activities on its website; as a result, entire cities have signed on to read a novel or nonfiction work and schedule meetings to discuss the selected text's insights. In an effort to read a book as a community, Virginia Tech has provided a Common Book to all its incoming freshmen for more than a decade, with the understanding that these students would find common ground for intellectual discourse with students in all disciplines at the university. This intellectual discourse about a common book promotes critical thinking in discussion and formulating arguments in the classroom and in the hallways of the dormitories. Finding activities and personal connections with the Common Book for the members of the freshman class has been a creative challenge for faculty members, but texts such as John Chaffee's *Critical Reading, Thinking, and Writing* (2010) have driven home the significance of equipping students with these vital skills. Tapping into the findings and activities that have been beneficial for Virginia Tech's freshmen in using the Common Book reflects that thinking critically as a community enhances the takeaway value of an author's labor of love while engaging freshman students in meaningful dialogue in spite of their recent transition to the college environment.

Goals

The session is designed to accomplish the following goals:
- Share a brief overview of VT's Common Book program
- Describe how use of the Common Book can promote necessary critical thinking skills for freshmen, such as critical reading, listening and writing
- Identify related classroom activities promote critical thinking and reading
- Invite feedback about the Common Book program at VT
- Encourage discussion of how the Common Book program might be adapted to more effectively serve the VT community

Although the session will focus on the use of the Common Book in the Communication Skills course and fostering critical thinking skills in the students in the process, all participants will be able to engage in lively discussion and apply elements of the session to their own teaching.

Description of Practice to be Modeled

Teaching critical thinking to freshmen is a complex process, but it can be made easier by maximizing use of a university's Common Book. The practice presented in this session involves the following:

- Requiring reading of the Common Book
- Capitalizing on the discussion opportunities in the learning community of the class and across various groups, recognizing that learning is both individual and social
- Helping students to see that personal perspective has lenses that may not be common to other readers, the author, or the intended audience
- Requiring that students identify some personal connection to the text in order to enhance their appreciation for a text that may not be their first choice of reading material
- Requiring the enhancement of critical listening skills so that students get practice in moving beyond the presentation to a richer consideration of the message
- Using informal writing and speaking to provide practice with analytical skills; then eventual formal writing as an opportunity to present personal conclusions and display new mastery of APA documentation style

Discussion of the Practice

Too many students approach their first year in college with a history of high school course work that has not helped them to build their critical thinking skills. They have not needed to be critical readers or listeners in order to be successful in their previous work. Since college faculty expect increasingly sophisticated analytical skills, students must quickly develop strategies for accessing, evaluating, and articulating the ideas of other authors and also their own carefully supported conclusions. The faculty who teach Communication Skills (COMM 1015-1016) have a long history of integrating the Common Book into their classes. Yes, they have to push beyond the "I don't like this book" or the "I hate to read" comments as they help students recognize the barriers to critical reading and listening and develop strategies to overcome them. In a non-threatening setting – an intentional learning community – students share perspectives with classmates in pairs and small groups in order to build personal confidence and cultivate an ability to engage texts in increasingly sophisticated ways. The emphasis is not on the text as a work of literature; rather, students are considering the validity of messages, the relationship of those messages to their personal experience, the effectiveness of a message for an intended audience, and the logic of the presentation (and/or logical fallacies). Many concepts related to critical thinking are also evident in first-year textbooks--such as persuasion, audience analysis, listening, and development of sound arguments—so the Common Book is a good complement. Being a critical thinker is crucial to success in the classroom and in college; using a common book is one vehicle for helping students find that success.

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Three Research-Based Findings and Two Activities that Will Change the Way You Teach

Todd Zakrajsek, *Center for Faculty Excellence, University of North Carolina at Chapel Hill*

Abstract: This fast-paced interactive session is based on recent studies in cognitive and social psychology. These findings, all exceptionally important to student learning, will make you think about the way you teach. You will also experience three easy classroom activities that can be used in almost any class to improve student learning. This session is designed to give you evidence about how students learn, demonstrate methods to get students involved, and present the material in a way that is easy to implement.

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Undergraduate Teaching Assistants:
Facilitating Student Engagement & Active Learning

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Abstract: Begun in 2006, the Focused Inquiry program is a year-long sequence of two core education courses taught by instructors from a variety of disciplinary backgrounds, and it is intended to prepare students to write, think critically, and practice academic discourse. Unlike the goal of traditional teaching assistant programs, the primary goal of the Focused Inquiry UTA's is to foster engagement and promote a positive classroom environment. The undergraduate teaching assistant program is a natural byproduct of the learning-centered and collaborative classroom environment that is central to our curricular goals. Currently, our program has 18 faculty members working with 101 UTA's who were successful students in the Focused Inquiry course previously. Multiple tiers allow UTA's the opportunity to advance in the program by becoming facilitators in their third year of college. This session will introduce the UTA program, illustrate benefits for instructors, UTA's, and students, share specific examples of the UTA's role inside and outside the classroom, and encourage conversation about how instructors might adapt this program to meet the needs of their individual courses or departments. UTA's will share their individual participation experiences and be available for questions.

Review of Literature

Much of the experience with using teaching assistants in higher education is tied to graduate student work. In 2004, Davis, Driver, Harkness, Ingrassia, and Sharp set out clear guidelines for professors and graduate teaching assistants who, faced with the growing trend towards large class size, found themselves working with classes of 150-300 students. As such, much of the Scholarship of Teaching and Learning literature available also focuses on this population. That literature often focuses on professional development for the graduate teaching assistants. However, the use of undergraduate teaching assistants in higher education has been used in a limited way for decades. The use of UTA's is often referred to in the literature as peer-led learning.

In her 1974 article in *Teaching Sociology*, Wallace argues that the use of undergraduate teaching assistants has the potential to improve the educational experience of those students involved in the class as well as the UTA's themselves. She refers to the use of UTA's as "An Alternative to Assembly-line Education." More recently, the role of UTA's has expanded and involves a variety of disciplines. Schalk, McGinnis, Harring, Hendrickson, and Smith in "The Undergraduate Teaching Experience Offers Opportunities Similar to the Undergraduate Research Experience," notes that UTA's are now used in a variety of disciplines including: psychology, biological sciences, mathematics, information literacy, and research. In 2001, Miller, Groccia, and Miller edited a guidebook for faculty utilizing UTA's in their classroom. This collection is valuable because it includes experiences from a wide-range of disciplines. At the 8th Biennial Conference on University Education in Natural Resources in 2010, Sarah Vonhof described a well-planned program involving 41 UTA's over a 6-year period in the College of Environmental Science and Forestry at SUNY.

Goals & Objectives/Description of Practice

As mentioned above, we will begin by defining the aims of the Focused Inquiry course series at VCU, and those of the Undergraduate Teaching Assistant program as it exists within that context. We will discuss the multi-tiered nature of the UTA program, including the completion of FI course series, the second-year TA experience, and the third-year role of practicum leaders for second-year UTA's. The requirements for the Focused Inquiry instructor and UTA participation, both in and out of the classroom, will also be outlined.

Following the description of the program's parameters, we will move into the goals of the UTA program at VCU, and provide specific examples of how the UTA's and FI professors work together to promote classroom engagement and student success in the Focused Inquiry series. Activities used in the past will be presented by professors and UTA's on the presentation panel, and the participants will present the ways that working with each other has enhanced their teaching and learning, as well as that of their students, over the course of the UTA program's existence.

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Useful Knowledge and Its Role in the Local and Global Community

Carol Anne Spreen, *Educational Leadership, Foundations & Policy, University of Virginia*
Robert Swap, *Environmental Science, University of Virginia*
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Abstract: As part of the University of Virginia's (UVa) Academic Community Engagement (ACE) initiative, the course entitled "Useful Knowledge and Its Role in the Local and Global Community" (UK) offers UVa undergraduates, primarily first and second year students, the academic space within which to consider socially engaged scholarship. This endeavor requires a collaborative, multi-disciplinary approach that introduces students to the complexities of social, cultural, and environmental contexts in which global problems are immersed. Engaged scholarship must demonstrate respect for these contextual complexities and must acknowledge that such research creates relationships that have moral and ethical implications. As part of this course, we explore how the ever-globalizing world and concurrent advancements in technologies do (and do not) change the ways that useful knowledge is produced and shared. Perhaps the most important goal of this course is to link the "reason to be at the university" with the process of engaged inquiry. The arc of the course is to cultivate in undergraduates a sense of personal responsibility for their own education, to empower students to think critically and conduct engaged research throughout their University career, and to instill a sense of humility and wonderment about their academic efforts and their role in society.

Literature Review

Virginia 2020: Agenda for the Third Century, was a University of Virginia (UVa) commission formed, in part, to recommend strategies to help UVa fulfill its "unique obligation to discover knowledge and to transfer it to the communities they serve" (Office of the President, University of Virginia 1999). These communities were conceptualized broadly, to include both the local and the global. The Commission therefore established the development of academic service as a priority. Academic service here is defined as "the application of scholarly knowledge and professional expertise to the health, economic, educational, civic, and environmental needs of the public" (2020 Commission on Public Service and Outreach 2001). UVa has established several programs that foster this form of service. The Jefferson Public Citizens (JPC) program integrates students' academic and service experiences during their time at UVa. To pursue JPC projects, students form research teams with students and faculty from different disciplines, and these teams develop projects address a documented community need or social problem (Jefferson Public Citizens Student Handbook, Fall 2009). Similar initiatives include other grant programs such as the Community-Based Undergraduate Research Grant and the Academic Community Engagement faculty grants that allow students and faculty to integrate public service into the major curriculum (see Office of University Community Partnerships 2010). The overall purpose of these programs is to merge deep, experiential learning with service. The result is that students collaborate with faculty and members outside the UVa community to inspire change in a particular area. Combined with the University's goal in increasing international activities, these opportunities allow students to think globally when proposing projects.

Casting a wider lens, discussion on undergraduate learning continues to expand in the current literature on engaged scholarship (e.g. Campus Compact, 2007), addressing a scope of concerns, and understood as opportunities for the development of undergraduate inquiry-based learning and research skills. This perspective offers an alternative to the traditional, disciplined-based emphasis which privileges mastery of basic knowledge (e.g. completion of coursework) over opportunities for experiential-type learning for undergraduates to participate in coursework and research (Robertson & Bond, 2005). Within this context, a reconsideration of the value and recognition of diverse epistemologies and "holistic frameworks" is also taken in to account (Steinberg, 2002). Efforts of this kind also contribute to the move in higher education which advocates for interdisciplinary teaching and learning, as well as bridging the gap between research and practice (e.g., Conrad & Gunter, 2000). Finally, collective exposure to different worldviews and realities remains key to breaking the walls around students in their learning, leading to the achievement of what Marullo & Edwards (2000) describe as the politicization process for students engaged in experiential-type learning and transdisciplinary approaches. These teaching and learning experiences possess the real momentum necessary for promoting education for change, awareness, and social responsibility.

Goals and Objectives

The goal of this session is for participants to add to their knowledge of collaborative, engaged teaching and learning. The primary objectives are: to illustrate inter- and transdisciplinary pedagogy; to offer a rich perspective on diverse teaching and learning habits; and to present opportunities for undergraduate coursework that promotes social responsibility. These objectives will be accomplished through conversation that UK faculty will conduct among themselves, and with the participants, which charts the academic trajectories that have led to their commitment to this type of teaching and learning approach. This session will guide participants through the five modules that are offered during the semester long UK course. The modules operate as scaffolded, interconnected links which promote awareness, reflexivity, and agency. The modules include: What Is Useful Knowledge; Engaged Scholarship and the Process of Inquiry; The Inter-relationship of Science, Technology, Environment & Society and the Production of Useful Knowledge; Understanding Diversity, Identity, Globalization, and Development; Walking Fast or Walking Far?

Discussion

As part of the original design of the course, five major learning outcomes were identified, related to: personal and professional development (competency-based learning); civic engagement and action (contribution-based learning); vision and motivation (collaborative-based learning); global knowledge and awareness (exchange-based learning); interconnected coursework (inter/transdisciplinary learning)

These learning outcomes are grounded in the larger discourse on inquiry-based learning, engaged scholarship, and inter-/trans-disciplinary learning (e.g, Lee & Ash, 2010; Max-Neef, 2005; Ramaley, 2006). Beyond exposure to such coursework lies the question of the ways in which students, as well as faculty, are making use of this framework for teaching and learning. To that end, anecdotal evidence from fall 2009 UK undergraduate cohort indicates that a representative number of students have gone on to enroll in coursework and participate in undergraduate research projects which allow them to further cultivate their engaged scholarship skills. In addition, the faculty and graduate student teaching assistants have expanded their own engaged scholarship through publications, writing grants for additional academic community engagement coursework, and continued efforts to conduct fieldwork which emphasizes mentored approaches, community engagement, and social responsibility. Faculty have attended various workshops offered through UVa's Teaching Resource Center as part of the ACE network, which promotes reflexive practice and encourages collaborative teaching and learning as an alternative to the traditionally competitive higher education teaching environment. UK faculty have also been instrumental in assisting in the effort to effectively and meaningfully measure outcomes for participants in this type of coursework, as part of a targeted institutional and the broader trend to offer and support this engaged scholarship framework.

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Using Assessment to Promote Student Learning

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Abstract: The focus of assessment is often grades, but assessment is also a useful tool for improving student (and instructor) learning. By examining what students are learning on an on-going basis, it is possible to increase student learning (Angelo & Cross, 1993). This session is designed for instructors interested in learning about the role of assessment in teaching and learning, and a variety of classroom assessment techniques (CATs). Participants will have the opportunity to learn how to assess students in a manner consistent with their objectives and examine ways to use CATs to guide students toward desired learning outcomes. A selection of CATs useful in multiple disciplines will be demonstrated. An example of how the presenter used a unique form of CATs for ongoing assessment as part of a scholarship of teaching and learning (SoTL) project will also be shared. Questions to be addressed include: What is a CAT and why is it important to learning? How do you know if students understand what you tell them? How can the use of a "classroom assessment cycle" improve students learning?

Session Goals and Objectives

1. Understand what CATs are and why they are important to student and faculty learning
2. Consider a variety of CATs in order to select ones useful in their own teaching
3. Realize how CATs can be used to collect data for a SoTL project

Classroom Assessment and CATs

According to Angelo and Cross (1993), "Classroom Assessment is designed to help teachers find out what students are learning . . . and how well they are learning it" (p. 4). They suggest that classroom assessment be learner-centered, teacher-directed, and beneficial to both faculty and students. It should also be formative, context-specific, on-going and rooted in good practice, and is based on the assumption that students "need appropriate and focused feedback early and often" (p. 9). The Classroom Assessment Techniques (CATs) are simultaneously a teaching approach and a set of assessment techniques. With 50 techniques and more variations, several can be widely applied across multiple disciplines. These include: Misconceptions/Preconception Check, Categorizing Grid, Documented Problem Solutions, Analogies and Minute Papers. They are typically ungraded, anonymous, in-class activities that are simple and provide instructors and students with useful feedback on the teaching-learning process.

A Misconceptions/Preconception Check focuses on uncovering prior knowledge or beliefs that may hinder or block further learning. For example, in preparation for the next class an Exercise Physiology instructor might ask students "What is the effect of prolonged exercise on blood pressure in hot conditions compared with normal conditions?" (Angelo & Cross, pp. 132-136) A Categorizing Grid is the pencil equivalent of sorting objects into a bin, and can give an instructor a snapshot of students' "sorting rules." (pp. 160-162) A Document Problem Solution requires students to keep track of the steps they take in solving a problem. In a history class one might ask students to keep track of the process they use in writing a research paper. (pp. 222-224) Analogies are especially easy to employ because you supply the first half and simply ask students to complete the second half of the analogy. (pp. 222-224) Perhaps the most widely used CAT is the Minute Paper. Using this technique, students respond briefly and anonymously to a question in writing. These help to assess student learning and writing skills. An alternative version of this assessment strategy is the Muddiest Point, where an instructor asks: What has been the "muddiest" point so far in this session? What topic remains the least clear to you? or even What questions do you still have?. (p. 146.) Although these five strategies are only a few of the CATs identified and explained by Angelo and Cross, they are illustrative of the myriad techniques available to instructors interested in finding out what their students are learning.

To make effective use of CATs, not only do you have to understand the choices which are available, you also have to implement them properly. The first step is clarifying what you want to know about students' learning. This will help you select an appropriate CAT, one that will provide the needed data. When choosing a CAT, remember that it should be consistent with your teaching-style and easy to implement, especially when you are first learning to use on-going, informal assessment. Once you decide which CAT to use, introduce it to your class by explaining its purpose and how you will use the results. Then carry out the CAT and examine the results after class. Perhaps the results will show no changes are needed, your students learned what you hoped they would learn. If not, now comes

the hard part, deciding what changes to make. The last step in using CATs is to share the results with students. Bear in mind that students need feedback, so tell them what you learned and how you will use the information.

Using CATS in a SoTL Project

CATs can help faculty understand what students are learning and how well they are learning it (Angelo & Cross, 1993), but how can CATs be used to study teaching, to collect data for a scholarship of teaching and learning project (SoTL)? A critical component of using CATs effectively is reviewing and analyzing the data collected, and deciding what, if any, changes are needed. This process requires you to "reflection-for-action" (Schön,1983). He suggests that as professionals reflect on practices, they develop context-specific theories that enhance their knowledge and actions, and inform their practice. Shulman (1999) proposes that teaching involves "a public account of some or all of the full act of teaching . . . in a manner susceptible to critical review by the teacher's professional peers" (p. 13).

I participated in a cross-disciplinary SoTL faculty learning community in which members studied the impact of their teaching on students' learning. This allowed me to "reflect-on-action" (Kincheloe, Slattery, and Steinberg (2000) and to make a public accounting of my teaching. It also informed my practice and allowed me to develop a context-specific theory of how students should be taught in order to learn effectively (Longfield, 2009). I used a modified Minute Paper to collect data for my SoTL project. It took the form of a Learning Journal in which students evaluated their own learning and my teaching. The journals had blank "cells" for recording entries, which were printed on the front and back sides of an 11" x 17" sheet of paper that was folded in half. At the end of each class, students wrote comments, questions, thoughts and feelings in response to Minute Paper style-questions. Journals were then collected, read, analyzed and returned at the beginning of the next class. I made notes on students' understanding and misunderstandings of concepts covered in class, and on ideas they had not yet articulated. I then "reflected-for-action" in order to make curricular and pedagogical decisions, and shared the results with students in order to provide useful feedback and help them improve their learning. This qualitative data, as well as the results of a pre- and post-course quantitative survey, demonstrated students were, in fact, learning effectively.

Discussion: Assessment IS Critical to Student and Faculty Learning

Although assessment is critical to learning, all too often it focuses on grades rather than on what students are learning. This makes sense to instructors who view research as the path to tenure, not student learning. However, Shulman (1999) believes that researching the relationship between one's teaching and students' learning should become an expected end-product of teaching, and not viewed as a distraction from it. Moreover, a National Science Foundation-funded research project (Stein, Haynes, Redding, Harris, Tylka & Lisic, 2010) helped "faculty understand how they can develop discipline specific assessments that encourage students to think critically instead of just encouraging rote retention" (p. 4). Faculty need to rethink assessment as a mean of grading and focus on assessment as a means of "reflection-for-action." Based on data they collect from students using a variety of CATs and other assessment techniques, faculty can make informed instructional decisions, which is at the core of the scholarship of teaching and learning. Like CATs, SoTL is rooted in inquiry and engagement. It re-conceptualizes and re-envisions teaching as an ongoing and scholarly process rather than as isolated teaching events. SoTL also involves processes such as questioning, designing, investigating, and analyzing that are commonly called research (Bass, 1999). And while conducting SoTL research using CATs, faculty come to realize the significance of on-going assessment as a tool for investigating student learning and how critical this form of assessment is to their learning.

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Using Collaborative Writing to Support Student Learning

Gene Roche, *Information Technology, The College of William and Mary*
Pamela Eddy, *Educational Policy, Planning, and Leadership, The College of William and Mary*

Abstract: This session will review the practice of collaborative writing. It will provide background on this teaching strategy and provide examples of how to use this activity in classroom sessions and for course assignments. Sample rubrics will be presented. Participants will be asked to share examples from their own practice, compiled information will be shared.

Description of Practice Focus

Effective collaboration has become a central skill in every area of modern life--employment, leisure, civic engagement and formal and informal learning. Students and faculty alike need to learn new skills to take advantage of the rapidly expanding sets of tools available to them. For the purposes of this session, the focus is on how to use collaborative writing within the structure of a traditional course to support student learning. We define collaborative writing broadly to include writing experiences that involve multiple partners working and writing together to create a single document, web site, multimedia production, or other product.

Much of the conversation about collaborative writing in higher education has focused on new tools--Facebook, Google Docs, Wikipedia, and a host of others. The session will highlight several of these tools and examine ways they can used as to foster collaborative writing in both undergraduate and graduate teaching. However, discussion will also address the pedagogical challenges of using these tools and suggest structures and practices that best support highly effective collaboration. Associated rubrics will be supplied as part of an overview of how to evaluate collaborative writing. Many of our tools and techniques will be drawn from findings of an ad hoc working group from the humanities, life sciences and social sciences as part of William and Mary's University Teaching Project. Best practice examples from this working group illustrate how a broad range of disciplines can incorporate collaborative writing into the curriculum.

Literature Review

Collaborative writing represents a marked shift in thinking of teaching and learning as a singular endeavor in which the teacher has the autoritative power and students work solely on their own. Speck et al. (2008) provides a background of the research on collaborative writing and reviews classroom processes, including examples of a range of genres and of types of collaborative writing. It is important to understand how collaborative writing fits into the learning goals for the particular course in question and how this in turn fits into the program objectives for the student's major area of study. To help think through the role of team writing in the classroom, Wolfe (2009) provides a complete set of tools that can help students navigate even complex writing tasks while building more skills in team work.

The availability of Web 2.0 technology provides a ready platform for collaborative writing. Wikis represent one example of how technology can support multiple writers on a project at one time. Cummings and Barton (2008) reviews how wikis can be used in a variety of formats. Many of the techniques suggested for wikis are transferable to other kinds of collaborative documents as well. As faculty explore the scholarship of their teaching, reflecting on collaborative writing projects in their classes can help inform what works best to increase student learning. Resistance by students to collaborating (Speck et al., 2008; Cummings & Barton, 2008) often creates a major hurdle to instituting these projects into classroom teaching. Techniques gleaned from the William and Mary Teaching Project group will be shared and discussed as options to help diminish resistance to collaborative writing projects.

Goals and Objectives for the Practice Session

The session is designed to be highly interactive and has the following objectives:

Learning Objective #1: To examine a range of tools and resources to support collaborative writing.
Learning Objective #2: To discuss best practices for collaborative writing and review sample structures of activities for a range of disciplines.
Learning Objective #3. To identify key learning outcomes for courses using collaborative writing, including the importance of having both process and content objectives.

Learning Objective #4:   To review both the affordances and constraints of technology to employ in collaborative writing.

The session will be structured as follows:

(10 minutes) Introductions and identification of participant experiences with collaborative writing
(10 minutes) Review of the literature on collaborative writing and best practices from the William and Mary Teaching Project
(20 minutes) Small group work on crafting a collaborative assignment and rubric
(10 minutes) Summary of group work and take away reference list

Discussion/Conclusion

Faculty continue to investigate their practice to improve learning opportunities for students. Collaborative writing is often a difficult concept to get across to students as they have primarily worked on their own during their education to date. Student resistance is often present and must be dealt with by the faculty member. One of the manners of dealing with this barrier is to model cooperative writing activities in class first prior to the first assignment. Clear learning objectives and evaluation measures also help to break down initial resistance. The benefits of the process and the skills acquired can contribute to enhanced student learning and ultimately help prepare students with the skill base required in our changing, complex world. By interrogating their own teaching practices, faculty can contribute to the scholarship of teaching to advance knowledge on how collaborative writing can improve student learning.

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Using Pilot Students in Course Development and Revision

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Abstract: While the idea of using current undergraduate students to serve as peer educators in the classroom is not a new concept, the Undergraduate Academic Affairs Office for Liberal Arts and Human Sciences at Virginia Tech worked with current students in the creation of a new *Pathways* course focused on first-year and transfer students; piloting course materials, schedule, syllabus, and other supporting resources. This technique has helped to create course documents that are easy to understand, less confusing, and that address challenges in communicating with first-year freshmen and transfer students in the same course. Course instructors and the students who helped create the course will discuss the process and outcomes of utilizing "Pilot Students" in creation and review processes for a college course.

Literature Review

The concept of Peer Education has been ingrained in college and university programming for decades, using more experienced students to assist with new students. Residence life has long used student resident advisors to manage residence hall programs and activities. New student orientations and peer mentoring programs are other highly developed utilizations of student-to-student educational strategies (Skipper, 2005). The academic realms of universities are now seeking alternative approaches to supplement traditional classroom learning as well, especially given budget cuts and increased student populations (Miller, Goccia, & Miller, 2001). In a 2000 study by Astin, Alexander, Wogelgesang, Ikeda, and Yee, peer interaction in an academic setting increases the time and physical and psychological energy that students dedicate to their academics. Others such as Colvin and Ashman (2010) caution that student, instructor, and peer mentor's understanding of the role of the peer mentor is crucial to the success of such programs. What the literature does not significantly address however, is how current students can be integrated into the creation of a course and/or course materials from the beginning stages. "Pilot Students" who can relate to current students, review materials from a student perspective and come up with innovative ways to present information to fellow students can be invaluable to a course as well as provide them with an opportunity to see "behind the scene" work that instructors put into developing course materials. This unique approach to course development and integration of student collaborators in beginning course stages can have a positive impact in the overall culture of the course.

Goals and Objectives

The goal of this session is to expose participants to information and practices related to utilizing " Pilot Students" in course development. As a result of this session, participants should be able to:

- Identify methods for faculty-student collaboration in course development and design.
- Recognize the potential benefits and barriers to faculty student collaboration in course development and design;
- Apply approaches presented in the session to their own course design and development practices

Description of Practice to be Exemplified

In the summer of 2010, the Office of Undergraduate Academic Affairs embarked on the task of turning an existing course into a first-year experience course meeting established criteria for a Virginia Tech *Pathways* program along with aligning with the College's focus on undergraduate research. *Pathways* is designed to set first-year students on their own paths equipped with appropriate tools for exploration and discovery, and provide them with the curricular and co-curricular opportunities necessary to fully engage as learners and ultimately as citizens . The Office has a long history of working closely with undergraduates to create programs that meet their specific needs. Students participating in the College's Ambassador Program provide the office with valuable insight into the lives of undergraduates and their opinions are used to help create and refine services and programs. Thus, when the task of creating a course directed at first-year and transfer students came up, it was natural that undergraduates would be part of the process.

The new class is based off a prior course that did not include many of the first-year experience requirements defined by the University's Quality Enhancement Plan and needed significant redesign to meet those standards. Two students whom had participated in the original course were recruited to work during the summer to assist in the revamping process. Since the new course would specifically serve first-year and transfer students, the student assistants included a previous first-year student and a transfer student. In addition, the instructor had gathered valuable information from assessments of the former course and used this in conceptualizing the new course. This assessment asked specific questions about what students liked and did not like about the course, including specific assignments and instructional practices.

During the three summer months, the students reviewed and revised assignments, instructions, the syllabus, and class schedule; looking for ways to make the materials user friendly and clear to the populations to be served. In addition, they examined the Scholar page and helped come up with features that would make the course distinctive and more appealing to new students. Their insight proved invaluable as they pointed out problems in organization, directions, vocabulary, and more.

Discussion

While student affairs professionals have been involving undergraduates in the creation and implementation of programs for decades, academic affairs; while well-practiced in the use of peer educators in courses, are less likely to utilize students in course development. This innovative approach of involving students in the initial process of course development will lead to courses and materials that are user friendly, eliminate confusion over requirements, and provide students with educational experiences that better meet their needs. This information can be useful to faculty, staff, and administrators involved in creating a new course or considering revising current course materials.

