Preface to Conference Proceedings

This past May over 425 conference participants attended the Lilly Conference on College and University Teaching in Bethesda Maryland. These individuals represented 150 institutions from 36 different states and 8 countries. The conference program offered five plenary presentations, 128 concurrent presentations; 13 round-table discussions and 27 poster presentations across the program.

Following a blind peer review process with college and university faculty as reviewers, 84% of the proposals were accepted for presentations. Presenters were given the opportunity to develop their scholarly work for publication in the conference proceedings.

The conference proceedings consist of three sections. The first section is comprised of expanded papers written by presenters who agreed to capture material presented in their sessions. These papers were peer reviewed following the conference, 89% of the papers were accepted. The second section includes concurrent session abstracts, listing both the presenters and contributing authors. The final section a listing of institutions represented by our presenters.

I am grateful to all of the individuals who presented their work at the Lilly Conference on College and University Teaching, Bethesda 2014. Conference evaluations, supported by anecdotal comments, clearly noted the quality of the session presentations, both in content and delivery.

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

Todd Zakrajsek, Conference Director
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Plenary Presenters

David Daniel
James Madison University

David B. Daniel is a psychology professor at James Madison University, as well as the managing editor of the journal Mind, Brain, and Education, and consulting editor for the journal Teaching of Psychology. In just the past 5 years, has published over 20 articles and chapters on teaching and pedagogy.

Presentation: Neuroscience, Learning Science and Other Claims for the Classroom: What Sort of Evidence Makes It Pedagogy?

Ray Land
Durham University

Ray Land is Professor of Higher Education at Durham University and Director of Durham's Centre for Academic Practice. He is currently involved in two European Commission higher education projects in Europe and Latin America. He has published widely in the field of educational research and is best known for his theory (with Jan Meyer) of threshold concepts and troublesome knowledge.

Presentation: Threshold Concepts and Troublesome Knowledge: A Transformational Approach to Learning

Katherine Rowell
Sinclair Community College

Katherine R. Rowell is a sociology professor at Sinclair Community College. She has won numerous awards for teaching excellence, including the Outstanding Community Colleges Professor of the Year award from the Carnegie Foundation and Case Foundation, and has been included in “Who's Who Among America's Teachers” four times.

Presentation: Teaching for Life: The Importance of Hope and Empathy

Peter Seldin
Pace University

Peter Seldin is a Distinguished Professor of Management Emeritus at the Lubin School of Business at Pace University. He has been a consultant on the higher education issues to more than 300 colleges and universities around the world. Peter has written numerous well received books, as well as contributed articles to such publications as The New York Times, The Chronicle of Higher Education, and Change Magazine.

Presentation: College Teaching: Myths, Evaluation, Improvement

Todd Zakrajsek
International Teaching Learning Cooperative

Todd is an Associate Professor in the Department of Family Medicine and Executive Director of the Academy of Educators at UNC Chapel Hill. Todd served as a tenured associate professor of psychology at Southern Oregon University before directing three teaching centers over the past 15 years. Todd currently serves in leadership roles for several educational efforts, including board membership at Lenovo Computer and Microsoft. He has published and presented widely on the topic of effective teaching and on student learning.

Presentation: Joys and Challenges of the Greatest Profession
Linking Leadership Education to the Leadership Experience of Working Professionals through a Virtual Mentoring Program

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Abstract

Instructors are often challenged to help their students understand the relevance of their coursework to professional practice. In this paper we offer a case study of the integration of professionals into the classroom as “virtual mentors” who serve to facilitate understanding of the practical application of course content and contribute to the broader educational value of the learning enterprise.

Introduction

Classroom educators are often challenged to help their students understand the relevance of coursework to the world of professional practice. This is particularly true in teaching leadership studies where theory and research risk appearing dry if taught from a classic social scientific perspective or trend and lacking substance if taught from an experiential and personal development frame of reference. A general strategy instructors use to address these challenges is to seek external validation of course material via the incorporation of applied leadership practicums and internships and by inviting professionals as resource experts into the classroom.

To address this challenge we offer the use of “Virtual Mentors,” defined as experienced professionals who are engaged in email conversations with students which complement the students’ course-based learning, as an approach to inviting professionals into the classroom and validate course content.

Literature Review

While there has been general support about the efficacy of practicum and internship experiences (Ryan, Toohey, & Hughes, 1996) as approaches to connecting the classroom with professional practice, these experiences require significant investment in supervision and coordination of student experiences as well as having willing partners who have the educational interests of students at heart. As a result, these strategies are most often found in advanced courses within the professional studies curriculum such as education, business, health sciences, engineering, and journalism. In comparison, the literature on inviting professionals into the classroom to serve as guest speakers, judges and mentors for their students (Metrejean, Pittman, & Zarzeski, 2002) is also generally supportive, but in contrast to internships and practicum this strategy is generally less resource intensive and available to a much wider range of courses. Still, there are costs to be incurred, not the least of which are the logistics involved in hosting guests and overcoming barriers to access such as distance for rural schools or parking challenges for urban schools. Fortunately, technological advances have opened up opportunities to inviting professionals into the classroom that are less expensive, free of locational constraints and in many cases more personalized (Tyran & Garcia, 2005; Whiting & de Janasz, 2004). In addition, the value of these opportunities are yet to be fully realized as faculty are only beginning to take advantage of these learning enrichment tools as they are rapidly developing, becoming more accessible and less expensive.
Here we offer an approach to inviting professionals into the classroom via an e-learning platform at a public comprehensive university. We describe as a case study, Introduction to Leadership Studies, in which we invite professionals to interact with students on an individual basis with the objective of sharing their leadership experience as a complement to course material. We have chosen to deploy our invited professionals in this case as “virtual mentors.” As with the standard definition of mentors, these professionals are more seasoned individuals who provide advice to learners who are less experienced and knowledgeable about the topic (Hunt & Michael, 1983) which has been found to lead to positive effects on various aspects of career success (Allen, Eby, Poteet, Lentz & Lima, 2004; Kram, 1985). In addition to the value directed to protégés, mentoring has been found to be of value to mentors (Eby & Lockwood, 2005) and to the course instructor (Metrejean et al., 2002). What is different from traditional mentoring is that these mentors interact with their students via the mediated email platform associated with the course.

In the following sections we present information on the nature of the course and our students, share our instructional methodology (including design concepts for connecting “virtual mentors” to students), outcomes, lessons learned, and implications for further development.

**Methodology**

**Program Description**
The Leadership Studies virtual mentor program connects approximately 120 undergraduate students, primarily first-year students enrolled in the Introduction to Leadership Studies course, with approximately 120 community volunteers to serve as virtual mentors and discuss leadership topics presented in the course over a ten week period. These virtual mentors, randomly assigned to students, are experienced professionals representing the business, non-profit, education, and government sectors and most are alumni or parents of current undergraduates.

Students are instructed to develop a conversation with their virtual mentor by exploring three key questions. Two of these questions are provided by the course instructor and one is derived by the student based on course material. Since most students enrolled in the Introduction to Leadership Studies course are freshmen, many are nervous about writing to their virtual mentor and struggle with writing a standard professional email. To overcome these obstacles, students are coached on email communication and their final question to their mentor is reviewed by an undergraduate teaching assistant. With this framework in place, first-year students are challenged to become more self-aware in how they present themselves to a professional, learn how professional networking occurs, and gather information about the required leadership question. Thus, the conversation is scaffolded to allow students a framework to build their skills and confidence in professional writing as well as engaging in a meaningful way with a working professional.

**Discussion Sessions**
The course is structured in a lecture and discussion section format, with all students meeting twice a week in lecture and once a week in small group discussion sessions. The discussion sessions provide a small group experience for examining lecture topics in depth and exploring practical forms of leadership with their peers. These small groups also provide a venue for sharing content from virtual mentor emails. In the case that a student-virtual mentor pairing is not fruitful, students are still able to benefit from hearing from other students’ experiences with their respective mentors and learn more effective communication strategies.

Discussion sessions, limited to twenty students, are led by a pair of advanced students. Discussion session leaders are high achieving students who have been invited to participate in a separate course, Leadership and Pedagogy, in order to learn instructional methods, gain further mastery of leadership course content and personal leadership skills. The discussion session leaders are given significant freedom by the instructor in how they lead their class, and aim to develop a safe and comfortable space for their peers. They encourage class participation and seek to model different leadership styles as they themselves are a diverse cross-section of students.
Technological Infrastructure
A key element in this program is the use of Canvas™, a web-based e-learning platform. Canvas™ allows students to engage with the course in multiple ways. While it primarily serves as an avenue to share course syllabi and files, it also integrates features that permit semi-private discussion board posts/emails between students and virtual mentors. Each student-virtual mentor pairing is placed in a subgroup that allows them to exchange messages which can only be seen by members of that subgroup. Messages may be monitored by the instructor, program staff, and discussion section leaders to help ensure safe and appropriate communication between virtual mentors and students and allows the instructor to assess student learning and quality of student-virtual mentor interaction.

An alternate method to using an e-learning platform is to use an accessible and free product like Google Groups™. In fact, the virtual mentor program was piloted using Google Groups™ for three years. The discussion format was similar in that an online group was created for each student and virtual mentor pairing (along with additional parties that provide oversight) and messages were archived. While Google Groups™ provided a simple method for email exchanges, due to periodic updates and changes to the service, problems were difficult to troubleshoot without an accessible customer service team. By contrast, since an e-learning platform is supported by campus technology services, troubleshooting assistance is more readily available. Typical issues experienced by users include login difficulties, desires to change email preferences, and browser compatibility issues.

Virtual Mentor Framework
Virtual mentors are provided with an online orientation that outlines the program’s purpose, policies, calendar, and sample email exchanges. These materials also explain the structured format of the relationship between student and virtual mentor. Since the course has capacity for 120 students and 120 virtual mentors and involves over 700 emails, additional support is provided by virtual mentor coordinators.

Virtual mentor coordinators are a select group of twelve virtual mentors who serve as a resource to nine other virtual mentors, help review exchanged emails, answer questions about the e-learning platform, and help troubleshoot any basic difficulties with technology. Virtual mentor coordinators receive an advanced orientation as well as a concluding debriefing session to discuss successes and areas for improvement. Because of their ability to view multiple email exchanges, they can identify and troubleshoot common problems amongst students and their mentors.

Conclusion
Student Outcomes
Students help shape the virtual mentor program by assessing their mentor at the conclusion of the course. In addition to rating their mentors, students were asked to provide a rationale for their ratings. Doing so resulted in the following representative student comments about his or her mentor:

- “She was very relatable and shared a lot about herself which made her more approachable. Her insights were valuable to our leadership class and made the essay easy to write.”
- “I thought my experience with my virtual mentor was very enlightening. He did not give me textbook answers to my questions and shared much of his personal experience in the workplace. His answers expanded on what I had learned in the text and he was always interested in asking about my life and sharing personal information about himself.”

When asked about top learning outcomes, one student indicated that:

“One of the main things I learned was about the differences between being a manager and a leader. I also learned the different types of leaders and how they can use their specific types to their advantages. One thing I took away from my conversation with my professional was the techniques of trust and transparency to create strong culture in the workplace.”
Virtual Mentor Outcomes
While the focus of this program is to enhance student learning, virtual mentors also report learning gains of their own. In response to student questions, mentors often reflect on their own experiences in the workplace in order to offer a response to the student. In this way it becomes a reciprocal learning process (Tyran & Garcia, in press) for the student and virtual mentor. For those virtual mentors who wish to delve deeper into the course, course content is readily accessible via the e-learning platform. Beyond the continued exploration and personal reflection on leadership topics, many virtual mentors enjoy the connection with the university and experience firsthand what students are learning in the university’s general education program. Furthermore, mentors seem to find this experience to be of value as reported in an unpublished 2013 virtual mentor survey in which 93.3% of 61 respondents stated that they would like to participate again and 84.5% were satisfied or very satisfied with their experience as a virtual mentor.

Instructor Outcomes
The primary gains to the instructor are in improving instruction and developing a network of community support. Through observing student-mentor conversations the instructor has access to the perspectives of professionals on course content. This can impact curricular choices, approaches to teaching such as including acquired examples, and drawing attention to the need to clarify concepts in class so students can better articulate their grasp of course content.

Limitations
A primary limitation for this program is that it only functions well if both the student and virtual mentor are actively engaged, are timely in their responses and understand the goals of the program. Additionally, a stable technological platform is essential. Mentors and students can become easily frustrated and lose motivation to participate if the email exchange is not easy and seamless. We also found that enthusiastic virtual mentors feel slighted if a student withdraws from the course after a conversation has begun, even though the student’s decision was not related to the mentor.

While this approach has generated positive results this experience offers interesting questions for further experimentation and scholarship. We offer three examples that appear readily amenable to study. First, in this program, students are sharing their learning with an independent, high credibility third party. This raises the question of what the unique impact is of this mentoring relationship on student persistence and eventual learning. Second, in this case study, the conversations were spread over the duration of the entire course. Would compressing the mentoring experience into a shorter time span deepen the relationship as the degree of communication between the mentor and student would be more intensified? Finally, are there identifiable patterns of development in the student-mentor conversations that can be identified as significant to enhancing student learning?

In closing, we are optimistic about the use of technology to link students to professionals to enhance student learning. The development of appropriate pedagogical strategies to accomplish this as electronic communication becomes even more accessible is critical. We are convinced that incorporating professionals as classroom visitors via technology is an exciting option for students, professionals and faculty.
References


Encouraging and Assessing Student Reflection

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Abstract
Reflection is a widely accepted element of adult learning, but it is often difficult to encourage student engagement, and is challenging for faculty to assess. Effective use of reflection in teaching requires faculty to identify the purpose to be achieved; determine the nature and timing of the reflection that will best advance learning; motivate student participation; select activities to prompt reflection; develop and use a grading rubric, and provide feedback that furthers reflective ability. This paper presents theories and principles of reflection and instructional design to offer approaches educators can use to maximize the impact of reflective assignments.

Introduction
Reflection -- the metacognitive process aimed at developing meaning of both self and environment before, during, or after situations --- is required for learning from experience and for developing critical thinking ability (Mezirow, 1981, 1998; Schön, 1983; Sandars, 2009). Core activities that prompt reflection are common in most course assignments: Asking and being asked questions, writing, observing, and discussing. Yet students often perceive activities described as “reflection” to be unimportant and view assignment feedback as superficial (Bourner, 2003). A plethora of theories and principles describe reflection and the reflective process, including categorizations of the types and timing of reflective practice, and the process of critical reflection. However, applying the concepts in the literature to the development and assessment of course assignments is a challenge for even the most seasoned educators.

Literature Review
In describing competent professionals, Schön (1983) noted that they “usually know more than they can say” and “reveal a capacity for reflection on their intuitive knowing in the midst of action and sometimes use this capacity to cope with the unique, uncertain, and conflicted situations of practice” (p. viii-ix). This concept of reflection-in-action was described by Schön as one of three types of reflection, the other two being reflection on action – taking place after an event, and reflection for action – taking place in anticipation.
Other scholars differentiated the practice of reflection from the process of doing it, and in so doing, described both cognitive and social activities. Realin (2001) described reflection as the practice of occasionally stepping back to consider the meaning of what has occurred. Boud, Keogh, and Walker (1985) focused on the process of reflection as engagement with others to develop new understanding by exploring experiences and emotions. Mezirow (1998) added the concept of critical reflection, noting that one must consider not only what occurred (content reflection) and how (process reflection), but why (premise reflection) to achieve the deepest possible learning from experience. Collectively, the literature points to multiple benefits from reflection: it enables learning from experience by crystalizing what occurred, how it was experienced and why; develops critical thinking by encouraging the integration of thoughts and judgments; may improve actions by providing space to consider alternatives; encourages deep learning via interrogation of situations; promotes action-taking by building self and situational awareness, and may transform perspectives through deep analysis.

The literature on adult learning is less specific about how these benefits can be accrued. Theorists point to activities of questioning (asking and being asked questions); writing, discourse with others, and observation from various points of view as prompts for reflection (Boud et al., 1985, Mezirow, 1981,1998; Schön, 1983). Although these activities are used for many different types of assignments in addition to reflection, they may cause both faculty and student barriers to effective reflection. Faculty who use these techniques in their teaching infrequently, may struggle with what questions to ask and how to do so in a manner that prompts reflection; and how to adapt assignments for students whose learning styles do not favor reflective activities. Students may be used to describing events as opposed to challenging their own interpretation of them. They may struggle with the unintuitive reflective process, coming to see it as lacking immediate value and therefore not worthy of their effort. These views will be exacerbated if faculty are uncertain about assessing reflective assignments, or do so poorly, providing absent or superficial feedback.

Thus, the skills and perspectives of both faculty and students must be developed to maximize the impact of reflective assignments. Faculty should consider principles of instructional design for guidance and support in developing assignments that foster student reflection (Fink, 2003). This includes taking time to explain to students why reflection is important (as noted above), linking reflection to what is known about the topic at hand (i.e., indicating that reflection leads to improved outcomes, enhanced satisfaction, error reduction, self-efficacy, better relationships, etc.), and providing a safe environment for discourse, observation, etc. Good design also includes the establishment of a clear purpose to the reflective activity and determination of the nature and timing of an assignment to achieve that purpose.

Faculty may need to modify their thinking on the assessment of reflection, often felt to be subjective and associated with unplanned or emergent learning outcomes (Bourner, 2003). The subjectivity can be addressed by shifting the focus from assessing the content (i.e., knowledge gained) to assessing the reflective process (i.e., perspectives taken/investigated). The concern regarding the unplanned nature of reflection relates to when it might occur, not the possible learning outcomes achieved. Grading rubrics based on the desired learning outcomes and the relative importance of the assignment (as compared to other course requirements) should abate these concerns (Fink, 2003). Application of instructional design principles such as those described above will also provide students with the clarity and understanding they need to complete reflective assignments.

Combining theory and design can be challenging for faculty, as many aspects need to be considered. In this paper, we describe an approach to help educators assimilate theories and principles of reflection and instructional design to develop effective reflective assignments that encourage and appropriately assess student reflection in their courses.

**Methodology**

The theories, principles, models and strategies discussed above concern what must occur to encourage and assess student reflection. To integrate the concepts, we suggest using a “Design Worksheet” (see Appendix A) to develop reflective assignments.
The worksheet begins by asking faculty to specify the **purpose of the reflective assignment**. Several possible purposes were described in the literature review section above. Each of these possible purposes has implications for the next three choices which establish parameters for the reflective assignment: **The type of reflection** (whether individual or collective), **the nature of reflection** (is it about content, process, premise, or some combination?), and **the timing of the reflection** (after, during, or before action). Appendix B, adapted from Plack and Driscoll (2011), shows the questions that can be used to prompt the different elements of reflection, given variations in their timing.

Using the framing developed thus far, faculty can consider the **possible barriers** they might encounter from students in terms of participation, and determine how they might pre-emptively deal with students' reluctance. At the very least, faculty should identify and use a **motivational “hook”** that indicates to students why the reflection on the specific topic of concern is important to their learning; what value it provides immediately as well as long-term.

**The actual reflective assignment** will be guided by the assignment purpose and parameters, and can take many forms, including journaling, writing reflection papers, portfolio development, discussion board postings, critical incident reviews, presentations on what was learned, etc. The form of the assignment will impact how it is assessed. The **first step in developing the assessment rubric requires faculty to determine the % of the course grade the assignment accounts for**. Longer assignments, such as portfolio development are likely to be weighted more heavily than ones requiring less effort, such as discussion board postings.

Once the overall value of the assignment in the course is specified, the **second step in developing the assessment rubric is to determine the assessment criteria**. The criteria should relate to the purpose of the assignment, and if more than one criterion, weighting should be specified.

The **third and final step in developing the assessment rubric is to determine the scoring**. For each criterion, what is desired for full credit, partial credit, etc. Good assessment rubrics provide students with the scoring guidelines as well as examples of what they need to do to achieve each. A sample rubric for a reflection paper is provided as Appendix C.

Grading rubrics vary considerably in terms of how many possible criteria or scoring levels are involved. What is most important is that both students and faculty are clear about what is expected, and that feedback provided to students indicates what they would have to do to improve their performance. This is most effectively done by asking each student questions that help them reflect at a deeper level. Thus, reflection begets more reflection!

**Conclusion**

The Design Worksheet incorporates the theories and principles of reflective practice and effective instructional design by providing a logical process to assignment development and assessment. There is ample evidence in the literature that experiences – including classroom sessions – require reflection for learning to occur; for material to be retained past the next exam. Thus, reflective assignments are a powerful tool for faculty to employ. Like any other tool, it should be used properly. In the case of reflective assignments, that means with clear purpose, effective design, and appropriate assessment. Anything less will leave both students and faculty frustrated and miss the opportunity to maximize learning's potential.
**References**


## Appendix A

### Design Worksheet for Reflective Assignments

<table>
<thead>
<tr>
<th>Program</th>
<th>Course</th>
<th>Class Session</th>
</tr>
</thead>
</table>

**Purpose of Reflective Assignment:**

**Type of Reflection:** Individual  Collective

**Nature of Reflection:** Content  Process  Premise

**Timing of Reflection:** On Action  During Action  For Action

**Possible Barriers:**

**Motivational “Hook:”**

**Assignment (Type & Activity):**

**Assessment:**

1. Value of assignment: ________________________________
2. Assessment criteria: ________________________________
3. Scoring: ________________________________
Appendix B
Reflective Questions

<table>
<thead>
<tr>
<th>Elements/Timing</th>
<th>Reflection on action (after)</th>
<th>Reflection in action (during)</th>
<th>Reflection for action (before)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content reflection</strong>&lt;br&gt;<em>(what occurred/what you want to occur)</em></td>
<td>· What really happened here? &lt;br&gt;· What made me react that way?</td>
<td>· What is causing this to occur right now? &lt;br&gt;· What else do I need to know? &lt;br&gt;· What is not working as I anticipated?</td>
<td>· What would I do if X occurs? &lt;br&gt;· What can I do to prevent X from occurring? &lt;br&gt;· What would I do different next time?</td>
</tr>
<tr>
<td><strong>Process reflection</strong>&lt;br&gt;<em>(how it occurred/how you want it to occur)</em></td>
<td>· How did my actions (actions of others) influence the outcome? &lt;br&gt;· How else could I (we) have approached this situation?</td>
<td>· How can I change what I am doing right now to improve the results? &lt;br&gt;· How else can I approach this situation (i.e., what other strategies can I consider)?</td>
<td>· How else could I approach this next time? &lt;br&gt;· How can I prevent X from happening next time? &lt;br&gt;· How can I approach this next time to be more efficient?</td>
</tr>
<tr>
<td><strong>Premise reflection</strong>&lt;br&gt;<em>(why it occurred/why you want it to occur)</em></td>
<td>· Why did this happen? &lt;br&gt;· What assumptions did I make? Why do those rules exist?</td>
<td>· Why am I reacting this way? &lt;br&gt;· Why is X reacting this way?</td>
<td>· Why do I need to do this? &lt;br&gt;· What might make me uncomfortable; why?</td>
</tr>
</tbody>
</table>

*Source: Adapted from Plack & Driscoll, 2011*
<table>
<thead>
<tr>
<th>Level</th>
<th>Reflection Performance</th>
<th>Scoring Guidelines</th>
<th>Elaborated Guidelines</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Does not respond to the assignment</td>
<td>Narrative is submitted but is not responsive to the topic or assignment.</td>
<td>Vented without description of specific situation. Describing an encounter unrelated to the topic.</td>
<td>1. Patients in this hospital are challenging to care for. 2. “You ask about this, but I’d rather tell you about something different.”</td>
</tr>
<tr>
<td>1</td>
<td>Describes without reflecting</td>
<td>Narrative description of encounter but no evidence of reflection action.</td>
<td>Very detailed story with some insight into behavior in the moment but no further discussion of behavior in retrospect.</td>
<td>“We took care of this patient, considered their needs, addressed their concerns and challenges, and did a good job.”</td>
</tr>
<tr>
<td>2</td>
<td>Does not justify lessons learned</td>
<td>States that lessons were learned but without explicit linkage to supporting evidence.</td>
<td>Vague reference to lessons learned without elaboration. List of lessons learned without linkage to evidence. General platitudes about optimal care without specific linkage to scenario.</td>
<td>“I took care of a Cuban patient and became aware that it is important to consider their cultural background.”</td>
</tr>
<tr>
<td>3</td>
<td>Provides limited justification of lessons learned</td>
<td>Relies on personal assessments of lessons learned.</td>
<td>Personal opinion about lessons learned predominates. Little or no inclusion of external evidence as defined below.</td>
<td>“I felt more confident about my skills, and I expect the patient will check her blood sugars more frequently and return for her appointments.”</td>
</tr>
<tr>
<td>4</td>
<td>Includes evidence of lessons learned</td>
<td>Includes external evidence of lessons learned.</td>
<td>External evidence includes detailed feedback from patients or professional associates. Objective data on outcomes, and/or use of the literature.</td>
<td>“I followed up and found that the patient returned to clinic, brought her glucose records, and had better glycemic control.”</td>
</tr>
<tr>
<td>5</td>
<td>Analyzes factors from experience</td>
<td>Explicitly refers to prior experiences and describes how they informed behavior in current situation.</td>
<td>Reference to prior experience can reinforce successful practices or inform a change in practice. Must meet criteria for level 4; even if analyzes factors from experience, cannot achieve this level without including external evidence of lessons learned.</td>
<td>“In the past, I have approached similar patients by providing them with a monitoring sheet and not evaluating their literacy level. In this case, I established that the patient had some English proficiency and used level-appropriate materials with him.”</td>
</tr>
<tr>
<td>6</td>
<td>Integrates previous experience with current events and data to inform further action</td>
<td>Analysis including external evidence of lesson learned, relation to prior experience and implications for the future</td>
<td>Must meet criteria for level 5 and also include a specific plan for the future including how success will be monitored.</td>
<td>“I will assess English health literacy in all my Latino patients using SAHLSA-50 Form; request low-literacy educational materials for our clinic; determine success by tracking Latino patients screened and literacy forms in clinic in 3 months.”</td>
</tr>
</tbody>
</table>

Source: O’Sullivan, Aronson, Chittenden, Niehaus & Learman, 2010
Formative Assessment in Higher Education Teaching and Learning: A Model for Design and Implementation

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Abstract
Emerging learning formats and technological advancements coupled with a growing interest on learner-centered education has created an impetus for a renewed focus on the implementation of formative assessment in higher education contexts. This paper offers a model for implementing formative assessment strategies in college classroom environments through principles of course design. Examples of formative assessment strategies in various classroom formats are described and the benefits of formative assessment for learners, instructors, and educational systems are explained. Embedding formative assessment into course design is the most effective method of increasing student engagement and motivation at the course level.

Introduction
Research supports the benefits of formative assessment for increasing student engagement and improving student achievement, yet it continues to be underused in U.S. higher education contexts (Black & Wiliam, 1998; Yorke, 2005; Nicol & Macfarlane-Dick, 2006). This underuse can be attributed to various influences, including the prevailing culture of external testing mandates, the pervasive transmission-style teaching and evaluative assessment paradigm and the reward system that privileges research over teaching and learning (Yorke, 2005). Criticisms of formative assessment claim that it requires extensive support and is time intensive. Further confusing the debate and definition of what constitutes formative assessments is the mislabeling and misuse of the term formative on some assessment tools.

Recent available technology and new instructional formats coupled with a growing desire to shift away from an “instruction paradigm” toward a “learning paradigm” in higher education (Tagg, 2003) create an impetus for an applicable model of formative assessment aimed toward increasing student achievement. Emerging learning formats offer unique digital tools to increase the use and efficacy of formative assessment in instructional planning, content delivery, and knowledge application. Embedding formative assessment into course design is the most effective method of increasing student engagement and motivation at the course level (Black & Wiliam, 1998). This paper offers a model for implementing formative assessment strategies in college classroom environments through course design. We offer examples of formative assessment strategies for various classroom formats and conclude by elaborating on the benefits of formative assessment for learners, instructors, and educational systems.

Literature Review
Scriven (1967) first labeled assessment data as “formative” and “summative” to describe different intended uses for the student data being collected. Formative assessment was described as gathering information to change the instructional program in which the student was participating and was characterized as assessment for learning or assessment that informs instruction. In contrast, summative data was described as evaluative data collected at the end of the program to measure the efficacy with which the program had met its intended goal.
Bloom, Hastings, and Madaus (1971) formalized the steps of formative assessment as (1) data collection, (2) feedback for students, and (3) instructional modifications or interventions by teachers.

Vygotsky (1978) used these steps to conceptualize the Zone of Proximal Development (ZPD) - the critical moment when one is able to connect prior knowledge to new material. Vygotsky emphasized the use of formative assessment to scaffold learners’ understanding beyond their current knowledge to reach the intended learning outcome and the importance of the learning environment. Tomlinson and McTighe (2006) placed further emphasis on the importance of incorporating formative assessment in instructional design.

Black and Wiliam’s (1998) meta-analysis of more than 250 research studies on formative assessment during the decade covering 1988-1998 confirmed that implementation of formative assessment by classroom teachers was the most effective method for raising student achievement, especially among low-achieving students.

Formative Feedback and Self-regulated Learning
Providing specific, relevant, and timely feedback is a key element of effective formative assessment (Fluckiger, Tixier y Vigil, Pasco, & Danielson, 2010; Nicol & Macfarlane-Dick, 2006). Nicol and Macfarlane-Dick (2006) argue that teaching self-regulated learning through formative feedback techniques is the most valuable application of formative assessment in higher education classrooms because college students are already engaging in self-regulated feedback processes through attempts to interpret and incorporate instructor-driven feedback and grades. Further development of these skills along with effective peer feedback skills develops students into lifelong learners, a goal in-line with the shift to the active-learning, student-centered education paradigm that has become more prominent in higher education in the last decade (Tagg, 2003). Rust (2002) explains that providing quality feedback is not enough and that students must actually engage with that feedback in order to benefit from it. Sadler (1989) identified three conditions that must be fulfilled if students are to use feedback to improve learning. Effective feedback must explain (1) what good performance is, (2) how current performance relates to good performance, and (3) how to close the gap between current and good performance.

Methods
In this section, we present a model of formative assessment that has grown out of our collective teaching experiences in undergraduate, graduate, and online learning environments and through our faculty development workshop experience. The application of the model is explained in six steps below. (See Figure 1: Model of Formative Assessment).