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Poster Sessions

http://www.cider.vt.edu/conference/

A Brief Instructional Intervention to Increase Students' Motivation

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Abstract: Teachers' support has been shown to predict students' motivation across the school year. The importance of the student–teacher relationship, especially interpersonal involvement, can assist in optimizing student motivation (Skinner & Belmont,1993). The purpose of the study was to determine whether an intervention on the first day of class would affect components of students' motivation. It was hypothesized that having the instructor generate an activity where he learns the names of the students while also offering them the opportunity to inquire into his own personal life would alter the students' perceptions and motivations about the class. Generating a bond through the activity was specifically predicted to increase students' interest in the course, their perception of the usefulness of the course, and their perception of how much the instructor cared about them. These motivation components (i.e., interest, usefulness, and caring) are important because researchers have found that they contribute to students' effort and engagement in course materials (see Jones, 2009). The participants for the study consisted of thirty-two senior undergraduate students from a psychology course offered at Virginia Tech. For the experimental group, a questionnaire was given to each student at the end of the class period (after the intervention). For the control group, no intervention took place, but the same questionnaire was given at the end of the class period. The questionnaire consisted of items that have been developed and used by other researchers. We measured empowerment using items from the Learning Climate Questionnaire (LCQ; Williams & Deci, 1996). We measured usefulness using items slightly modified from the utility value scale (Hulleman, Durik, Schweigert, and Harackiewicz, 2008). To measure success, we used the Perceived Competence Scale (Williams & Deci, 1996). To measure situational interest, we used three items that measure "intrinsic interest value" and "interest" (e.g., Eccles & Wigfield, 1995). We measured academic and personal caring using subscales of the Classroom Life Instrument (Johnson et al., 1983). We also used one item for the instructor rating and another for the course rating. All of the aforementioned items were scored on a 7-point Likert scale. Two of these hypotheses were confirmed. The students in the experimental condition reported perceiving the instructor as showing more personal care for them (F change (1,30), = 6.988, p=.013). The students from the experimental group also perceived the class as being more useful to them (F change (1,30) = 5.622, p=.024). These findings are important because they demonstrate the importance that even a brief intervention on the first day of class can have for increasing students' motivation. In the future, interventions such as this one can be applied with hopes for increasing the students' perception of the class's usefulness while simultaneously establishing a perceived bond with the instructor. Previous research has shown the importance that the first day of class can play in shaping students' perceptions and feelings towards that class (Hermann, Foster and Hardin, 2010). This study reaffirms those findings, and the authors advocate taking advantage of this often undervalued first day of class.

A Comparison Of The Effectiveness Of Podcasted vs. Powerpoint Online Lecture Formats

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Abstract: As the emphasis on online instruction and programs increases, the question of whether online classes can be as effective as face-to-face classes has received a great deal of attention. However, given that online classes are likely here to stay, it seems useful to direct some attention to investigating different online teaching methods and comparing how well those methods aid students' retention of knowledge when enrolled in online classes. This study sought to address this question by comparing the effectiveness of three different types of online lectures. Students were recruited from psychology classes at Fontbonne University and offered extra credit to participate in a study on "effectiveness of online lecture slides for aiding student retention". Seventy-four students were randomly assigned to one of three groups: auditory, visual, or hybrid. All students were placed individually at computers and logged into the course management system Blackboard. In the auditory group, students wore headphones and heard a shortened lecture on group processes (approximately 15 minutes). In the visual group, students viewed a powerpoint lecture presentation with no auditory stream. These lecture slides were similar to the format found in online courses. In the third group, students viewed a powerpoint presentation with reduced text on each slide accompanied by the same auditory stream as the first group. After listening and/or viewing the lecture, participants completed the dependent measure of a 10 question quiz on material from lecture as well as demographics questionnaire. The results yielded little difference amongst the three groups. The text only group scored the highest (M= 8.67, s = 1.37), followed by

the auditory only group (M= 8.08, s = 1.76). The hybrid group which received both auditory and visual information scored the lowest (M= 7.88, s = 1.65). Analysis of variance indicated that there were no significant differences amongst groups $F(2,71) = 1.56$, p = .21. The authors are unable to determine with certainty whether the non-significant findings were due to true null effects or due to methodological weaknesses of the study. Both possibilities, as well as ideas for how future research might be able to answer these questions more definitively, are discussed.

A Model of Improving Writing Based on the GRE Analytical Writing Test

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Abstract: Grading undergraduate papers can be a time-consuming activity and one that is not highly valued in academic systems of tenure and promotion. Such considerations may lead instructors to create fewer writing assignments in general, and perhaps to creating fewer writing intensive courses overall (Kellogg & Raulerson, 2007, Bok, 2006). Clearly, the reduction in writing assignments is at odds with the literature on the effectiveness of practice in the development of expertise (Ericsson, et. al, 1993). A number of strategies for improving writing across disciplines will be reviewed, with detailed coverage given to methods of student self-review. In particular, we will practice using a method derived from the scoring system in place for the Graduate Record Examination (GRE) Analytical Writing Test. We will begin by examining writing prompts and creating suitable prompts for in-class writing and homework assignments. Next we will consider how essays are evaluated in terms of complexity, support, and organization, and consider how to use these criteria in student self-revisions. Finally, while the major emphasis of the session is to teach students to revise their thinking and writing; faculty members may find that revising their own beliefs and philosophy of teaching and learning can assist the process.

A Pilot Delphi Study: The Competencies of Nurse Educators in Curriculum Design

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Abstract: The nurse educator shortage has led to heightened interest in the nurse educator roles and competencies (Poindexter, 2008). Acker (2003) argued that most research on nurse educator competencies has focused on essential clinical practice and skills in teaching and student relationships, rather than curricular development and design. However, educational leaders and leading nursing organizations such as the National League of Nursing have placed persistent emphasis on curriculum innovation (Paulsen, 2008). Research is needed in order to properly identify the competencies nurse educators must demonstrate when designing nursing curriculum. Current research gap is evident on the issue. This pilot study used a mixed method modified Delphi design based on two rounds of questionnaires. Participants used a 5-point attitudinal scale to rate their responses for 30 competencies statements in the areas of nurse educator, collaborator and scholar. Comment boxes provided an opportunity for expressing opinion and professional judgment. The responses were summarized and returned back to participants during round two asking them to change or keep their previous answers based on the new information. Percentage and means, and differences based on demographic information variables were calculated. A comparison and contrast was conducted among the roles of educator, collaborator, and scholar, and the accompanying competencies with a chi-squire distribution with a 0.05 significance level. Agreement was reached on 26 of 30 competencies during the first round.

A Road-Map In Designing Post-Graduate Research Methodology

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The Department of Operations and Quality Management at the Durban University of Technology has an influx of postgraduate students. This places a severe strain on the Department's limited resources available for supervision of students. To this end innovative teaching practices such as workshops and training manuals are designed and implemented in an attempt to explain the administration and academic requirements of the programme (Singh and Naidoo, 2010). The envisaged benefits of the workshops are to enable students to progress painlessly, timeously and

comprehensively during their research journey. The initial workshops are designed to assist students administratively in terms of preparation and progression through the different organizational levels until their research proposals are ratified by the faculty research committee. Students are then permitted to commence with formal registration, followed by writing their dissertation\thesis. Subsequent workshops are also conducted to introduce salient aspects of each research chapter such as the statistical handling of data, among others. There is an assumption that students have basic knowledge and skills related to academic writing. This assumption was influential in designing the contents of the workshops. Although the initial workshops provided an engaging platform for students to voice their administrative and academic concerns, and have empowered them to write and submit their research proposal, their proposals however still require major revision to comply with the standards of the faculty research committee. In reading research chapters submitted to me for approval I observed that students' writing often reflects a minimalist understanding of aspects such as creating research arguments, critiquing reviews of literature, particularly research design and the presentation of results. This finding is consistent with Reeves, Herrington and Oliver (2005) who cite Bransford, Brown and Cocking (2000) and share similar views that students are unable to apply knowledge presented during lectures. I therefore inferred that the workshops did not add the value it intended and that further interventions are required to improve the quality of research submissions. Perhaps the workshops need to include content at a lower level and refocus on weaknesses of submissions. Therefore this study aims to provide postgraduate students with a road-map in designing their research methodology. Historical data and personal experiences indicate that this is a weak area of understanding. Students are unsure of which techniques should be aligned to their intended investigation and the appropriate handling of supporting data. Mellville and Goddard (2006) concur with these views. This study adopts an action research perspective and uses the qualitative approach based mainly on observations and class discussions (Welman and Kruger, 2002). This poster will provide a series of steps and subsequent pathways, which can be followed in the course of a student's research methodology. It will present the following steps: what stimulated the research, the strategy adopted, the tactic or approach selected, the research technique espoused, data collection tools with its related sampling plans and finally the reliability and validity of the study. Each step will be further broken down into options that are pertinent to that particular step. This flow of steps is designed to lead the student researcher to match the appropriate supporting methodology with his\her research. This will add credibility, robustness and depth to the research submitted (Leedy, 2005; Remenyi and Money 2006). The road-map is intended to give the research student confidence in his\her research design and methodology.

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A Study on Synchronous Distance Teaching in a Math MS Program

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Abstract: A fully online graduate program that was developed at the University of West Florida, UWF, (Amin and Li, 2009) has been successfully implemented using synchronous instruction. The hybrid nature of the developed model has proven to be of benefit to both face-to-face and distance students. Aside from the robustness of students' discussions and interaction outside the regular class period via an e-learning platform, there is the added advantage of the instructor being a part of the discussion when needed. Moreover, our assessment results show that the model is flexible and cost effective. A statistical analysis of students' performance suggests that the distance students do as well as their face-to-face counterparts when this delivery model is used.

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Action Research-Driven Education Innovation: A Process for Promoting Scholarship of Teaching

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Abstract: Continuing professional development of academic staff at universities has become an imperative in South Africa. The University of Pretoria is no exception. A scholarly approach to monitoring one's professional development has been adopted by the Department of Information Science. The context of the research reported is teaching a module on Information Literacy to 8 000 first-year students annually. The focus is on the array of learning style preferences of students and the academic staff involved. The learning style profile data set is used as point of departure for professional development activities. The baseline data set on learning styles is used for innovating the module, since a 'one style fits all' approach is not conducive to effective learning. With a view to monitoring the professional and curriculum development activities action research principles are applied. An interdisciplinary approach is followed which ensures input from professionals such as the senior academic staff responsible for developing the module, assistant lecturers responsible for offering the module and specialists in education innovation and instructional design. This paper reports inter alia the outcome of the brain profiling of all involved as determined by the Herrmann Brain Dominance Instrument (HBDI) and some qualitative data obtained during the offering of the module.

Active Learning Exercise and Formative Assessment Improves Understanding of Physiology

Helena Carvalho, *School of Medicine, Virginia Tech Carilion School of Medicine and Research Institute*
Crystal A. West, *Physiology and Biophysics, Virginia Commonwealth University*

Abstract: Students learn best when they are focused and thinking about the subject at hand. To teach physiology we must offer opportunities for the students to actively participate in class. This approach aids in focusing their attention on the topic and thus generating genuine interest in the mechanisms involved. This study was conducted with undergraduate's students at Virginia Commonwealth University to determine if offer voluntary active learning activities would improve students understanding and application of material covered. To compare performance an anonymous cardio-respiratory evaluation were distributed to two groups of students during the fall (control, N=168) and spring (treatment, N=176) semesters. Students in both groups were taught by traditional methods and students in the treatment group had the option to voluntary participate in two additional active learning activities: 1) Small Group Discussion, where students would discuss a Physiology topic with their Teacher Assistance (TA) before running the BioPac software for the lab exercise and a 2) Free Response Question, where they anonymously responded to one short essay question after the lab exercise. In these formative assessments students received feedback about their present state of learning from the discussion with their peers and also from the instructor comments regard perceived misconceptions. As a result of the participation in these activities the students in the treatment group had a better overall performance (x2df=1=31.2, p<0.001) on the evaluation (treatment=62% of responses correct and control=49%) with an observed difference of 13%. In conclusion, this study present sufficient evidence that when the opportunity presents itself, students become active participants in the learning process which translates into an improvement in their understanding and application of physiological concepts.

Addressing African American Graduate Student Adjustment at a Predominantly White Institution of Higher Education

Quentin R. Alexander, *Counselor Education, Virginia Tech*

Abstract: Predominantly White Institutions (PWI) strive to achieve racially/ethnically diverse graduate student populations. Many recruitment efforts are focused at Historically Black Colleges and Universities (HBCUs) to recruit highly qualified African American applicants. Financial support (e.g. graduate assistantships, fellowships)

and summer research programs are used often as tools for recruitment. A number of HBCUs have graduate programs, but few have doctoral programs. PWIs vastly outnumber HBCUs, making PWIs more accessible for graduate studies for African Americans. Though African American graduate student recruiting efforts are successful at most PWIs, retention is not as successful. Research in higher education often states that low retention of African American students at PWIs is due to a lack of academic preparation. Contradicting this research are studies that point to other non-cognitive factors (e.g. personal/emotional adjustment, social adjustment). The presenter will discuss the results of a qualitative investigation into the adjustment experiences of African American graduate students attending a Southern PWI who graduated from an HBCU, and will discuss ways in which PWIs and HBCUs might address adjustment issues for this student population at PWIs. Participants will have the opportunity to engage in dialogue about possible solutions to this problem at their institutions.

An Inquiry-Based Approach to Introductory Statistics using a Central Theme

Adam F. Childers & David G. Taylor, *Department of Math, Computer Science, and Physics, Roanoke College*

Abstract: Teaching an introductory statistics course using inquiry-based methods and a central theme is an excellent way to motivate and communicate the subject matter in a course that is often met with negative student perceptions. The challenge of teaching introductory statistics is providing an audience with highly-varied backgrounds in mathematics enough probability and statistical theory to access interesting problems. The statistics community is constantly working to improve introductory courses and define new methods for teaching the material (Garfield, Hogg, Schau, and Whittinghill 2002). We have approached this quandary by offering theme based courses that motivate the material by asking and answering questions. This poster discusses the advantages of teaching an inquiry-based introductory statistics course with a central theme and expands on how two particular courses with themes of weather and the sports industry are structured. Basing the course on inquiry drives the concepts by providing direct applications of the statistical techniques and the theory presented in class. Asking relevant questions regarding the theme of the course is an excellent way to introduce real data sets to students and give them concrete examples of what a particular statistic represents. Bradstreet, Libman and Smith point out that teaching statistical concepts using real life data provides context that can help provide relevance as well as help make concepts stick (1996, 2010, 1998). Part of what constitutes a good choice for a theme in a statistics course is the variety, availability and richness of data sets on the theme. Allowing students to select the topic in which they learn the subject matter can be a key factor in keeping their interest up and alleviating statistical anxiety. At our institution we offer courses based on botany, gun control, health issues, the sports industry, and the weather. The theme can make students feel more comfortable in class by introducing material in a context in which they are familiar. Bradstreet and Onwuegbuzie and Wilson investigated some of the causes, concerns, and approaches for dealing with statistical anxiety (1996, 2000). Additionally, having a common theme provides an excellent opportunity for semester long projects. Finally, we will discuss the details of courses themed in weather and the sports industry. The courses are designed to be mainly (at least 85% of the content) introductory statistics courses but they have a larger emphasis on writing than a traditional course. The writing component is designed to make the students comfortable discussing the technical language from class and to reinforce the statistical methods. Each course has three projects such as an investigation on the long term consequences of head injuries in the National Football League and using multiple regression to predict the weather. The idea of these courses is not to alter the core content from a traditional course but rather to have the theme of the courses, and the questions relating to it, drive the material.

An Interdisciplinary/ Collaborative Approach to Qualitative Research

Michelle R. Ghoston, *Educational Leadership and Policy Studies, Virginia Tech*
Tiffany Drape, *Agricultural and Extension Education, Virginia Tech*
Joseph Mukuni, *Career and Technical Education, Virginia Tech*
Chloe Ruff, *Educational Psychology, Virginia Tech*
Elizabeth G. Creamer, *Educational Leadership and Policy Studies, Virginia Tech*

Abstract: As qualitative researchers continue to establish a methodological approach it is important to consider the advantages of interdisciplinary collaboration. This is especially significant for new researchers in the 21st century.

As this team of doctoral students came together for a course requirement, the art of collaborating to develop a grounded theory was encouraged and facilitated by the instructor. Establishing rules about collaborating, reviewing and commenting on each other's memos and field notes, sharing drafts of conceptual frameworks, and frequent discussions in class about the emerging analytical framework, modeled how collaboration can contribute to the quality and depth of insight that is possible to emerge in a qualitative project. Analysis of a common data set, in this case, field notes developed from video observation for incidents that demonstrated care giving, allowed the researchers a common basis and shared language for frequent on-going interaction. So what does this mean for qualitative research? What does this say about the role of collaboration in research? What are the benefits and concerns of such an approach? What does this say about engagement, active participation from everyone and the socialculture learning theory? Ultimately, that collaboration creates the opportunity for significant theoretical insight.

Appropriating Wiki & Forum Technology for Knowledge Building in Higher Education

Michael A. Evans, Aaron Bond, Wei Li, Daurice Nyirongo
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Abstract: Learning scientists have long advocated the benefits of knowledge building and interaction to achieve expertise. With the growing deployment of information and communication technologies in the higher education classrooms, channels of discourse available to instructional technologists influence design and development of teaching and learning. Consequently, finding new ways to facilitate interaction among learners has become a focus of recent efforts. The purpose of this presentation is to illustrate how a graduate level course in Learning Sciences and Computer-Supported Collaborative Learning appropriated wiki and forum technology, a multieditor, multi-threaded platform, to promote knowledge building and peer-to-peer interaction. Results demonstrate that wiki and forum technologies do facilitate knowledge building

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Assessing Students' Performance in the First Online Offering of ME 2124

Simin Hall, Clint Dancey & Catherine T. Amelink, *Distance Learning and Summer Sessions, Virginia Tech*

Abstract: In this session we will outline various technologies and instructional methodology employed to teach the online course "Introduction to Thermal and Fluid Engineering, ME2124" for the first time last summer. The Institute for Distance and Distributed Learning (IDDL) at Virginia Tech worked with us to collect data from the in-class offering of a thermodynamics course in Fall 2009. We designed and taught the online course based on this data which included students' learning behaviors including approaches to problem solving in engineering courses, use of technology, interactions with instructor and peers to accomplish course work and instructional pedagogy in traditional learning environments. This session will showcase the use of synchronous and asynchronous technologies to promote students' collaboration during problem solving in engineering courses. We will discuss the kinds of questions on the forum (open-ended vs. close-ended), the kind of feedback from instructors (question posing vs. traditional comments) and the quality of students responses and their impact on students' problem solving performances.

Assessing the Value of the Peer Assistance and Review Form for Higher Education Teachers

Carlo Magno, *Counseling and Educational Psychology Department, De La Salle University*
Josefina Sembrano, Christina Sison, Marife Mamauag, *Center for Learning and Performance Assessment*
De La Salle-College of Saint Benilde

Abstract: The present study constructed a tool that assesses teacher's performance used by their fellow teachers called the "Peer Assistance and Review Form" (PARF). The tool measures four domains anchored on Danielson's Components of Professional Practice and learner-centered principles: Planning and preparation, classroom environment, instruction, and professional responsibility. The tool is in a rubric format that allows the observer to

provide feedback in a wide range of teacher skills and competencies. The items were reviewed in three levels: Representative faculty and administrators from the college adopting the tool, the teachers, and a set of external experts. The rubric was pretested among 183 teachers. They were observed by two raters in their class. Concordance of the two raters was established across the four domains. High internal consistency among the items was obtained using Cronbach's alpha. The four factor structure of the domains was established in a measurement model using Confirmatory Factor Analysis. The one-parameter Rasch model was used to determine each of the items' fit.

Assessment Reconsidered:
Assignments and Grade Rubrics that Enact a Critical Race, Feminist Epistemology

Jennifer A. Yee, *Asian American Studies, California State University, Fullerton*

Abstract: Purposefully aligning one's teaching and curriculum design with core values based on a critical race, feminist epistemology includes critiquing and altering traditional notions of student assessment. In this session, the presenter will share the structure of learning activities, assignments and grade rubrics she uses to enact a critical-race, feminist epistemology and approach to teaching. Specifically, she will share: 1) the shape of her critical race, feminist epistemology and pedagogy, 2) a theoretical framework [based on metacognition, symbolic interaction and narrative inquiry] used to actualize this pedagogy and 3) descriptions of some activities, assignments, and grade rubrics aligned with her core values and the course's learning goals and objectives. Depending upon how many people are in the audience, the presenter will facilitate one pedagogical activity to illustrate the theoretical framework.

Beyond The Textbook: Designing Instructional Resources To
Promote Student Engagement In The Introductory College Physics Classroom

Suzanne M. Donnelly, *Chemistry and Physics Department, Longwood University*

Abstract: Many introductory college science courses rely heavily on the use of a textbook to supplement instruction and promote student problem solving as a means of learning science content. The question arises: Are all textbooks the same? Based on the results of a study of the most widely used introductory college physics textbooks currently in print, this practice session focuses on promoting an awareness of the differences between several types of representations of science principles present in textbooks and accompanying online resources, as well as how these differences might impact student learning and engagement from a new learning theory perspective, multimodal generative learning theory (MGLT). Employing a MGLT approach, college instructors will gain a nuanced appreciation of the benefits of combining multiple representations present across different textbooks and online resources, as well as guidance in designing their own multimodal representations of science content to improve student engagement, interaction, and learning in the classroom.

Beyond Virtual Rats: Live Animals in the Undergraduate Classroom
Sharon A. Himmanen, *Department of Psychology, Cedar Crest College*

Abstract: Although computer programs, such as Sniffy the Virtual Rat Pro Version 2.0 (Alloway, Wilson, and Graham, 2005) are cost-effective alternatives, these programs do not provide the rich, hands-on experience found in studying behavior in living animals. Research has shown that live animals in the classroom foster a sense of empathy in students (Daly & Suggs, 2010), and substantially improve student learning of course concepts, motivation and interest (Dohn, Madsen, & Hans, 2009). The purpose of this presentation will be to discuss aspects of working with live animals in psychology and related disciplines, including a) activities and projects for students, b) making the best of equipment on hand, c) practical issues involved in setting up and maintaining a live animal colony, and d) concerns and drawbacks to working with live animals.

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Blogs, Wikis, and E-portfolios:
The Effectiveness of Technology on Actual Learning in College Composition
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Abstract: This study examines the effectiveness of using blogs, wikis, and e-portfolios in College Composition classes. The value of these tools was examined in their relationship with actual and real learning where these concepts are defined as the gaining of knowledge that is readily retrievable and is used in an active fashion that shows it has been integrated into the thought processes. The questions examined are whether or not there is a pedagogical underpinning to use these technologies and whether or not these tools really enhance student writing. Over the course of three semesters, the work of 207 students was examined to determine the effect of assigning work on blogs, wikis, and e-portfolios. The students ranged from dual-enrolled high school students to traditional students and to those returning to class after an extended absence. Some students had previous experience with computers and others were novices. The pedagogical areas examined in this study are Time on Task, Collaboration, Peer Feedback, and Reflection. Using these criteria as indicators of success, the application of blogs, wikis, and e-portfolios did create a learning environment that enhanced the opportunity for student success. In addition, an examination of student writing showed an improvement in the composition of their academic prose across the duration of the courses. The research shows that these technologies do contribute to actual learning in composition classrooms.

Bridging the Gap: The Implementation of Team-Based Learning in an Introductory Mixed-Majors Biotechnology Course
Amanda G. Biesecker & Stephanie B. Stockwell, *Integrated Science and Technology, James Madison University*

Abstract: Team-Based Learning (TBL) is a student-centered pedagogy in which an emphasis is placed on active learning through the application of course content. Specifically, in lieu of traditional instructor-led lecture, students are introduced to all course concepts prior to attending class, thereby freeing up valuable instructional time for solving team application exercises designed to foster higher-order thinking and analysis of course concepts. TBL has proven effective across nearly all disciplines, although making a change to this less-conventional pedagogy in higher education can be daunting to instructors and students alike. This study describes the implementation and comparative assessment of TBL in an introductory mixed-majors biotechnology course at James Madison University (Harrisonburg, VA). In doing so, two lecture-based sections of the same course were used as a control group. To compare student performance associated with each teaching style, students engaged in lecture or TBL-only sections (n=42 and 36, respectively) were given similar or identical course content quizzes throughout the semester. Students in the TBL sections took each quiz twice (as individuals, then teams), both of which were completed prior to discussing the material in class, a practice common in TBL courses. In lecture sections, quizzes were taken by individuals only and were administered after the material was thoroughly discussed in class lectures. Across all sections, midterm and final examinations were identical and were taken only as individuals. To compare student attitudes, pre- and post-course instruments were developed and taken anonymously by all students involved in the study. Items included measures of self-confidence in content and attitudes towards learning and applying scientific knowledge. Results of the student outcomes facilitated by each teaching style will be reported using statistical comparisons of performance and attitude measurements across the sections. Alignment of outcomes with major and class year will also be reported. Finally, we will address the obstacles encountered in the implementation of TBL and propose modifications to the course format for future terms.

Building an Intraprofessional Bridge between the Classroom and Clinical Practice

Susan Jones, *Nursing, Jefferson College of Health Science*
George Steer, *Respiratory Therapy, Jefferson College of Health Science*
Patricia Airey, *Physician Assistant Program, Jefferson College of Health Science*

Abstract: Practicing patient care techniques in a "safe" simulation environment, prior to caring for critically ill patients, is essential for health care students to develop technical proficiency and enhance their level of confidence. The use of peer coaching and nonthreatening evaluations, during laboratory sessions, promotes the transfer of training from the academic arena to clinical practice. Health care practitioners are presented with complicated patients in a complex environment. Due to high patient acuity, advances in medical knowledge and technological innovation, teamwork and collaboration are necessary to deliver quality care and improve patient outcomes. In this work, we describe the students' evaluation of an Intraprofessional (IP) Clinical Simulation as a pedagogical strategy. The IP activity encourages behaviors that promote a team approach to patient care among five health care professional programs: physician assistant, nursing, respiratory therapy, emergency health science and fire safety.

Community As Pedagogy

Aaron Stoller, *North Carolina State University*
Jess Evans, *Duke University*

Abstract: Research in higher education teaching and learning is almost exclusively focused on sites of formal learning as the primary context and vehicle for education. Yet, much research conducted over the last twenty years suggests student experiences outside the classroom - in sites of informal learning - are as impactful to their education as what students learn in and through formal environments (Kuh 1993, 1995; Terenzini, Pascarella, & Blimling, 1996; Tinto 1997). This presentation will examine sites of informal learning for their pedagogical potential. In particular, it will investigate bounded communities as a type of pedagogical model, asking whether spaces of informal learning can be designed in such a way as to have a tangible impact on formal teaching and learning. Using a methodology for community learning designed for Virginia Tech Residence Life in 2009-2010, participants will discuss methods to capitalize on experiences outside the classroom – either through campus partnerships or via requirements of the formal classroom – to impact their formal teaching environments.

Content Analysis as a Tool to Evaluate and Improve a Course on Environmental Issues

Kathleen R. Parrott & Kimberly J. Mitchell, *Apparel, Housing and Resource Management, Virginia Tech*

Abstract: What do students in a course on environmental issues, about to embark on their professional careers, consider as critical needs in sustainability in the built environment? How would they address these needs? Although the research is somewhat mixed, there are disturbing reports that high school and college students are generally less concerned about the environment, less committed to conservation behavior, and tend to assume that political, economic, and technological institutions will solve our environmental problems (Dunlap & Van Liere, 1984; Kilbourne, Beckman, Lewis & Van Dam, 2001; Wray-Lake, Flanagan, & Osgood, 2010). Adolescents and young adults tend not to express personal responsibility for environmental change (Wray-Lake, et al.). In spring of 2010, 55 students at a major U.S. university participated in a course entitled: Housing: Energy and the Environment. Over 20 different academic majors were represented in the class, including housing design, residential property management, various engineering specialties, environmental studies, and architecture. The majority of the students were knowledgeable about housing and planned careers in housing, design, management, or construction related fields. For the final paper/exam in the class, students were to design a program that would "promote resource conservation and management, and environmental quality in the housing and building industry." A content analysis of the student exams (n=51 usable exams) was conducted with two independent readers using latent coding (Neumann, 2003). A purpose of the content analysis was to examine student priorities with respect to sustainability issues, especially as compared to course content. Constructs in the content analysis included program content, type of program, funding, target audience, and technology. The most frequent program topics identified were energy,

resource, and water conservation. The most common type of program was training or education, and programs were more likely to be targeted at building professionals, consumers, or owners of buildings. The majority of students did not address the issue of program funding or simply assumed that the government would pay for their programs. The programs designed by the students suggest they believe in the importance of sustainability. Most students wrote from the perspective of a professional, viewing a future that would require environmental knowledge and practice, and responsibility to their clients. These students also indentified the need for greater motivation, requirements, and preparation to achieve energy independence and environmental sustainability. This suggests a stronger commitment to environmental behavior then the literature review implied. Content analysis is an appropriate technique for examining material in a written form and producing a quantitative description of the trends in text (Neuman, 2003). The content analysis of the exams provided a unique tool to evaluate student learning and to refine course content and class presentations and activities in subsequent semesters. In addition, the constructs in the analysis are now established for collecting longitudinal data (from future exams) on student perceptions of environmental issues.