Step 1. Learning Outcomes. Define learning outcomes of the lesson. Learning outcomes may be arranged in order from most essential (what students need to learn) to least essential (what students can/should learn if time allows). Once an instructor has defined the learning outcomes for the course, the necessary skills, processes and content knowledge can be identified. The learning outcomes serve as the star that guides both the content and process of instruction along the journey of the course.

Step 2. Student Data Collection/Reflection. Reflecting on the identified learning outcomes, the instructor identifies specific skills or knowledge to be acquired during the course. Student Data may be available from previous assessments such as placement tests or application materials. If previously collected data is not available or not applicable to the course learning objectives, the opportunity presents to collect some baseline data through the use of a formal formative assessment tool. Reflecting on objectives and collecting student data helps determine the starting point for class instruction so that instructors can be confident knowing where they are headed and how much ground they need to cover along the journey of the course.

Step 3. Informed Instruction. Informed instruction is an engaged, student-centered learning process that encompasses a vast set of learning principles and practices. The components of informed instruction in the formative assessment cycle model include (1) mapping the course content knowledge, (2) identifying appropriate instructional strategies or processes, and (3) envisioning the learning environment that will best suit the specific learners.
Understanding the skill and knowledge level of the students at the beginning of the course helps the instructor intentionally create a scaffolded bridge to move students from their current level of understanding toward the learning outcomes for the course. Combining active, student-centered learning activities with formative student assessment data can increase engagement and bolster student achievement.

Without formative assessment data, instructors are left to guess what skills and knowledge the learners in their class possess. Instruction that is not data-driven does not take into account the needs, motivation, or current content knowledge of the student. Through the use of formative assessment an instructor modifies the instruction and signals that they care about the learners’ needs and seek to understand the learners’ processes. The use of formative assessment signals that a professor is taking responsibility for his or her part in the learning community and recognizing and empowering students to be a partner that is also responsible for their own learning.

**Step 4. Data Analysis.** Analyze data/observations and determine necessary instructional interventions. At this point in the lesson, the instructor can identify the changed needs of the students in the classroom after the informed instruction and use this data to plan differentiated activities by varying the product, process, or content of instruction in the next step.

**Step 5. Targeted Instruction.** Using the formative assessment data gathered during or after informed instruction, the instructor should now provide targeted instruction to students, allowing for practice and application of new knowledge or skills and coordinating interventions for students who need more help and extensions for accelerated students.
Step 6. **Content and Process Reflection.** Reflect and respond to students or have students respond to peers or reflect individually. Formative assessment generates timely student achievement information and feedback for students. Formative assessment can also evaluate instructional effectiveness so that instruction that does not have the desired effect can be modified or to signal to the instructor that re-teaching is merited.

We have found that formative assessments can be implemented to establish a supportive learning community in any learning environment. Traditional lecture periods are too long for human attention spans (Stanley & Porter, 2002). By inserting brief formative assessment activities throughout a lecture, instructors can break the time up into more manageable chunks. We have the ability to encourage higher order thinking skills by asking students to summarize, synthesize, or reflect on the material at regular intervals using partner-think-pair-share reflections, small group discussions, mini-quizzes or problem-solving activities, one-minute papers and other formative assessment techniques. In our experience, online and blended learning environments often offer more opportunities for reflective self-directed and self-paced learning than traditional formats. We have used this model to design online courses using modules to utilize built-in formative assessments such as short, interactive quizzes following presentation of course content enabling students to receive immediate feedback and monitor their own learning. Further, students can learn to give and receive feedback, constructing a formative peer assessment learning community.

**Conclusion**

Along with students, increasing the use of formative assessment in the postsecondary classroom benefits faculty, scholarly communities, and educational institutions themselves. Use of formative assessment increases the likelihood that instructors will use active, student-centered learning strategies to teach course content, resulting in increased likelihood that students will actually learn the intended material (Black & Wiliam, 1998). Engagement in formative assessment activities can occur for all students at all levels across content, process, and product. Through repeated interactions with formative feedback, students improve their ability to assess their own learning, to provide appropriate feedback to peers (Nicol & Macfarlane-Dick, 2006), and to become more intentional learners. Engagement in formative assessment can help students identify the learning strategies and teaching strategies that work best for them, further developing lifelong learning skills and self-advocacy (Steadman, 1998).

The use of formative assessment benefits faculty as well. Faculty have indicated that using formative assessment has helped them to become more reflective instructors and to be more open to students’ voices and opinions on class organization and teaching methods, in turn improving communication and collaboration in the classroom (Fluckiger, Tixier y Vigil, Pasco, & Danielson, 2010; Steadman, 1998). As a result of increased reflection, many instructors have implemented changes in teaching style and classroom activities, often incorporating more active learning and a greater variety of methods geared toward different learning styles (Rust, 2002). Through developing and administering formative assessments, faculty develop a greater depth of content knowledge, discover new ways of think about material, and find new ways to collaborate with students and each other. Finally, formative assessment prevents faculty boredom and burnout by allowing for greater flexibility in terms of instructional path and content delivery.

Formative Assessment is not about giving tests; it is about instruction. Formative assessment is a process used by teachers and students to modify teaching and learning organically as the course progresses and to build student capacity. A culture of formative assessment must be achieved in order to truly focus on student learning. In this work we have presented a model of formative assessment to illustrate a process ready for implementation in the higher education classroom. When teachers engage in the successful implementation of formative assessment, a spirit of collaboration unhindered by frustration and competition is fostered. Instructors recognize students as instructional partners who work together and focus on the essence of education so that teachers can teach better and learners can learn better.
References


Lessons Learned from ‘Flipping’ an Introductory Course

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Abstract
University instructors are increasingly encouraged to consider course “flipping,” whereby students are first exposed to course content through homework assignments and subsequently apply this new knowledge during in-class activities. We made the decision to partially flip an introductory course in Lifespan Human Development when we applied for an Innovative Teaching Grant in support of course re-design. Having no prior experience with course flipping, we were excited and uncertain about its potential benefits for students. The many lessons learned during our first semester of course flipping and their permanent impact on the final re-designed course are discussed.

Introduction
There are many possible reasons for course re-design. In our case, it was necessary to modify an already-successful introductory course to accommodate larger numbers of students. With the number of students in each section rapidly increasing, we needed to maintain and intensify student engagement in a large-class setting (Strayer, 2012). We had read extensively about the increasing popularity of course “flipping.” Essentially, a flipped classroom involves moving the traditional, in-class lecture outside of class with the use of technology, while using in-class time for students to apply what they have learned. Ultimately, we decided that a modified inverted classroom approach would have the greatest positive impact on our instructional practice.

Literature Review
High impact practice, student engagement, and flipping have become more salient in education, specifically higher education. For high impact practice, design strategies should always be aligned with objectives (Chickering & Gamson, 1987). Our objectives were to introduce foundational knowledge of lifespan development, foster the development of problem-solving skills, and support students’ reflection about their own life development and goals. A flipped design was employed to test the waters and determine if flipping would enhance achievement of these objectives. Flipping has the expectation that students study course material prior to class typically through the use of technology, such as pre-recorded lectures, videos, and podcasts (Davies, Dean, & Ball, 2013).

As a student-centered approach, flipping requires a shift in the burden of communicating course material from instructor-only to an instructor-student-shared responsibility (Felder & Brent, 1996). Felder and Brent (1996) report that when students are forced to take greater responsibility for their learning, their responses often range from shock, denial, resistance and withdrawal to surrender, exploration of process, confidence in assuming control over one’s learning, and finally integration and success (also see Woods, 1994).
Flipping has become more attractive with increased use of technology and the Internet (Davies, et al., 2013; Herrerid & Schiller, 2013). It does not involve merely moving content online and bypassing the instructor. Rather, with basic content learned ‘outside’ of class, ‘passive’ learning strategies are replaced with active, student-centered pedagogies (Lage, Platt, & Treglia, 2000). The role of instructor shifts to that of a mentor and facilitator to individuals and groups during class and requires a re-conceptualization of course design (Rohel, Reddy, & Shannon, 2013).

The process of flipping is time intensive, as the content and pedagogy used to flip must be carefully adapted for students in order for them to be prepared for in-class applications (Berrett, 2012; Herreid & Schiller, 2013). In our case, the preferred methods included the use of online video presentations and brief online readings. Using technology to flip content learning is generally viewed as an instructional efficiency (Davies et al., 2013), providing more time to apply concepts, for example through case study approaches (Landry-Meyer & Roe, 2013). Technology is used to enhance in-class activities but is not viewed as the primary pedagogy (Herreid & Schiller, 2013).

With flipping, course evaluations have been known to decrease (Berrett, 2012; Felder & Brent, 1996), even though learning may have increased. As Berrett (2012) reports, most instructors want students to like their course, but liking class is not the goal of education. Student evaluations are only one type of assessment. Multiple measures and multiple methods of assessment are needed to get a complete picture of the gains or losses of any new course design.

**Methodology**

Supported by a university Innovative Teaching Grant, we redesigned an introductory course and assessed the effectiveness of flipping in terms of 1) student learning and 2) class management (e.g., time). In Fall 2013, two sections of Lifespan Human Development were flipped. The course objectives were to introduce foundational knowledge of lifespan development, foster the development of problem-solving skills, and support students’ reflection about their own life development and goals. Consistent with these objectives and the inverted model, students had their first exposure to course content outside of class. We provided narrated power-point presentations (10-15 minutes long) and short readings (6-10 pages) to familiarize students with the necessary foundational knowledge for each class module. There was no textbook required for the course. As an incentive to complete pre-class assignments, students took an online quiz and responded to an online discussion question about the introductory material prior to class.

During the 75-minute, twice-a-week class sessions, students completed activities designed to make use of the information to which they had been exposed online prior to class. In-class activities reinforced learning from outside assignments and allowed us to extend knowledge. Initially, we did no lecturing and attempted to impart additional information only through activities. However, this approach proved to be unsuccessful. A midterm student evaluation confirmed that many students felt frustrated that we expected them to learn ‘on their own.’ Students were accustomed to a lecture format and found the activity-based classroom situation confusing. By the end of the semester, we established a classroom routine that included some lecture, but still allowed for the flexibility and creativity needed to increase student engagement.

After some trial and error, we decided to begin each class with a brief agenda of the day’s topics and exercises. We then launched into an activity that required students to apply knowledge they had gained from their homework assignments. For example, during the module focused on research, a hypothetical research study with children as participants was presented in which students had to develop an appropriate parental consent form. After each activity, we lectured briefly about the specific topics from the week’s module. These mini-lectures rarely lasted more than 10 minutes and were accompanied by questions posed to students as well as questions that could only be answered by additional independent research. We believed it was important to allow motivated, high-achieving students to be challenged and supported in their independent efforts to learn.
Indeed, many students were motivated to locate additional sources and explore topics in-depth. These students had the opportunity to report their findings during the next class and engage in small-group dialogues with fellow students and the instructor.

To support the development of problem solving skills, we presented students with in-class case studies that addressed real-world situations without offering clues about how the dilemmas should be resolved. The instructor’s role was to move among student groups and guide the small groups through the process of exploring alternative perspectives. The cases were also used for assessment of student understanding of foundational concepts. During a review of literature on course flipping, we found that many instructors used individual and group quizzes to evaluate student understanding. We tried something similar with case studies. Each group of 4-6 students discussed questions posed about the case and wrote group answers for each question. Then students responded to each of the questions independently. For this, students were required to extend, reflect upon, or add completely new information that had not been discussed by the group. A rubric provided students with expectations. We reviewed and evaluated group and individual responses to weigh students’ understanding and progress.

Our third course objective was to stimulate students’ reflection about their own life development and goals. Again, the flipped course design provided time during class for students to construct a time-line based on significant events that occurred at earlier stages of their lives, as well as goals for future stages. Students were asked to translate their goals into target behaviors - behaviors that would enhance the likelihood of achieving their goals. Together, we discussed how their future development does not just happen to them; their actions and behaviors as emerging adults influence what they can and will accomplish in the future. This in-class exercise extended over an interval of several weeks, with students spending 10-15 minutes during each class in guided reflection. Although this activity was designed specifically for this introductory course, we believe that it is important for every instructor to make course information relevant to students (Landry-Meyer & Roe, 2013). Relevance increases student motivation to learn and to be engaged during class.

Our focus on providing interesting and meaningful in-class activities led to the use of more technology during class. For example, during mini-lectures questions were posed using Poll Everywhere and students responded using their smartphones and I-pads. Students reported that they liked this method better than the clicker response systems they had used in other courses. Students were also encouraged to bring laptops to class to look up additional information based on in-class activities. In this way, students looked to themselves and each other for information, which reinforced the idea that they can and should seek out knowledge on their own.

The first 45 minutes of class typically involved two interactive learning activities and at least one mini-lecture. If there was time, we frequently included another mini-lecture during the second half of class and another applied-knowledge activity. At the end of each class session, we summarized the main points of the day and clarified the assignment for the next class.

**Conclusion**

Multiple formative and summative evaluation methods were used to assess the effectiveness of the new flipped format. Foundational learning was assessed with four examinations, as well as a comprehensive final exam to test content retention. In-class and online quizzes were used to assess students’ completion of “flipped” homework assignments. Online discussions provided insight about students’ ability to use and reflect upon foundational knowledge. In-class case studies probed their ability to think critically and apply concepts to real-life situations.

Assessment of student learning revealed that students learned as much or more from the flipped course design as from traditional lecture. Scores on examinations were higher in both flipped sections than in previous semesters, including the scores on the comprehensive exam. In previous semesters, we had used lengthy case studies as homework assignments. These case studies were adapted for in-class use and served as excellent barometers of student understanding.
Pedagogy was assessed using an anonymous midterm course evaluation, as well as a class discussion led by a faculty member who was not the course instructor. We were insufficiently prepared for the fierce negativity from students who resented the homework assignments. However, to our delight, some students wanted more information and depth than the flipped format was providing.

Another formative assessment was having a faculty observer attend a class who was trained to use the Reformed Teaching Observation Protocol (RTOP) a 39-item observation instrument designed to measure the type and extent of student involvement in the course (Piburn & Sawada, 2000). RTOP is a standardized approach for observing student-centered classroom instruction (Sawada, Piburn, Judson, Turely, Falconer, Benford, & Bloom, 2002). The results were discussed and contributed to enhancement of the course.

Several design changes were made as a result of student feedback and the RTOP. First, we shifted from a totally flipped design to one that included several brief lectures during class. The addition of mini-lectures was met with enthusiasm. We put multiple copies of compatible textbooks on reserve in the campus library as no text was required for the course. Instead of going directly into activities at the beginning each class session, we took time to describe what would be happening during class that day. The five minutes necessary to introduce the day’s topics and respond to questions proved to be invaluable. Students seemed much less confused and moved more independently to complete in-class activities.

As the semester continued, students became aware of the learning process and the ways in which they were learning. In turn, we became attuned to students’ understanding and their confusion as well. In a traditional lecture format, instructors often don’t learn which concepts have been mastered until the module or unit is finished and students have taken exams (Roehl et al., 2013). Recognizing ongoing student progress is a benefit of engagement (Chickering & Gamson, 1987).

In terms of class management, redesign was time intensive, but it offered an opportunity to improve student motivation (Tucker, 2012). Enrollment in each section is now up to 70 students and feedback continues to be positive. We made an effort to invert student expectations just as course pedagogy was inverted and believe this made a positive difference. It is important for instructors to state clearly the purpose of the design shift. We discussed with students the learning objectives associated with each module, specifically linking content and application exercises with intended outcomes. To keep the course “fresh,” we also continually engage with other instructors who are using a similar pedagogy. We plan to continue using a partially flipped course design as long as it remains effective.
References


Course Re-Design to Incorporate the Principles of Universal Design for Learning

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Universal Design for Learning (UDL) is a framework for designing courses to meet the various learning styles and abilities of the diverse student population. The UDL framework is based on the three principles of: multiple means of representation; multiple means of action and expression; and multiple means of engagement. Courses designed with these three UDL principles emphasize flexibility and the use of technology to accommodate learning differences while maintaining quality standards. Implementation of these principles requires instructors to create alternative learning opportunities that remove artificial barriers to learning. This process can be both rewarding and challenging for instructors.

Literature Review
The diversity of the students pursuing undergraduate degrees continues to expand, requiring college instructors to consider the many learning needs of such a diverse student body. Students vary not only in their age, gender, ethnicity, etc., but also life experiences, learning preferences, native language, and disability (Higher Education Research Institute, 2007 & 2008; National Center for Education Statistics, 2008). Acknowledging the diversity of the students in higher education courses is the initial step toward equal learning opportunities for all. Designing and delivering courses that meet the individual student needs requires instructors to provide significant instructional diversity (Upcraft, 1996). Therefore, instructors must approach course design and delivery with a proactive consideration for their varied student population.

Universal Design for Learning (UDL) is a scientifically valid framework for presenting and engaging students that reduces barriers to support attainment of quality learning expectations (Higher Education Opportunity Act, 2008). While physical disabilities in higher education may be readily identifiable, students with cognitive, emotional, and/or executive function challenges are often unidentified. Subsequently, learning and academic success can be limited by artificial and other unintended barriers created through instructor assumptions and course design and delivery. UDL is a course design that acknowledges the diversity of the skills, cultural backgrounds, learning preferences, and abilities of our students. “Design is fundamentally about problem solving. Instructional design is about the efficacy of learning. Central to all of these constructs is evidence of intentionality and how problems can be solved through innovative design,” (Edyburn, 2010, p. 37). The UDL framework is based on the three principles of: multiple means of representation; multiple means of action and expression; and multiple means of engagement (National Center on Universal Design for Learning, 2009). It emphasizes a flexible syllabus and teaching approach to accommodate student needs while maintaining quality standards.
The Center for Applied Special Technology (CAST, 1999-2013) emphasizes greater accessibility to and customization of information via technology and other resources, conceptual links to personal background knowledge, and supporting the recognition of patterns and generalizations to better represent information. The provision of alternative pathways to navigate the concepts with supportive tools, technologies, and scaffolds are recommended for empowering action and expression. Finally, authentic learning experiences and structures for self-regulation are suggested for enhancing student engagement. To incorporate the three principles of UDL requires instructors to design their courses to create alternate means for presenting, motivating, and assisting student learning.

Courses designed using UDL principles are adaptable, enhanced with and supported by technology, and empower student choice within a supportive curriculum. UDL courses expect that students will be unique in their learning needs and will incorporate alternatives for access and demonstrating proficiency to minimize barriers to an individual student’s learning (Rose & Strangman, 2007). Technology offers designers a broad spectrum of options to accommodate. In fact, Edyburn (2010) posits that “technology is essential for implementing UDL,” (p. 38). Technologically enhanced courses provide multiple methods for students to access course content based on the student's particular needs (Stahl, 2003).

Coupled with technology, a variety of learning supports and scaffolds need to be integrated into courses to meet diverse learning needs (Izzo, Murray & Novak, 2008). Examples include adapted/edited readings, review sessions, progressions, models and examples, early feedback on drafts, and small projects that aggregate to a major assignment. Possible technological supports include online study guides, discussion forums, online peer feedback in chat forums, recorded lectures uploaded as podcasts, contextualized games, digital prompts, and adaptable modes of authentic interaction. Authentic learning experiences engages students in more meaningful ways (Schlechty, 2002) and therefore results in a greater likelihood that such learning will be applied in appropriate contexts. Therefore UDL courses are designed with a variety of alternate opportunities to motivate students and engage them in their learning (Rose, Harbour, Johnston, Daley, & Abarbanell, 2008).

Despite the Americans with Disabilities Act of 2008 and interest in UDL, scant literature exists on its implementation and assessment in Higher Education undergraduate programs (Rose, et al, 2008). This may be due in part, to the time it takes to re-design a course, a knowledge gap of how to redesign a course using UDL principles, and the limited rewards for instructors who embrace innovative pedagogical activities. The specific aims of our project were to identify best practices for course redesign using UDL principles, to redesign our courses using these principles, and to use student, peer, and self-assessment to evaluate the implementation of UDL in the redesigned courses. The following describes our approach, subsequent implementation, and initial findings in our efforts to integrate UDL principles into our course redesigns.

**Methodology**

Since the data was being collected from actual teaching environments, a pedagogical action research approach was utilized (Norton & Owens, 2013), collecting data through observations; student, peer and self-analysis rubrics; and blogs. “The fundamental purpose of pedagogical action research is to systematically investigate one’s own teaching/learning facilitation practice with the dual aim of modifying practice and contributing to theoretical knowledge” (Norton, 2009, p. xv). Initially, a significant amount of time was devoted to determining how to interpret UDL and which course design qualities would be considered UDL and implemented. Rubrics were created primarily from the Center for Applied Special Technology (CAST, 1999-2103) to help guide course planning and assessment of the UDL teaching efforts, including peer, self, and student rubrics. Courses were re-designed prioritizing the qualities each instructor best felt capable of implementing effectively. The courses were taught in fall 2013 and collected data via peer observations, student analysis, and self-reflection at three points spread across the academic semester.
Course A, which is content and standards oriented, was re-designed to enhance opportunities for choice in accessing course content, demonstrating knowledge, and engaging in leadership concepts student's perceived valuable for their careers. Each assignment was aligned with a learning outcome. Foundational knowledge was available in a printed textbook with online resources that included case studies, practice quizzes, and additional websites. Students researched and identified the materials they used to prepare the assignment as well as selecting the method for demonstrating their knowledge. In addition, students contributed to the design of each rubric used to assess assignments. Leadership and learning portfolios were created as final projects; each contained the resources selected by the student to learn about leadership and their reflections on its importance to their career.

Course B, which was focused on developing effective students, determined that student choice, an emphasis on more authentic experiences, and incorporation of more technological options would best enable the course to align with the principles of UDL. Choice involved the selection of topics for individual, group, and whole class activities; the tools and/or strategies to meet the goals of the assigned tasks; and ways to present and display their learning. The authentic experiences were associated with choice and included skills for becoming an effective student. Technology was employed to enable more authentic learning experiences such as researching topics, watching interviews and other short videos, listening to actual events, and creating meaningful projects such as comics, animations, and an E-Portfolio.

Rubrics were developed to guide and assess the design and teaching efforts, with the scores being utilized to identify which course design qualities, in comparison with each other, were either more or less effectively implemented. Cross referencing the data from peer and student observations and reflections revealed which UDL course design strategies were strengths or otherwise.

**Results**

Student comments from Course A indicated strengths within the principles of multiple means of action and expression, and engagement. These included adapting to student needs, allowing them to choose how to demonstrate knowledge, active participation and the inclusion of authentic career relevant information. Similarly for course B, the students indicated the same strengths were within the principles of multiple means of action and expression, and engagement. The use of multimedia for representing the information and enhancing comprehension, encouraging use of technology to act on and respond to course activities and the development of autonomy were identified. Examples of student comments which aligned with these ratings of course strengths can be seen in Table 1. Elements of all three UDL principles were identified by peers as areas of strength in both courses. Choice, support structures and strategies for student learning and adaptability emerged as strengths.

<table>
<thead>
<tr>
<th>Table 1. Strengths - Selected Student Comments</th>
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<tbody>
<tr>
<td><strong>Course A</strong></td>
</tr>
<tr>
<td><strong>Action and Expression:</strong></td>
</tr>
<tr>
<td>• Strives to reach each student’s potential through the best way they learn</td>
</tr>
<tr>
<td>• Very interactive</td>
</tr>
<tr>
<td><strong>Engagement:</strong></td>
</tr>
<tr>
<td>• Choosing how to present our findings</td>
</tr>
<tr>
<td>• Encourages class discussion</td>
</tr>
<tr>
<td>• I do see myself using the information I’ve learned in my future</td>
</tr>
<tr>
<td>• Interesting, I feel like I am learning relevant information</td>
</tr>
<tr>
<td><strong>Course B</strong></td>
</tr>
<tr>
<td><strong>Action and Expression:</strong></td>
</tr>
<tr>
<td>• Good use of media, maybe too much though</td>
</tr>
<tr>
<td>• Involves everyone and makes the class interesting</td>
</tr>
<tr>
<td>• Forces us to adapt as a learner</td>
</tr>
<tr>
<td><strong>Engagement:</strong></td>
</tr>
<tr>
<td>• Engages students in and out of class to collaborate and think critically. The class and professor challenges preconceptions of culture, classwork and idea of college as a whole</td>
</tr>
<tr>
<td>• Really good group projects, using a variety of learning techniques</td>
</tr>
<tr>
<td>• Encourages independence and initiative thinking</td>
</tr>
</tbody>
</table>
Clarity emerged as the primary concern for the courses based on the student comments. Student comments identified course organization, assignments, and dissatisfaction with self-learning strategies as challenges for both courses. The use of technology also proved a challenge for some students in course B. Selected student comments are presented in Table 2. Peer observations of the courses indicated challenges across all three UDL principles. Primarily, these focused on the amount of information presented/offered to the students and the lack of format and interactive options. Additionally, concerns for clarity in course A emerged.

Table 2. Challenges - Selected Student Comments

<table>
<thead>
<tr>
<th>Course A</th>
<th>Course B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representation:</td>
<td>Representation:</td>
</tr>
<tr>
<td>· Assignments are vague and do not give enough direction</td>
<td>· Clearer instructions on assignments as well as a bit more structure to the course. Not as open-ended</td>
</tr>
<tr>
<td>· Clearer organization on website</td>
<td>· Explain assignments better and what is expected in them because rubrics are sometimes not very clear</td>
</tr>
<tr>
<td>· Simplify and clarify what you expect from students</td>
<td>Action and Expression:</td>
</tr>
<tr>
<td>· Time to do projects and schedule unclear</td>
<td>· LESS self-teaching strategies</td>
</tr>
<tr>
<td>· Sometimes needs more clarification with assignments</td>
<td>· I just feel like all of the “learning” is happening outside of the classroom</td>
</tr>
<tr>
<td>· More notice before something is due</td>
<td>Engagement:</td>
</tr>
<tr>
<td>Action and Expression:</td>
<td>· Virtual no support from teacher. I feel alone. In all work I do for class teacher should TEACH more</td>
</tr>
<tr>
<td>· Seems rushed and way too much self-learning</td>
<td></td>
</tr>
<tr>
<td>· I wish I wasn’t teaching myself</td>
<td></td>
</tr>
<tr>
<td>Engagement:</td>
<td></td>
</tr>
<tr>
<td>· Lots of busy work</td>
<td></td>
</tr>
</tbody>
</table>

Discussion

Re-designing the courses to incorporate many of the qualities of UDL resulted in changes in the way that both the students and instructors functioned. More responsibilities transitioned to the students, including choosing rubric qualities, specific technologies for assignments, strategies for out-of-class group activities, and ways to learn. Instructor roles transitioned further toward facilitation and course management rather than content providers. Such role shifts had both positive and negative impacts on the course and student learning. Student positives included choosing and working on authentic projects, enhancement of critical thinking and learning skills, group activities, and reported gains in independence. These align with many of the UDL principles incorporated in the course design and delivery. Alternatively, choice impacted the students’ perception of the courses’ assignments and clarity of activities. In general, it appears the students wanted more ‘telling’ and traditional teaching structures and strategies. These findings could be attributed to the fact that this was the first time the instructors taught consciously using the principles of UDL and maybe, subconsciously selected the principles that best suited their skills and abilities, rather than incorporating the UDL principles needed for the students in the course.

As a result of our initial research and on-going UDL experiences, three considerations are suggested when first designing a course utilizing the principles of UDL. First, consider the student perception of choice in accessing materials and completing assignments. It seems that when students feel in control of their learning, they are more motivated to continue to seek more information of interest to them. When they are able to choose how to present or demonstrate their knowledge they tend to select a format with which they are most comfortable, potentially making the assignment more authentic and meaningful.

Second, the impact and management of choice is challenging for both the instructor and the students. For the instructor, questions such as the breadth and depth of choice; how to fairly and appropriately assess a broad range of assignment formats; and how the range of choices (topics, formats, technologies) impact student learning should all be considered. For the students, choice can be overwhelming and can create confusion,
the appearance of course disorganization, and vagueness of instruction. Additionally, instructors need to
develop rubrics or other assessment tools that are more process oriented to embrace multiple ways student act
on and express learning. For example, when students complete an assignment using different formats (e.g.,
estay, PowerPoint presentation, video clip, or constructing a model), the assessment tool needs to be able to
accommodate all in a fair and rigorous way.

Third, more self-directed learning activities require the integration of learning support technologies. Learning
support technologies assist with the process of learning via prompts, guides, and supplying access to pertinent
resources. Instructors can provide background information, definitions, frameworks, rubrics, concept maps,
and other tools which will better enable student learning. Many computers have such supports and there are
a growing number of subject specific software packages. When designing a course utilizing the principles of
UDL, technology will play an integral role in the successful implementation.

Obviously there is much to be learned in regard to UDL and the implementation of such course designs.
Design frameworks, minimum requirements for being designated a UDL course, and strategies for the
development of formal universal assessment tools are definitely needed.
References


Unpacking Issues of Diversity in Online Courses: Leading Learners through a Journey of Change

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Introduction

The foundation for this paper is the presentation of a teaching and learning framework for online courses that focus on issues of multiculturalism – the Dimensions of Multicultural Educator Transformation (DMET). The three areas of the framework are critical in helping learners go beyond a tacit understanding around issues of diversity: the learning climate, fostering transformation, and the learner's journey of change.

It is well accepted that college instructors of courses focused on issues of multiculturalism and diversity must create a classroom climate of safety and acceptance, as well as utilize teaching strategies that promote learners' development into culturally responsive, multicultural individuals. College instructors of online courses focused on similar topics must likewise cultivate a supportive classroom environment of openness and acceptance that fosters personal change in learners, as they unpack challenging issues around race, disabilities, gender, sexuality, and other critical topics, through the anonymous aperture of the online environment.

Admittedly, in the field of teacher education, college instructors and teacher education courses play a precarious role in the formation of inservice and preservice teachers into culturally responsive practitioners who must be prepared to meet the academic, social, and emotional needs of diverse learners in K-12 settings (Nieto, 2000; Villegas & Lucas, 2002). Additionally, research about effective practices for increasing learner growth, as well as the important role of instructors in scaffolding interactions within an online community, have been documented (Palloff & Pratt, 2000). However, missing for college instructors who teach online courses focused on issues of multicultural education or diversity, is a teaching and learning framework that offers practical guidance for essential elements necessary to promote learner transformation and change throughout the advancement through their courses.

The three authors - Lee, Lyttle, and Grant - have taught diversity related courses over the past several years at a large urban university in the northeastern part of the United States. Through our collaborative research project, which commenced in Spring of 2011, we examined, our three online courses: ED 400, Application of Special Education Law and Policy (Lyttle), ED 500 Introduction to Multicultural Education (Grant), and ED 600 Culture, Language, and Learning (Lee). This paper offers a teaching and learning framework for facilitating the formation of preservice and inservice teachers into multicultural educators.