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Course Design Institute: Transforming Teaching and Learning

Dorothe Bach, Deandra Little & Michael Palmer, *Teaching Resource Center, University of Virginia*

Abstract: In the spring of 2008, the University of Virginia's Teaching Resource Center launched its first annual multi-day Course Design Institute for faculty and graduate instructors interested in systematically rethinking their teaching. During the week-long institute, instructors spend four days designing or substantially redesigning a course to promote significant, long-term learning. The Course Design Institute (CDI) provides instructors the opportunity to engage in the iterative, dynamic, and scholarly process of learner-focused course design. The goal of the Institute is to propel participants to become teachers who create for their students the opportunity to engage in truly transformative learning experiences. During the institute, participants explore learner-centered design principles as a large group and then work on their individual course designs in small, field- or pedagogy-specific learning teams. The learning teams, led by an experienced facilitator, provide participants opportunities for brainstorming, individualized feedback, and on-going support. In this poster, we will describe the Institute design, illustrate its immediate and long-term value to participants, and show its effectiveness in helping instructors to create courses that generate deep learning and enduring understandings. Building on Fink's model for integrated course design, the curriculum for the Institute is grounded in the literature on course & syllabus design (Fink, Bain), learner-centered pedagogy and assessment (Tagg, Bonwell, Wiggins), and student motivation (Dweck, Svinicki). Through interactive lectures and active learning exercises, CDI facilitators prompt participants to consider other dimensions of learning: how they may inspire students to care about that knowledge, and what students might learn about themselves, others, and their own learning. And, it asks instructors to carefully consider questions such as these: How do I assess whether I and my students meet the course goals? How do I enact those goals in the classroom? Immediate and long-term feedback about the Institute has been overwhelmingly positive: The 35 participants of last years' institute rated it 4.95 on a 5.0 scale. Follow-up surveys and focus groups attest to the transformative value of the CDI and report that it has fundamentally changed the way they approach course design and teaching. Based on the success of previous Institutes with UVa faculty and graduate instructors, next year we will open CDI to faculty from within the region, May 23-27, 2011 (for details see http://trc.virginia.edu/Workshops/CDI/index.htm.)

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Course Management Systems and the College Freshman: A Qualitative Study

Chaney Mosley & Stephen Edwards, *Agricultural and Extension Education, Virginia Tech*
David Thornblad, *Management,Virginia Tech*
Kacie Allen, *Human Nutrition, Foods and Exercise, Virginia Tech*
Krista Hartley, *Career and Technical Education, Virginia Tech*

Abstract: Numerous colleges and universities use course management systems (CMS), such as Blackboard or WebCT, in conjunction with classes to assist students and teachers with instruction. The first time many students encounter CMS is during the initial year of postsecondary study. The purpose of this qualitative study, using a phenomenological design, was to examine the experiences of first year college students with course management systems. Interviews with six first year undergraduate students were used to collect and analyze the data. The results of this study have implications for the effective utilization of course management systems in higher education relating to usability of CMS and how CMS impact the relationships between students and their professors as well as students and their classmates. An understanding of first year college students' experiences with CMS and how these experiences shape their perceptions can aid colleges and universities in choosing which CMS to employ and help faculty utilize CMS and integrate technology more effectively.

Creating Portfolios to Promote Student Engagement and Learning

Melissa Birkett, *Department of Psychology, Northern Arizona University*
Suzanne Pieper, *Office of Academic Assessment; e-Learning Center, Northern Arizona University*
Linda Neff & Jeanette Roe, *e-Learning Center, Northern Arizona University*

Abstract: For more than twenty-five years, educational researchers and practitioners have recognized the potential of portfolios to enhance student learning. In general, studies have found that portfolios promote independent learning and encourage self-reflection (Buckey et al., 2009; Challis, 1999; Larkin, Pines & Bechtel, 2002). More specifically, research examining the impact of portfolios on undergraduate student learning revealed improved knowledge, reflection, and greater self-awareness of their knowledge (Buckley et al, 2009). Studies focused on undergraduate psychology courses in particular established that portfolios concurrently developed students' metacognitive skills, encouraged independent research, and helped students meet learning objectives (Chew et al., 2010; Larkin, Pines & Bechtel, 2002). The present study examined the impact of portfolios on student learning, engagement, and the use of library resources, when implemented in an undergraduate psychology survey course, Introduction to Neuroscience,. The purpose of the portfolio was to encourage students to demonstrate their growing expertise on a topic of their choice involving a particular disease or disorder of the nervous system. Over the semester, students selected three course assignments to include in their portfolios. In the final portfolio, these three assignments were accompanied by a student-designed cover, a table of contents, a letter to the reader, reflections on the portfolio selections, and a concluding self-assessment, Forty-six students responded to a 13-item online survey about their experience with the portfolio. Ten items asked students to respond on a five-point Likert-scale to statements such as "Thinking and writing about my portfolio project selections contributed to my learning," "This portfolio project increased my interest in the class," and "I feel confident in my ability to use online research resources available through Cline Library." Over 85% of students agreed with statements that indicated portfolios contributed to their learning and increased their interest and engagement in the class. The same percentage of students also indicated that they felt confident in their ability to use online resources available through their

university library. Three items asked students to respond "yes" or "no" to statements such as "I discovered new online research resources that are available to me through Cline Library." Over 70% of students responded that they discovered new online research resources available through the university library. Altogether, these results suggest that portfolios promote student learning, increase student engagement, and encourage independent research.

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Creating Syllabi that Promote Transformative Learning

Michael S. Palmer, *Teaching Resource Center, University of Virginia*
Andres Clarens, *Civil and Environmental Engineering, University of Virginia*

Abstract: Ask most any instructor about their role as a teacher, and you will hear them speak passionately about wanting to create opportunities for meaningful student learning, the kinds of learning that are transformative, that change the way students think, act or feel. One then expects to see these beliefs and values about teaching and student learning reflected in course syllabi. Yet, all too often, emphasis is often placed on content and what the instructor does, not on significant learning and what the students do. This session will help instructors identify features and language characteristic of both instructor-/content-focused syllabi and student-/learning-focused syllabi, ultimately allowing them to better align their own syllabi with their beliefs about teaching and learning.

Critical and Creative Thinking Defined and Applied

Liesl M. Baum, Phyllis Leary Newbill, Teri Finn, *Institute for Creativity, the Arts, and Technology, Virginia Tech*
Katherine S. Cennamo, *School of Education, Virginia Tech*

Abstract: Critical and creative thinking skills are essential components of teaching in today's classroom. The Integrated Design + Education + Arts Studio (IDEAS) defines critical and creative thinking skills for the context of education, and gives teaching professionals guided practice to enhance critical and creative thinking skills in the higher education classroom. The team will share its conceptual model of critical and creative thinking and discuss projects and classes that have engaged students in deep thinking while they developed materials that were then used in the larger community. Participants will leave the session with ideas on how to incorporate activities into their own instruction to encourage the development of critical and creative thinking among higher education students.

Crowdsourcing Student-Generated Content in Wiki Textbooks

Edward F. Gehringer, *Computer Science, North Carolina State University*

Abstract: In recent years, student-authored wiki textbooks have emerged as an alternative to professionally written texts. This paradigm gives students experience in writing for an audience of their peers. It forces them to read and organize the primary literature. Our Expertiza project provides software support for the daunting administrative

tasks surrounding wiki textbook-writing. It allows students to sign up for individual topics, and sequences the work so that prerequisites are finished before each task is started. It manages submission and peer-review deadlines for each chapter. Our initial experience revealed that additional features were necessary to provide the best experience for student writers and to improve the final product. Toward that end, we implemented a suggest-and-approve feature, allowing students to suggest topics for articles, and the instructor and/or TA to comment on them, and ultimately accept or reject them. We are also providing a social-bookmarking feature, which allows students to submit Web links to material their classmates may find helpful when writing on their topics.

Design Practices with Different Modalities of Instructional Materials: In the Context of Educational Technology Lab

Yanzhu Wu, Yeonjeong Park & Jane Falls, *School of Education, Virginia Tech*

Abstract: Developing instructional materials is one of important jobs to every instructors, instructional designers, and mangers in laboratory. Instructional materials are vary in their formats such as paper-based simple notices, hand-outs explaining step-by-step procedure, video-based instructions demonstrating how to use certain equipment and computer programs, and web-based interactive tutorials to master certain skills and to inform important administrative procedures. When developing such instructional materials, we ponder "what types of materials are the most effective for the users." Educational Technology Lab at Virginia Tech designed and developed many how-to series instructions to support faculty and students to use various equipment, computer programs and other lab resources. A variety of instructions include such as how to connect projector to PC, how to transfer video into CD, how to scan, how to use CD/DVD duplicator, how to use SMART board/Active board, how to edit video using Camtasia application, how to develop webpage using Kompozer, how to convert files have been developed in different modalities. Instructional design theories and models suggest developing instruction based on the thorough content analysis, context analysis, and learner analysis (Dick, Carey, & Carey, 2005; Gustafson & Branch, 2002; Tessmer & Richey, 1997). The how-to series instructions designed and developed by graduate assistants in Educational Technology lab during 2009-2010 was based on the instructional design principles and had made multiple revisions through collaborative development process. The purpose of this study is, first, to show four types of instructional materials developed with the emerging information and communication technologies (ICT) which consists of paper-based step by step handout, web-based and descriptive tutorial, video instruction showing the procedure, and video instruction developed by Camtasia; second, to discuss the appropriateness of each material in considering three instructional design elements include contents, contexts, and learners by observing the pattern how students, faculty, and staff use the developed four types of instructions, and investigating their perceived usefulness; third, to discuss the different instructional design principles in terms of their applications on four types of instructional materials along with the required development skills. In the end, we will discuss the prospects about usefulness from the applications of new technologies such as use of mobile devices, web2.0/web 3.0 social networking functions, and podcasting. In short, this presentation will help novice instructional designers and other instructors who are not familiar with instructional design in higher education to develop their own instructional materials and build their design skills.

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Designing a Transformative Milieu for Parents:
ProVeli - The Ubiquitous Communication Network

T. Volkan Yuzer, *Distance Education, Anadolu University College of Open Education*

Abstract: In these days when innovation and creativity have become crucial in online education programs and courses, ProVeli, a ubiquitous communication (u-communication) milieu and the dynamic modeling system for parents, considers about the judgments of authorities about these novel activities, opinions of program development staff, and comparisons executed programs with its online education design. Therefore, the main purpose of this paper is to discuss about how to develop and deliver a transformative online milieu surrounded by egalitarian values of excellence in each stage of this action, and also global qualities which are vital in higher education. To integrate diverse and multicultural principles under any online education model in higher education, ProVeli focuses on the development, implementation and evaluation steps of its distance education system, and help all stakeholders decide whether they continue or terminate their online education.

Designing Effective Interdisciplinary Professional Development Opportunities for the Disciplinary Student

Jeffrey T. Olimpo, *Department of Curriculum and Instruction, University of Maryland, College Park*

Abstract: The continued instantiation of school reform and the subsequent professional development opportunities designed to elicit such change have long been an area of interest and concern to the educational community. While significant gains have been made in detailing components of effective teacher preparation and professional development programs in K-16 learning environments, little has been explicitly stated regarding the design and implementation of professional development experiences for undergraduate students, particularly those housed in discipline-based majors or concentrations. In this session, participants will explore this issue by working collaboratively to outline and describe appropriate components of interdisciplinary professional development opportunities for undergraduate students in discipline-based programs and to propose ways in which these components can be assessed across various educational contexts. Particular emphasis will be placed on identifying and connecting ways in which professional development opportunities can be implemented effectively to promote student learning and career advancement.

Developing a Model of Global Citizenship Education for Universities Based on Sustainable Development

Nima Shahidi, Sara Baezat
Department of Education, Islamic Azad University- Marvdasht Branch- Iran

Abstract: Global citizen is a person who has enough knowledge about contemporary world, is familiar with his role and respect to values. Universities have an important role in teaching students with a vision of sustainability and make them global citizens. The main purpose of this research is to study the perceptions of the students of Islamic Azad University about the role of higher education in sustainable development and global citizenship education. The research method is qualitative and used a focus group and in-depth individual interviews to study 40 students' perceptions about the strategies and role of higher education in sustainable development and global citizenship education. The result of triangulation showed that universities have an important role in global citizenship education. Universities can develop critic, analytic, and creative thinking in students and also can develop abilities of taking ethical decisions, finding definition of life, and solving supercomplex problems at local, national and international levels through their curricula. Universities can teach global citizens who can reserve their personal, social, cultural, professional and technical identities and act global in international environment. And sustainable universities are a facilitator to access these goals.

Developing a World Class Faculty Member

Maung Thein Myint, *Institute for Energy and the Environment, New Mexico State University*
Abbas Ghassemi, *Institute for Energy and the Environment/Chemical Engineering, New Mexico State University*
Nagamany Nirmalakhandan, *Civil Engineering, New Mexico State University*

Abstract: Three faculty members were developed by three methods through their dissertations. Each method was based on each characteristic of PhD candidate. The first candidate was based on self independence researches due to his like-to-research-alone behavior. The second candidate was based on collaboration from his eagerness to know and talkative nature; the third one was based on adviser-motivated research. However, all the candidates have more or less the same background such as they have the first degree in their country of origin and have their second degree and work experiences in developed internationally recognized institution and countries. The first, second, and third candidate took four, five, and three years to finish their PhD degrees respectively. The experiment data show that adviser-led research candidate got a job as a tenure-track faculty in a university from September 2010; collaboration research candidate got a one year job as adjunct faculty 2009-2010 in a university; the self independence research candidate still works as his 4th post doctorate in fifth year at 2010. Keywords: Adviser generation; adviser motivated research; collaboration research; hard works; self-independence research.

Developing Innovative Data Collection Approach through Student Internship Experience

Chayanika Mitra, *Civil and Environmental Engineering, Virginia Tech*
Annie R. Pearce, *Department of Building Construction, Virginia Tech*
Christine M. Fiori, *Myers Lawson School of Construction, Virginia Tech*

Abstract: Student internship programs in the construction industry are mutually beneficial relationships that foster student growth, enhance academic program relationships with industry partners, and challenge faculty to include current information in their curriculums. The ongoing internship program of Department of Building Construction, Virginia Tech, launched a pilot course in 2007 (SLICES) that increased student responsibilities during their internship programs. Students were required to collect data relating to current company practices which in turn were utilized by faculty for research purposes, especially in the field of benchmarking. This paper highlights the new internship program, and defines the data collection approach which without much hassle, can be redefined and reproduced to conduct researches in different scenario.

Developing Metacognitive and Problem Solving Skills through Problem Manipulation

Claire J. Parker Siburt, *Chemistry, Duke University*
Ahrash N. Bissell, *Academic Resource Center, Duke University*
Richard A. MacPhail, *Chemistry, Duke University*

Abstract: In a collaborative effort between the Chemistry Department and the Academic Resource Center at Duke University, we designed and evaluated a model for General Chemistry recitation based on a "Problem Manipulation Method" in which students actively assess the skills and knowledge used to answer a chemical problem and then "manipulate" the problem to create a new one. The Problem Manipulation Methodology involves answering a given problem, assessing what knowledge was required to answer it, rewriting the problem to address another aspect of the same concept, answering the new problem, and then assessing how the two problems are linked conceptually. By creating their own problems and actively linking problems together, we hypothesized that students would learn more about the chemical concept compared to answering two "randomly assigned problems". This reflective process aims to facilitate student engagement with the chemistry problem-solving process and to enhance student metacognition by helping students actively monitor their own learning. Facilitated by a teaching assistant, small groups of students deliberately manipulated problems and were encouraged to assess which types of questions they found difficult. The recitation format provides an opportunity for students to work collaboratively on this process and to present and discuss their work. In addition, this approach provided a language and an environment where students could actively identify their own knowledge gaps. Although the performance on examinations was similar to that found previously

with a traditional recitation format, the student response to this new style of recitation was overwhelmingly positive. As well, students easily assimilated the vocabulary of the Methodology into everyday conversation and were better able to articulate their learning needs. Several interesting and unexpected results were observed including 1) a reluctance to modify published information, 2) a significant misconception of the scientific process, 3) a dichotomy between students who could easily answer chemistry problems and students who could easily recognize relationships between problems, and 4) an increase in student engagement and general attitude toward chemistry.

Development of Simulation Games to Increase Student Engagment

Corinne Auman, *Psychology, Elon University*

Abstract: Engaging students in the classroom is a daily challenge for instructors. It is often difficult to alter current pedagogies in an effort to create a more engaged, active-learning environment. This presentation will discuss the development of a simulation-based pedagogy, designed to increase classroom engagement. Analysis of student learning in both simulation and non-simulation classes will be discussed. Student feedback and the potential costs and benefits of implementing such a pedagogy will also be examined.

Do You See What I See? Faculty and Student Perceptions of the Classroom

Kerrie Q. Baker, *Psychology, Cedar Crest College*

Abstract: Students of various ages are going to college. One must wonder how a varied make-up of the classroom affects the instructor's teaching and the student's learning experience. Past researchers, like Carter (1988), Bishop-Clark and Lynch (1995), and Darkenwald and Novak (1997), found that mixed-age classrooms create richer learning environments. Yet, Koeppen and Griffith (2003) reported that student diversity negatively affected classroom instruction. More recently, Gregoryk & Eighmy (2009) found that generational groups of students have differing preferences for educational activities and the classroom environment. Consejo's (2009) investigation showed it is possible to teach effectively in a multiage environment as long as one has certain characteristics. Pastorino (2006) said that understanding generational differences can impact both one's teaching and students' learning. To use this knowledge effectively, she urged instructors to first examine their attitudes toward the students. To further explore this issue, 45 faculty members and 456 students at a small, private college in eastern Pennsylvania responded to a 6-page survey. These sample sizes represent a comparable 36% and 33% return rate for each group, respectively. The survey contained items related to their attitudes toward non-traditional (older) students, attitudes toward traditional (younger) students, the student-faculty relationship, and the mixed-age classroom. Descriptive statistics and independent t-tests were conducted to compare responses from the faculty and student populations, resulting in significant differences on many survey items. For example, more than 57% of faculty and 42% of students thought that instructors interact with younger students differently than with older students. When asked if instructors are friendlier with older students, none of the faculty but 24% of the students agreed with this statement. More than 85% of faculty and 61% of students said they think students like learning in a mixed-age classroom. About 25% of faculty and students reported that instructors like teaching more in a mixed-age classroom, and 82% percent of faculty and 75% of students thought that having students of different ages in class helps students see different perspectives. Over 70% of faculty, but only 27% of students, thought that learning in a mixed-age classroom is more challenging. Almost 80% of the faculty, but only 42% of the students, said the age of their classmates affects the dynamics of the classroom environment, and interestingly, 18% of the faculty and 25% of the students, said the age of their classmates affects the pace at which the instructor can teach the course. Overall, faculty and students do have different beliefs about each other, which will in turn affect how they behave and react in the classroom. Students also perceive that instructors interact differently with older versus younger students. Consequently, a mix of different aged students in a classroom does matter; that is, people notice their classmates and transfer societal perceptions of age to the educational setting. Thus, teaching diverse generations can be a challenging balancing act. The more we know about the interactions between different-aged students and their instructors, the more easily instructors can facilitate effective learning for each generation.

Doctoral Students as Co-Teachers in Graduate Courses: An Application of Apprenticeships to Graduate Education

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Abstract: Doctoral students have the opportunity to perform some faculty roles in the course of their studies, a practice that is considered essential to the development of an identity trajectory that leads to seeing oneself as future faculty. As situated learning theories posit that learners who work with experts and novices in communities of practice are able to develop identities relative to the practice, doctoral student should be given the opportunity to work with faculty in the development and delivery of graduate level courses. Following the communities of practice model, the faculty serve as masters or experts, the doctoral student serve as journeymen or near peers, and the other graduate students serve as legitimate peripheral participants or novices. This proposal addresses the application of the communities of practice model in two graduate level courses and begins a discussion about the potential impacts this can have on doctoral students' professional identity formation.

Educating Statisticians to Become Interdisciplinary Collaborators

Eric A. Vance, *Statistics, Virginia Tech*

Abstract: The large amounts of data produced in almost all areas of inquiry are leading to an increasing demand for statisticians who can communicate with non-statisticians while devising new methods to guide experimental design and data analysis (Lindsay, Kettenring, and Seigmund, 2004). Additionally, many of today's scientific problems are extremely complex and require collaborative efforts (Lindsay, et al., 2004). Complicating efforts to solve interdisciplinary problems is that communication between statisticians and scientists is a serious problem (Kimball, 1957 and Hoadley and Kettenring, 1990). Often statisticians do not have sufficiently deep knowledge in the scientific domain of the problem, whereas their would-be collaborators do not have backgrounds in statistical methods. We believe, however, that statistics graduate students can become effective interdisciplinary collaborators with a comprehensive education and training program. The Department of Statistics at Virginia Tech requires all of its undergraduate majors, M.S., and Ph.D. students to pass a course in statistical communication. Good skills in communication will enable statisticians to apply their statistical training effectively to problems arising in other fields. (Derr, 2000). In the course, "Communication in Statistical Collaborations," students learn and practice skills in listening, asking good questions, explaining statistics to non-statisticians, and presenting statistical results graphically, orally, and in writing. The course culminates in the write-up and presentation of a final project applying statistics to answer a scientific problem. Pairs of statistics students collaborate with a non-statistician of their choosing on a research project they find interesting and present their results and experience to the class. Graduate students in their third semester in the Department of Statistics typically apply the skills they have learned in the statistical communication course in their work with LISA (Laboratory for Interdisciplinary Statistical Analysis). The mission of LISA is to provide statistical advice, analysis, and education to Virginia Tech researchers by offering one-on-one collaboration meetings, walk-in consulting, educational short courses, and support for multidisciplinary research projects. The statistical collaborators of LISA are further trained during weekly meetings and coaching sessions to help design experiments, analyze and plot data, run statistical software, interpret results, and communicate statistical concepts to non-statisticians. To further enhance their training, biweekly video coaching sessions provide the students with feedback on their actual meetings with clients and allow them to reflect on which techniques worked or did not work, and why. These video sessions focus on the interpersonal and intrapersonal actions of the clients and the statistical collaborators, and on the technical aspects of the interactions (McCulloch, Boroto, Meeter, Polland, and Zahn, 1985). The goal of the statistical communications course, the practical experience with LISA, and the video coaching sessions is to produce statisticians who are valued team members on large, multidisciplinary research projects and who contribute toward interdisciplinary scientific discovery.

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Effect Of Gender And Class Standing On Learning Goal Orientation Among Agricultural Students

Rebecca K. Splan, Ryan M. Brooks & Shea Porr, *Animal and Poultry Sciences, Virginia Tech*

Abstract: Learning goal orientations are positively associated with academic performance and self-regulated learning in undergraduates (Elliot and McGregor, 2001; Coutinho and Newman, 2008). They represent motivation behind achievement behaviors in particular contexts (Nicholls, 1984; Dweck and Leggett, 1988). Students may display mastery goals, which reflect desire to develop competence through task mastery, creation of new knowledge and skill development. Contrastingly, performance goals reflect student desire to demonstrate competence relative to others or to some minimum standard. For each goal, students may display a positive (approach) or negative (avoidance) orientation. The valence depends on costs and benefits of the learning activity within the larger context as perceived by the student. Interaction of goals and orientations results in four goal orientations: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance. Empirical evidence suggests students with a mastery-approach goal orientation engage in more self-regulated learning (Pintrich, 2005). Their willingness to take risks, use higher-order thinking skills, seek help and learn independently suggests aptitude for lifelong learning. Most undergraduate goal orientation research has examined students in introductory psychology courses, which under-represent those naïve to instruction in metacognition and/or those majoring in STEM or business fields. Therefore, the purpose of this study was to characterize learning goal orientations among undergraduate students enrolled in an agricultural economics course. Participants (n=107; 28 male and 79 female) enrolled in an introductory-level agricultural economics course completed a goal orientation questionnaire developed and validated by Elliot and McGregor (2001). All class levels were represented (12 freshmen, 54 sophomores, 29 juniors and 12 seniors). The 12-question self-report measure included three questions related to each factor within the 2x2 mastery/performance and approach/avoidance framework. Questions were randomized and participants indicated level of agreement on a 7-point likert scale. Mean differences were tested via ANOVA. Relationships among variables were investigated using Spearman rank correlations. Significance is reported at the $P<0.05$ level. Overall, means for learning goal orientations were above the midpoint, and higher than those reported for psychology students (Elliot and McGregor, 2001; Edens, 2006). Mastery-approach means were greater than those for other forms of goal regulation. Mean scores were higher for mastery than for performance goals, but no difference was detected between approach and avoidance orientations. Female students scored themselves higher for mastery-approach goal orientations than males, but gender differences were not significant for other goal orientation constructs. Despite their relatively small number, freshmen rated themselves higher in mastery-approach and mastery-avoidance goal orientations than more advanced students. Mean scores for mastery and performance goals, as well as approach and avoidance orientations, decreased as class level increased. Correlations among learning goal orientations were moderate and similar to previous studies (Young, 2007; Coutinho and Neuman, 2008). Goal orientations are linked to student motivation and reflect standards by which students gauge and regulate learning efforts. Lower mastery-approach scores for male and non-freshman students may indicate differences in intrinsic vs. extrinsic motivation. Further work is needed to investigate relationships between learning goal orientations, learning styles, academic performance and aspects of self-regulated learning such as resiliency and self-efficacy in agricultural science students.

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Effective Co-teaching in Higher Education:
A Model for Pre-service General and Special Education Method Courses

Katrina L. Maynard, *College of Education and Human Services, Longwood University*
Toni M. Flanagan & Lori H. Leaman, *Department of Education, Eastern Mennonite University*

Abstract: Special and general education faculty combined their pre-service methods classes to model two differentiation practices for the elementary classroom: co-teaching and tiered instruction. This poster will describe how to: become better informed about effective research-based differentiation practices, specifically co-teaching and tiered instruction, for the PK-6 classroom and become better informed about the need for teacher educators to model research-based methods such as co-teaching and tiered instruction and provide opportunities for pre-service teachers to practice what and how they are expected to teach.

Effective Learning through Enhanced Student Engagement

Paul L. Ewell, *Management, Business, & Economics, Virginia Wesleyan College*
Betty Hoge, *Economics & Business Administration, Bridgewater College*

Abstract: This practice session will model the use of collaborative learning through competitive teams of learners as one active learning pedagogical style that effectively engages students as a means of achieving enhanced learning outcomes. The pedagogical modeling will be treated as an experiment and, as such, will be assessed within the workshop to, hopefully, demonstrate a difference in learning outcomes based on the methodological intervention. In addition to assessment results of this session's activities, the presenters will share anecdotal examples of their use of collaborative learning through competitive teams in a variety of curricular scenarios both alone and combined with other pedagogical methods. Finally, the session will solicit an interactive discussion among participants related to enhancing student engagement and subsequent learning outcomes.