Literature Review

The main theoretical frameworks that guided the research study of our three online teacher education courses, and informed our development of the Dimensions of Multicultural Educator Transformation model are: Garrison, Anderson, and Archer's (2000) Community of Inquiry (CoI) framework; Villegas and Lucas' (2002) culturally responsive curriculum proposal; and Nieto and Bode (2012) and Gay's (2003) models of multicultural education. We will briefly discuss these three theoretical strands below.

The Community of Inquiry framework was first presented by Garrison, Anderson, and Archer (2000) over a decade ago. CoI has received considerable attention and is frequently cited by researchers and practitioners who sought a framework that could explain the unique dynamics of learning that occur in online courses (Garrison & Arbaugh, 2007). There are three interrelated dimensions of the CoI framework: social presence,
cognitive presence, and teaching presence. Social presence refers to the learner's ability to “present one's self and establish personal and purposeful relationships” (Garrison, 2007, p. 63) in an online course. Social presence is not merely the act of building relationships with the instructor and classmates in an online course, but Garrison argues that learners must feel comfortable communicating openly and the community must bond around a “common goal” (p. 63). The second dimension, cognitive presence, is described by Garrison (2007) as the “exploration, construction, resolution, and confirmation of understanding through collaboration and reflection within a community of inquiry” (p. 65). Indicators of cognitive presence include learners sharing ideas, making connections between their ideas, and taking new information and applying them in meaningful ways. Learners must be led through a process of inquiry in which they are not only learning new ideas, but they are moved beyond an “exploration phase” to utilizing new knowledge to tackle and resolve an issue or problem. The third dimension of the CoI framework is teaching presence, and Garrison (2007) states that it is a “significant determinate of student satisfaction, perceived learning, and sense of community” (p. 67). The instructor's facilitation of the activities and discussions in an online course, along with the design of the course, are crucial contributors to “higher order learning outcomes” (p. 67) for learners. While instructors should not dominate interactions or dialogue in an online class, learning outcomes are positively impacted when instructors are offering guidance and directing online activities.

Villegas and Lucas (2002) developed a curriculum proposal for the preparation of culturally responsive teachers that informed our development of the Dimensions of Multicultural Educator Transformation Model. There are six main strands of their curriculum model that they argue are essential knowledge and skills that teachers must possess in order to meet the needs of diverse learners in K-12 settings:

1) Sociocultural Consciousness—Teachers understand that the different ways in which people think and behave are influenced by social factors such as race/ethnicity, class, language differences, etc.

2) Affirming Attitude Toward Students from Culturally Diverse Backgrounds—Teachers affirm and acknowledge their students' diverse ways of “talking, thinking, behaving, and learning” and that there is no singular way of being.

3) Commitment to Act as Agents of Change—Teachers develop a stance in which they view themselves as “change agents” and participants in acts of social justice in transforming inequities that exist in schools.

4) Constructivist Views of Learning—Teachers affirm and value the knowledge and experiences diverse learners bring from their homes and communities and they help “build bridges” to new knowledge and experiences they have in school.

5) Learning about Students—Teachers are intentional in learning about the backgrounds of students and their families to better support them in school, and they draw upon information they learn about their students’ interests inside/outside of school.

6) Culturally Responsive Teaching Practices—Teachers who are culturally responsive educators know how to build upon their students' cultural and personal resources and strengths, they are teaching students how to critically analyze curricular materials from varying points of view, they are creating inclusive classroom environments, and they are using a variety of teaching and assessment practices to support the learning of all students.

Villegas and Lucas (2002) argue that a culturally responsive curriculum is needed for teacher education programs that are preparing preservice teachers to effectively work with a growing number of diverse learners in K-12 settings. They go on to assert that requiring one or two courses on multicultural education is not nearly as effective as viewing multicultural education as a framework through which all teacher education courses are taught.

The third and final framework that informed our development of this model is multicultural education. The principles that guide our work are derived from Nieto and Bode (2012) who define multicultural education as “a process of comprehensive school reform and basic education for all students, [that] challenges and accepts and affirms the pluralism (ethnic, racial, linguistic, religious, economic, and sexual orientation, among others) that students, their communities, and teachers reflect” (p. 42). Nieto and Bode (2012) connect the context of schooling in their definition of multicultural education specifically to K-12 settings, students, teachers,
and families. Nieto and Bode (2012) posit that “becoming a multicultural teacher … means first becoming a multicultural person” [emphasis in original] (p. 392). Using this as her point of departure, Gay (2003) speaks explicitly about the processes of becoming a multicultural educator. She argues that developing teacher efficacy and empowerment in multicultural education – “that is, to be competent in and confident about one’s ability to do multicultural teaching” (p. 2) – involves four instructional strategies consisting of peer modeling and teaching, personal and professional journeying, storytelling, and reflection. As educators of preservice and inservice teachers, the goals of multicultural education as expressed by Nieto and Bode (2012) and Gay (2003) are also ones that we used to frame the course objectives and learning outcomes for our online courses as well.

Methodology

We grounded the development of this theoretical framework, Dimensions of Multicultural Educator Transformation, in the findings of our empirical study of teaching and learning about diversity in our online courses. We will first describe the three main areas of our framework, and then discuss how they are connected to the theories presented in the previous section. We will then introduce one type of a teacher based on participants in our research study, and use the framework to elucidate the teacher’s development as a multicultural educator.

There are three main dimensions of the Dimensions of Multicultural Educator Transformation framework: Learning Climate, Fostering Transformation, and the Learner’s Journey of Change (see Figure 1). Learning Climate refers to the environmental conditions of learning that are needed in an online diversity-themed course to encourage equitable participation from the learners, foster open and honest dialogue, and invite students to present themselves in authentic and genuine ways (Garrison, 2007) to the rest of the online community. The instructor is instrumental in creating a climate of safety, acceptance, and community within an online course and directing students towards interacting within these guidelines (Gay, 2003; Nieto & Bode, 2012; Villegas & Lucas, 2002).

The second dimension, Fostering Transformation, refers to both the pedagogical goals for an online course and the activities that instructors design to lead to these desired learning outcomes for their students. Some examples of course goals for an online course that focuses on diversity and multicultural education would include an introduction to multicultural pedagogy and practice that fits within the parameters of the course foci. Rather than a prescriptive set of definitions of multicultural pedagogy, the course instructor would guide students in learning about issues facing diverse learners, English language learners, or students with disabilities through the lenses of multicultural theories and principles (Villegas & Lucas, 2002). Secondly, challenging the learner’s prior assumptions about diverse K-12 students is crucial. The instructor would develop a set of course materials, activities, and discussions that activate the learner’s process of inquiry (Garrison, Archer, & Anderson, 2000) about their own biases and presuppositions about diverse students (Gay, 2003; Nieto & Bode, 2012).

The third dimension, the Learner’s Journey of Change, illuminates the indicators of transformation that occurred for students within the online course. For instance, the learners make personal connections to issues of multiculturalism that were uncovered in the course (Gay, 2003; Nieto & Bode, 2012). They exhibit heightened consciousness and understanding about social issues as demonstrated in their individual reflections and collective dialogue with the online community (Gay, 2003; Nieto & Bode, 2012). One of the most important indicators of change is the learner’s expressed desire to become an advocate for diverse learners, marginalized communities, disenfranchised students, or underserved families (Nieto & Bode, 2012).

1. For 2½ years, we conducted research on our online courses, investigating our students’ reflective practices as well as our own teaching practices and professional development within a practitioner inquiry group. Please see Grant and Lee (2014) for a full description of the research design.

2. Kluge (2000) defined the concept of types: “The elements within a group have to be as similar as possible, and the differences between the types have to be as strong as possible. The constructed subgroup with common attributes that can be described and featured by a particular constellation of these properties are defined with the term type.” Drawing on the experiences of the 17 participants in our study, we created a typology consisting of three types of teachers in the process of becoming multicultural educators. This typology informs the development of our theoretical framework.
For the purpose of this paper, we will present one type of teacher in the process of becoming a multicultural educator in order to demonstrate the explanatory power of this theoretical framework. "Suzanna," a composite based on common characteristics and attributes shared by one group of our study participants, will serve to illustrate the exhibited personal growth and professional development that are presented in the second and third dimensions of the framework.

Suzanna is a special education teacher in a middle school in a rural district in central Pennsylvania. She is a young, single, white woman who lives in a predominantly white community, much like the community where she was raised. Suzanna became a special education teacher, in large part, because of her younger brother who is on the autistic spectrum. Suzanna decided that she wanted to become a teacher, because of the struggles that she has seen both her brother and mother endure. Her understanding of special education is rooted in this very personal experience, as well as her four years of service as an educator. These are the personal and professional experiences that she brings to a graduate level special education course.

Suzanna has decided to pursue a Masters degree in an online education program, because the nearest university is over an hour away. While initially reluctant, she has quickly become an active participant in her online classes. As part of her program of study, Suzanna is enrolled in an online course on special education and law. The course objectives include understanding the sociopolitical context for the origin and 35-year evolution of the Individuals with Disabilities Education Act (IDEA) and developing skills to effectively partner with parents and families. Suzanna readily understands lessons related to IDEA. She is learning new areas of the law that she plans to share with the administrators at her school. However, Suzanna is surprised by the inclusion of topics related to race, ethnicity, and language, in the class readings and assignments. There are very few black students at her school, so she does not see the relevance of these topics for her teaching. She asserts as much in a discussion board where students examined a case of an African American mother who unsuccessfully pursued services for her son. The teacher in the case study characterizes the mother as angry and hostile in her approach to advocating for her son. Suzanna is uncomfortable participating in the discussion board, and finds the related written assignment to be unnerving. The case analysis and subsequent discussion remind her of an exchange that she had with an angry black mother last year. She now wonders if she could have done more to assist her. Suzanna takes advantage of journal prompt to revisit this professional experience. She reflects on her own mother's frustration with securing services for her brother, and thinks that she may have allowed her perceptions of the black mother's aggression to get in the way of helping the student.

The Dimensions of Multicultural Educator Transformation framework illuminates Suzanna's personal growth and development. As an online student, she authentically engaged the course by completing reading and learning activities, actively participating in the discussion boards with her instructor and peers, and thoughtfully performing her assignments. The online coursework began to push Suzanna out of her comfort zone and challenge her assumptions when the instructor introduced the topics of race, special education, and
parent involvement (“Learning Transformation”). Learning in the online class served as a catalyst and fostered a space for transformation when the instructor challenged Suzanna’s assumptions and biases. The case study of an angry African American mother resonated with Suzanna, as she reflected on a past interaction with a mother of one of her former students. She made a personal connection, and for the first time, places herself in the mother’s shoes (“Journey of Change”). Suzanna considered what she could have done differently, and identified adjustments that she can make in partnering with frustrated parents in the future. On her journey of change, Suzanna took a step toward becoming a multicultural educator.

**Conclusion**

Our research study led to the development of a teaching and learning framework, Dimensions of Multicultural Educator Transformation, which exhibits the pedagogical and instructional objectives/strategies of our online courses, the critical theories that informed them, and the learning outcomes that occurred for our students. This teaching and learning framework was also constructed to assist other instructors foster the formation of preservice and inservice teachers into multicultural educators, since there is an absence of existing learning/teaching models for instructors of diversity themed online courses. Our research captured many benefits to our students and faculty alike; some of which were expected, others desired, and still others unexpected. It is our hope that this framework will be fruitful and useful to other instructors who teach similar courses.
References


A Methodology For Teaching Mathematical Topics Utilizing Active Learning Techniques

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Abstract
It has been consistently shown in literature that the traditional lecturing technique is an inefficient way to teach college courses. Unfortunately, most publications give good advice on effective techniques but do not provide specific instructions on how to implement what they recommend. Many professors simply do not know how to implement changes into their courses. This paper describes a six-step process for teaching concepts that includes using videos, concept reinforcement, active learning techniques, and puzzle/game-like problems to solve.

Introduction
The goal of this methodology is to help learning occur in the classroom rather than the student only learning how to apply a concept while working during homework after class. By having students learn in class, instructors can foster meaningful learning, which can be defined as an understanding of the material that includes the important aspects of the subject, mentally organizing it into coherent cognitive structures (schemata), and integrating it with relative existing knowledge with the ability to apply the knowledge to new situations (Mayer and Moreno 2003). It has been shown that teachers want to know how to instruct more efficiently but many times do not know how to implement changes (Hille 2011). This work provides a specific methodology for how to incorporate active learning techniques to teach mathematical fire science topics. The proposed methodology shown has been used successfully in both freshman and junior level classes with students of a wide range of ability and nationality.

Literature Review
The least efficient methods for inducing learning are by passive reading and passive listening to lectures which are some of the most common methods for teaching college courses (Middendorf and Kalish 1995). The continuation of this traditional teaching style is typically because: people teach the way they were taught, students who succeeded in the traditional method went on to become professors, and coverage of material is often valued over material retention (Straumanis 2011). To maintain the student's attention during the traditional 50-75 minute lecture it should be broken up into smaller segments to prevent lapses of attention (Middendorf and Kalish 1995) because typical students have attention spans of around 15-20 minutes (Johnstone and Percival 1976; Burns 1985). This methodology can also help teach students with learning disabilities because it does many of the things that have been shown to help teach math to people with a learning disability (Sullivan 2005) including: making the mathematics content relevant and authentic; employing a concrete-to-abstract sequence that starts with a demonstration, goes to a specific example, and ends with an abstract generalization; providing rules or proven theorems; providing opportunities for guided practice in solving problems prior to independent practice; and providing opportunities for students to verbalize their process to other students and practice writing solutions.
Methodology

The methodology proposed here involves six steps: explain the basics of the concept, show a video of the concept, explain any equations for use with concept, work an example problem, have students complete an in-class activity in groups, and assign homework similar to the example problem and in-class activity.

Step 1 – Explain the Basics of the Concept
To teach a student an idea, you have to explain the concept, but this involves more than just direct memorization of definitions. The context of the idea should be explained along with why the student should learn it to show applicability. The limits of the current science and methodologies should be explained along with why the issues are handled the way that they are. Including misconceptions is an important part of the learning process (Muller, Bewes et al. 2008). If electronic presentations are used, the author recommends providing partial notes as it is very difficult for the instructor to proceed at a pace that the students can follow. Provide partial notes with equations, definitions, drawings, and major bullet points. This way, students can write down what the professor says and the example problems, but avoid typical errors in copying basic information like equations, figures, and tables.

Step 2 – Show Video of Concept
The usefulness of using videos in classes has been shown in a wide range of subjects including social studies, science, mathematics, English/language arts, reading, and language (Bell and Bull 2010). Showing a video does a number of things to help the instruction of a class: reinforces the concept, helps visual learners, and gives the students a break from listening to the professor talk. Today’s students are more visually oriented than in previous generations (Tucker and Courts 2010). Chicago’s public schools (Gillespie 2007) and Philadelphia’s College of Medicine (DiLullo, Coughlin et al. 2006) have shown improvement in student test scores with the use of in-class videos. These types of in-class videos have been found to provide additional clarity and guidelines to students beyond traditional lectures (Lachs 2002). One reason for this observed improvement is that videos and other multimedia provide an opportunity to visualize abstract concepts. The advent of free, streaming media has drastically increased the availability of instructional media for the classroom. Streaming videos off of websites, such as YouTube, has been shown to be beneficial for educational purposes by Timar et al. (Timar, Karpati et al. 2011).