Electronic Nonformal Education

Nazila Khatib Zanjani, Zandi Bahman, Farajollahi Mehran, Sarmadi Mohammad Reza, Ebrahim Zadeh Issa
Payame Noor University

Abstract: Considering the emergence of brand-new educational needs, non-formal education as a prerequisite of a knowledge-based society is increasingly going popular among nations in view of its continual nature. However, life-long learning as a key concept of the modern education system stands clearly at odds with traditional learning in every way of philosophy, objectives, strategies and policy-making. This research aims to compare the efficiency of electronic non formal education with that of other types of education for Tehran Municipality employees in 2009. This quasi-experimental study is an instrumental-developmental research based on a pre-test/post-test plan for two groups. The sample of this research consists of (N= 114) voluntary people from the permanent employees of municipality. The non-electronic learning group was provided with a pamphlet on verbal communication and four sessions and the other group trained electronically. The data-gathering instrument was a researcher's questionnaire. The data gathered were analyzed through both descriptive and inferential statistical techniques using SPSS V.11 software. Findings suggest that both electronic and non-electronic methods have been effective in learning but electronic education would be more effective in citizenship and non formal education. Therefore, the electronic

(web-based) method is recommended as an effective method, for designing and delivering some topics of non-formal education programs for citizenships.

Emergent Design in Higher Education: Toward the Description of 'Educative Experience'

Adam Stibbards, *Interdisciplinary Studies/Psychology, Lakehead University*

Abstract: Despite ample evidence that student-centered, inquiry-based, experiential and meaning-making approaches lead to deeper forms of learning, lecture and text-based methods still predominate in higher education. Though the literature lists many reasons for this lack of uptake, a little explored reason is that there is a need for systematic description of the components and dynamics which create opportunities for student meaning-making. This research project is an ethnographic study of a well-defined 'emergent design' approach which weaves together several innovative practices to harness the self-organizational properties of complex systems. The study is underway, and the intention is to share findings regarding the patterns of meaning-making that emerge.

Engaging Audio Learning With Voice-Over PowerPoint

Bob Reese, *Health Psychology, Jefferson College of Health Sciences*

Abstract: Voice-Over PowerPoint (VO-PPT) is an important tool for engaging audio learners in all online settings. It complements visual learning which is addressed with the text, printed lectures, videos, and PowerPoint and kinesthetic learning which is engaged by use of the keyboard and mouse. Pedagogically, VO-PPT is a flexible, learner-centered tool. It utilizes a mastery approach to learning as the student can access individual slides, replay a slide repeatedly, and view slides with or without the audio. While video clips and movies may appeal to audio learning, the technology necessary to deliver this media is expensive and often difficult to download. Videos rarely meet specific instructor needs. VO-PPT addresses the above needs and problems. Production is easy and inexpensive. The learning curve for VO-PPT is short. Instructor preparation requires no more time than planning and delivering a solid lecture. Broadcast quality perfection is neither necessary nor desired. Students hear their instructor as if in class – including the "um's" and "ah's." Instructor's intonation and passion prevent dullness and encourages rapport-building necessary for efficacious online education. End of semester student evaluations suggest positive learning outcomes and perceived efficacy with a 70% positive evaluation. Unsolicited testimonials, while anecdotal, contribute positively to quantitative measures.

Engaging in Scholarly Dialogue About Diversity

Jennifer McCloud, Gresilda Tilley-Lubbs
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Abstract: At Virginia Tech, the emphasis on equity and diversity underscores conversations at all levels. By providing two university-wide lectures and a seminar series for discussion, the School of Education (SOE) plans to create an opportunity for intellectual dialogue in regard to understanding and appreciating multiple perspectives in educational contexts. In this session, the presenters will discuss the process of planning and implementing this dialogue.

Engaging Undergraduate Audiences In Core Gen Ed Courses

Dana Stoker Cochran, *ASPECT, Virginia Tech*
Kathy Combiths, *English, Virginia Tech*
Ruth Derrick, *Appalachian Regional Studies Center, English, Radford University*

Abstract: Professors and instructors of core curriculum classes encounter a sea of faces that are placed in classes that fulfill requirements sometimes far removed from their major concentrations. While those of us involved in teaching these humanities or social science requirements passionately believe in the value of such academic diversity, our students are often only in our classes to satisfy their core hours. How do we convey our passion to those students? How do we create a classroom encounter that will inform and expand their chosen disciplines? How do we meet the challenges of engaging a disinterested audience and contributing substantively to their undergraduate and life experiences? The three presenters share graduate student and teaching backgrounds in English and Appalachian Studies; both areas satisfy core gen ed requirements in several institutions, including Virginia and Tech Radford University.

Enhancing Environmental Awareness of Freshman Engineering Students through Real-Time Monitoring with LabVIEW Software

Parhum Delgoshaei, Vinod K. Lohani, *Engineering Education, Virginia Tech*
Divyang Prateek, *Electrical and Computer Engineering, Virginia Tech*

Abstract: LabVIEW Enabled Watershed Assessment System (LEWAS) enables students to monitor water quality and quantity data from an impaired stream (Webb branch of Stroubles Creek) in real-time. Monitoring takes place in real-time through a web-based interface and system parameters such as sampling time can be changed remotely. Student attitudinal responses will be collected prior and after data collection in order to assess the impact of the system in enhancing environmental awareness of students enrolled in a large freshman engineering course, ENGE 1024. In addition, the impact of the system on raising student motivation will be assessed by collecting student perceptions on the value they place on environmental monitoring and their expectancy to succeed in it. The responses will be interpreted in the framework of value-expectancy theory of motivation. Since the software used for the development of the lab is the same software used to teach programming concepts to the freshman engineering students, it is expected that students would value monitoring using this software as an extension of programming experiences with LabVIEW in class. In addition, the paper will document the educational experience of the authors as they contributed to the lab as faculty advisor, graduate mentor and undergraduate mentee.

Environmental Sustainability Practice: Course Integration

Angela Perusek, *Health Science Division, The College of Mount St. Joseph*
Kim Shibiniski, *Education Division, The College of Mount St. Joseph*

Abstract: The global structure of our fragile eco-system has most recently become the forefront for many initiatives around our world. The majority of our population has inaccurate assumptions concerning our ecological system and human resources. As instructors, we need to take an active role in helping our students become environmental literate in order to address the environmental sustainability issues facing our world. Therefore we must rethink our curriculum/our courses and intentionally incorporate sustainability into our lessons and assignments. The purpose of this presentation is three fold: 1) to define and discuss environmental sustainability education concepts; 2) to provided didactic theory of how to incorporate sustainable development practices in courses of multiple disciplines; and 3) to introduce examples of lessons for sustainable development in classes of health science and education. The seminar will be presented in an interactive format where participants will work in small groups discussing theories of how to integrate sustainable concepts in present or future courses while still instructing on course content.

Epistemic Beliefs as a Catalyst for Online Course Design:
A Case Study for Research-Based eLearning

Simin Hall, *Department of Mechanical Engineering, Virginia Tech*
Sam Conn, *Center for Innovative Teaching, Learning, and Assessment, Kentucky State*
Michael Herndon, *Distance Learning and Summer Sessions, Virginia Tech*
Catherine T. Amelink, *Distance Learning and Summer Sessions, Virginia Tech*

Abstract: Student epistemic beliefs represent an important influencing factor in construction of efficacious eLearning. This session will showcase the congruence of theory of knowledge, degrees of student self-regulation, and a cognitive development theory as a framework for determining appropriate online course development strategies. Epistemic belief research has long held the relationships between curriculum design and pedagogy in improving the efficacy of teaching and learning. Of particular importance is the relationship between epistemic beliefs and self-regulation, a critical factor in successful achievement of learning outcomes via an online learning paradigm. We will discuss the development of a rubric involving student profile, pedagogical strategies, and assessment tools applied in response to a prescriptive-diagnostic approach. This presentation is based on our chapter that was recently published by IGI Global in the book titled "Cases on building quality distance delivery program: Strategies and experiences". Examples will illustrate to session participants how faculty can redesign instruction and assessment to elevate the level of students' epistemic beliefs.

Evaluation of Student Learning in Undergraduate Animal Handling Laboratories

C. M. Wood, C. Cox, R.A. Dalloul, D. E. Eversole, J. S. McCann, T. L. McDonald, C. A. Porr & R. K. Splan
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Abstract: This project was a collaborative effort among faculty engaged in the design, implementation, and evaluation of undergraduate animal handling and management laboratories in the Department of Animal and Poultry Sciences. The student-centered, experiential learning environment in these laboratories allows faculty to scaffold student learning using constructivist pedagogical methods. Undergraduates in the animal sciences are diverse with respect to agricultural background, motivation, and interest. The majority come from urban or suburban backgrounds, with little to no experience directly related to animal agriculture (Buchanan, 2008). Career aspirations also range from basic science research to applied production agriculture. The demographic variability suggests the need for a learner-centered approach and 'effective, robust and flexible pedagogy' (Doolittle and Hicks, 2003). Experiential learning, a process of making meaning from direct experience, is used extensively in agricultural education programs (Scanlon, 2009) and was incorporated into these labs. The objectives of APSC 2114 (Livestock Management and Handling) and APSC 2124 (Horse Management Laboratory) are to 1) provide learner-centered instruction by which students can construct factual, conceptual and procedural knowledge related to technical skill development in animal management, and 2) instill uniform safety protocols for handling animals. These classes are resource-dense in terms of animals, facilities, and faculty time. Knowledge gained from this project will provide a basis for assessment of curricular appropriateness and teaching resource allocation. Specific objectives of this project included: assessing incoming students to ascertain prior knowledge, perceptions and values related to course material; evaluating knowledge gained by students during technical skill development; determining student perceptions of value for the educational experience, and correlating learning outcomes to pedagogies used in each course. At the beginning of the term, students completed an open-ended background questionnaire, as well as a participant perception inventory (PPI), which is a self-recording instrument of prior knowledge, experience and confidence (1=low; 5=high) regarding technical skills taught in each course. At the end of the semester, students completed the PPI form again, and additional survey instruments related to perception of course value and knowledge gained. In APSC 2114, 85.5% of students were sophomores and juniors; in APSC 2124, 60.3% were freshmen and 36.7% were sophomores and juniors. On average, there was a gain in knowledge, experience, and confidence across all technical skills in both courses, providing one indication that students successfully met the two primary course objectives: increased comfort around large animals and mastering technical skills taught in each course. These preliminary data also indicate that students are much less familiar with and comfortable around livestock compared to horses but the gaps narrowed by the end of the semester.

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Facilitating Student Learning, the Assessment of Learning, and Curricular Improvement Through a Social Work Graduate Integrative Seminar

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Abstract: University programs are increasingly called on to develop reliable and valid measures for assessing student learning outcomes, and to utilize assessment results to reflect on and strengthen program curriculum. This study explores the use of a social work graduate integrative seminar to accomplish these goals. A mixed-method research design is employed to analyze data from students over a three-year period regarding the effectiveness of the seminar and from graduate faculty regarding student achievement of curricular objectives. Results indicate that formative assessment processes promote student learning and that an embedded measure of learning outcomes in the form of a final integrative project serves as a rigorous assessment tool.

First Year Experience Departmental Seminar Course: Impact on Student Retention

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Abstract: Research indicates that students are more likely to succeed academically and to have a positive educational experience if they feel a sense of connectedness with their university academically and socially (Tinto, 1993). While educational attainment continues to increase in the United States, the rate of increase has been declining since the mid-1970's (Bowen, et al., 2009). President Obama set a goal for American higher education: "By 2020, America will again have the highest proportion of college graduates in the world" (Obama, 2009). In order for this goal to be achieved, increased attention must be given to student retention and graduation. The objective of this research is to determine whether an agricultural economics first-year seminar course improves retention rates of its undergraduate students. In 1998, VT's Department of Agricultural and Applied Economics (AAEC) created a one-credit First Year Experience seminar course with three primary goals, with an emphasis on creating a connection with students: (1) to assist students in the transition to a four-year institution while creating a sense of community among AAEC students; (2) to introduce students to the breadth and depth of the discipline and various career opportunities in the field; and (3) to provide a forum for meeting departmental faculty and learning of their teaching/research/outreach interests. Since 1998, all entering freshmen and external transfer students enroll in this course during their first fall semester on campus. As they start their academic program, while many courses may have hundreds of students per section, this AAEC First Year Experience provides an opportunity to become engaged with professors and student colleagues in a small class setting. In regards to methodology, this research conducts both quantitative and qualitative assessments. Quantitative analysis uses data from VT's Office of Institutional Research to compare pre- and post-implementation of AAEC's seminar course in 1998. Further, retention rates are compared post-implementation for the department, college, and university. Additionally, an alumni survey, emailed through VT's Alumni Association Office to 277 alumni from the post-implementation era (2002 through 2009 graduates), determines the success of the course in meeting stated course objectives. Qualitative analysis uses student evaluations and senior exit interviews to assess the impact of this course on student success. Results indicate that student retention (from freshman to sophomore year) improved following implementation of the first-year seminar course, as did four-year and five-year graduation rates.

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Framing the Shot: Graduate Students Explore
the Dialectics of Photovoice as a Learning Tool

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Abstract: The poster highlights the potential of Photovoice as an innovative teaching technique that can be used to enhance the learning experience of graduate students. Visual methods, such as Photovoice, are used to create knowledge, develop understanding, stimulate ideas and raise questions addressed in sociological inquiry. Photography can be highly effective when used to explore social tensions, convey meaning and focus responses to particular ideas. Teaching visual methods requires students to become comfortable with the mechanics of a camera, learn how to think with a critical eye, and learn how to create visual metaphors, or images, linked to social theory. Graduate students enrolled in an Advanced Qualitative Methodology course at a mid-sized university in western Canada were asked to engage Photovoice as part of the course requirements. Eleven students in the class each took from 10 - 50 photos related to a topic of their own choice and interest. Each student selected 8 photos shared in class via a PowerPoint and oral presentation that linked sociological theory to the images. To complete the assignment, the students also submitted copies of their photos and a written summary (3 - 4 pages) of the presentation to the instructor. Students discovered how to "frame the shot" within a sociological context that incorporated a dialectical analysis of social stresses revealed through photographs. This assignment led to investigation of the multilayered experience of being a student, researcher, participant, data analyst, and knowledge disseminator. The personas that the graduate students needed to embrace, as both data generator and data analyst, both researcher and participant, further exposed the dialectical nature of social science research. Four graduate students and the instructor from the class contributed to the data displayed on this poster and collaborated on a recently published peer-reviewed article. A second article that describes the students' and instructor's phenomenological experience of the assignment is forth coming. Students "learned to see" by using photographs as knowledge creation and dissemination tools. The class instructor was able to "witness" the strides that students made in completion of this assignment and gained insight into the learning process itself. Using Photovoice as a teaching tool allowed students to acquire a depth of understanding regarding research ethics and protocol, social issues, the demands and rewards that participants face when asked to share personal information via a qualitative format, and the challenges of presenting a polished version of their work to an audience. In short, students began to identify themselves as qualitative researchers. The learning process had the unexpected benefit of enhancing instructor fulfillment as well, but the most beneficial aspect of the Photovoice assignment for both students and instructor was an increased collegial connection that transcended the traditional limitations of those roles to become co-producers of knowledge and experience.

From "Meta" To "Micro" And Beyond: How Engaging In Research About Our Institutions Can Impact Teaching And Learning In Our Classrooms

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America Trinidad, *Education, Hostos Community College of CUNY*
Lisa Hale Rose, *Social Sciences and Human Services, Borough of Manhattan Community College CUNY*
Precious Sellars-Mulhern, *Counseling, Borough of Manhattan Community College of CUNY*
Adhiambo Okomba, *Communication Skills, LaGuardia Community College of CUNY*
Joanne Pierre-Louis, *Psychology, LaGuardia Community College of CUNY*

Abstract: Six co-investigators from three community college campuses, conducted a qualitative study that explored and identified obstacles that young women of color face as they journey toward completion of their associates degree-from the perspective of both the young women themselves and the campus professionals who teach, advise, counsel and assist them. Analyzing the data, assessing the services, and completing an exhaustive search of the

literature culminated in the development of a compendium of interventive recommendations that can lead to re-envisioning the critical first semester of college for young women of color, indeed all young people entering urban community colleges for the first time. This work prompted a new updated and more comprehensive understanding of who the young women of color are on their campuses, and suggested an "Academy" approach that rests solidly on the findings of this study. It also impacted our teaching, how we interact with students, our goals and objectives in the class-room and how we can re-envision faculty-student engagement on the "micro" or class-room level.' Our presentation will suggest that faculty engage in "meta" institution-focused research as a way of learning about students, thus reducing the all-too-prevalent siloed college culture that impedes student success in the class-room and beyond.

Game On! Game-based Pedagogies for Critical Thinking Skills

John Hildreth, *Center for Innovative Teaching and Learning, Radford University*
Guy Axtell, *Core Curriculum/Philosophy and Religious Studies Department, Radford* University

Abstract: Teaching in ways that develop critical thinking (CT) skills in our students is a major priority in higher education today. One of the more difficult yet vital CT skills for teachers to instill in students is competence in argument identification and evaluation. This skill demands a clear grasp of the differences between inductive and deductive patterns of reasoning, and of how these different argument-types are evaluated. This competence is measurable, but acquiring it typically necessitates a great deal of time working though exercises of graduated difficulty. Our session will model effective game-based teaching and learning through audience participation in a video game we have created to teach for the above-mentioned skills. The game, authored with Adobe Flash, can be played in any computer-equipped classroom or assigned to students outside of class. We introduce the game's pedagogy through the contemporary literatures on "blended" and game-based learning, and show how these pedagogical approaches can heighten focus and enliven the practice necessary to master the associated skills. We end by inviting a broader discussion of how educators can also bring the theory and practice of game-based learning together to achieve other class or disciplinary-specific goals.

Grief-related Expressive Writing in a Stress Management Course: A Qualitative Analysis

Sandra Gramling, Benjamin Lord & Elizabeth Collison, *Psychology, Virginia Commonwealth University*

Abstract: We have advocated elsewhere (Auerbach & Gramling, 1988) for a scholarly approach to the use of experiential exercises in the classroom. Because a large proportion of college students, (40%) have experienced the loss of someone close to them (Holland, Currier, & Neimeyer, 2006), inclusion of grief-related writing exercises (e.g., poetry) may seem particularly warranted in college courses such as Stress-and-its-Management. Although the evidence for the efficacy of expressive writing amongst the bereaved is equivocal (e.g. Stroebe, Schut, & Stroebe, 2006), previous work by the authors (Gramling, & Lord, 2009) suggests that students may find such exercises to be emotionally evocation, yet positive experiences. Notably, recent reviews of the expressive-writing literature have advocated for the exploration of mechanisms of action for the technique (e.g. exposure, cognitive adaptation; Sloan, & Marx, 2004), a task uniquely suited to qualitative methods. The current project proposes to analyze the content of students writing assignments and self-reports in order to identify the role that themes such as meaning-making and emotional disclosure play in shaping students' writing experience. Undergraduate students (N=225) enrolled in a Stress Management course were given the opportunity to complete several expressive writing assignments. These writing assignments were drawn by the first author from a variety of resources (e.g. Adams, 2009) targeted toward individuals who had lost a loved one, however, students were allowed to focus their writing on any type of loss experience. Eighty students completed a writing assignment. Of these, 56 students (M age: 21.9 years; 80% female; 33.9% African American, 32.1% Caucasian, 12.5% Asian and Latino, respectively) completed a feedback survey regarding the usefulness of these exercises (a 70% return rate). This survey included demographic questions, likert-style questions regarding the writing experience, as well as three open-ended questions to which the students could provide responses. Students had experienced either the death of a loved one (48%) or a loss not due to death (52%). Approximately 73% of the students sampled agreed or strongly agreed that they experienced strong emotions related to their loss when completing the writing exercise, and over half of participants reported that the exercises helped

them to make sense of their loss experience (62% agree or strongly agree). This preliminary evidence suggests that both exposure/emotional processing and cognitive adaptation/meaning-making play a role in the students' writing experiences. Further content analyses using the constant comparison method to identify relevant themes will be conducted on both the students' writing samples and their answers to open-ended questions about their experiences during and immediately after completing the exercise. The preliminary results lend support to the idea that experiencing emotions and finding meaning in the loss are both important parts of students' writing experiences. Furthermore, students largely rated the experience as being helpful (93% agree or strongly agree). Further qualitative analyses of the students' self-reports and writing assignments will serve to clarify the roles of these important variables, providing an important teaching point for future students, as well as suggesting specific intervention strategies for counselors hoping to employ expressive-writing with bereaved undergraduates.

History of Architecture and Interior Design Notebook: An Inductive Analysis of History of Architecture and Interior Design

Renee K. Walsh, *Interior Design and Fashion, Radford University*

Abstract: The purpose of the history notebook assignment is for the students of the History of Architecture and Interior Design course to construct a comprehensive written and graphic notebook through an inductive analysis of historical styles. This notebook will integrate research, analysis, sketching, technology, and applicable summarization of each style throughout history. Interior Design students are being asked to encompass all facets of learning and are challenged to actively learn through logic and creativity.

How and Why to Motivate Students to Study and Do Honest Homework.

József Hunek, *Chemistry, Mountain Empire Community College*

Abstract: Student success depends on regular study, honest homework, and the ability to learn from mistakes. A unique grading system is introduced that motivates students for all these above in a way that students have found rewarding. After reading "A Nation at Risk" (US Department of Education, 1983) education especially interests the author here in the US. Future employees must have "hard skills" and be able to "think outside the box" (Snyder, 2004). The author came from outside the box as a winner of an exchange program to work for the national interests (Barone, 2001) of this country with over 30 years teaching experience at the Technical University of Budapest, Hungary. Technological and scientific advancement depends keenly on the quality of science education. It needs talented scholars with a genuine passion for transmitting their love of science to others. The ability to inspire students is dependent on a genuine enthusiasm on the part of the faculty. This enthusiasm is contagious. Students learn by doing. Errors teach us if we find them. A famous publication (Hunek, Gal, Posel, Glavic, 1989) introducing a new term that is referred to the author's name in the chemical engineering science arose from a student's error. The reviewer of the AIChE Journal wrote: "The note is interesting in pointing out something that might not occur to people working with such systems." It became a "hot" paper of worldwide interest (Hunek, Gal, Posel, Glavic, 1989). A method is suggested here to use the teaching power of correcting errors.

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IBM Cloud and Student Term Projects to Aid Computing Education

Yinlin Chen & Edward A. Fox, *Department of Computer Science, Virginia Tech*

Abstract: Virginia Tech, in CS5604, a graduate course on information retrieval (IR), made novel, scalable, and pedagogically helpful use during Fall 2010 of cloud computing to enhance education. This work built upon two streams of research. One stream connected with an NSF-funded project to develop curricular resources for the field of digital libraries (DLs). The other stream concerns the use of cloud computing in education.

Identifying Win-Win External Education Opportunities Within A Visual Communication Design Context

Ben Hannam, Troy Abel & Somiah Muslimani
Visual Communication Design, School of Visual Arts, Virginia Tech

Abstract: This presentation examines several 'outside the classroom' strategies graphic design students can utilize to supplement their classroom education. Such opportunities as freelance, internships, involvement with professional organizations, and other non-traditional approaches are invaluable as they tend to shift the responsibility of educating from the teacher to the student; however, in utilizing this model what risks as educators do we face? We as educators, must reduce the likelihood of less-than-successful experiences for our students by familiarizing ourselves with some common pitfalls that plague out of the classroom experiences. The authors will present several of the initiatives that the Visual Communication Design program at Virginia Tech has implemented which reflect the process of learning back to students, while also sharing where these methods have fallen short.

Impact Of Emotional Intelligence On Team Performance In Higher Education Institutes

Zainab Naseer, *Shaheed Zulfikar Ali Bhutto Institute of Science and Technology*
Saeed-ul-Hassan Chishti, *International Islamic University, Islamabad*
Fazalur Rahman, *Allama Iqbal Open University*
Nabi Bux Jumani, *International Islamic University Islamabad*

Abstract: Claims about the positive influence of emotional intelligence (EI) on work team performance are very numerous, both in commercial and scientific literature. In this study, EI was assessed using the Wong and Law Emotional Intelligence Scale (WLEIS). Paper examined the relationship between emotional intelligence and performance of 15 teams selected from higher education institutes of Pakistan. A single questionnaire was used to gather data from the teams, each team consisting of 5-15 members. Simple and multiple regression was applied to investigate the relationships between emotional intelligence as a whole and team performance and then between different dimensions of emotional intelligence. Results indicated that emotional intelligence had positive impact on team performance. The study recommended that experimental study may be conducted to compare the performance of teams before and after providing the training on emotional intelligence so that a clear picture may emerge.

Improving Interaction with Doctoral Candidates' During the Dissertation Process

Amanda J. Rockinson-Szapkiw, Randall Dunn & David E. Holder, *Liberty University*

Abstract: Doctoral attrition during the dissertation process is high. Factors that have been associated with high attrition rates have been academic, social, and emotional in nature. Thus, methods chosen to support doctoral students in the dissertation process, degree should take into account doctoral students needs on all three levels. This presentation will demonstrate how online doctoral program educators built a collaborative workspace using Microsoft Office SharePoint, and how specific features are being used to support distance doctoral candidates both socially and academically in the dissertation process. Suggestions on how open source technologies and content management systems can be used to support doctoral students in a similar manner will be discussed.

Improving the Products and Processes of Teaching and Learning with an After-Action Report

Stephen G. McLeod, *English and Modern Foreign Languages, Jackson State University*

Abstract: Research indicates that active learning is effective, but research also indicates that active learning must include opportunities for reflection on the products and processes of learning. A tool adapted from the author's military experience, the After-Action Report, provides this opportunity. After a military training exercise, the officers in charge of the participating units are asked to submit a report on what aspects of the maneuver went well, what problems the unit encountered, and how the unit dealt with those problems. This session will introduce participants to a short After-Action Report template that they can easily apply to a wide variety of assignments. In this session, participants will "test-drive" the template in order to discover how they might apply it to their own teaching.

Incorporating Service Learning Projects to Improve the Student Experience

Thomas Martin & Sam Doak, *Agricultural Technology, Virginia Tech*

Abstract: Virginia Tech's motto "That I May Serve" illustrates one of the primary missions of our university. We would like to present a poster that describes one way that we have changed our curriculum to include service learning to the benefit of or local community, our students, and Virginia Tech. The experiential aspects of Service Learning have been shown to enhance the student learning experience (McClam et al, 2008; Papamarcos, 2005) and interaction with community clients has also been shown to be of educational and social benefit (Frazer et al, 2006) The Landscape Design and Landscape Contracting classes in Agricultural Technology (AT) provide the perfect opportunity for utilizing service learning as a teaching and learning tool. Past Landscape Design classes produced plans for on campus buildings; plans that could never be implemented. To improve the learning experience for our students, we sought potential clients in need from our local community. The Fine Arts Center of The New River Valley (FACNRV), a local non-profit in Pulaski, Virginia, proved to be the perfect marriage for AT at this time. Our students have interviewed members of the FACNRV board, assessed their site, designed landscape plans for their building, and presented their designs to the clients. We were than able to incorporate the implementation of these plans into the Landscape Contracting class, using the FACNRV site as an evolving outdoor classroom. The surveyed reflective responses to these course changes were overwhelmingly positive. Students indicated a greater perceived value in their work with at-need clients when compared to classroom exercises. There were numerous unique challenges for the students in performing a service learning project of this scope, challenges that were not present before these projects used at-need clients. Meeting these challenges provides a long term tangible benefit to our students as well as our surrounding community.