Step 3 – Explain any Equations for use with Concept
To show the applicability of the knowledge the student is trying to learn they need to be able to do something with it. This could be a math problem, logistical problem, or behavioral problem, but they need to be able to accomplish some sort of analysis with the information they are being taught so that it has a concrete meaning. Any assumptions and limitations used with the equations should be explained and included in the problems used to teach the concept.

Step 4 – Work an Example Problem
In this step, an example problem using whatever was shown in step 3 should be used to solve a real world problem. Showing the solution method has been shown to increase learning with some students (Maccini and Hughes 2000). The goal is to have learning occur in the classroom rather than the student having to actually learn how to apply a concept while working on homework. When used correctly, example problems have been shown to be a powerful learning tool (Chi, Bassok et al. 1989; Elio and Scharf 1990; VanLehn 1998). By working this problem out by hand, the students have time to copy the example down which increases retention. If the problem is worked out from scratch without copying it from a worked solution, the students can see the solution process and can be asked to work out the individual math steps to increase class participation. This creates a cooperative group out of the entire class which is an effective technique for learning a complex skill (Heller, Keith et al. 1991). This also allows the instructor to walk through their solution methodology for the problem, which has been shown to improve students’ abilities to solve problems involving integer numbers (Maccini and Hughes 2000). During the worked example, misconceptions about how the problem might be
solved incorrectly can be included if relevant. Explaining misconceptions while talking about a topic has been shown to help students recognize issues (Muller, Bewes et al. 2008).

**Step 5 – Have Students Complete an In-class Activity in Groups**

Doing the in-class activity provides the student an opportunity to do active learning, which has been shown to foster higher cognitive learning (Sorcinelli 1991) and cooperative learning, the benefit of which was shown by Goyak (Goyak 2009), and allows the students to check and see if they really understand the material (metacognition) (Anderson and Krathwohl 2001). Research has shown that when students have a chance to think about whether they know a subject or not they tend to learn better (Bransford, Brown et al. 1999). The benefits of group work itself include gaining positive interdependence, face-to-face promotes interaction, individual and group accountability, interpersonal and small-group skills, and group processing (Tanner, Chatman et al. 2003). These skills are important to have when going into the modern work force. The increased effectiveness of having students work cooperatively in class compared with the traditional lecture method was shown by Ghani (Ghani 2005). Some instructors wrongly equate any form of group work as cooperative learning. To be effective, the work needs to include activities that ask questions where: the answers are not simply found in text; there are multiple, open ended answers; or questions that require the students' interpretation (Lord 1998). Other benefits of in-class activities are discussed by a number of researchers (Faust and Paulson 1998; Jones and Jones 2008; UNC 2009).

The in-class activity should be similar to the example problem done on the board and be answerable within the time allotted. The author recommends letting students work out the problem without intervention for 5 minutes unless there are major questions. This lets the students instruct other students on how to solve problems which has been shown to be one of the best methods for students to foster “robust learning” (Straumanis 2011). Watching one student teach another helps students learn as well (Muller, Bewes et al. 2008). After five minutes the class is asked for questions and any issues are explained on the board.

**Step 6 – Assign Homework Similar to the Example Problem and In-class Activity**

Synthesis of knowledge is the goal. Homework should be assigned to incorporate knowledge understanding as opposed to simply requiring rote memorization. Units and variable names can be written out as opposed to presented in variable state, and game like problems improve students interest in the questions (Rockwell 2013). Game like problems can have multiple solution methods, require the use of appropriate assumptions, and require students to think about the reasonability of answer their answer for the given situation. Inductive discovery helps maintain student interest and learning (Berk 2010). Productive questions are of the type where the answer is not simply found in the text, have multiple correct answers, require student interpretation, or encourage students to give their opinions (Lord 1998).

**Conclusion**

Using the method outlined in this work, the student has the solution to a typical problem reinforced four times in a single class. Repetition is one of the keys to learning and this type of work keeps the repetition from being simple busy work as the students see concepts explained, used in the example problem, use the concept themselves during the in-class activity, and then use it again in the homework. This repetition allows for schema development which is one method of reducing cognitive load during problem solving (Sweller 1988). The methodology presented here reduces cognitive load by allowing reinforcement of topics and repeated types of calculations. Using the type of strategy shown here is not only beneficial for the learning in the current course but also helps teach learning strategies (McKeachie, Pintrich et al. 1985) to the students. Active learning creates excitement in the classroom (Bonwell and Eison 1991) which in turn encourages students to participate and focus on the material being taught.
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Using Technology to Create an Active, Collaborative Learning Environment: Even in Organic Chemistry!

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**Abstract**  
The Seven Principles of Good Practice in Undergraduate Education by Arthur W. Chickering and Zelda F. Gamson (1987) stress active and collaborative learning, but this can seem difficult to implement in large STEM classes. Herein, we highlight ways to integrate the active and collaborative principles into large classes and discuss how technology can be used to meet the other principles as well. Taking advantage of easy-to-use and readily available technological solutions like Socrative and a variety of media outlets, students have improved test scores and report higher overall satisfaction in a class that is often students’ least favorite—organic chemistry.

**Introduction**  
Organic chemistry has historically been viewed as the gatekeeper course for all students interested in pursuing careers in the health sciences. Many professional programs ranging from medical to dental school require a passing (and in most cases higher) grade. As is typical in most physical science courses, students are intimidated by the material and dread the class. This results in students with low expectations and little hope for an enjoyable learning experience. It is in this pretense that we sought to change the status quo of organic chemistry by making it approachable and engaging.

Over the past three years we have developed and implemented a strategy focused on creating both an active and collaborative learning environment within the confines of a material laden curriculum. The amount of course content that is covered in a typical semester of Organic Chemistry is daunting. Students at Temple University are expected to master thirteen chapters (over 650 pages) of textbook material in a fourteen-week semester, a difficult task for even the most seasoned instructors. Therefore, to be successful one must strategically plan to maximize both in-class and out-of-class learning through a blend of techniques.

To accomplish this goal we instituted a method that removes a portion of the traditional lecture time and replaces it with peer-involved problem solving exercises and activities. Using technology to facilitate this transformation, we rethought the class structure and atmosphere to increase student motivation creating a welcoming classroom experience where the students are actively involved in the lecture. Based on standardized department testing we were able to compare the learning outcomes of the students within our section where active and collaborative techniques were used to those taught with traditional lecturing. We found that students in the interactive environment performed significantly better in each of the two years that this study was conducted with an 8.9% and 15.7% overall improvement compared to the other sections.
**Literature Review**

Providing an active and collaborative learning environment is not a new concept. In 1987, Arthur Chickering and Zelda Gamson published their research entitled “Seven Principles for Good Practice in Undergraduate Education” which emphasized student-faculty interaction, active learning, and effective communication (Chickering & Gamson, 1987). The seven principles are as follows:

Good Practice 1) Encourages Student-Faculty Contact; 2) Encourages Cooperation Among Students; 3) Encourages Active Learning; 4) Gives Prompt Feedback; 5) Emphasizes Time on Task; 6) Communicates High Expectations; and 7) Respects Diverse Talents and Ways of Learning.

When looking at these seven concepts it soon became apparent that these were specific ways to help engage students in active and collaborative learning. Thus, rather than stress seven items for faculty to focus on, we grouped them together to focus on how big-picture strategies—an active classroom and a collaborative attitude—can affect student outcomes keeping in mind the specific recommendations of the principles.

Active learning, simply put, is practice! As Ambrose, Bridges, DiPietro, Lovett, & Norman (2007) point out in *How Learning Works*, students gain mastery with focused, repetitive practice. It is especially important for students to practice component skills when learning subjects with complex information to help them understand context and recognize patterns (Ambrose et al., 2007). When students are given time to reflect on the material and come to the conclusions on their own they are able to better generate a schemata for the subject that will have long-lasting effects as opposed to short-term memorization for a test that they soon forget (Mastacusa, Snyder, & Hoyt, 2011). The principles that we grouped under active learning are #2, #3, #5 and #7 (Chickering & Gamson, 1987).

Collaboration, while often a form of active learning in itself, brings additional benefits. In his book *Leaving the Lectern*, Dean McManus (2005) cites previous research that shows improved learning outcomes when students work together. He says that when students collaborate and share their collective knowledge they are better able to arrive at the correct solution and reflect on what they did to get the correct solution as a group. This type of reflective practice will continue to help the students build a strong foundation of knowledge thereby making it easier for them to understand increasingly complex information as they move through the class. In addition, demonstrating effective learning techniques in class provides students with an example of how they can effectively study for high stakes exams. The principles that we grouped under collaborative learning are #1, #4, #6 and #7 (Chickering & Gamson, 1987).

**Methodology**

At the onset of teaching this course we wanted to integrate various strategies that would make the class both active and collaborative. With the seven principles in mind we identified six distinct methods by which we could accomplish these goals and summarize the benefits that these changes made below.

**Using E-mail to Provide Feedback and Encouragement [Principles #1, #4, #6]**

Most faculty members are familiar with e-mail, especially from eager students in the classroom. However, few effectively use e-mail to their advantage for providing assessment information or as a means for general encouragement. We have found that students appreciate personal emails expressing both excitement and disappointment regarding their performance on exams. We specifically target a subset of the class who have either greatly improved or declined in their outcomes to either continue to encourage or to identify what has changed. Not only does this exercise please the students but it also provides important feedback to the instructor regarding concepts that were not clearly presented or understood.

**Leveraging Learning Management Systems (LMS) to Off-load Classroom Content [Principles #5, #6, #7]**

A critical component to the success of an active and collaborative environment is a class that comes prepared and ready to learn. To help facilitate this process we utilize Blackboard, an LMS, as a repository for lecture
notes, handouts, links to Khan Academy videos, and old exams thereby allowing students unlimited access to the course material both before and after the class. Students are expected to come to class having already gone through the material ahead of time. Because of this, the pace of the lecture portion is faster allowing more class time to practice difficult concepts. Those who do not come to class prepared quickly find themselves falling behind.

Combining Immediate Feedback Assessment Techniques (IF-AT) with Current Mobile Technologies to Improve Classroom Engagement [Principles #3, #4, #5, #6, #7]

Previous research has demonstrated that using IF-AT devices (commonly known as “clickers”) in the classroom greatly increases student learning (Caldwell, 2007 & Wood, 2004). However, “clickers” are cumbersome, costly, and limited to multiple-choice questions. To overcome these obstacles we identified an alternative that best meets these requirements. Socrative is an IF-AT service that is available to colleges at a nominal cost but it allows students to use their SmartPhones or computers to participate in class free of charge. Socrative also provides the instructor with more options for asking questions in class, allowing free response questions in addition to multiple-choice. We discovered that over 90% of students found Socrative useful for an in-class exercise. As instructors, we appreciated the feedback in real time, during class, where we could address fundamental misunderstandings instantly. It also encourages students to come to class prepared because while their specific responses are anonymous, they are still motivated to choose the correct response as the question and answer rates are shown for everyone to see.

Integrating Group Work Strategically Throughout the Lecture [all principles!]

Through our experience teaching information heavy classes, we have found that material is best delivered in 15-20 minute intervals interspersed with problem-solving activities. In a typical class we prepare our lecture in the following manner: ten minutes introducing/defining a topic and the guidelines, five minutes demonstrating how an “expert in the subject” would solve the problem, and 10-15 minutes providing examples for the students to work on in small groups. The key to success for this type of approach is two-fold. First, students need to come to class prepared and familiar with the material, otherwise they will not be able to sustain the pace by which material is introduced. Second, the professor (and if possible a teaching assistant) needs to be actively involved in the problem solving exercise, moving throughout the room and ensuring that all students are on the right track. We would sometimes recognize that a key concept was not clear to students and would stop the problem solving exercise to reteach the theory. This approach was favorably viewed by a large majority of the class and lead to many unintended benefits. For example, new study groups formed and met outside of class promoting a collaborative atmosphere where students supported, instead of competed against, one another.

Developing In-class Games to Engage and Energize the Classroom [Principles #2, #3, #4, #5, #6, #7]

Previous research has demonstrated that classroom engagement through educational games improves learning outcomes (Barab, S. A., Gresalfi, M., & Arici, A., 2009; Squire, K. & Jenkins, H., 2003). With this work in mind we wanted to develop an activity that would simultaneously accomplish three specific goals necessary to excel in organic chemistry – 1) integrate strong students with weaker students, 2) develop a method to focus time on task (to prepare students for a timed final exam), and 3) create a fun activity that students enjoy. Toward this end, we were inspired by a bar trivia game called Quizzo (similar to Jeopardy). In the game, students work together to answer multiple-choice or free response questions during the length of one entire musical song, after which the answers are due. The game is made up of several rounds and the team with the most points at the end of the game wins. We have found that pairing weaker students with stronger not only has benefits for both groups of students during the game, but often fosters new, well-balanced study groups. Overall, the experience is well received by the students resulting in greater than 95% attendance on the days when the game is played.
Creating Content-driven Music Videos to Solidify Fundamental Understanding [Principles #2, #3, #7]

Temple University, situated in Northern Philadelphia, contains a diverse population of students with a variety of interests. In the classes that we have taught, we have had majors varying from chemistry and biology to more untraditional areas like art history and photography. We wanted to leverage these talents and also accommodate students with an additional method of learning so we introduced the idea of creating music videos to highlight the material that was taught during the semester. The premise was simple – create and upload a three-minute music video to YouTube and the best video, as voted on by the students, would be given extra credit (thereby not penalizing students who have not made a video). We have had tremendous success, with over 25% of students submitting videos, even though the activity is completely voluntary. While we are not the first to use music as a forum for learning (Crowther, 2004), we have found improved student outcomes from the students who did participate in the extra-credit activity and hope to encourage other faculty to give students a variety of ways to practice and demonstrate their knowledge.

Conclusion

Over the past two years we have collected and analyzed test data to determine if these methods have improved student outcomes. We were interested in two specific questions – 1) Do the music videos provide any benefit to the students who create them? and 2) Do active and collaborative teaching methods increase learning in organic chemistry? To investigate the former, we divided the data from our class into two groups – those who had made videos and those who had not. Throughout the year, those who made the videos typically outperformed those who did not. However, what was both surprising and satisfying was that on the exam immediately following the submission of the music videos, the difference between the two groups doubled. It should be noted that this is typically the most difficult exam of the year and highlights the benefit of such an activity.