Increasing Teacher Self-Efficacy through Instructional Coaching

Pamela W. Aerni, *School of Education and Special Education, Longwood University*

Abstract: When teachers believe in their ability to meet the learning needs of their students, they design and deliver instruction which provides students access to content while enabling them to construct new knowledge and understanding. A strong link exists between teacher self-efficacy and improved student achievement (Ashton & Webb, 1986; Berman & McLaughlin, 1977; Dembo & Gibson, 1985; Hoy & Woolfolk, 1993; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Bandura (1986, 1997) postulated that behavior is more effectively predicted by an individual's belief related to their capabilities rather than what they are able to accomplish. Therefore, an individual's self-belief is a driving force in his/her professional and/or academic accomplishments (Aerni, 2008; Lewandowski, 2005). It is these beliefs that "determine what individuals do with the skills and knowledge that they have" (Pajares, 2002, pp.28); thus teacher interpretations about their ability to provide effective instruction impact their self-efficacy. In order to support changes in pedagogical content knowledge among participating teachers, instructional coaching activities were connected to "real-time" learning which were integrated with the daily

teaching experiences (Fullan, 1995). Just as teachers support their students, instructional coaches provided safe, non-threatening supports as teachers learned to implement and integrate research-based methodologies into their daily instructional practices. Instructional coaches challenged teachers to make effective instructional decisions based on student needs (Knight, 2005) through demonstration lessons, collaborative teaching activities, lesson study, coaching sessions and lesson planning sessions. The mixed-method study was designed to assess teacher self-efficacy and beliefs related to teaching mathematics to diverse student population. The study was an additive intervention approach to professional development, which incorporated graduate-level content/methods courses and school-based instructional coaching for members of the study group as well as members of the control group. Three tiers of participation for selected participants (middle school math teachers from 34 school divisions in Virginia) involved the following interventions: 1) graduate level content courses only; 2) instructional coaching only; and 3) participation in both graduate level content courses and instructional coaching. Data related to self-efficacy was collected through the Teaching Mathematics in Middle Schools survey (Aerni, 2008) as a pre- and post-assessment as well as focus group sessions with each Tier. A factor analysis was conducted to demonstrate that questions within the instrument loaded in to the predetermined constructs (adaptation for math topics, and adaptation of instructional strategies). A repeated-measures MANOVA was conduct to determine if significant changes occurred in self-efficacy scores among each tier. The results of the MANOVA analysis showed significant changes in self-efficacy in related to adapting instruction and content for diverse student learners through the integration of research-based instructional strategies among Tier 3 participants. Tests of within-subjects effects showed significance for the adapting mathematics instruction for diverse learners' factor ($F = 7.82$, df $= 1$, $p = .006$) for as well as for adapting instruction based on mathematical topics ($F = 12.87$, df $= 1$, $p = .000$) for Tier 3. Additionally, the analysis demonstrated strong significance for the adapting mathematical tools factor ($F = 20.42$, df $= 1$, $p = .000$).

Instructional Innovation and Strategic Thinking with the iPad

Nicholas Konrad Langlie, *Instructional Technology Services, Longwood University*

Abstract: The iPad allows students to read textbooks, investigate course specific/supplementary concepts, conduct research via Library databases, access lecture notes, content, audio/video, on the web, on a server, in Blackboard, on iTunesU, and more. Welcome to a snapshot in time of something truly innovative. This is a moment of clarity, a convergence of possibilities that can be realized to connect students and faculty with multi-modal educational experiences that are exciting, engaging, promote retention and fit what 21st Century students need to be engaged, to become great citizens and to apply what they are learning to the world in which they live. Statement of the problem or issue: There are few technologies that are truly innovative and can appeal to administrators, faculty and students the way the iPad can. This presentation explores the key elements of what makes a technology innovative and relevant to instructors, their students, and educational leaders. Via an interactive presentation, educators will learn how to plan for the use of a technology that can transform learning for students and more broadly engage 21st Century learners. The iPad is just such a resource its merits will be demonstrated from the vantage point of the administrator, the instructor, and the student.

Integrated Coursework: Bringing Meaning to a Qualitative Research Class

Travis W. Twiford & Carol S. Cash, *Educational Leadership and Policy Studies, Virginia Tech*

Abstract: This paper is a report of the research that resulted from an interdisciplinary activity for students enrolled in both a course on legal aspects of special education and one on qualitative research in a doctoral program of educational leadership. The students were challenged to investigate the perceptions of regular educators, special educators, and supervising administrators on the collaborative model and its effective implementation. The students developed the research questions, the interview questions, the research design, and the protocol associated with the topic. Each student interviewed a participant, transcribed and coded the resulting interview, and analyzed the results. These were combined by participant group for further analysis, and then the resulting themes were analyzed across the three groups to identify universal themes related to the research question. The process and results will be discussed.

Integrating Developmental Instruction in Sustainability Contexts into an Undergraduate Engineering Design Curriculum

Eric C. Pappas, *School of Engineering, James Madison University*

We have come to understand well that the greatest and most immediate sustainability problems humans face are related to our relationship with the natural world and the populations occupying the planet. This fact places a great deal of responsibility on a discipline that must now move beyond its historical sphere of technical influence and embrace the wide variety of disciplines with which it shares influence. We define sustainability as follows: A sustainable society possesses the ability to continue to survive and prosper indefinitely, not just with respect to environmental resources and economic development, but also with respect to quality of life as it pertains to conditions that promote sustainable human prosperity and growth (e.g., opportunity, economy, privacy, community, the arts, education, and health). A sustainable society meets these needs simultaneously, in the context of human respect and the ability to negotiate differences without violence. The James Madison University (JMU) School of Engineering teaches sustainability in the following four contexts: 1) Environmental Sustainability, 2) Economic Sustainability, 3) Social Sustainability, and 4) Technical Sustainability. Factors in all sustainability contexts are mutually dependent upon each other in complex ways, and a change in one context is likely to result in an unpredictable change in the others. Little work has been done to understand and assess the reciprocal influences (that is, how sustainability in one context influences sustainability in other contexts) this complex system creates. For example, efforts to promote environmental sustainability have traditionally required trade-offs among resource availability, market forces, and technology—and may include the consideration of some human factors—but may ignore or deemphasize issues related to the economic, social, and cultural well-being of a population (community sustainability). It would appear that determining the sustainability of a product, process, or human community depends upon the careful and complete assessment and evaluation of a range of technical and human factors that may (or may not) be influenced by a particular assessment effort, noted in The Engineer of 2020 as "the core analysis activities of engineering design." This approach is central to our efforts, but it is a methodology about which little has been written or practiced. Our overall goal is to enhance undergraduate engineering education by promoting and implementing a new developmental instructional model (using Bloom's Taxonomy) for teaching and assessing sustainability in four contexts (environmental, social, economic, and technical).The objectives of the current effort are as follows: Objective 1: Integrate sustainability instruction in four contexts into our six-course design curriculum using a developmental approach; Objective 2: Evaluate and assess newly developed sustainability and design projects and assignments; Objective 3: Disseminate sustainable design developmental instructional methodologies, assessment, and findings. While stand-alone courses in design are more typical in engineering programs, our approach integrates instruction into a six-course, three-year design curriculum which is the "spine" for our instruction in sustainability. Our instructional approach to teaching sustainability in product and process design is 1) developmental, 2) integrated, 3) interdisciplinary, and 4) hands-on (design to build). Most importantly, the design curriculum offers developmental instruction in sustainability in such a manner that, as students begin to understand sustainability in single contexts, they slowly begin to integrate this understanding as they learn the other contexts. This understanding is reflected in their individual and collaborative design projects, as well as in their assessment and evaluation of existing designs.

Interaction and Community Online: English 1654, Introduction To Speculative Fiction

Susan A. Hagedorn, H.R. Patton, Carolyn Rude, Cheryl W. Ruggiero, Karen Swenson, Sarah Yakima
English Department, Virginia Tech

Abstract: As we teach large numbers of students online in this course each semester, we are analyzing the ways that our assignments, because of the ways that they use particular online tools and environments, teach particular attitudes and assumptions about individuals' relationships to one another. We are consciously creating an "alive" online "community of practice." It has two dimensions, one in which faculty (four) and graduate students (two) teach collaboratively and a second in which students (approximately 500 thus far) collaboratively create the Virginia Tech Speculative Fiction Wiki, a writing project currently in its third semester. Carolyn Rude, English Department Chair, will introduce the project and each teacher and one TA, who will each speak briefly about a different aspect

of this experience, highlighting the nature of the community as an abstract metaphor in the virtual world, underlining community as interaction with others. Each speaker has her/his own conclusions about particular environments, assignments, and goals. Topics include "shared resources," "peer assessment in forum groups," "wiki and community," "comparison of classes before and after collaboration," and "students' engagement."

Interdisciplinary Sustainability Education: Reviewing Pedagogies, Advocating Synergistic Design

Archana Sharma, *Landscape Architecture, University of Tennessee*

Abstract: If sustainability is to conserve resources for future generations, it has finally arrived. Reduce, reuse, recycle are familiar dictums to almost all. Reuse of waste as a resource or the concept of cradle to cradle is now popular, at least among students of sustainable development. To impart these environmental ethics related concepts to design students gets challenging, aggravated by the fact that relevant pedagogies are not clearly identified for academics to follow. To address this lacuna, a critical review of interdisciplinary pedagogical approaches related to sustainability education to designers is conducted. The intention of the review is bifocal: to delineate a set of universal pedagogies and to abstract the generation or incidental emergence of new knowledge. Further, the paper adds to the discourse through critique of various pedagogical programs and approaches employed by the author. Contextualization of sustainability related knowledge within popular market – practice or scholarly and presentation of knowledge in students' familiar language play key role in success of the pedagogy. Another key contribution of this paper is in articulation of synergistic thinking and design. The synergistic neighborhoods designed as an outcome, are akin to inter-relationships of organisms within ecosystem, for commensal, symbiotic or mutualistic performance.

Interpretative Pedagogies in Results from a Gender Study

Hyacinth Skervin, *Curriculum Studies, North-West University, Potchefstroom Campus, South Africa*

Abstract: This paper critiques results from the pilot study of a SANPAD sponsored research project aimed at social and cultural transformation in the South Africa context. The project gives focus to the violations of the rights of girls making the truth claims insofar as they relate to traditional belief systems and cultural practices primarily among ethnic South African groups. An auto-feminist ethnographic study, the author has specific responsibilities within the team of ten researchers to: observe the research process, contextually map the research environment, and one of two administrators of the field exercise directly involving the subject participants. Primary activity in the pilot study was a narrative writing exercise in which a mostly peri-urban class group was asked to write about their own 'cultural and religious practices that made them [personally] comfortable and uncomfortable'. Narrative responses were solicited within the assumption that the girls would apply knowledge of South Africa as a new, diverse, actively democratic society and of the human rights education, which forms an integral part of the national school curriculum that they study.

Interpreting the Past: Assessment of Pre-Service Teachers' Perception about History

J.D. Ohn, *Department of Early, Elementary and Reading Education, James Madison University*

Abstract: The purpose of the study was to examine whether or not and how elementary pre-service teachers' perception about history were changed upon their completion of a class project that engaged them in a discipline-specific inquiry as a method of teaching history. Surveys were administered to assess any changes in their conceptualization of the history before and after they participated in the class project. The pre-service teachers' reflective writing and lesson plans were used to evaluate if they developed pedagogical knowledge about teaching history as well.

It's all Relative: Investigating Horse Usage Levels in Higher Education Equestrian Programs

Anna Norwood, Teresa McDonald, Rebecca Splan, Shea Porr, Cynthia Wood
Animal and Poultry Science, Virginia Tech, Blacksburg, VA

Abstract: As higher education has faced the increasing pressures from economic shortfalls, academic programs are being asked to become self-sustaining, either by research grant awards, student laboratory fees or other external resources. In response to these pressures, equestrian programs have been forced to obey mandates to reduce horse numbers while maintaining a high quality of instruction. In addition, equine programs must remain diligent to use horses only at a level that will allow them to stay in good health and comply with established regulations mandated by the Animal Welfare Act and higher education institutional animal care and use committees. Members of the House and Senate Agriculture Committees generally have expressed a preference for voluntary rather than regulatory approaches to humane care of farm animals including horses (Becker, 2008). In order to investigate nation wide best practices in equestrian higher education settings, a survey related to average horse usage in higher education programs was distributed by the researchers, in order to add administrative knowlege to the instructor as well as the students related to the optimal amount of days and hours horses should be worked. The online survey tool, Survey.vt.edu, was used to distribute the questions to the coaches from schools registered with the Intercollegiate Horse Shows Association (IHSA) and Intercollegiate Dressage Association (IDA). The survey encompassed several interest areas: the amount of days per week, hours per week, hours per day of horse usage; if popular horses or upper/lower level horses are ridden differently than others; and what information was used to determine the amount of time horses are ridden. Survey results indicated a majority of respondents worked horses one hour per day, five to six days per week. Horses ridden in lower level classes or favorites of the students average two hours per day. Of the 374 schools that were contacted, 77 responses (21.5%) were collected. The purpose of the data collected for this poster is to help aid to further the investigation of the optimum range of horse usage to the benefit of students, horses and higher education equestrian programs in hopes that specific guidelines can be determined. In addition, the presenters will encourage open discussion between themselves and conference attendees in order to communicate the need of understanding this phenomenon as well as other avenues of investigating the topic.

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**Jump, Jive, 'n Wail!: Using Music As A Tool For Collaboration Between
General Education Writing Courses And The University Library**

Merry Byrd, *Languages and Literature, Virginia State University*
Darnell Law, *University Library, Virginia State University*

Abstract: With joint goals of making hybrid and distance learning composition courses for freshman more manageable and fluid, while increasing and diversifying library use in those courses, a partner project between Languages and Literature and the Library Instruction departments was begun in Fall 2009. In this sequence, students register for both English 110 and English 111 over the course of two semesters, and all of their paper topics focus on analyzing music and popular culture. Students are encouraged to find their own voice and draw from their own knowledge and musical tastes in the expository writing course. Assignments allow them to interpret a popular song, to define a musical sub-genre, and to analyze (either the causes or effects) of a major musical movement, event, or innovation. In the second course, Research and Argumentation, they are required to review their essays and bring their personal perspectives into a wider social and political discussion by categorizing song messages, comparing definitions of musical genres, and extending their analysis of cultural influence and change. This course sequencing reinforces the traditional process of "stacking" assignments in order to ensure student success. It also encourages students to find their own thoughts first and then enter public discourse, rather than just responding to arguments or debates as they are presented to them. Group projects, such as annotated bibliography assignments and précis writing assignments, are built into the course to also build class camaraderie. The library functions as a means of

support for students working on the project throughout the year. Both classes receive formal bibliographic instruction, followed by individualized meetings concerning how to use library resources such as: electronic databases, print journals, microfilm, microfiche, and the library catalog. Emphasis is given to producing effective search strategies based upon each type of resource used. The expected result is that students will learn about different aspects of the library, apply this information to other classes or assignments, and will develop skills that will enhance their research abilities in future coursework.

Just What Do You Mean by Professional Dispositions?

Naomi Jeffery Petersen & Kelly M. Benson
Education Foundations & Curriculum, Central Washington University

Abstract: Dispositions make a difference in teaching success and academic achievement (Singh, et al., 2008), so much so that NCATE accreditation now requires teacher education programs to measure them (Brock, et al., 2008). In higher education, dispositions feature in studies of student and faculty engagement (Kuhn, 2004) and faculty success (Boice, 1997). However, there is little consensus regarding how to identify, define, influence or assess them (Notar, 2009; Phelps, 2006) and there is open criticism of the plausibility of the construct (Murray, 2007) especially when used to address interaction problems without having established the criteria for them in advance, creating a litigation vulnerability. There are theoretically-based working definitions of dispositions developed by professional groups (Katz, et al., 2008) such as the Interstate New Teacher Assessment Support Consortium (CCSSO, 1992) and National Board for Professional Teacher Standards (Whitsett, et al., 2007). Given that teacher preparation programs are inconsistent in their identification of and influence on dispositions (Diez, 2007), and that instruments are rarely developed in collaboration with all stakeholders nor developed and validated according to rigorous conventions (Thompson, 2008), our research agenda responds to a pressing need for more rigorous empirical methods to develop and validate the definition, categorization, and use of dispositions in teacher education programs (Honawar, 2008; Notar et al., 2009). We extend the work of Lund (2007) who polled faculty to define the construct, but only in one discipline, highlighting a systemic complication: education serves multiple disciplines, many unfamiliar with educational theories that nonetheless inform their practice. In Phase 1, we surveyed the faculty in three colleges of a large regional comprehensive university with NCATE-accredited certification programs as well as staff who have contact with candidates, asking them to rate the importance of 40 dispositions commonly mentioned in the literature. If found adequately reliable, an exploratory components analysis will identify any patterns of response suggesting the most parsimonious set of subscales. Respondent ratings can then be correlated with personal characteristics and experiences to discover possible on values (Thompson, 2008). During the second phase, the faculty and administrators will be surveyed regarding ways to measure and to influence the highest rated dispositions. Finally, a new instrument will be developed to measure dispositions by a) candidate's self-assessment; teacher education course instructors observations of candidates in university courses; and c) field supervisors observations of student teachers in K12 classrooms. We will then be able to compare candidates entering and exiting the program and also measure any changes as they develop professionally, that is, a longitudinal study, in order to establish any relationships among program experience, dispositions and teacher effectiveness. There is considerable merit in contributing psychometrically valid instrumentation featuring cross- disciplinary collaboration and consensus building that provides a common language for addressing a systemically challenging and ambiguous objective. The overall findings of this study will be significant in providing a compendium of previous research study analyses and may provide insight into the identification and influence of dispositions for professional educators, teacher education programs, and teacher candidates. This is of interest to thousands of programs and agencies across the nation responding to accountability reforms and the need to identify characteristics of effectiveness.

Layers of Differentiation: a Framework for Teaching Universally-Designed Classroom and Assistive Technology Use to Pre-Service Teachers through Modeling

Steve Whitaker & Katrina Maynard, *Education and Special Education, Longwood University*
Amelia Moody, *Childhood and Special Education, University of North Carolina Wilmington*

Abstract: A key challenge for pre-service preschool and elementary-level teachers is the inclusion of all learners - including those with special needs and varied learning styles – in instruction. A set of guidelines, dubbed the Universal Design for Learning (UDL) presents one framework to help teachers achieve this goal. These guidelines ask teachers to provide multiple means of engagement, representation, and expression to their students. This challenging task seems to be made more daunting when considering the incorporation of assistive technologies (AT) into teaching and learning, but research-based guidelines for technology use dovetail with the concepts and goals of UDL. These guidelines include concepts such as using technology as a means of diversifying activities, and focusing on the needs of individual learners. Still, a further layer of complexity is introduced when trainers of pre-service teachers consider how to teach their students ways to achieve these goals in their own future classrooms. This presentation describes how the authors conduct their elementary methods courses with the goal of modeling UDL and AT inclusion, using research-based guidelines for effective technology integration.

Learning Contracts in the Design Studio: Fostering Self-Directed Learning

Kathleen R. Parrott & Hyunjoo Kwon, *Apparel, Housing, and Resource Management, Virginia Tech*

Abstract: In the pedagogy of teaching design in a studio setting, the teacher is often considered a coach rather than an instructor. Researchers (Ledewitz, 1985; Reimer & Douglas, 2003; Schön, 1986) assert that studio teaching is collaborative and interactive, and students learn by doing engaging in reflection-in-action. This collaborative and experiential approach to design education requires students to possess skills associated with self-directed learning, such as goal setting, time management, and critical thinking. The Staged Self-Directed Learning Model, developed by Grow (1991), provides four stages that move the student from dependent (teacher as authority coach) to self-directed (teacher as consultant or delegator). To foster a more collaborative and experiential educational approach in an advanced studio design class, a learning contract was developed. The experience of this class, including student outcomes and the development of self-directed learning skills, are reported, based on student and instructor evaluation. The class was developed for advanced studio residential design work with emphasis on independent work of portfolio quality. Students chose their own topics after discussion with the instructor. They developed and implemented a learning contract that included learning objectives, time line, and outcomes. The professor provided assistance or consultation as needed. Students shared progress and ideas on their individual projects in group discussion. The majority of the student's grade was based on successful completion of the course contract and participation. The learning contracts were targeted at Stage 3 of Grow's (1991) Model, where the student was involved and the teacher a facilitator. In this stage, there would be shared decision making, with the students taking increasing responsibility, negotiating interim goals and evaluation, and standards could be related to external requirements. Most students were successful at this level of self-directedness. Some were less successful in accomplishing their goals with the teacher as facilitator, despite enjoyment of the freedom and flexibility of the course. The students stated the contract was a useful device to keep them on tract. They liked having the opportunity to re-evaluate the contract. The flexibility to determine due dates was exciting, although in practice not all students met these due dates. Estimating the time commitment of a project was identified as an important professional skill. ● To develop the skills needed for success with a learning contract, especially goal setting, developing project objectives, time estimating, and project management, the use of learning contracts needs to be introduced before the last semester senior year. Other suggestions include no changes after a certain date or instituting penalties for unfulfilled contract commitments. It is worth noting that other disciplines are implementing studio courses in part because the collaborative, experiential learning of a studio increases the development of self-directed learners, and the associated skills (Gonsalvez & Atchison, 2000; Reimer & Douglas, 2003). The use of learning contracts is a methodology that allows the student and teacher to collaborate in the studio learning experience. Further, the learning contract provides the student with a progressively self-directed learning experience, yet gives the teacher accountability for educational accomplishments.

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Learning Vocabulary with Facebook Games: Is it possible?

Yavuz Samur, *Instructional Design and Technology, Virginia Polytechnic Institute and State University*

Abstract: As Gee (2010, p. 14) stated "we live in an age of convergent media, production, participation, fluid group formation, and cognitive, social, and linguistic complexity—all embedded in contemporary popular culture". In this complexity social gaming has become a big business and game developers now have a great opportunity to integrate games into social networking sites, such as Facebook. One of today's digital tools for networking, Facebook is also very popular with its embedded games. Millions of people are playing games on Facebook. One of the possible reasons why people are playing these games is because they promote social groups which create interaction. To provide just an example of the popularity of such games, the Facebook game, FarmVille, has approximately 27 million daily players and over 75 million monthly players (Zynga, 2010). Other popular games include Café World (30 million monthly players), Petville and YoVille (each with roughly 17 million monthly players). Almost same as number of people as population of Russia is playing Facebook games in one month (140 million). One potential educational use of such games is learning English as a foreign language (EFL) at schools where these types of games might be used for instructional purposes such as learning vocabulary. Many researchers, thus, have been studied new thinking about teaching and learning vocabulary. According to Prensky (2001) games are a form of fun and play; games have rules, goals, outcomes and feedback, win states, conflict, competition, challenge, opposition, problem solving, interaction, representation and story; games are interactive and adaptive. Facebook restricts its use to individuals 13 years of age and older, which means that students who are going to middle or high school might benefit from those games; especially the students who are learning English as a foreign language. Farmville could be very useful vocabulary tool for learning animals, buildings, vegetables and fruits; Café World for foods, drinks and decorations; PetVille for furniture, clothing, hardware and decorations. They are goal oriented experiences and connected to the social world as Gee (2010) discussed in situated cognition studies. Learning and practicing vocabulary words in this manner could be so entertaining that they never even consciously realize they are learning in this type of environment; especially for the learners who have hard times learning new vocabulary words in a totally different language; because in some eastern countries, the situation is not good when you examine how many English words an average high school student knows. With so many people playing games on Facebook, leads researcher to question two items. First, what can high school students who are learning English as a foreign language learn from playing these games in terms of vocabulary, and second, what does literature says in terms of how can this type of environment be designed to help students learn vocabulary more efficiently? The rest of this poster presentation will focus on presenting some ideas and thoughts about teaching vocabulary by using Facebook games such as FarmVille, Café World and PetVille for high school students who are learning English as a foreign language; therefore a literature review and its results will be presented and discussed within this context.

Leveraging Course Content Through Digital Delivery: Making Textbooks More Accessible

Andrew Feldstein, *Management and Marketing, Virginia State University*

Abstract: In the face of rising textbook costs and increased opportunities to leverage digital content, Virginia State University's Reginald F. Lewis School of Business entered into a partnership with the open-source textbook company FlatWorld Knowledge to provide open-source textbooks that could be delivered digitally to students at a significantly reduced cost. The rationale for the initiative was not merely to transfer course content from traditional

books to e-books. Digital content implies more than simply reading an e-book online. Digital material can be linked to from learning spaces such as Blackboard, downloaded to PDF files, converted to Mobi and ePub formats to be read on Kindles and iPads and even delivered as MP3 podcasts. The purpose of this study is to determine if this newfound accessibility of course content is being translated to an increase in student's actual usage of the materials. Also, can we identify any trends in student grades or retention. Early indications are that, while this has been a positive step, wholesale student adoption and understanding of the features available through digital content is a process that needs more than a single semester to diffuse through the population.

Media Advocacy as an Influence on Student Motivation and Self-Regulated Learning

Eric K. Kaufman, Chaney Mosley, Lisa Hightower, Michelle Greaud & Keyana Ellis
Agricultural and Extension Education, Virginia Tech

Abstract: Student motivation is a persistent and pervasive problem in postsecondary education. Media advocacy offers promise for its potential influence on student motivation and self-regulated learning. This presentation will highlight its use in written and oral communications courses in Virginia Tech's College of Agriculture and Life Sciences.

Motivating College Students: Specific Behaviors for Facilitating Student Engagement.

Elin Cortijo-Doval & James H. Damico
Reginald F. Lewis School of Business, Department of Management and Marketing, Virginia State University

Abstract. This paper proposes a model for facilitating college student engagement and motivation. Drawing on several decades of research and their own career experiences with teaching and staff development, the authors provide specific behaviors and numerous concrete and actionable techniques, to include adapting to involve students, developing student ownership and seeking student commitment. The authors' discussion will include a process and a self-assessment instrument for observing and evaluating how professors can effectively facilitate student engagement.

Old Habits Die Hard:
Reflections on the Counter-Normative Pedagogy of a Short-Term International Field Course

Erin Sharpe & Samantha Dear
Department of Recreation and Leisure Studies, Brock University, St. Catharines, Canada

Abstract: In this presentation, we reflect on our experience as teachers of a short-term international field course to Cuba. We consider their potential as a form of counter-normative pedagogy, and elaborate on the dimensions of the course that fostered counter-normative pedagogy. However, we also describe the challenges that we faced, as a group, to fully embrace a way of teaching and learning that runs counter to the norm. Specifically, we struggled to break down boundaries between public and private selves, to embrace discomfort as integral to learning, and to engage in authentic dialogue and co-construction of knowledge. In these reflections, we suggest that old habits – normative teaching practices and ideologies – die hard. For teachers and students to fulfill the potential of counter-normative pedagogy, everyone must be able to recognize when and how normative ideologies enter into the teaching-learning process.

**Opportunities for Undergraduate Arts Researchers:
Virginia Tech's Undergraduate Research Institute Program**

Michael Saffle, *Department of Religion and Culture, Virginia Tech*
Andrea Hobeck, *Interdisciplinary Studies, Virginia Tech*
Claire McKinney, *International Studies and French, Virginia Tech*

Abstract: Little attention has been paid to undergraduate research in the arts and arts history, and for at least two reasons: undergraduates rarely 'qualify' as researchers, and there are few mechanisms at most universities for linking individual undergraduates with suitable faculty members in order to carry out 'real' arts-history research work. Recently, Virginia Tech's College of Liberal Arts and Human Sciences (CLAHS) launched its Undergraduate Research Institute (URI) program. The idea behind the program, which helps qualified and engaged undergraduates meet and work in various areas, including arts and arts history, with suitable faculty collaborators, is to help undergraduates begin 'real' (i.e., professionally publishable or presentable) work before applying to graduate school or beginning graduate work. The URI program also offers financial support for certain undertakings, including visits to libraries and archives, conference attendance, and travel. Two case studies—one of a URI student who completed a smaller arts-history project, the other of a non-URI student who continues to work on a larger project (and both with the same faculty member)—are evaluated by the students and faculty member themselves, and the outcomes noted.

Participating In An Introductory Neuroscience Course Decreases Anxiety

Kerisa Shelton & Melissa Birkett
Psychology, Northern Arizona University

Abstract: Anxiety about math and science courses is prevalent and leads to negative outcomes for many students. Students who experience course-related anxiety have lower test scores, reduced self-esteem, and avoid opportunities to take science courses. Participation in a math or science course may be useful way to reduce student anxiety about these courses and encourage future enrollment in advanced courses. The purpose of this study was to determine if participation in an introductory neuroscience course reduced neuroscience anxiety among college students. To assess the ability of course participation to reduce anxiety, surveys of neuroscience anxiety were administered to college students at the beginning and end of an introductory neuroscience course. Forty-six students who were enrolled at a southwestern, public university completed the surveys. Students were enrolled in one of two sections of the introductory course that were taught by the same female professor. Of the students, 83% were female, 65% were Caucasian, 83% were psychology majors, and 57% were in their third year of undergraduate education. One-way repeated measures ANOVAs revealed a significant overall reduction in scores of neuroscience anxiety from the beginning to end of the semester for all students combined ($F(1, 45)=17.46$, $p<.05$). There was a select, significant reduction in anxiety scores among female students (Holm-Sidak multiple comparisons; $t=4.32$, $p<.05$). Students who self-identified as members of an Ethnic Minority group had significantly higher neuroscience anxiety scores than Caucasian students at the beginning of the course (Holm-Sidak multiple comparisons, $t=3.08$, $p=.003$). Both Ethnic Minority students (Holm-Sidak multiple comparisons, $t=3.96$, $p<.05$) and Caucasian students (Holm-Sidak multiple comparisons, $t=2.41$, $p=.02$) had significant reductions in neuroscience anxiety at the end of the course. This research demonstrates that neuroscience anxiety was significantly reduced after participating in a one-semester introductory neuroscience course. Neuroscience anxiety was specifically reduced among female, Caucasian and Ethnic Minority students. Reducing neuroscience anxiety can result in positive outcomes for students, such as improved academic performance, continued degree progression or future enrollment in advanced courses.

Peer Mentorship: A Successful Approach for Implementation of an ePortfolio System in Dietetics

Ashley Holmes, Susan Clark, Jordan Bergloff & Kishion Clark, *Human Nutrition, Foods, & Exercise, Virginia Tech*
Marc Zaldivar, *Learning Technologies, Virginia Tech*

Abstract: Maintaining an ePortfolio allows faculty to systematically collect evidence and assess student learning outcomes as well as provides students a vehicle to display their academic achievements in a multifaceted transcript. A faculty guided student management team (SMT) comprised dietetic students contributed to development of the ePortfolio system, powered by web-based assessment and portfolio matrices. Upon the completion of the ePortfolio development, the SMT evolved into the peer management team (PMT) to facilitate the implementation of the new innovation. The long-term plan is to maintain a peer teacher pool of dietetic students who will mentor the ePortfolio system to future generations of students. Each spring the PMT introduces the ePortfolio system to sophomore dietetic students enrolled in Professional Dietetics using a peer instructional model. The team provides a multitude of resources that they developed including a hardcopy handbook, tutorial videos, and other web-based guides. The impact of the PMT on student understanding and comprehension of an ePortfolio as well as their ability to create an ePortfolio has been measured with several positive outcomes. This information has captured a body of knowledge on the ease of ePortfolio implementation and its impact on enhancement of student learning, competence, and achievement using peer mentors.

Phenomenological Pedagogy amongst Groups in the Classroom and through Experiential Learning in the Field

Kip Redick & Deborah C. Campbell
Department of Philosophy and Religious Studies, Christopher Newport University

Abstract: Pedagogy is found in the lived world, in concrete, real life situations (Manen 284). Pedagogy rooted in the lived world leads the student to meaning through an encounter, a relationship, a situation or an action (285). In this way pedagogy is phenomenological, a return to the life world through reflective questioning, leading students into a relationship with the things of the world as subjects about which we learn and so transforming the subject matter from object to true subject (295). Maurice Merleau-Ponty, in his work The Visible and the Invisible, proposed the "reversibility of the flesh." Reversibility is a concept based in the notion that the "flesh [the visible] is a mirror phenomenon" (255). This means that seeing touching, hearing, and speaking do not take place in a vacuum, but rather within a matrix of human relationships. This panel explores phenomenological pedagogy both in the classroom and in the field through experiential and group learning situations. Students see, hear, and speak to one another within group situations and in the context of learning experiences; a relationship that centers around learning emerges. The process of learning opens up for students what Merleau-Ponty would call the "invisible," the world of ideas.

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Post Secondary Prison: Drawing on Motivational Needs to Ensure the Success of At Risk Populations

Christina Shorall, *Carlow University*
Christine Liekar, *University of Pittsburgh*

Abstract: Underserved populations are traditionally those who receive inadequate care from the health system due to geographic, demographics or economic circumstances (Weitz, 2000). Higher education also has underserved populations: individuals who arrive at the institution without the necessary prerequisite skills, supportive role models, and required cultural capital essential to graduate. These are the at-risk students, who due to their resiliency, managed to persevere academically through the early educational system where poverty is most frequently the

culprit of failure. While their past experiences often lead to rejection of formal schooling, as opposed to its pursuit, educators can create learning opportunities that capitalize on students' backgrounds by drawing upon the three key factors which impact psychological well-being: self-worth, autonomy, and relatedness (Martin, Marsh, & Debus, 2001). By linking students' prior experiences with these three basic psychological needs, educators can profoundly impact their students' motivation, well-being, and success. Based upon a qualitative ten year study of students who receive government grants targeted toward families living in poverty, this paper explores the motivational factors which promote success in the post-secondary classroom.

Preparing Students for Internships that Utilize Data Collection

Kathleen M Short & Annie R. Pearce, *Department of Building Construction, Virginia Tech*
Christine M. Fiori, *Myers Lawson School of Construction, Virginia Tech*

Abstract: Experiential learning is recognized as being supportive of the development of tacit knowledge providing context in which to understand the relationship between practice and theory, and developing professional skills that can enhance employability. Combining two types of experiential learning, internships and research, allows the student to maximize learning in what is often a summer or one semester experience. Researchers benefit by utilizing students in internships to collect data from industry while they are embedded. This paper describes a course developed around preparing students for internships that utilize data collection by enhancing personal skills such as interviewing techniques, investigation, analyzing information, resourcefulness and awareness of self.

As the influx of technology into pedagogical practice steadily increases, educators routinely find themselves searching for effective technologies that will enhance their abilities to teach within higher cognitive domains, thus directing learners towards the construction of knowledge. Prezi is a web based presentation application that allows users to move away from this linear model and design a concept map style presentation on an infinite flash-based canvas. The Prezi presentation format effectively pushes learners to develop knowledge via analysis, evaluation, and creation. This poster session will demonstrate how to build a Prezi presentation based on cognitive theories to ensure it is not just a fancy PowerPoint presentation. Specifically, it will demonstrate how Prezi has been used in a counseling classroom.

Prezi: Trading Linear Presentations for Conceptual Learning Experiences

Amanda J. Rockinson-Szapkiw & Justin M. Tucker, *School of Education, Liberty University*
Anita Knight, *School of Counseling, Liberty University*

Abstract: As the influx of technology into pedagogical practice steadily increases, educators routinely find themselves searching for effective technologies that will enhance their abilities to teach within higher cognitive domains, thus directing learners towards the construction of knowledge. Prezi is a web based presentation application that allows users to move away from this linear model and design a concept map style presentation on an infinite flash-based canvas. The Prezi presentation format effectively pushes learners to develop knowledge via analysis, evaluation, and creation. This poster session will demonstrate how to build a Prezi presentation based on cognitive theories to ensure it is not just a fancy PowerPoint presentation. Specifically, it will demonstrate how Prezi

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ProVeli: Building a Dynamic Modeling System for Parents

Gulsun Kurubacak, *Distance Education, Anadolu University*

Abstract: In recent years, the progress of wireless communication and sensor technologies have evolved elearning to mobile learning and now is evolving from mobile learning to ubiquitous learning. In this context, ProVeli is a ubiquitous communication (u-communication) milieu and the dynamic modeling system for parents, which is able to gather a variety of information about their children as students at any time and any place. The purpose of this dynamic modeling system is for the establishment of u-communication based synchronous, asynchronous and

hybrid mode. ProVeli aims to propose the implementation of communication among parents, teachers, school and their children of service provider in a dynamic u-milieu. ProVeli also provides parents with adaptive and personalized materials, activities, and information about their children's school lives. In this chapter, a dynamic modeling approach is introduced to identify and update information about the children's school progress, interests and knowledge level, critical thinking abilities, preferences for using the system, social connectivity, and current location. This information is gathered in an automatic way, using these children's behavior and actions in different communication situations provided by different components and services of the u-communication milieu. Furthermore, ProVeli delivers necessary materials anytime and anywhere, allow parents to watch their children's school progress on PDAs, tablet PCs and notebook computers via broadband and wireless Internet. The information in this dynamic model can help in giving parents a better understanding about their children regularly and gradually. Finally, as mentioned by Kindberg and Fox (2002), ProVeli is a ubiquitous system which spontaneously interoperates in changing environments and interacts with a set of communicating components that can change both identity and functionality over time as its circumstances change.

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Pull Up A Chair: Academic Leaders Discuss Their Transitions Into Leadership

Judi Wilson, *Teacher Education, Augusta State University*
Deborah South Richardson, *Psychology, Augusta State University*

Abstract: "Most chairs come to their positions without leadership training, without prior administrative experience, and without a clear understanding of his/her role. Being promoted to department chair is akin to white-water rafting without a life jacket and not knowing how to swim (Gmelch & Miskin, 2004, p.16). This conclusion was based on the findings from a survey that Gmelch and Miskin (2004) and his research team distributed to more than 2,000 academic leaders. They were surprised to find that only 3 percent of universities have department chair professional development programs. In the absence of programs designed to offer professional development to department chairs, individuals in that position are often left on their own to find guidance and mentorship. For example, Gmelch (2004) argues "Leadership is an inner, and often lonely, journey" (p. 136) and suggests that chairs are likely to benefit from support networks that provide opportunities for guidance and reflection. Wheeler et al (2008) suggests that chairs invest time "visiting with experienced chairs who have solid reputations for success on campus and expertise in specific aspects of the job" (p. 21). Leaming (2007) states that effective "leaders understand the importance of collaboration, networking, and relationships" (p. 149). The Leadership Lunch program at Augusta State University was initiated by the first author as a mechanism for providing networks and collaboration to provide opportunities for professional development for new academic department chairs. As a member of the Center for Teaching and Learning (CTL) Advisory Committee, the first author proposed that a primary initiative for that group would be the provision of professional development and support for new chairs. Consistent with the mission of the CTL, such training would ultimately support faculty development and student learning. During the inaugural year (2009-2010), the Leadership Lunch group met twice each semester for two hours, and lunch was provided by the CTL. Reading Leaming's (2007) Academic Leadership: A practical guide to chairing the department was a focus of the meetings. In addition, invited speakers addressed issues regarding personnel, budget, law, registration, scheduling, transfer issues, and graduation. Members of the group reported that this support system was especially helpful as they transitioned from faculty member to chair. The members of the group voted unanimously to continue this year and to invite all chairs who wanted to participate. The fact that all of the department chairs from all three colleges at the university reported an interest in joining the group, and that all but two were actually able to fit meetings into their schedules, suggests that there is a clear need for professional development for chairs. We have three primary goals for the future of this program: (1) to develop a systematic assessment of the effectiveness of this initiative; (2) to determine other activities that might be institutionalized to provide guidance and support for department chairs; and (3) to share our program with other universities and Centers who are seeking inexpensive mechanisms for providing support for new (and continuing) department chairs.

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Reflecting in the Open: Faculty and Student Perspectives

Jeffrey S. Nugent, *Center for Teaching Excellence, Virginia Commonwealth University*
Lorie Coker, *Public Policy and Administration, Virginia Commonwealth University*

Abstract: The use of open web-based tools, like blogs, present new opportunities for encouraging reflection and enhancing learning in educational contexts. However, engaging in reflective practice and dialogue on the open web is a new experience for many faculty members and students. Understanding the functionality of blogs, developing a meaningful rationale for academic publishing on the web, and understanding role of reflection in learning may all need careful consideration if the potential benefits of course-based blogging are to be realized. This session will explore an attempt to integrate blogging as a reflective practice in a graduate course aimed at preparing future faculty.

Reflecting on Discoveries in Dental Technology

Anisa Vahed, *Department of Dental Sciences, Durban University of Technology*
Gillian Cruickshank, *Health Sciences, Durban University of Technology*

Abstract: Within the South African educational landscape students, particularly under-prepared black students from historically disadvantaged backgrounds, experience difficulty with theoretically challenging content. Often little application or transfer of knowledge and skills to practice occurs. This prompted critical action research into the way we teach students, and the students' responses in terms of knowledge integration and application. A three-day workshop, Reflecting Discoveries, was designed to address the technical and social practices of the field. The workshop objectives included promoting opportunities for dialogue and the development of a shared understanding amongst students, and between students and lecturers of what the study of Dental Technology entails; the promotion of critical thinking through dynamic processes; and encouraging students to express their ideas creatively, collaboratively and through problem-solving. Data gathered by means of questionnaires, interviews and direct observations via video recordings, showed that the workshop had a positive impact through teaching students meaningful ways to understand the learning process. Overall, the workshop fostered a teaching and learning environment that enabled students to gain greater insight into Dental Technology, both as a discipline and a profession.

Reflection on the Design and Delivery of a Synchronous Videoconferencing Class

Hongxia Yang & Xin Chen, *School of Education, Virginia Tech*

Abstract: Because of its advantages, Synchronous Videoconferencing (SVC) is widely used to deliver distant classes in higher education. However, the effectiveness of a SVC class is a major concern to faculty and students. To share experience and lessons learned from the design and delivery of an undergraduate biology SVC class, this poster covers some critical issues involved. First, to ensure the success of a SVC class, both the instructor and students need to be well-prepared. The instructor should create course materials suited for this class format, upload these materials to the course website, inform students of the contents for classroom interactions, and if possible, arrange a Teaching Assistant at each remote site. Second, to promote classroom interaction, the instructor should design some whole class events and/or small group activities. The instructor may also contact some participants

before a class and ask them to lead the classroom discussion (Kaufman & Brock, 2001). Third, to facilitate students follow the instruction, a lesson should be chunked into several sections, and if possible, keep all sections in the same structures. Fourth, the proper use of different media attributes, such as texts in different sizes and colors, graphics, or videos, attracts distant learners' attention and eases their understanding of abstract concepts. Fifth, eye contact is crucial in a SVC class. To ensure sufficient eye contact between the instructor and students, when the instructor talks about important issues or encourages students to participate into interaction activities, it is better to turn off the course material screen and zoom into instructor's screen. By doing this, the instructor can also observe students' responses and then adjust interaction activities accordingly, as well as be able to see students' facial expresses or gestures to find out if anyone at remote sites is confused or lost. Sixth, feedback serves as a reinforcement to keep learning on a right track. The lack of instant feedback from the instructor upsets many distant learners. The instructor needs to take advantage of a SVC class to frequently provide students at remote sites with immediate feedback. Last but not least, since many students hesitate to ask questions, especially in a SVC setting (Chisholm, Cobb, Wade, Lautenschlager, & McCall, 2000), the instructor may want to stop instruction periodically to ask if students have any questions. Overall, even though the instructor and students are physically apart from each other in a SVC class, the pedagogically designed course materials and interaction activities will keep them together emotionally, as well as motivate students and facilitate their learning, therefore to enhance learning outcomes.

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Reflections on Using Synchronous Tools in Blended and Online Teaching

Carey Cole, *Computer Information Systems and Management Science, James Madison University*
Juhong Christie Liu, *Center for Instructional Technology, James Madison University*

Abstract: Providing a more personalized interactive channel for online communication and presentation, synchronous desktop web-conferencing tools, such as Elluminate Live!, are having increased application in teaching and learning (King, etc. 2010). To make the best use of the functionalities provided in these tools and find the fit of these features in teaching blended and online courses, educators need to investigate aspects in the design, development, and implementation of synchronous online learning activities. How does an instructor form an interactive pattern for the unique use of Elluminate Live! in teaching? How does the design of an entire course affect the use of synchronous sessions? What are some critical logistical issues to plan ahead of time? What are the potential of using Elluminate Live! for online testing? How can some of the limitations be eliminated in future practice? At this session, the presenters will address these issues and share the insights on best practice of using Elluminate Live!. They will also discuss with the audience about their experience with practical scenarios.

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Reinventing the Zimbabwe Open University through the Information Highway

Chrispen Chiome, Raphinos Alexander Chabaya & Primrose Kurasha
Zimbabwe Open University

Abstract: Quality is one of the main concerns among institutions and stakeholders today especially those involved in open and distance learning (ODL). This study will examine ways of reinventing the Zimbabwe Open University through the information highway. The study is qualitative. Open-ended questionnaires, interviews and

autobiographical accounts will be used to collect the qualitative data. A purposive sample of 18 full time and 35 part-time lecturers and 250 students in the Zimbabwe Open University will participate in the research.

Relationship among Faculty Experience, Discipline, and Gender And Attitudes, Values, and Preparation towards Faculty Advising

Johnathan B. Phillips, *School of Nursing, Radford University*

Abstract: Faculty members in higher education perform a variety of roles, including teacher, scholar, professional colleague, and advisor. The role of advisor may be the least appreciated, least desired, and least prepared for by faculty. Waters states, "Faculty members not only receive inadequate direction into the advising role; they also encounter inconsistent views of the definition of an effective advisor" (2002). In a study of 468 undergraduate students, Mottarella, Fritzsche, and Cerabino (2004) found that students preferred a nonfaculty advisor over a faculty advisor and those with previous advising experience preferred female advisors. Cotten and Wilson (2006) found that students perceive that "faculty often behave abruptly" and attribute this behavior to a "lack of interest in interacting" with students. Coll and Draves (2009) found that "advising satisfaction, which can influence academic performance, retention, and student development, is best achieved by utilizing a developmental approach, which allows for faculty/student discussions on values and career options." Participants in a 2005 study of colleges of agriculture by Myers and Dyer indicated that advising should be a component of promotion and tenure (91.3%) while only 36.4 percent saw advising as being valued in the promotion and tenure process and decisions. Nearly all respondents (95.0%) agreed that advising undergraduate students is time well spent, whereas 67.1 percent reported that advising should be an expectation of all faculty. Slightly more than half (57.9%) indicated that they had received "any type of assistance in learning how to advise students on academic and professional matters." Gelwick stated in 1974, "One of the major concerns shared by students and faculty is the problem of adequate advising. Students feel impersonally dealt with and poorly advised; faculty have little or no training for this function, are poorly rewarded for the time spent in advising, and do not see advising as related to the teaching of their particular subjects." Has much changed in 36 years? Dillon and Fisher conclude, "Few researchers have looked at advising from a faculty perspective despite the predominant model of faculty advising at most institutions of higher education and its central role in student success" (2000). This non-experimental study utilized a descriptive survey design to explore the relationship between faculty experience, discipline, and gender and the faculty's attitudes, values, and preparation towards advising. All undergraduate faculty advisors (n=316) of a comprehensive university in southeastern United States were invited to complete a survey initially developed by Myers and Dyer (2005). An expert panel evaluated the original instrument for face and content validity, and 0.95 reliability for its individual items was obtained via a test-retest procedure. A web-based format was created from the original questionnaire using Qualtrics consisting of 47 questions with four-point response scales and three demographic questions. With a 24.37 percent response rate (n=77), preliminary results indicate the following statistically significant relationships between the independent variables and specific dependent variables: Gender and training; experience and attitudes towards and competency of advising; and discipline and use of time and advising personal issues. Final results will be available at the conference.

Restorative Tutoring Centers to Address Individual Learning Differences

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Abstract: Students of all ages seem to find it difficult to ask for help. Unfortunately, the result is lower performance in academics. We propose that a restorative tutoring center will promote an atmosphere that allows students to feel at ease while at the same time, taking responsibility for their work. This thought arises from one of the author's experience of ten years of tutoring for a local community college. Wachtel and McCold (2004) state it this way; "human beings are happier, more cooperative, and more likely to make positive changes in their behavior when those in position of authority do things with them rather than to or for them." The goal of this project was to learn better about existing tutoring centers and suggest a restorative one. Information was collected from tutoring centers in the southeast Pennsylvania area and was used to design a restorative tutoring center. The results indicate that

receptionists, location, students needs, tutor's level of knowledge and communication skills all play a role in how the student views the tutoring center and how comfortable they feel going for help.

Review of Equine Program Instructors at Land-Grant Universities

Rebecca K. Splan & C.A. Shea Porr, *Animal and Poultry Sciences, Virginia Tech*

Abstract: In the last decade, universities across the United States have witnessed tremendous growth in undergraduate equine science programs. Increase in student demand comes despite, and partly in response to, economic downturn experienced by the nation's horse industry. Concurrent with program growth is a change in student profile (Long and Morgan, 2010). The average undergraduate in the equine area is female (FAEIS, 2010), from a suburban background and without significant experience in animal agriculture (Greene and Byler, 2004; Buchanan, 2008). To meet student and stakeholder needs, equine curricula must address the cognitive, affective and behavioral domains, ensure basic competencies and promote lifelong learning (Field and Taylor, 2008). Yet despite common objectives, undergraduate equine programs ultimately reflect those instructors designing and implementing them. This study aimed to characterize the academic background and associated demographics of equine course instructors at the nation's land-grant universities. Data on instructors of equine-related courses at land grant universities were collected from university websites. Information included name, gender, title, rank, highest terminal degree(s) earned and major field of study, and courses taught. Instructors were categorized as faculty (full, associate or assistant professor) or non-faculty. Terminal degrees were listed as Doctor of Philosophy (PhD), Master (MAS) or Bachelor (BAC) of Science. Fields of study were grouped as animal science/agriculture, other or unknown. Courses were designated as riding/laboratory or lecture to differentiate classes with a primarily hands-on component. Data were summarized as percentages. Forty-six institutions listed 130 instructors of undergraduate equine courses. Number of instructors per institution ranged from one (28.3%) to eight (2.2%). Half of instructors taught two or fewer courses annually. Only 11% taught six or more. Faculty represented 60% of all instructional personnel, and taught over half (55%) of lecture courses but only 8.6% of riding/lab courses. Most (88%) instructors with a terminal MAS degree taught riding/laboratory courses. The majority (63.1%) of instructors held a PhD, consistent with demographics in the animal sciences (FAEIS, 2010). Nearly all instructors with a PhD earned their terminal degree in animal science. Only 3.2% of all terminal degrees were earned in education. One quarter of faculty held the title of assistant professor, with decreasing numbers at the associate (20.8%) and full (13.8%) professor rank. The majority of faculty (61.0%) and non-faculty (69.8%) were women. Women comprise only about 40% of university faculty (U.S. Dept Ed, 2008) nationwide. Within animal science programs, this figure drops to 19% (FAEIS, 2010). Male faculty members were 50% more likely to hold the rank of full professor. Nationally, only 10% of full professor positions are held by women in animal science departments (FAEIS, 2010). The majority of instructors at land-grant universities are female faculty members holding a PhD in the animal sciences, teaching primarily lecture-based courses. Most laboratory or riding courses are taught by non-faculty instructors. This represents a shift in instructional paradigm from traditionally practicum-based animal science programs dominated by a male faculty (Buchanan, 2008). Few equine instructors have a formal background in education, which is expected to impact program design and outcome assessment.

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**Reviewing Online Courses To Insure They Meet The Minimum Design Standards
Developed By Quality Matters (QM)**

Lisa Bishop, *Marketing and Management Department, Northwest Missouri State University*

Abstract: The fastest growing segment of education, of course starting from a small base, is that delivered online (Heskett, 2001). Teaching online provides many opportunities for students and faculty, but can be problematic if those online courses do not meet certain standards of quality. I serve as an online peer reviewer who has completed training on such standards. The program, Quality Matters, is a faculty-centered, peer-review process that is designed to certify the quality of online and blended courses. The standards are based on research-supported and published best practices. I have reviewed courses from my own institution and courses from other subscriber institutions. I am in the process of reviewing all courses in the Marketing and Management department to prepare them for certification. Our goal is to have all major courses in the Marketing and Management program certified and therefore improve the quality of our online degrees. This research proposal attempts to explain the need for minimum standards that should be adopted in online courses and how an academic institution may begin the process of training and reviewing both current and new online courses.

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Seeing is Believing: Assessing The Pedagogical Value Of Posting Video Lectures On VT iTunes

Michael J. Alexander, *History, Virginia Tech*

Abstract: The Class of 2014 spent their formative teenage years in the era of YouTube, which was launched in late 2004; online video is an everyday part of their lives. Last March, the Cornell Chronicle Online published an article by Bill Steele entitled "Viewing taped lectures online boosts grades, raises questions," in which the author noted that a pilot program in seven engineering courses resulted in a 9.5% boost in grades for participants. But, the director of the project, David Gries, has concerns about the issue of attendance. And therein lies the potential pitfall to an otherwise promising pedagogical tool. During the spring of 2008, the editors of the Harvard Crimson debated the issue of videotaped lectures, with two of them arguing that the "isolation" of a world of video lectures would "dilute or cheapen" the experience of a Harvard classroom.

This past spring I conducted an experiment using a digital videocamera to record my lectures for an introductory survey of European Civilization (HIST 1026) and an upper-level course on Medieval Europe (HIST 3324). There were over 150 in these three class sections, of whom 19 provided feedback on the experiment – this poster will organize their responses into one of four categories. First, a plurality of the respondents (6) used the videos to study for the exams.

> *I never skipped a class, but I did refer back to the videos while studying if I needed elaborating on some of my notes. I thought it was a great idea to post the videos and make it easy and accessible for all students to comprehend the material with no excuses.*

> *I really appreciated the itunes lectures that were posted. I used them as study reviews when preparing for the second test. For me, the lectures were really information dense and it was useful to refer back to a video to let the material "sink" in. I think the best set up for me was just listening and enjoying the initial lecture in class and then rewatching them and take notes from the itunes postings.*

A second group (5) used them to clarify points from the lecture. These are undoubtedly the most motivated of the students and the ones for whom the extra help was probably least necessary.

> *I never missed a class, but I used the videos to review my notes and make sure that I did not miss anything. I think that they helped in my comprehending the information presented in class because I was able to review the lecture word for word.*

I attended almost every class, so I didn't really need them as a substitute, I've still made extensive use of them to fill in things I left out in my notes and to help get a better understanding of overall events rather than getting lost in minute details when quickly jotting down notes during class.

I thought having the videos on iTunes was a great resource and I used them on several occasions. If there was a particular topic or lecture that I felt shaky about, it was great to simply go back and watch the lecture and refresh the old information and maybe catch something I missed in class.

Unfortunately, a third group of six students admitted that they used the availability of the lecture videos to skip class or otherwise slack off.

While I did sometimes skip class feeling a little less guilty because I knew I could watch the video online, for the most part I used them to help decode my awful shorthand that I didn't understand later on. They were really helpful as a resource for the exam, because any part of my notes that I thought was lacking, I could go back and fill in the things I missed.

To be honest, I did use them as a substitute for coming to class on a few occasions.

Finally, a small number of the respondents (3) said that they did not watch any of the videos at all. But these students did emphasize that they thought the experiment was worthwhile for other students. The sample size is admittedly small, but the benefits of the practice are difficult to deny. At the same time, the questions of attendance and community remain difficult to counter; a wide-ranging debate that brings together both students and faculty is necessary to move the issue forward.

Sobering Up: Graduate Students' Understanding of Addiction by Giving Up Something They Love

Wendy Eckenrod-Green & Cathy Hudgins, *Counselor Education, Radford University*

Abstract: Students can gain better understanding of a topic when they are personally engaged. Graduate students enrolled in Overview of Substance Abuse and Addictive Disorders gave up something they enjoyed (i.e., deserts, coffee, sweet tea, watching TV, or Facebook) for ten weeks. Students were assigned to a weekly support group related to what they had given up and the groups were modeled after Alcoholics Anonymous. To assist students in reflecting upon their sobriety, students submitted weekly journals, which were analyzed for themes. Themes that emerged include understanding a) triggers of relapse in the media and in everyday life, c) the process of relapse, d) peer pressure, and e) the importance of group support. Additionally, students expressed deeper respect for individuals with addictions, Understanding these themes as an instructor is critical in facilitating student growth the areas of empathy and multicultural counseling competence. It is hoped that this experience will translate into awareness, insight, and thoughtful clinical practice as students encounter future clients in the counseling profession.

Social Learning Theory and Online Education: Reciprocal Determinism within Threaded Discussions

Mark Ryan, *Richard W. Riley College of Education and Leadership*

Abstract: This pilot study is the forerunner to a research project to measure the lexical density among professors and students in online education courses. By using various readability indices this study will attempt to measure the grade level of both student and professorial responses within the context of social learning theory. The study will measure the readability index difference between threaded discussion responses by professors and their students.