Previous research has clearly demonstrated that active and collaborative learning improves student outcomes (Ambrose et al., 2010; Mastacusa et al., 2011). We wanted to determine if this was true in our department using the standardized testing that was already in place. Our department administers common review exams during the first week of class and common final exams at the end of class. (Both exams are multiple choice tests given nationwide with a mean average of 50%). Using this data we were able to see clear and marked improvement in each of the two semesters that this class was taught. During Spring 2013, the 71 students in our course came into the class 1.4% below the other 140 students’ review exam average. However, they outperformed the other students by 7.5% on the final exam leading to an overall improvement of 8.9%. Even more impressive was the improvement in the following semester. Our class (96 students) entered 7.4% below the others (291 students) but exited 8.3% above resulting in a remarkable 15.7% overall improvement! These results strongly indicate that the teaching methods presented in this paper coupled with a supportive and cooperative classroom atmosphere generate significant improvement in the learning outcomes of students. In conclusion, we have successfully demonstrated that active and collaborative teaching methods can be used in a material laden class like Organic Chemistry to improve student satisfaction and outcomes, turning a class that is universally feared into one that is manageable and even, dare we say, enjoyable.
References


Abstracts

Evidence-Based Teaching and Learning
Carol Anelli, Corey Johnson, Kimberly Green, and Betty Galbraith - The Ohio State University

Group take-home exams provide high-impact, authentic experiences that foster meaningful application of skills and knowledge, student participation, teamwork, and critical thinking. I use these exams for students to learn and apply real-world skills and as a means to assess critical thinking and other learning outcomes. I will report indirect and direct measures of student learning data gathered during five semesters of group take-home exams. You will learn how to prepare assignments that target fundamentals and build competency, design exams that embody authentic tasks, employ group exam “contracts” to facilitate group dynamics, and anticipate pitfalls.

Session Objectives: (1) Learn how to best prepare students and set policies for group take-home exams. (2) Learn how to frame questionnaire prompts to gauge student attitudes and skills. (3) Learn how to construct a group contract for take-home exams. (4) Learn tips for success for group take-home exams.

Does Prior Clinical Experience Predict Success in Graduate Nursing Programs?
Erin Athey and Arlene Pericak - The George Washington University

Whether or not prior clinical experience is essential for success in advanced practice graduate nursing programs is highly debated. There is limited evidence on whether prior clinical experience is predictive of academic success in these programs. One hundred thirty-seven MSN students’ admission data from GWU are retrospectively being examined for the presence of clinical work prior to matriculation. The objective is to learn whether or not clinical experience is predictive of academic success in this sample and begin the discussion among faculty regarding the utility of using prior clinical experience as an admission criterion.

Session Objectives: (1) Learn admission criteria currently used to admit students into graduate nursing programs. (2) Consider the utility of using past clinical experience in predicting success in graduate nursing programs. (3) Evaluate whether or not graduate nursing admission committees should use prior clinical experience as an admission criterion in graduate nursing programs. (4) Explore future research on this topic and consider whether current admissions criteria are based on evidence.

Using Games in the Applied Statistic Classroom (graduate)
Nancy Augustine - The George Washington University

As part of an introductory applied statistics class, I used part of class time on three occasions for a game of Jeopardy. The purpose of the intervention was to encourage collaborative problem-solving, engage students who enjoy competition, and (by observing the team process) get a first-hand read on individual students’ command of the material. A faculty observation team attended one of the sessions and later met with students to receive their feedback on the exercise. I will present results of the observation and feedback, as well as the lessons I learned in developing the game for this class.

Session Objectives: (1) Apply a relatively novel (and fun) classroom technique to a subject that many students approach with dread. (2) Engage students through a single activity to improve participation throughout the course. (3) Promote collaboration among students to solve problems and apply reasoning.
Developing an Active Learning, Experiential Communications Course for Non-Communications Majors
David Baker and Izabela Collier - Western New England University

Communication courses, particularly within the discipline, started as didactic-oriented courses to provide learners with the basic tenets of the science. As communication courses developed into offerings in other disciplines, this didactic orientation was carried over. For non-communications majors, in need of communications skills development, the didactic lecture model did not and does not provide the methodology by which these essential skills can be developed and mastered. Accordingly, this presentation will demonstrate how professional and trade programs can develop communication courses, that incorporate both active learning and experiential modalities through which learners can convert theoretical tenets into actual practiced skills.

Session Objectives: (1) Contrast the historical didactic instruction techniques used in communications courses designed for communications majors with the active learning instruction techniques being used in communications courses designed for non-communications majors. (2) Understand the limitations of didactic instruction in developing necessary communications skills in non-communications major students. (3) Identify methods of incorporating active learning and experiential education into a Healthcare Communications course. (4) Apply a system of active learning utilizing role play, self- and peer-assessment, and feedback provision to gain experience with actual communications skills development.

The “Do’s” and “Don’ts” of Teaching Blended (or Hybrid) Courses
Ryan Baltrip - Southern Baptist Theological Seminary

What do students like and dislike about taking blended learning (or hybrid) courses? We asked; they told us. Over the past year, we began a comprehensive blended learning (or hybrid) program and collected feedback from students. In this session, you will be able to hear student perspectives on both our failures and successes with blended courses. From our research, we have summarized their feedback into a useful list of “do” and “don’t” principles. These principles will help you to prepare and teach more effective blended learning courses. From this session, you will also gain a list of helpful additional resources on blended learning.

Session Objectives: (1) Inform participants on what we discovered from implementing a blended/hybrid learning program and what are research tells us. (2) Provide participants with a practical table that will help guide their blended learning practices. (3) Examine the pedagogical challenges that our faculty encountered as they prepared for blended learning classes. (4) Provide participants with additional resources and articles on effective teaching of blended/hybrid courses.

Techniques for Effective Facilitation and Management of Online Discussion Boards
Ryan Baltrip - Southern Baptist Theological Seminary

How can you effectively facilitate and manage an online discussion board? Good news, there are techniques that can transform how you use online discussion boards (and techniques that can make the online instructor’s life a lot easier too). In this session, we will explore a few guiding questions: “how to manage a large online class?”, “how to humanize online discussion?”, “how to manage time spend facilitating a discussion board”, and “how to encourage student participation in online discussions?” You will leave this session equipped with strategies that you can apply when teaching your next online course.

Session Objectives: (1) Inspire participants to see the pedagogical value of effectively facilitating and managing online discussion boards. (2) Inform participants on effective pedagogical strategies for facilitating and managing all types of online discussion boards. (3) Equip participants with techniques that they can apply in their next online course.
Instructional Design Practices for Successful Online Teaching/Learning
Bruce Barker - Southern Utah University

This poster session provides professors who teach online courses with a practitioner-based model on how to design/develop syllabi and structure course content embedded in the requisite learning management software that successfully guides students in high levels of engagement in online coursework.

Session Objectives: (1) Identify key instructional design principles that promote success in online college credit courses. (2) Specify practices employed by online instructors to effectively engage online students in student-to-student and instructor-to-student interaction. (3) Emphasize importance of clear expectations articulated for students to completed course assignments. (4) Recognize the value of presenting clearly defined scoring rubrics to students for course assignments.

I Flipped My Class: What Did My Students and I Learn in the Process?
Gabriele Bauer - Villanova University

There has been a lot of buzz in higher education over the past year about the flipped classroom model for teaching and learning. The flipped model focuses on in-class content application with faculty guidance; content delivery, assisted by technology, occurs out-of-class. The active learning process constitutes the core of the flipped classroom and its effectiveness depends on active student learning and preparation for such learning. This roundtable provides a forum for discussion of lessons learned regarding the instructional design and implementation process, guided by Fink's framework (2003) and facilitates sharing of best practice across disciplines. Resources will be distributed.

Session Objectives: (1) Deepen understanding of the purpose, instructional design, and implementation process of the flipped classroom approach. (2) Apply Fink's instructional design process to flipped class design. (3) Share examples of flipped classroom experiences both from the instructor's and students' perspectives: what worked well? What did not work so well? How? Why? (4) Reflect on their instructional design and implementation process and start to consider ways to enrich their own teaching; and obtain a set of resources.

The Academic Electronic Portfolio: An Asset in the Academic Job Market
Gabriele Bauer and Philip Barnes - Villanova University and University of Delaware

Academic electronic Portfolios offer students a compelling online platform to demonstrate their academic achievements, scholarly engagement, effective teaching practice, and service contributions. Eportfolios transcend and compliment text-based application documents by offering in-depth, multi-dimensional, personalized accounts of the teacher-scholar and providing concrete evidence of a student's approach toward teaching, research, and service. The ePortfolio shows not only what graduate students have done but why, how, and with what results. This poster will outline the purpose, content, organization, and effective online presentation of an ePortfolio and stimulate discussion around future faculty preparation.

Session Objectives: (1) Become familiar with the purpose, content, organization, and effective online presentation of an ePortfolio. (2) See examples of academic ePortfolios from a range of disciplines. (3) Discuss ePortfolio development and use with a doctoral candidate via his own ePortfolio example. (4) Reflect on potential applications of the ePortfolio to the academic career development process. (5) Consider application of the academic ePortfolio development process to their own institutional context.
Reflective Practice in 140 Characters or Less
Marisa Birkmeier and Megan Scovil - The George Washington University

Reflection is critical in professional and personal development. Thoughtful reflection provides individuals a means to identify personal strengths and areas for further development. In the past, personal journals served as a primary platform for self-reflection; however, technology has expanded options to provide interaction with others to practice reflective skills. This presentation will describe how Twitter was used to enhance graduate students’ abilities to develop focused reflections on their clinical experiences and actively use social media as a platform for professional dialogue with their peers. Participants will be encouraged to share their experiences with social media in the classroom setting.

Session Objectives: (1) Explore the use of a microblog as a platform to create learning communities in which students reflect upon and discuss their off-campus learning experiences with peers. (2) Discuss the use of social media as a tool for teaching reflection and professional communication skills. (3) Identify additional uses for microblogs within a course or a program of study to create reflective learning communities.

Early Identification of Online Students with Language and Writing Challenges
Linda Briggs and Mayri Leslie - The George Washington University

In an online environment, writing becomes a primary mode of communication via discussion boards, e-mail, papers, and other written expressions. Depending on the course design, a student’s entire academic identity may rely on their ability to write effectively. Further, the online student is heavily dependent on reading comprehension to fulfill assignments requirements and obtain subject-related information. Identifying students with composition and comprehension issues before they are actively engaged in their first semester is problematic. This session will describe an intervention for earlier assessment and identification of challenged students to enable the timely facilitation of referral to services and resources.

Session Objectives: (1) Discuss the admission application/student performance dichotomy. (2) Learn how a proctored writing assessment can be used as a tool for identifying students with challenges. (3) Learn multiple interventions designed to assist students to succeed online.

SWI: An Authentic Research-Based Curriculum for Early Undergraduate STEM Education
Michael Buckholt1, Jill Rulfs1, Shivanthi Anandan2, and Kristen Butela3 -
1Worcester Polytechnic Institute, 2Drexel University, and 3Seton Hill University

This session will describe the Small World Initiative, a program that uses an authentic, crowd sourced research project to create a new model for introductory science laboratory teaching and learning. Responding to recommendations in Engage to Excel and Vision and Change in Biology Education to improve student learning, engagement and retention in STEM disciplines, this project provides for authentic research experience early in a student’s academic career. This initiative was piloted in the spring of 2014 by 25 institutions across the country. The materials produced, experience gained and data collected so far will be reviewed.

Session Objectives: (1) Gain a rationale for implementing change in the way science is presented to undergraduate students. (2) Identify a model for research based laboratory education (Small World Initiative). (3) Review student response to the Small World Initiative at two universities. (4) Access freely available materials produced so far by the Small World Initiative. (5) Brainstorm additional ways to introduce authentic research in STEM curricula.
You Can Do It: Integrating Technology to Enhance Student Learning

Jennie Carr - Bridgewater College

Plan! Teach! Grade! Repeat! Who has time to search for technology resources? 21st century learners yearn for technology in the classroom. Educators strive to search for effective technology practices that not only engage students but are based on solid research-based pedagogy. During this session, participants will learn about several instructional technology resources, which promote authentic student learning. Participants will have the opportunity to try the technology as create a product they can use in one of their courses. You can't miss this session!

Session Objectives: (1) Create an avatar, comic, instructional video, or Web 2.0 application. (2) Discuss the ways the shared resources can enhance student learning. (3) Identify possible applications of instructional technology website resources.

Group Dynamics and the Creative Process

Nick Cassway - Drexel University

When the final project for a course is also a magazine published and distributed as a university marketing tool, Design & Merchandising faculty devised a teaching process that promoted individual creativity and a collective goal. The annual challenge is to have each student achieve high quality individual work that mirrors and complements the group's vision for the end product as well as please multiple clients. To achieve this goal, in the first of two consecutive terms, students literally “sign off” on content and design decisions that result from an enthusiastic, collaborative and iterative classroom process. In addition, the faculty aims to have the class align with the Design & Merchandising “Required and Desired” skills identified by the program faculty. Throughout the process of devising, developing and designing the magazine, leadership, teamwork, negotiation and effective communication skills are gained in a supportive and lively classroom environment.

Session Objectives: (1) Explore classroom strategies for achieving individual excellence and group success. (2) Introduce outcomes-based learning that meets academic program skills requirements. (3) Explore parallels between group process in the classroom and in highly regarded corporate environments.

Word Clouds: A Tool to Build Professionalism

Rhea Cohn - The George Washington University

Engaging students in discussions of professionalism is challenging. In order to challenge the students’ early views of professionalism, it is important for them to identify what traits they currently believe represent “being a professional”. With that knowledge, faculty can then promote group discussion on the topic of professionalism. Words clouds are an excellent tool to promote a discussion on professionalism and have been used in an entry level professional degree program in physical therapy. Examples from two cohorts will be shared and compared.

Session Objectives: (1) Recognize the value of word clouds to promote discussion and comparisons. (2) Select two topics for which the use of word clouds will likely promote small group discussion. (3) Identify three possible opportunities for use of word clouds in current curricula.
Implementing Universal Design for Learning: Concept and Model Development in a Faculty Learning Community

Leslie Cook, Nigel Davies, Lynette Holman, Sandi Lane - Appalachian State University

Presenters in this session will analyze and reflect on preliminary data from a faculty learning community (FLC) focused on the redesign and implementation of their courses using the principles of Universal Design for Learning (UDL). Four members of the 6-member FLC will introduce the study with a brief theoretical and literature review, provide background on UDL, chronicle and discuss the formation and maintenance of the UDL FLC, present analyzed data from the study, and engage the session participants in small group discussion about pedagogical modeling and concept development related to UDL as it was implemented by faculty members in a university instructional setting.

Session Objectives: (1) Report preliminary findings from a faculty learning community study of the implementation of UDL principles. (2) Discuss the individual and group outcomes from course redesign and implementation. (3) Inquire into the possibility of a working model for UDL in college classrooms. (4) Connect study to conversations about pedagogical modeling and concept development or UDL for university faculty.

Computer-Assisted Learning Technology to Enhance Clinical Decision-Making Skills of Physical Therapist Students

Ellen Costello, Marisa Birkmeier, Elizabeth Ruckert, Laurie Lyons, and Linda Cotton - The George Washington University

Computer-assisted learning (CAL) modules have gained popularity as an innovative teaching method. Clinical fields require students to develop decision-making skills that translate from the classroom to patient care. Our team of educators, clinicians and instructional designers developed a series of five CAL modules to prepare physical therapist students for practice in the hospital environment. Processes used to develop the modules include: formulating curricular objectives, developing content, identifying and establishing outcome measurements of student performance, and collaborating with instructional designers. Student feedback regarding their perception of the CAL experience and highlights of some of the modules will be shared.

Session Objectives: (1) Identify the pedagogical basis for using computer-assisted learning modules to enhance clinical decision making skills in health care practitioners. (2) Explain the process of creating curricular objectives and outcome measures based on current content and resources. (3) Describe the collaborative process involved in creating a computer-assisted learning module for health care practitioners.