Storying the Large Lecture: A Portrait of One Professor's Practical Knowledge

Jeannine E. Eddleton, *Chemistry, Virginia Tech*

Abstract: Storytelling is the purpose of this session; specifically, the stories which compose a social science portrait illuminating the marriage of theory and practice that is one professor's practical knowledge in her role as a professor

of general chemistry at a large research university. Portraiture is an attempt to capture teaching complexity with an appropriately complex methodology, one that embraces both analytical rigor and community building (Lawrence-Lightfoot & Davis, 1997, p. 10). This study is a purposeful attempt to link research and practice, an explicitly activist and interventionist process dedicated to further developing the body of research on teachers' practical knowledge with a focus on one teacher in her large lecture. Social science portraiture is uniquely suited to this intersection of researcher and researched, the perfect combination of methodology and analysis for a project that is both product and praxis. (Freire, 1999)

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Student Perceptions of Faculty Teaching Practices in the General Education Curriculum at a Research-Extensive University

Molly R. Hall, *Educational Leadership and Policy Studies, Virginia Tech*
Kathryne Drezek McConnell, *Office of Academic Assessment, Virginia Tech*

Abstract: Recent research suggests that faculty teaching general education courses engage in different pedagogical practices than faculty teaching non-general education courses (Nelson Laird, Niskodé-Dossett, & Kuh, 2009). Although a growing body of research shows how faculty engagement influences student engagement and learning outcomes (Kuh, Nelson Laird, & Umbach, 2004; Pascarella & Terenzini, 2005), little is currently available on how undergraduate students perceive and experience general education curricula. This poster session will provide detailed information on how students at Virginia Tech, a large, research-extensive university, perceive faculty teaching practices in its general education program, the Curriculum for Liberal Education (CLE). The session will address how faculty teaching practices such as encouraging active learning and incorporating out-of-class learning experiences in general education courses impact student satisfaction with the general education curriculum and the degree to which students value the AAC&U's essential learning outcomes. Over the past few years, Virginia Tech has worked to infuse best practices in student learning and assessment developed under the auspices of the AAC&U LEAP and VALUE initiatives in order to transform the undergraduate educational experience. In order to learn more about student aspirations for general education and the CLE's impact on the undergraduate student experience at Virginia Tech, the two undergraduate student members of the 2009-2010 University Curriculum Committee for Liberal Education spearheaded a student survey aimed at gathering student perceptions of the CLE. This voluntary survey, known as the Student Perceptions of the CLE Survey, was administered during the Student Government Association's electronic voting process during the spring 2010 semester. This poster session will present results from the Student Perceptions of the CLE Survey and discuss pedagogical implications for teaching undergraduate general education courses. Session participants will also learn which high-impact educational practices (Kuh, 2008) students would most like to see incorporated into the CLE, and how student perceptions may differ based on demographic information.

Student-Centered Cooperative Teaching And Learning

Allen Vogt, *Virginia State University*

Abstract: Student-centered cooperative teaching methods shift the focus of activity from the teacher to the learners. These methods include active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class; cooperative learning, in which students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability; and inductive teaching and learning, in which students are first presented with challenges (questions or problems) and learn the course material in the context of addressing the challenges. Inductive methods include inquiry-based learning, case-based instruction, problem-based learning, project-based learning, discovery learning, and just-in-time teaching. Student-centered methods have repeatedly been shown to be superior to the traditional

teacher-centered approach to instruction, a conclusion that applies whether the assessed outcome is short-term mastery, long-term retention, or depth of understanding of course material, acquisition of critical thinking or creative problem-solving skills, formation of positive attitudes toward the subject being taught, or level of confidence in knowledge or skills.

Student Perceptions of Simulation's Influence on Home Health/Hospice Practicum Learning

Melody Eaton, *Longwood University*
Susan Brooks & Kathy Floyd, *James Madison University*

Abstract: The purpose of this qualitative study was to begin to explore whether an "end of life" simulation enhances baccalaureate senior level nursing student learning in a home health /hospice practicum setting. A phenomenological approach was used to study simulation's influence on practicum learning. Thirty senior level baccalaureate nursing student participants experienced an "end of life" simulation lab scenario, and were asked to describe their experience and relate it to preparation for their home health/hospice practicum, once immediately following the scenario and once at the end of their practicum experience approximately three to four weeks later. The Colaizzi approach was utilized and assisted by the use of a qualitative analysis software tool, Ethnograph©. Three main themes emerged, experiential learning, affirmative outcomes, and family as client. In conclusion, perceptions of the influence of simulation learning on senior level nursing students experience with a homecare/hospice practicum promote its value and continued utilization.

Studying Agriculture Internationally
Tracking International Study Abroad Projects

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Yu-Ming Shen, *Statistics, Virginia Tech*
Ashley L. Bell, *Dairy Science, Virginia Tech*
Mary A. Marchant, *Agricultural and Applied Economics Department, Virginia Tech*
Timothy P. Mack, *Graduate Studies and Research, Indiana University of Pennsylvania*
Eric Smith & Eric Vance, *Statistics, Virginia Tech*

Abstract: Study abroad projects offer a unique opportunity for students to engage in experiential learning (Hopkins, 1999; Archangeli, 2008). Kolb's Experiential Learning Theory divides learning into four components: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Study abroad programs are an effective way to provide students an opportunity for reflective observation (Hopkins, 1999). "When students go abroad, they inevitably find themselves looking inward as well as outward, reconciling their views of themselves and their cultural assumptions with the new cultural context." (p. 36, Hopkins, 1999). Study abroad programs may be even more critical to students in the field of agriculture and life sciences, where understanding agriculture within a global marketplace is necessary (Thompson, Capps, & Massey, 1994). In this research project, we explored study abroad programs with an agricultural and life sciences focus in 53 higher education institutions across the United States. The research was conducted as part of USDA's Food and Agricultural Education Information System (FAEIS, http://faeis.usda.gov). We investigated the following research questions: In which countries are the study abroad programs focusing on agricultural and life sciences based and what are the most common program areas in these study abroad programs? Data was collected from 87 higher education institutions study abroad programs, which included 571 study abroad programs. To address the first research question, the frequency was calculated of the countries in which the study abroad programs took place. The study abroad projects were based in 154 countries. The top 10 countries with the highest frequency of programs were calculated. The top countries were: China, mainland (n = 21), Malawi (n = 19), Australia (n = 18), India (n = 18), Costa Rica (n = 16), Mali (n = 16), Italy (n = 15), Kenya (n = 14), Ghana (n = 14), and South Africa (n = 13). The program areas for the study abroad programs in the 10 countries were reviewed (n = 164). The most common program areas were: Agricultural Economics (n = 16), Environmental Science (n = 15), Forestry and Natural Resources (n = 15), Agronomy (n = 14), and Sustainable Agriculture (n = 8). Overall, study abroad projects focusing on agricultural and life science topics are most often based in China, Malawi, Australia, and India. The most

common program areas in these study abroad programs are agricultural economics, environmental science, forestry and natural resources, and agronomy.

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Supporting Online and Blended Teaching with Immersion Programs

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Abstract: Higher education continues to experience rapid growth and development in online and blended learning. Online enrollment rates have been continually growing and blended learning is influencing higher education as a rising trend (Allen & Seaman, 2009; Diaz & Strickland, 2009). Successful transformation to online and blended courses can meet the needs of the Net Generation and non-traditional students and it's becoming an interest across all academic disciplines (Diaz & Strickland, 2009; McCarthy & Murphy, 2010). Well-designed online or blended courses can create flexible learning opportunities for students, reduce classroom seat time, or enable the best from both online and face-to-face environments. The load on instructors who redesign a traditional classroom course for online or blended teaching, however, can be demanding (Dziuban, Hardman, & Moskal, 2010). As instructional technology and faculty development professionals, how do we advocate sound transformation of pedagogy from traditional to online or blended teaching, provide instruction for effective uses of technology, and integrate perspectives from experienced faculty members in this process? How do we set the stage for faculty to analyze their existing courses, identify the needs of transformation, restructure the learning activities and assessment strategies, and develop blended or online courses that require production services and implementation support? How do we provide a supportive environment on campus to ensure the quality of blended and online teaching? At James Madison University, the Center for Instructional Technology (CIT) uses an immersion approach to create and facilitate a variety of institutes for online and blended course design, development, and implementation. The institutes include pre-institute assessment and experiential learning activities, intensive training sessions, peer mentorship, post-training evaluation, and on-going support. These core components enable the faculty participants to design, develop, and teach a blended or online course with conscientious selection and use of technologies. Faculty members planning to teach blended or online courses are encouraged to apply for the institutes and receive a stipend for the completion of this demanding training. JMU faculty benefit from these immersion institutes, which focus on blended or online learning and are developed, facilitated, and coordinated by a team of instructional technology professionals, faculty mentors, and presenters. A recent participant commented after teaching a blended course, "the general agreement among my students that it was a positive experience, largely because they could pace their learning. I think that this is the best that online learning has to offer: it extends to students the opportunity to approach their learning actively, to be personally invested in it, [and] to sculpt it as they will. This is a considerable benefit and advance!" This poster presentation will introduce the multi-phase immersion program that facilitates knowledge, skills, resources, and services to faculty who plan to teach blended or online courses. The structure, operation, and impact of these programs will be presented and discussed.

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Systems Approach to the Evaluation of an Academic Department as a
Service Provider at a University of Technology

Paul Green, *Finance, Durban University of Technology*

Abstract: A major interest in higher education worldwide has been the evaluation of institutional performance (Awang 2006; Ruby 1998 and Cuthbert 1996). Soutar & McNeil (1996) indicate that there are a number of problems in developing performance indicators in tertiary education. South Africa has been no exception to the expansion and diversification of higher education. The higher education sector has had various policies promulgated, amended and re-amended in order to change the educational landscape. In 2001, the South African Ministry of Education released the National Plan for Higher Education (NPHE) (Council of Higher Education, 2000), which indicated as one of its policy goal's to develop a framework and mechanisms for restructuring the higher education system. As part of the national plan for higher education, universities are required to contribute more meaningfully to social and economic development. Winberg (2004) suggests that universities of technology have been positioned to play an important role in this regard, firstly, by offering advanced technical and professional higher education and, secondly, by doing the research that will contribute to social, economic and industrial development. Education as a service is committed to satisfying the educational needs of its clients by creating education services required by learners and not constraining them to accept existing educational facilities. Diversified educational provision does not guarantee a high quality of education, but different educational services are in a constant state of competition (Knowles, 1980:44). Vargo and Lusch (2004) define services as the application of specialized competencies (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself. This implies that almost any purposeful system within a business or governmental entity, including higher education institutions can be viewed as a service system, as competencies are being applied to something for someone. Hence the importance of this study is to develop a framework for the evaluation of an academic department as a service provider of a UOT using a systems approach.

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Tapping the Hidden Curriculum in Medical Education:
Constructionist Narrative Writing to Encourage Reflection in Anatomy Lab

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Abstract: The proposed poster describes a narrative medicine educational approach applied to a medical school anatomy lab course. The poster describes the constructionist epistemology employed, provides examples of student narrative essays, summarizes student survey results evaluating the project, and outlines research proposed and being conducted by the author extending this pedagogical paradigm. Medical educators sometimes comment that medical education "is like getting a drink of water from a fire hose" because students must take in a vast amount of science in a short time. Yet, calls are also made for more emphasis on the hidden curriculum, which includes medical humanities, communication skills, ethics, and critical thinking and reflection (AMA, 2006; Burger, 2001; Emanuel, 2006; Singer, 2003). The points of view reveal two pedagogical challenges in medical education. First, it is virtually impossible to find enough time to teach medical students everything needed. Second, it is challenging to include constructionist epistemology (i.e. subjective empiricism or subjectivity as a source of truth) (Cromer, 1987; Burr, 1995) into the positivist medical curriculum (i.e. science as the primary source of knowledge) (Schön, 1983). This project addresses these challenges by embedding hidden curriculum content into an existing scientific course (Anatomy Lab) and teaching students contructionist narrative writing (Charon, 2006) useful for critical thinking and reflection in practice (Schön, 1983). The author introduced the constructionist narrative technique to a medical school anatomy faculty and the faculty unanimously agreed to assist with the project. Students earned three extra credit points for writing three brief narrative reflection essays (250 words each) in response to prompts provided by the author ("Write about your experience when you first met your Donor", "Write about your experience of seeing the Donor's face" and "Reflect on your experience with the Donor and your colleagues during Block 3 Anatomy Lab"). Based on anecdotal experience and research (i.e. Ferguson & Iverson, 2008) the author speculated that first year medical students would construct shared experiences with their cadaver-donor. Odd though it may seem aspects of student essays demonstrate that students do in fact build a relationship with the cadaver-donor. They empathize with their cadaver-donor's health condition, speculate about the cadaver-donor's previous life and perceive their experience with the cadaver-donor as a form of collaboration. It appears there is truth to the cliché that "the cadaver is the medical student's first patient." The author contends that medical students have a need to reflect on larger questions of meaning and purpose in the practice of medicine. Results of an anonymous student survey of the project support this observation. The author concludes that constructionist hidden curriculum assignments add value to positivist medical education and that positivism and constructionism can effectively co-exist in medical education to the benefit of students.

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Teaching and Learning for Employability

Salma Zaidi Syed, *Institute of Education and Research, University of the Punjab- Lahore, Pakistan.*

Abstract: The underlying purpose of all higher education institutions is to increase the employability of its students. However, this objective is formally incorporated into the curriculum by very few universities in the developing world. The emerging demographic trends point towards a burgeoning population between the ages of 10 to 25 who will enter the labour market expecting to find jobs, only to find that their education and training has not provided them with the appropriate skills. Pakistan must prepare a policy response to such demographic trends and related employment expectations. Its domestic industry needs to respond to international competition and to increase her share in world exports for both traditional and non-traditional goods and services, as well as to compete with imported goods domestically. Pakistan has to focus on enhancing the productivity of its labour force by upgrading the employability skills of a growing population and to ensure access to new career opportunities. At present, because of weak institutional linkages with the industry, education and training is designed around skills and knowledge that are not necessarily relevant to the market. According to the National Skills Strategy 2009-2013, published by National Vocational and Technical Education Commission, Islamabad-Pakistan, a truly effective, equitable skills development system can be achieved through the following activities: Expanding geographical provision; Making training delivery flexible; Focusing on skills for women; Training for disadvantaged groups; Integrating informal economy workers; Enhancing the mobility of skilled workers; Providing career guidance and placement services; Offering vocational education in schools; Improving the status of skills development. The purpose of this practice session will be to engage the participants to generate ideas for a higher education employability model for developing countries like Pakistan.

Teaching at the Interface: Curriculum and Pedagogy in a Teachers' Institute on Virginia Indians

Lisa L. Heuvel, *School of Education, The College of William and Mary*

Abstract: The Beyond Jamestown: Virginia Indians Past and Present Teachers' Institute for Virginia educators is sponsored by the Virginia Indian Heritage Program and the Virginia Foundation for the Humanities. This phenomenological study specifically explores curricular and pedagogical practices used by Institute presenters during the first two years of the program (2007-2008). The study seeks evidence of educational principles and practice as a dialogue between cultures, and questions whether an educational vision or paradigm was shared by presenters of different backgrounds teaching within the program. The conceptual framework uses models of pedagogy and curriculum developed from Western and indigenous literature to explore to what extent worldviews and lived experience framed each member's teaching methodology. The research design combines a qualitative approach and an interpretivist paradigm as the framework for interviewing presenters about their pedagogies and curricula. Understanding what influenced these Native and non-Native experts in their teaching approaches may indicate to what degree methods traditionally considered as culturally distinct create a new teaching dynamic and in what ways a Virginia Indian epistemology is emerging from the dominant narrative. For individuals seeking a better understanding of cross-cultural collaboration in education, these presenters' insights also might suggest ways through which that is effectively accomplished.

Teaching Nonviolence Amidst the Violence of the Twenty-First Century Classroom

Jordan Hill, *Alliance for Social, Political, Ethical & Cultural Thought, Virginia Tech*

Abstract: There is today, in both the micro setting of the classroom and in the macro setting of society, a pervasive skepticism about the efficacy of nonviolence as a tangible, real-world method of social change. This situation has caused me to inquire into the question of why, in this time of widespread violence, so few students are interested and/or willing to investigate the wealth of knowledge and insight that has accumulated as a result of the nonviolent struggles of the recent past? My dual-role as both a member of the emerging generations of the twenty-first century as well as an apprentice scholar in the field of interdisciplinary peace studies has situated me in a unique position to address this question from an insider perspective. In my paper I present a new and creative method of

interdisciplinary reinterpretation called truth experimentation. Drawing from the disciplines of sociology and history, I have created an pedagogic tool that is designed to highlight the revolutionary and courageous aspects of the exemplars of nonviolence who have been all-to-often been marginalized by the sanctification of their legacies. Social experimentation is uniquely designed to inspire and draw the generations of the twenty-first century to rediscover the life and though of these individuals.

Teaching Sustainability in a Studio Environment

Mintai Kim, *Landscape Architecture, Virginia Tech*

Abstract: This paper presents a studio method that teaches sustainability by having students personalize and internalize it and not just learning sustainability factually. It has been taught to the 4th year Landscape Architecture students at Virginia Tech for last three years. It is also taught once at a Japanese university. The projects normally last about four weeks. Students meet three days per week for total 48 hours. In the project, students are asked not to rely on what is popularly defined as sustainability in published sources. Instead, they are asked to define their own idea of sustainability, drawing from personal experiences and places. In the process, students explore their most sacred moments, experiences and real or imagined places that are sustainable to them throughout their lives. In addition, they explore what circumstances sustain them in life. Initial meetings with a student usually consist of intense emotional discussions about their lives and their places of growth to help them identify these sacred moments, experiences and places. After the places are chosen, they reflect on the places through their mind's eye and capture and record the chosen place in a variety of ways. Notes, sketches, diagrams, maps, colors, smells, sounds and other sensory functions are used to convey the sense of the place. Making notes of the emotions associated with the places is encouraged. Then students conceptually visualize them, particularly paying attention to sustainability. At this stage, students strongly associate sustainability with their own experience and places. Students are asked to explore diverse media fitting the sense of the place. Students have presented their ideas through performances, stop-motion videos, sculptures, children's storybooks, etc. While they prepare the presentations, they reiteratively solidify the definition. Afterward, students responded with written documentation of their thoughts of the project. The written responses from students on the effectiveness of the method of teaching were very positive. Students were able to internalize sustainability and relate to sustainability better than before. In the end, what they define as sustainability is not that different than before. However, because the definitions are from their own experiences, it becomes more meaningful. The value of community and ecology is commonly found to be important for sustainability. What is presented in the paper is a summary of the students' responses, documentation of overall processes and examples of student works.

Team Retest: Changing Assessment into a Learning Activity

Gary R. Schirr, *Marketing Department, Radford University*
Laurel E. Schirr, *Marketing Department, Virginia Tech*

Abstract: The authors searched pedagogical literature for alternatives to make reviewing or "going over" a test more palatable and learning focused and applied a solution in two very different classrooms. The authors share their experiences from this novel approach.

Technological Innovations: Use of the Apple iPad in clinical supervision

Rebecca Epperly, Corey L. Herd & Kenneth M. Cox
Department of Communication Sciences and Disorders, Radford University

Abstract: As clinical supervisors in speech-language pathology and audiology graduate programs, we must consider whether our feedback to graduate student clinicians in the clinical training program is relevant, evidenced based, and culturally sensitive. The question we often forget to ask, however, is whether or not we ever evaluate and/or consider our mode of feedback? Clinical supervisors are faced with a generation of students who are attached to

their mobile devices and crave instant gratification. Researchers and clinical educators at Radford University (RU) are investigating the role of technology in clinical supervision through the use of the Apple iPad. Within a single semester, graduate student clinicians in the RU Speech-Language and Hearing Clinic were provided with six weeks of clinical feedback presented via handwritten documentation. The student clinicians were then provided with clinical feedback via the iPad for another six weeks. The student clinicians were surveyed regarding the effectiveness and efficiency of both methods of feedback. They were also asked to provide feedback regarding their preference(s) regarding the feedback formats. Based on the results of this study, should feedback styles be altered to accommodate students' technology preferences? If so, how do we alter our methods and modes to ensure that we maintain our clinical priorities?

Telling Their Stories: Using Case Study Documentaries in the Graduate Special Education Program

Marlene Zakierski & Gravity Goldberg, *Education Department, Iona College*

Abstract: As professors of graduate special education courses we believe it is imperative for prospective special education teachers to have experiences observing, documenting, and connecting with the experiences of students with special needs. In addition, there is a new and growing body of work being done on the use of case studies with teacher candidates (Goldman & Barron, 1990; Rich & Hannafin, 2009; Rosaen, 2008) and our aim is to further develop and contribute to this body of work for special education. We have begun to implement a digital case study project with our students in both EDU 660 and EDU 664, where students are observing in a special education setting, choosing a focal student, video-recording the student in a variety of settings, interviewing the student, parents, and teachers, and editing the footage into a compelling documentary. The aim is for our teacher candidates to tell the story of a particular student with special needs, including his/her strengths in the school setting. By creating the documentaries and sharing them with their classmates they will gain a deeper understanding about a student with special needs and students with special needs in general. In addition, it is further hypothesized that students will develop an empathetic and critical stance towards disability and the power of teachers to see the beauty in all of their students.

The Effectiveness of Teacher Feedback with Explicit Corrective Comments in Improving ESL/EFL Student Writing Accuracy

Pupung Purnawarman, *Learning Sciences and Technologies, Virginia Tech*

Abstract: Effects of feedback in English as a Second Language (ESL) or English as a Foreign Language (EFL) have been primary issues in studies on the teaching of writing (Paltridge, 2004; Reichelt, 1999). Many studies focused on different types of feedback and their impacts on student writing. However, despite much research conducted on feedback in relation to student writing, interpretations of the research findings on the effectiveness of feedback are not decisive. There have been several debates among writing researchers on whether or not students benefit from written corrective feedback to improve their writing. Examples of such debates are between Truscott (1996) who is a prominent figure against the use of feedback on student writing and Ferris (1999) who is a proponent of the use of feedback to improve student writing. This poster is an excerpt of a pilot study report on the effects of providing different feedback strategies to improve the accuracy of student writing in ESL/EFL contexts. The pilot study involved eight ESL/EFL students who were randomly assigned into three treatment groups receiving a type of teacher feedback and one control group receiving no feedback. The pilot study used direct, indirect, and a combination of direct and indirect teacher written feedback strategies accompanied with explicit corrective comments to improve student writing accuracy. The pilot study was conducted to compare the effectiveness of three different feedback strategies using electronic media to help ESL/EFL students improve their writing accuracy receiving teacher feedback. Students in the study were asked to produce a narrative essay which underwent two phases of teacher feedback and revisions. The study compared students' original essay with the final revised essay to measure the accuracy in terms of the use of English articles, prepositions, and the past tense verbs. Results of the pilot study show that students in all treatment groups receiving teacher written feedback outperformed students in the control who received no feedback at all, and students who received a combination of indirect and direct feedback accompanied with explicit corrective comments outperformed other students in the other treatment groups and the

control group. More specifically, in the Indirect Feedback group, the average number of errors on the original draft of Essay1 was reduced to 23.3% which means that subjects in this group improved their writing accuracy by 76.7% on the revised draft after receiving teacher feedback. In the Direct Feedback group, the number of errors was reduced to 23.8% which means that there was a 76.2% improvement in accuracy while in the Combined Feedback group the number of errors was reduced to 11.1% which means an even higher improvement by 88.9%. On the other hand, the average number of errors made by the subjects in the CG was only reduced to 37.5% which shows that subjects who did not receive any feedback only made an improvement in accuracy by 62.5%. This finding is in support of the results of the studies reported by Bitchener (2008), Chandler (2003), and Sheen (2007) regarding the effectiveness of teacher feedback.

The Factors that Influence Kinesiology and Physical Education Students' Classroom Engagement

Jean-François Desbiens, *Department of Kinanthropology, University of Sherbrooke*
Anastassis Kozanitis, *Polytechnic School of Montréal*

Abstract: In accordance with a number of field research, the engagement of students in classroom represents a growing challenge for university professors. The purpose of this questionnaire survey of 1021 undergraduate respondents was to provide for a better understanding of the links between the level of verbal participation (VP) of students and a set of socio-demographic, contextual, environmental, and motivational variables. A multiple correspondence analysis (MCA) reveals that professors' responses or reactions and their openness as well as group size represent the two dimensions which exert the strongest influence on verbal participation (VP). This, in turn, implies that professors can exercise control over students' engagement while influencing their perceptions and their degree of motivation for the course.

The Influence of Self-Esteem and Acculturation on Adolescent Second Generation Immigrants' Depression

Ana Jaramillo, Kelly Munly & Annie Bao, *Human Development, Viginia Tech*

Abstract: We are motivated to provide additional understanding of the mental health of adolescent children of immigrants, a group at risk for experiencing health disparities due to the unique context and dynamics surrounding the immigrant family experience for both first and second generations. Sam and Berry (2010) indicate a dearth of studies examining effects of acculturation in different stages of development; in response to this need for more research, we decided to examine the experience of second generation immigrants in the stage of adolescent development, a stage that presents dramatic change and challenges in any context, immigrant or non-immigrant. The presenting research team feels that the cumulative challenge faced by second generation immigrant adolescents provides worthwhile rationale for this research direction. Research has documented the value of informed interventions, such as providing positive feedback to enhance adolescent self-esteem (Valkenburg, Peter, & Schouten, 2006). Such interventions may be critical when contexts such as immigrant status may yield more susceptibility to low levels of peer acceptance, friendship instability and related mental health concerns (Biggs, Nelson, & Sampilo, 2010; Chan & Poulin, 2009). It is imperative to allocate research and subsequent intervention efforts specifically toward the emotional difficulties experienced by second generation immigrants. Such interventions may be designed as family interventions or school-based interventions; for adolescents, school-based interventions may occur at the middle- or high-school levels, or in the context of college and university support for new students. We implemented a sequential regression analysis using the second wave of the Children of Immigrant Longitudinal Study with language proficiency in parents' native language (a construct for acculturation) and self-esteem as independent variables, and depression as the dependent variable (Portes & Rumbaut, 1996). Self-esteem predicted 20.4% of the variance in depression among adolescent participants (R Square=.204, p<.05). There was no change in R Square when adding language proficiency in parents' native language into the analysis; thus, language proficiency, our construct for measuring acculturation, does not appear to influence depression levels. The model for this regression analysis indicated that F=995.364, t= -31.549 and β=-.561 (p<.05). The research team feels that these results point to the need for educational programming for immigrants and children of immigrants to include significant self-esteem components; guidance counselors should also be made aware of the importance of supporting self-esteem among this population for preventing depression. Higher education efforts to train new teachers should

also ensure that self-esteem issues are emphasized in pedagogy curricula, in addition to emphasis on standards of learning. For future research efforts on this project, we would like to apply insights from the literature at large on possible other influences on the adolescents' depression levels. Thus, as part of subsequent sequential regression analyses, we will examine additional variables based on Portes' and Rumbaut's data potentially influencing depression levels among the adolescent study participants. We suggest that additional research should be conducted with adolescents who are first generation immigrants and often experiencing additional strain due to the immediate and dramatic demands of assimilation and acculturation.

The Loyola Clinical Centers: A Model for Interdisciplinary Clinical Education

Mary Jo Coiro, *Psychology, Loyola Clinical Centers, Loyola University*
Janet Simon Schreck, *Loyola Clinical Centers, Loyola University*

Abstract: The majority of graduate students in professional programs enter careers that require them to function as members of an interdisciplinary team. Success as an interdisciplinary team member requires the development of a professional skill set including skills in oral and written communication, advocacy, problem-solving and integration. Despite agreement across training and professional organizations that competence in these areas is essential, graduate students often gain limited exposure to interdisciplinary teams in their clinical externships and few training programs specifically target the development of this skill set. This poster will present an innovative instructional model for interdisciplinary education and clinical preparation of graduate students in four professional programs. Objectives include 1) describing a set of interdisciplinary learning objectives adopted at the Loyola Clinical Centers (LCC); 2) describing two interdisciplinary pedagogical and clinical activities we have implemented at our training clinic; and 3) describing the benefits and challenges of incorporating such instructional strategies into graduate programs; The LCC is a training facility under the auspices of Loyola University Maryland that provides clinical training and supervision to graduate students in speech-language pathology, psychology, education and pastoral counseling while offering clinical services to the Baltimore community. Graduate clinicians matriculating through the LCC are challenged to meet a set of interdisciplinary learning objectives through didactic and experiential learning. The objectives include: 1) Articulate the shared and distinctive scopes of practice of the professions and disciplines represented in the LCC. 2) Explain the relation between multidisciplinary and interdisciplinary practice. 3) Display the communicative competence needed to form respectful and productive relationships with individuals from other professions. 4) Draw on frameworks of ethical principles and social justice in professional decision-making within the interdisciplinary team context. 5) Draw on knowledge of individual and cultural diversity to conceptualize and implement culturally-appropriate practice within the interdisciplinary team context. This year we will implement an interdisciplinary seminar that consists of 1) monthly interdisciplinary seminars in which a panel of experts will present on a topic that crosses disciplinary boundaries (e.g., stroke, depression, autism), and 2) assignment of students to interdisciplinary teams which will use a case study approach linking information from the seminars to their clinical practica and classes. Students also provide, under the instruction of clinical supervisors, a variety of interdisciplinary clinical services, including 1) evaluation of children and adults with learning, attention, and language disorders through our Multidisciplinary Assessment Center; and 2) co-leading one of several therapeutic groups, including social skills training groups for children with social skills deficits, and support groups for spouses of adults with aphasia following stroke. The poster will present both quantitative and qualitative assessment measures indicating that participation in this type of purposeful interdisciplinary curriculum is highly effective in fostering the development of critical skills for graduate students. At the same time, interdisciplinary pedagogical models are resource-intensive and present a number of challenges that must be overcome in order to be successful.

The Moment of Erasure: When Transfer Doesn't Happen

Heather Lettner-Rust, *Department of English & Modern Languages, Longwood University*

Abstract: Understanding what students bring from one writing context to another may the central concern for teachers of writing from elementary school to adult learning. Research from the field of composition studies offers knowledge about writing as process(es) (Emig, 1971; Shaughnessy, 1979; Russell, 1999), as socially constructed

performances (Flower & Hayes, 1980; Bartholomae, 1985; Bloom, 1985), and as part of a larger activity system (Russell, 1997). This presentation ties together theories of writing as an activity in a broader system of tools and outcomes and current research on transfer in writing in order to illustrate writers' perspectives on particular writing tasks. Essential to the understanding of what students are doing is to know what tools students report using to complete familiar and unfamiliar writing tasks. Data collected include surveys of 148 students in a capstone writing course as well as interviews from 13 students who completed the survey while enrolled in the capstone writing course. Using an open coding method of interview analysis combined with an examination of writing skills, processes, and knowledges rated for frequent use, the findings suggest that the concept of "high-road transfer" (Perkins & Salomon, 1988) is not present in participants' writing skills, processes, and knowledges as they approach what they perceive as unfamiliar writing tasks. A number of findings are significant to this study and this presentation. In keeping with many other studies, this study found that the participants' perception informed their description of writing tasks. This study extends their work and finds that certain familiar writing tasks were described as unfamiliar if parts of the tasks were altered. Furthermore, the participants' perception of a familiar writing task as unfamiliar informed the participant's heavy reliance on external tools. Some participants experienced what the researcher termed a "moment of erasure" in which they claimed that the "unfamiliar" writing task was completely new and they had no idea what to do. The pedagogical implications are that if writers do not perceive certain familiar writing skills as applicable to the current task—when in fact, they should be, then it is as if those skills do not exist. Teaching for and towards the unfamiliar may help to avoid the "moment of erasure." This poster session explores "the moment of erasure" and presents pedagogical implications for instructors in light of the findings.

The Site-Based Block at ASU: Modifying the PDS Model

Robin D. Groce & Linda C. Pacifici, *Appalachian State University*

Abstract: In teacher education the Professional Development School model, or PDS, grew out of several instances of reform and collaboration (Teitel, 1999). The importance of inservice and preservice teacher preparation in developing teacher leaders and ensuring teacher quality has driven the current popularity of this school-university collaboration (Teitel, 1999). In the Elementary Education Program at Appalachian State University, teacher candidates are required to complete two semesters of block methods prior to student teaching. Traditionally, the block methods are taught on the university campus and the teacher candidates or "interns" go to the public schools for a specified period of time to practice the methods of instruction that they were taught on campus. In the approach presented here, the site-based block students and the instructors engage in methods instruction at an elementary school within the context of the public school classroom. Surveys and observational data were collected over the course of two semesters. The constant-comparative method (Lincoln & Guba, 1985) was applied to survey and observational data to determine the following themes as they pertain to the investigation: 1) reflecting on how the site-based block reflects the PDS model, 2) comparing/contrasting the site-based block model to the traditional block methods model of instruction, and 3) examining the benefits for teachers, teacher candidates, other teacher educators, and the community of practice. Outcomes from this "site-based" university/public school partnership correspond to the advantages cited for PDS partnerships. These include the mutual benefit for the public school, the teachers, as well as the higher education faculty and interns. As indicated in the results, all interested participants benefited from the collaboration. The original spirit of PDS is highlighted within this renewed and reformed modification of a "best practice" in teacher education.

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The Textbook in a Digital Age

Jacob Moore, *Engineering Education, Virginia Tech*

Abstract: The textbook has been labeled as a relic of archaic pedagogical practices but it is still used widely from grade school to graduate school. With an increasing number of digital textbooks coming into existence, the textbook has become liberated from the constraints of a paper-based format. This paper examines the role of textbook in learning for engineering students. Though there is a significant amount research to guide the creation of content for digital engineering texts, there is little research to guide how to provide structure to this content. Collaboration between education researchers and information visualization researchers may help fill this gap in the literature. By designing better ways to navigate the information in a digital textbook trough collaboration between education and information visualization, combined with what we currently know about creating digital textbook content, the textbook will be able to complete its evolution from the paper based relic of the past into the streamlined learning tool of the future.

The Training Lecturer (TL)

Simha Sharf, *Education Department, Western Galilee College and Kinneret College, Israel*
Yaffa Moskovich, *Sociology, Kinneret College; Lecturer, Zefat College, Israel*

Abstract: This study examined the teaching of social sciences in higher education by a training lecturer (TL) in a peripheral college in Israel. Following a frontal lesson by a lecturer, the students worked in small groups under TL guidance. This is an action research project with a quantitative survey. The main assumption was that there will be a relationship between students' attitudes toward the TL, and both self-efficacy and academic achievements. The findings indicated that TL guidance resulted in friendly and efficient learning and encouraged learning. The guidance also promoted self-efficacy which was estimated to have contributed to understanding and learning. Most of the students endorsed the TL as clear and friendly. Overall, the students participating in this project achieved higher scores in the final exam.

The Use of Art-Based Learning in Higher Education Classrooms from the African American Perspective

Michele A. Mont, *MAM Education Center*

Abstract: Five African American professors and nine of their African American students were interviewed during this qualitative study. The purpose of the study was to explore the perspectives of students who have taken arts-based courses and to investigate the purposes of the professors for incorporating artistic ways of knowing into their higher education classrooms. Dillard's (2006) notion of an Endarkened Feminist Epistemology guided this narrative inquiry that was informed by autoethnography. This manuscript reports how arts-based learning activities influence the learning experiences of these educators and learners.

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The Use Of Eportfolios For The Alleviation Of Learned Helplessness And Enhancement Of Student Retention And Persistence To Graduate.

Elza Cruz, *Learning Sciences and Technology, Virginia Tech*

Abstract: College student retention has been the focus of educational research in the U.S.A. since the 1920s.The consequences of dropouts are staggering for both the individual and society. Individuals who do not have a degree

may miss the opportunity to develop specialized professional skills, face higher unemployment, miss opportunities of social mobility, depend more on social services and have a higher tendency to get involved in crimes. For the society, low college graduation rates indicate stagnation in the formation of human capital, essential for the development and the sustainability of the economy. The most commonly reported reasons for dropouts are: Low SES, low academic achievements and psychological problems resembling learned helplessness. We found support in the literature for the assumption that learned helplessness in the educational environment can be alleviated by providing students with repeated opportunities of success. Experiences of success through enactive mastery associated with the acknowledgement of one's competence through concrete evidences throughout time makes students cognizant of the dependence between response and outcomes, making them responsible for their own learning. The alleviation of the learned helplessness emotional, cognitive and motivational deficits can enhance students' self-efficacy and motivation to learn which may result into better academic outcomes. Enhanced motivation to learn and improved academic outcomes result in greater student retention and persistence to graduate. The existing literature also indicates that well-implemented electronic portfolio programs can offer the metacognitive processes as well as the opportunities of success through evidence of authentic learning over time necessary for the alleviation of learned helplessness. Electronic portfolios for learning and authentic assessment foster reflection, self-assessment and self-regulation. The collaborative work and formative feedback from peers, instructors and technical support team present in the ePortfolio environments give students more chances to succeed as they can look back and refine processes and products. They have the chance to evaluate where they are in their learning, where they want to get and how best to get there. As the students collect, select and reflect on their artifacts they create a longitudinal developmental history backed up by proofs of achievements that demonstrate their growth over time. The process of metacognitive awareness of their own learning and self-regulating behaviors can be used to prompt the attribution changes needed for the alleviation of current learned helplessness and immunization against future deficits. A table with data collected from the literature review shows the similarity between the learned helplessness symptoms and the dropout characteristics, whereas another table shows the similarities between the conditions for enhanced self-efficacy and the ePortfolio benefits.

The Use of VideoLogs to Assess Instructional and Course Development Through a Transdisciplinary Approach

Kimberly J. Mitchell, *Apparel, Housing, and Resource Management, Virginia Tech*
David Caudell, *Biomedical Sciences and Pathobiology, Virginia Tech*

Abstract: Most professors and courses are routinely evaluated using a standardized evaluation provided by the academic institution. The evaluations are conducted at the end of a semester and provide minimal feedback, as most questions are very general. Two fallacies of the evaluations are the inability of a professor to act immediately on the feedback, if any, and also to alter one's instructional methods or course content throughout the semester. Incorporating reflective practice through the role of technology including video logs (vlogs) is one strategy sometimes used in instructional assessment throughout the semester. The purpose of this study was to use a transdisciplinary approach in determining if vlogs 1) would provide immediate feedback for course content and development, and 2) become a viable tool for instructor assessment. Two courses used the vlogs for reflective practice, one within social science and the other within biomedical science. Undergraduate students comprised the social science course, in contrast to the biomedical course, which was designed for graduate students. It is recommended that more professors incorporate vlogs as a tool for course development and instructor assessment.

"This is my chance to connect": Preparedness Arguments and E-Portfolio Construction

Kathleen Gygi, Kate Mobrand & Jennifer Turns
Human Centered Design & Engineering, University of Washington

Abstract: A significant goal of higher education is to prepare students for future activity, including both instrumental future activity (e.g., future employment, future professional responsibilities) and more foundational future activity (e.g., engaging in a democracy). However, it is rare that we ask students to articulate the ways in which their activities in higher education have prepared them for their futures. Our research and teaching focuses on

the educational significance of asking students questions about preparation (e.g., the benefits for identity development, inclusiveness, self-efficacy) as well as the relative merits of different approaches to asking such questions. We are particularly interested in the benefits of asking students to construct an argument about their preparedness in the form of an e-portfolio, and of having students work in a studio-like environment to construct portfolios. Our work across varied student populations and contexts suggests this is a robust approach, while our research provides evidence that it is an educationally significant approach that is both innovative and effective. In this practice session, we will engage participants in conversations about the overall issue of asking students about preparedness and, more specifically, about the use of e-portfolios in this context.

Training the Next Generation of Scholars: Building an Integrated, Research-Based Undergraduate Psychology Curriculum

Rebecca D. Foushée, Laurel C. Newman, Stephanie E. Afful & J. Todd Hennessy
Behavioral Sciences, Fontbonne University

Abstract: We present a model for an integrated undergraduate psychology curriculum that emphasizes student academic and scholarly development, critical thinking, scientific creativity, and preparation for graduate study or applied positions. During the last two years of our psychology major, students participate in a two-year sequence of courses that are designed to promote scientific curiosity and gradually enhance students' research skills and analytical reasoning abilities. Junior-level students begin the curriculum with two foundational courses in research design and statistical analysis. The senior year includes courses in which students first develop original research materials and design an individual research study, then engage in hands-on laboratory and/or field research experiences in which they practice their research skills in a mentored environment. These integrated course sequences provide students with a graduated level of independence that fosters their development as student-scholars and prepares them for graduate study or professional work. The model we present is for an undergraduate psychology curriculum, but we believe this model is generalizable to multiple content areas or disciplines.

Tweet It Up: The Use of Twitter in Instructional Design

Kimberly J. Mitchell, *Apparel, Housing, and Resource Management, Virginia Tech*

Abstract: Professors employ a variety of instructional methods. Collaborative learning groups involve groups of three to six students where students work together in small groups, students basically teach each other, and our pedagogical resources are multiplied (Astin, 1997). Students enrolled in Managing Affordable and Specialized Housing were required to use Twitter, a social media microblog, as a method of instructional design. Employers expect graduates to be functional in social media upon hiring. This semester-long assignment provided an opportunity to teach students Twitter and required students to use the medium as a source for information from industry experts. Students tweeted in groups of three in the collaborative learning environment of Twitter. The assignment had students following professionals in military, student, community association, and affordable housing. Students created dialogue with professionals by asking them questions about the four specialized housing industries and exposing students to the vast and efficient network of Twitter. Students presented posters that outlined their knowledge gained from Twitter at the end of the semester.

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Undergraduate Journal Clubs: Challenging Students to Think Critically and Professionally

Deborah J. Good, *Human Nutrition, Foods, and Exercise, Virginia Tech*
Christina M. McIntyre, *University Honors Program, Virginia Tech*

Abstract: Journal clubs provide an opportunity to discuss research articles from peer-reviewed journals. Professionals and faculty often use journal clubs as a form of continuing education. We used the journal club concept in three different courses in order to provide undergraduates with a weekly forum to discuss current research in the field. In two of the journal clubs, the size was kept small (4-5 students/group) to ensure each group member would participate. The other was run within a senior seminar class of 20 students. The discussions focused on evaluating the robustness of the study methodology, results and limitations of the work. Students in two of the three groups were evaluated for critical thinking abilities using a set of 10 questions, as an additional part of their standard "Student Response to Instruction" at the end of the semester. Control groups, not exposed to journal club, were also evaluated and compared. We find that students in the senior seminar class who had journal club and used journal articles to research a specific topic had higher scores in the critical thinking evaluation than students who just had journal club. The lowest scores were for those students in senior seminar class alone, who were not shown how to read and critique scientific articles, but still had to research a topic and write a review article. Overall, the results suggest that incorporation of a journal club into a senior seminar or writing class helps students with critical thinking skills. Future work included discussion and finally incorporation of journal clubs into undergraduate senior seminar courses.

Undisciplined: Interdisciplinary Teaching in a Disciplinary World

Matthew R. Turner, *School of Communication, Radford University*

Abstract: Interdisciplinary is a buzzword that has been bandied about academia for a number of years. Most academics, at least in theory, look at interdisciplinary teaching and research as a desirable goal that can help us approach and understand a problem in innovative and interconnected ways. Many schools have interdisciplinary programs and more and more job postings talk about the importance of interdisciplinary scholarship and teaching skills. While all the attention to and interest in interdisciplinary studies is exciting to interdisciplinary scholars, many institutions still have bureaucratic and disciplinary barriers that effectively impede interdisciplinary endeavors or narrowly define acceptable interdisciplinary paths. This effectively creates new disciplinary barriers. The purpose of this session is to demonstrate and evaluate various interdisciplinary teaching methods and models. Models can range from ones developed with full institutional support and widely defined parameters that include multiple topics and faculty, to interdisciplinary efforts by a solitary teacher in an individual classroom. Many teachers have interdisciplinary interests that can enrich and help students learn and appreciate the material in the classroom. This session will introduce ideas on how to apply interdisciplinary approaches to any subject to enrich both the teaching and learning experience.

Using Case Study Research to Internationalize Higher Education Curriculum

LuAnn R. Gaskill, *Apparel, Housing, and Resource Management, Virginia Tech*

Abstract: Without question, higher education functions in an increasingly culturally sensitive and internationally focused world. Modifications are needed in curricula, course content, and innovative classroom activities that increase the knowledge base of academic constituents to better understand the global small business community, its operations, and niche uniqueness's. For effectiveness in higher education formats, an understanding of the small business sector, its operations, and influences need to be addressed from an international context for increased awareness into small business challenges and sustainability issues. A wide variety of influences have prompted the need for small business endeavors to become increasingly more innovative and creative including changing consumer expectations and needs, decreasing labor pools, globalizations, cross-cultural considerations, quality expectations and niche marketing (Rosenbald-Wallin, 1995). Challenges of successful business operations and strategies have necessitated that small business enterprises remain flexible and adaptable to changing market

conditions as well as social, economic and technological modifications to remain sustainable and viable (Kosters, Damhorst, & Kunz, 1996). Paddison , Findlay, and Dawson, (1990) addresses the importance of increased insight into retail business structures in developing countries given their importance to the economic structure of the country, cultural impact on the retail endeavor, and the impact of globalization on retail operations. McGregor (2004) advocates the need for research into indigenous knowledge of entrepreneurial endeavors given the importance of such information not only to local indigenous areas, but to general society. To effectively prepare future entrepreneurs and business managers, higher education is challenged to replace existing educational models focused on discipline-based programming with holistic, global, interdisciplinary educational experiences. In order to meet such challenges in higher education, the researcher engaged in on-site case study development with the Oodi Weavers of Botswana.   In brief, the Oodi Weavers function through a business cooperative that was established in 1973 by Ulla and Peder Gawenius of Sweden. Recognizing the need for self-sufficiency and sustainability of the local population, they took it upon themselves to train many of the residents of Oodi and neighboring villages in traditional spinning, dying and weaving techniques. They showed the employees how to design and build looms from the locally available materials. They used wool from domestic sheep and created dyes to match the vibrant colors of Africa. They learned how to create quality products and how to critique each others work to establish a fair market price. It allowed many men and women the ability to carve out a means for self-employment in an area where few money-making opportunities existed. The result has been the development of a community of weavers who successfully produce hand-dyed, hand-spun, hand-woven textiles depicting village scenes, animals and simple patterns all designed by the weavers themselves. Through international investigations, students have the opportunity to engage in an interactive discussion of business development at the international level. They have relevant knowledge and are able to thoughtfully reflect on growth strategies and business challenges from business inception through expansion. Case-based instruction clearly helps students understand the importance of reflective practices. Students are also able to become familiar with analysis and actions in complex situations and to apply textbook knowledge in solving contemporary problems.

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Using National Public Radio (NPR) Podcasts to Enhance Critical Thinking

Ellen M. Carpenter, *Psychology, South University, Virginia Beach*

Abstract: The pedagogy outlined was conducted during the Fall quarter 2010 with an introductory psychology course. This proposal has been accepted as part of our University's Quality Enhancement Plan. In this methodology students selected podcasts of interest from National Public Radio (NPR) that were related to course content (e.g., bipolar disorder, autism, PTSD, mirror neurons, etc.). Using an electronic gradebook discussion prompt, students summarized the podcast and applied criteria for evaluating reasoning (Paul & Elder, 2009). Students also created (Anderson & Krathwol, 2001; Bloom, 1956) a follow-up story suggestion for NPR. In addition, students read and responded to class members posts, and submitted questions that demonstrated use of universal intellectual standards (Paul & Elder, 2009). Finally, students completed self-assessments using South University's Standard Artifact Evaluation Rubric. This practice session will introduce the Paul-Elder model of critical thinking (specifically, criteria for evaluating reasoning and universal intellectual standards), and then session attendees will apply these concepts to a 3-minute podcast. Attendees will also evaluate and discuss actual student responses to this podcast. Finally, attendees will discuss how to integrate these concepts at their institutions and share suggestions for improvement.

Using Technology to Support Online Authentic Learning Environment

Yanzhu Wu, *Learning Science and Technology, Virginia Tech*

Abstract: With the rapid development of online technology, many institutions in the U.S. delivered courses in online environment. The uniqueness of the online learning environment creates a structure of learning and teaching that is quite different from a face-to-face learning environment (Kearsley, 1998). Many current online courses tend to be converted from traditional classes into online formats incorporating only innovative technologies into learning environments, but not "innovative pedagogies" (Reeves, Herrington, & Oliver, 2004, p. 54). Using innovative technologies, instructional designers assume that the same quality of learning found in a face-to-face classroom environment will occur in online environment (Reeves, et al., 2004). However, inadequate course design lead many online courses to page-turning self-study e-modules and result in ineffective learning outcomes (Kirschner, 2004; Reeves, et al., 2004). It implies that online programs demand a reconfiguration of traditional methods of teaching and learning. Recently authentic learning has gained increasing interests in the higher education. The basic reason educators are interested in authentic learning is based on the acknowledgement of the gap between learning in academic world and real world practice in conventional pedagogy, where knowledge is seen as decontextualized (Brown, Collins, & Duguid, 1989; Herrington & Oliver, 2000). Authentic learning environment is a resemblance between instructional components such as task, context, activity or materials in course instruction and their real-world parallels. Many online courses attempted to incorporated authentic learning strategies into practice of instructional design and numerous researches have been conducted to explore the effectiveness of authentic learning strategies in online learning environment. However, in designing authentic learning environment for online context, not only the instructors consider the instructional components of authentic learning, but also understand how to use technology to support authentic learning experience in online context. Therefore, it is important to know what technology affordances are critical and how technology can afford to build an authentic learning environment in online context. In this poster presentation, I will, first, discuss four common instructional components of authentic learning which consist of authentic context, authentic task, authentic activities, and authentic assessment. Next, I will present overview of technology affordance and discuss five key technology affordances that are critical in developing authentic online learning environment. These five key categories include media affordances, spatial affordances, communication affordances, access affordances and scaffold affordances. In the end, I will discuss how such technology affordances are practiced with current emerging technology tools.

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Using Wikis as a Formative Assessment Tool for Student Engineering Design Teams

Jacob P. Moore, *Engineering Education, Virginia Tech*
Christopher B. Williams, *Engineering Education & Mechanical Engineering, Virginia Tech*
Marie Paretti, *Engineering Education, Virginia Tech*

Abstract: Widely considered to be the central or distinguishing activity of engineering, design has been a focus of research in engineering education (Simon, 1996). Research on engineering design thinking and learning has established that design is hard to learn and still harder to teach (Atman, Kilgore, & McKenna, 2008). Due to its focus in project-based learning, design instructors cannot simply "teach" design principles through lecture since the unique context of each design project prevents the canned delivery of common content. Instead, design educators must augment content delivery with individual coaching and mentoring of students as they progress through their design efforts (Dym, Agogino, Eriz, Frey, & Leifer, 2005). However, as class size increases, it becomes more difficult for the mentor to coordinate meetings with each of the numerous design teams. As a result, assessment of student progress is often relegated to a few project report milestone submissions. In order to increase the quantity

and quality of mentoring, and to provide an "individual course in a group setting" (Williams & Mistree (2006), we have implemented the use of Wiki websites as a medium for providing formative assessment for student design teams enrolled in a sophomore-level Mechanical Engineering design course (ME 2024) at Virginia Tech. Wiki websites, which allow for easy creation and editing of interlinked webpages, were created for each design team in order to provide a virtual space for the creation, compilation, and editing of their design project report submissions. With access to each team's Wiki site, the mentor is able to observe each team's product design process unfold. Using an on-line commenting system embedded within each page, the instructor is able to provide "virtual" mentoring as they progress through their design efforts – thus providing a significant increase in mentoring and formative assessment. Observing website upload/download statistics also allows the evaluation of individual contributions to the team project. In addition, this commenting feature affords the facilitation of a peer-assessment procedure wherein design teams are paired and asked to review team reports before a final submission – providing advanced learning opportunities for students as they critically analyzed and educated their peers on course content. The use of the Wiki also allows teams to collaborate at a distance, as they provide users digital space for content sharing and offer automatic revision tracking and control. The Wiki's inherent file-storage and history-tracking features facilitated the compilation of the team-based report. Previous research has shown that some ME 2024 teams prefer to collaborate without face-to-face meetings – relying on shared OneNote sessions and IM chat sessions to complete their projects (Pembrdige, Johri, & Williams, 2009) This reflects professional practice: virtual teams are becoming more prevalent in the field as engineers increasingly work with others spread around the globe. In this work the authors present preliminary assessment data for this tool. Specifically, results from student responses to Likert survey statements and semi-structured interviews are presented. Preliminary data is promising: 80% of students agreed that their report benefitted from the peer review process of the Wiki and 90% liked receiving feedback from the instructor prior to the report deadline as afforded by the Wiki.

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Validity Threats in (Social) Science

Biko Agozino, *Sociology, Virginia Tech*

Abstract: The principles of research methodology were borrowed by social scientists from the natural sciences. However, research methods courses are more likely to be found in the social sciences today while the natural sciences take the principles of methodology for granted except in courses on laboratory methods in physics and chemistry or numeric methods in mathematics. This article suggests that it is time for the social sciences to serve as a model for the natural sciences by emphasizing the importance of teaching quantitative and qualitative research methods courses and adhering to the principles in research. The important principle of validity will be used to illustrate what modern physics, for example, could relearn from the social sciences.

Which Attitudes and What Behaviours in University Professors Favour Students' Engagement in Classroom?

Jean-François Desbiens, *Department of Kinanthropology, University of Sherbrooke*
Anastassis Kozanitis, *Polytechnic School of Montréal*

Abstract. In accordance with a number of field research, the engagement of students in classroom represents a growing challenge for university professors. The purpose of this questionnaire survey of 1021 undergraduate respondents was to identify which professors' attitudes and behaviours had more influence on students' verbal participation (VP) as well as to map the links between these variables. A multiple correspondence analysis shows students are sensitive to attitudes and behaviours that illustrates professors' enthusiasm in the classroom, concern to call students by their name, willingness not to indispose them with undue authority, and of their mastery over their reactions notably when students ask questions. This survey indicates that it is the way professors direct class activities through human interaction that is called into question in the students' disengagement phenomenon.

Writing, Disciplinarity, and Meta-Awareness: An Empirical Investigation

Brian Gogan & Kerry Dirk, *English, Virginia Tech*

Abstract: Our poster shares the results of an IRB-approved empirical study of sixty-five student writers enrolled in "Writing from Research," the second of two sequenced writing courses at Virginia Tech. Drawing upon recent work on compulsory academic writing courses, meta-awareness, and transfer (Downs and Wardle 2007; Smit 2004; Wardle 2004; 2007; 2009), we designed a version of the "Writing from Research" course which asked students to investigate the rhetoric and writing that occur in their own major discipline. Our version of this course was piloted during the Academic Year 2009-2010. We further designed an empirical study, the goal of which was not only to compare the student learning outcomes to this course's goals, but also to add to the growing knowledge on academic writing, meta-awareness, and transfer. In an effort to contribute a contextualized piece of knowledge to larger conversations within writing studies, we modeled our own study after the pilot study described by Wardle (2007). Our study employed a survey, a questionnaire, an analysis of course writing, and artifact-based interviews in order to gauge student meta-awareness in the three major areas identified by Wardle: writing, language, and rhetoric (2007, p. 82). Although our study is vulnerable to the critques of any case study, particularly those enumerated by Wardle (2007, p. 71-2), our data should be conceived as rejoinders that gesture to a greater generalizability of Wardle's data. Wardle suggests that writing studies scholars "should attempt to account for the ways in which knowledge and skills are transformed across contexts" (2007, p. 69). Thus, it is reasonable to consider each instution, each disicpline, each course, and each professor as different contexts—borders, if you will—across which knowledge and skills might be transferred or transformed. The data that we will report moves Wardle's study across borders: We studied sixty-five students (as opposed to seven honors students) from a public, land-grant, technological institution of 23,000 students (as opposed to "a private, Catholic, liberal arts school of 10,000 students"). After completing our courses, students reported siginificant gains in their ability to read academic texts, to conduct primary and secondary research, and to understand how writing functions within their own disciplines. Most students would recommend this course approach to other students, as they expressed a passion for being able to write in relation to their major and a growing confidence in their capabilities to do so. Further, students showed significant improvements in their writing, as well as in their understanding of different disciplinary conventions. As such, we suggest that all students would benefit from disciplinary research in a writing course, especially one that studies writing through shifting rhetorical frameworks that depend on the location of writing.

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