Building an Interdisciplinary Curriculum: Engaging Community to Create Opportunities and Provide Scaffolding

Milt Cox - Miami University

Interdisciplinary curricula in higher education are some of the most difficult to build. Considering academic departments as an archipelago of fiercely independent islands, how can we build an inter-island ferry system that welcomes and establishes connections, sharing, and the interweaving of cultures and peoples? In this plenary we will explore ways to engage community to encourage such efforts in higher education. We will discuss examples and approaches illustrating that building community across disciplines can enable a curricula of shared perspectives, content, faculty, and students.

Session Objectives: (1) Define key concepts. (2) Describe eleven challenges to overcome. (3) Provide five recommendations for building and overcoming challenges. (4) Describe examples. (5) Describe resources and references.
**Design-Based Research: Bridging the Gap Between Research and Teaching Practice**  
Helen Crompton - *Old Dominion University*

Design-based research is a relatively new research approach. This new research methodology has a number of positive characteristics that can be used to positively enhance teaching and learning in higher education settings. The purpose of this session is to make the participants aware of this research approach and how to conduct this type of mixed methods research. The presenter will also share evidence of how this approach has been used to examine teaching approaches in her own classroom setting to determine effective strategies.

*Session Objectives:* (1) Gain an awareness of design-based research and how it is related to better teaching. (2) Better understand the design-based research protocol. (3) Identify the positives of design-based research and how it can directly influence teaching. (4) Understand the limitations of design-based research.

**Flipping the Classroom in Higher Education: A Design-Based Research Study to Develop a Flipped Classroom Framework**  
Helen Crompton - *Old Dominion University*

The flipped classroom approach has been adopted by instructors in an effort to move away from the traditional lecture used by many in higher education. The purpose of this presentation is to share a flipped classroom framework developed using design-based research. This framework will provide a springboard for other scholars and practitioners to further examine the efficacy of this specific blended approach to learning, and for those interested in using the flipped classroom approach, it is a framework that can be used and adapted to meet the needs of their students.

*Session Objectives:* (1) Review a brief overview of the flipped classroom approach. (2) Provide an overview of the research that was conducted to develop a flipped classroom framework, this includes an explanation of the design-based research methodology used in this study. (3) Provide the participants with the flipped classroom framework developed from the study.

**Plenary Presentation: Neuroscience, Learning Science and Other Claims for the Classroom: What Sort of Evidence Makes It Pedagogy?**  
David Daniel - *James Madison University*

In an era of evidence-based practice, what does science have to offer the university teacher? We are confronted with “Brain-Based” strategies based upon outdated neuromyths, discussions of neuroscience that seldom offer data about how the derived pedagogical strategies actually impact learning, or data from laboratory settings that may not generalize to typical classroom settings. In this presentation, we will review the experimental literature related to various pedagogical strategies and contrast those findings with the literature on student learning in classroom settings with the goal of determining what questions teachers need to have answered before they should consider a strategy promising for classroom use, and what questions researchers (and publishers) should address before making such claims.

*Session Objectives:* (1) Review the experimental literature related to various pedagogical strategies. (2) Contrast those findings with the literature on student learning in classroom settings with the goal of determining what questions teachers need to have answered before they should consider a strategy promising for classroom use. (3) Determine what questions researchers (and publishers) should address before making the claims noted above.
Reflections on my Fifty Years of Experience with Cooperative Learning
Neil Davidson - University of Maryland, College Park

Research from the late 1960s to the present has shown powerful outcomes for cooperative learning. In this experiential presentation, participants will explore the rationale for cooperative learning, learn the main research outcomes, experience a variety of CL procedures, reflect on their uses, and address effective techniques for classroom management. They will also explore the critical elements of different CL models and reflect on the connection between cooperative learning and critical and creative thinking. The presenter has been involved in the development of cooperative learning for the past fifty years, and will share some of his learnings during that time period through story-telling, striking examples, and cooperative activities.

Session Objectives: (1) Describe the underling theory and research base for cooperative learning. (2) Experience several cooperative learning procedures. (3) Learn several techniques for managing the cooperative classroom.

Critical Thinking as Defamiliarization: Studying the Bible in a Liberal Arts Curriculum
Stephen Dawson - Lynchburg College

Sacred texts (such as the Bible or the Qur'an) are part of the curriculum in a number of disciplines. Student preconceptions about the meaning of sacred texts or the inappropriateness of using critical methodology pose a significant obstacle to the use of these texts in the classroom. One way to facilitate free inquiry is defamiliarization, which is a strategy for representing familiar ideas in a new or different context. In my presentation I demonstrate how defamiliarization can be used to challenge student preconceptions about sacred texts as well as promote a critical, evidence-based method of reading sacred texts.

Session Objectives: (1) Recognize that student preconceptions limit learning. (2) Define and describe defamiliarization as a strategy to overcome preconceived ideas. (3) Be able to use defamiliarization in the classroom.

Change the Way Training is Done
Kristi Dean - Central Michigan University

The business environment has created pressure on corporations to become leaner. Bringing in new technology, however, is not a cure-all. Failure arises when organizations do not properly prioritize the proper resources. Organizations need to take a holistic view on the entire project. Training the employees on what they need to know.

Session Objectives: (1) Better understand that standing in front of students lecturing is not the objective. (2) Understand what the learner needs to know. (3) Mentor the learner. (4) Value the role of learners participating in the learning objective.

Leadership 101: Preparing Undergraduates to be Change Agents
Sarah Jane DeHaas - Juniata College

Now, more than ever, higher education administration and faculty are asked to be accountable--to justify their curricula and the manner in which they prepare undergraduates to be marketable, change agents, and effective leaders in a progressive and competitive world. Participants will learn the structure of a new upper level undergraduate course developed to expose undergraduates to contemporary frameworks of change theory and their fundamental components, in order to become effective change agents and leaders within their area(s) of expertise. Fundamental to this learning experience, participants will have the opportunity to use the frameworks to reflect on their own experiences and challenges with change.
Session Objectives: (1) Learn the current reasons for radical changes in higher education and the need for administration and faculty to substantiate their curricula for undergraduates' real world preparation (Comprehend). (2) Complete a 10-item sentence completion activity to reveal perspective(s) on change and how to function within and during change (Analyze). (3) Learn about the development and content of a new undergraduate course on leadership and change, including at least two change frameworks for effective change implementation (Comprehend). (4) Brainstorm how to integrate this information into undergraduate (and graduate students) courses and/or within your own profession (Create).

Bridging the Gap: Collaboration between Academic Departments and Campus Resources
Jaime DeLuca and Jessica Minkove - Towson University

This session will discuss conclusions and implications drawn from extensive mixed method data collection centering on one University's Sport Management Interns. Specific attention will be directed towards the progression of curricula and utilization of campus and industry resources to ensure a superior level of student preparedness for and success in internships, field experiences, and subsequent post-collegiate endeavors. This research provides a foundation from which both faculty from various departments and staff from campus resource centers can benefit by further considering best practices in facilitating the internship component of curricula and student programs.

Session Objectives: (1) Gain comprehensive understanding of the state of student intern preparedness for internships/field experiences. (2) Make recommendations for how to adapt curricula and engage with internal/external resources benefiting students, faculty, and site supervisors/future employers associated with interns. (3) Discuss directions for ways to effectively utilize various campus resources to bolster academic programs. (4) Present suggestions for how to evolve programs to meet student needs.

Group Mentoring of New Faculty: A Model for Classroom Practice
Susan Dennison and Susan Phillips - The University of North Carolina, Greensboro

Higher education faculty members often have limited training or experience in group facilitation. A successful five year faculty mentoring program at a mid-size state university provided a dual-approach to mentoring which included both one-on-one mentoring and group mentoring. New faculty and senior faculty participants alike participated in group sessions and came to appreciate the value of learning in a carefully developed cohesive group. This session will focus on how faculty from across disciplines can make use of similar activities to form more supportive and positive classroom learning environments.

Session Objectives: (1) Learn to provide an overview of how groupwork principles can be used to form a more positive and supportive learning environment for faculty and students. (2) Identify the benefits of creating a cohesive group for faculty and students' learning. (3) Provide sample tasks for developing a more cohesive group experience.

Metacognition
Maryann DiEdwardo - Lehigh University and University of Maryland University College

University of Maryland University College; Lehigh University, United States of America Metacognitive activities help students plan for tasks by thinking about preparatory skills that the students may have before class, such as social networking. Metacognitive skills also encourage students reflection on their ability to perform tasks. Writing Process with reflective journaling, peer discussions and peer assessments, self-monitoring and student self-assessments offer insight into their own writing process and interaction with a
group. Student-directed pedagogical models and 21st century pop culture themes fuse to ignite a learning community for reflection, discovery, and social networking to motivate the 21st century student. Learning strategies based on Metacognitive processes focus on Multiple Intelligence Theory, Life Story Writing, Studying Oral Histories, Writing Process Theory, Learning Paradigm and Learning Communities. Globalization of the literary canon requires applications of the aspects of oral history traditions. My class is organized to become a learning community with a focus writing short stories as authentic assessments to develop student voices.

**Session Objectives:**
1. Present student-directed pedagogical models.
2. Examine 21st century pop culture themes.
3. Ignite a learning community or reflection, discovery, and social networking to motivate the 21st century student.

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**New Thinking in Foundations: What’s in a First-Year Toolbox?**  
Mariah Doren - New School University

Contemplating changing ideas about what constitutes knowledge (Prensky) we rethink what students need to learn. This presentation will focus on the “toolbox” of basic skills that makes up foundation year curriculum using the example of college art programs. I will describe the historical circumstances from which the idea of “foundational” knowledge emerges. Then look at contemporary philosophical critiques of a priori or foundational knowledge—belief in underlying, stable truths—by critics like Judith Butler who discusses the performative nature of identity. I will share an example of a hybrid English writing/studio foundations course as one way of addressing these questions.

**Session Objectives:**
1. Share ideas about ways to connect new thinking in what constitutes knowledge, specifically focused ideas about critical thinking and dispositions toward learning as it relates to the arts and “cultural production”.
2. Introduce new thinking about what could be in the “toolbox” of basic skills that students learn in their first year.
3. Learn about the historical development of traditional first year curricula.
4. Examine contemporary philosophical critiques of what is considered foundations or a priori knowledge.

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**Evaluating Multimedia Online Pedagogy: Barriers and Benefits**  
Pete Eberle¹, Anthony Hoos², William Garner¹, Micahel Ridenour¹, and David Jordan³

¹Penn State, Fayette, ²Howard County Community College, ³Slippery Rock University

Online courses using multimedia resources compel and enrich the overall learning experience, but reliably accessing those materials has proven difficult. The Rehabilitation Act and the American With Disability Act are clear; digital content must be receivable to all human senses dependent on student’s needs, regardless of where this content resides.

**Session Objectives:**
1. Demonstrate an example of senses depravation and how other senses obstacles become apparent in the fulfilling of ADA and Rehabilitation Act requirements.
2. Better understand three significant issues commonly associated with audio/video content delivery: a) Adequate delivery formats; b) Synchronized closed captioning for video; and c) Audio to text transcription.

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**Problem-Based Learning in the Social Science Classroom**  
Daina Eglitis - The George Washington University

There is ample evidence that “active learning” contributes to student engagement and learning. Classroom activities outside of the traditional lecture format are significant to active learning. Problem-based learning is one important vehicle for putting learning directly into the hands of students and building both students’ core knowledge of the discipline and key skills for problem-solving that extend beyond the classroom. This work uses
the presenter’s experiences with problem-based learning in sociology to highlight the pedagogical benefits and challenges of this approach and to discuss practical problem construction.

Session Objectives: (1) Understand the key characteristics of problem-based learning. (2) Recognize the benefits and challenges of using problem-based learning in a social science classroom. (3) Gain a foundation for developing a plan to use problem-based learning in their own classrooms.

How Can Developing Online Courses Influence How Faculty Teach?
Stephen Ehrmann - The George Washington University

Flipping a course is a phrase being tossed around too casually, as though what’s required is to video lectures, add them to the homework assignment, and spend class time discussing, or doing, the homework. Course redesign is more important, more risky, and more complicated than “flipping” suggests. It’s important to beef up what students do, and learn, from assignments outside class as part of developing deeper understanding, critical thinking and other higher order outcomes. But “flipping” is complicated and a bit risky because there is no single, simple way to motivate and guide students to do enough and learn enough outside the classroom. Nor is it simple or easy to have assignments and class sessions reinforce each other. The good news is that there are strategies for getting this kind of deeper learning to happen.

Session Objectives: (1) Suggest a framework for ‘flipping’ that provides a credible strategy for deepening student learning. (2) Share examples of flipped courses, successful and not, with and from our institutions that either follow or don’t follow that framework.

Interprofessional Education: Improving Student Perceptions, Attitudes, and Readiness
Ozgur Ekmekci - The George Washington University

As health care delivery continues to evolve around the notion of a team of care providers working together to improve patient outcomes, interprofessional education becomes a critical component of success. Regardless of primary discipline, educators’ focus should be on providing their students interprofessional experiences that can transform the way they learn and practice with members from other disciplines. Students’ success in such interprofessional experiences largely depends on their perceptions and attitudes towards interprofessional education.

Session Objectives: (1) Discuss expected benefits/outcomes of interprofessional education. (2) Evaluate students’ perceptions regarding interprofessional education. (3) Evaluate students’ attitudes toward interprofessional health care teams. (4) Assess students’ readiness for interprofessional learning. (4) Develop approaches to promote learning and performing with students of other professions.

Effects of Elements of Course Organization on Student Learning
Heidi Ewen - Miami University

Presentation of course material, establishment of classroom environment, and evaluation of student learning are elements of course organization. In this session I describe a project focused on student perceptions of instructor preparedness and organization, accessibility of online grades and assignments, and complexity of the readings and assignments with respect to student learning. Surveys inquired about classroom climate, student learning, course objectives and learning outcomes, and instructor preparedness and efficacy in teaching. We will discuss surveys and supplemental measures of teaching effectiveness such as end-of-term measures, classroom observations, and SGID results that could be used to improve effectiveness in course organization.
Session Objectives: (1) Recognize aspects of course organization that facilitate or hinder student learning. (2) Utilize online course sites more effectively. (3) Identify the ways students’ perceptions translate into assessment of course and instructor effectiveness.

**Building a Collaborative Learning Inter-Professional Experience for Graduate Students**  
Nancy Falk and Kenneth Garrison - The George Washington University

Online education provides rich opportunities for graduate students to grow in vibrant, collaborative learning communities. The ability to be an effective strategic planner is vital within healthcare. Online strategic planning can be taught in a simulated, real world environment. Each student writes a strategic plan during the semester writing one chapter weekly. Students provide feedback to each other. Instructors facilitate dialogue. Process is iterative. A feedback loop is created. Feedback is incorporated into the final document which is submitted for grading. Session participants will engage in a simulated exercise to learn about the student experience.

Session Objectives: (1) Describe how to develop an online collaborative learning environment. (2) Identify the value of an inter-professional learning environment. (3) List and describe strategies for engaging students.

**Assessing End-of-Semester Learning: Time Capsules, Class Resolutions, and Learning Summaries**  
Bonnie Farley-Lucas - Southern Connecticut State University

This session provides procedures and hands-on activities for three different learning experiences that assist in end-of-semester assessment of learning outcomes. Time capsules, learning summaries, and class resolutions will be presented and modeled. These activities provide community-building and positive course closure and provide valuable data about what students have reported to learn throughout a semester. This session defines and offers examples of active learning modules that can be adapted and used across all disciplines.

Session Objectives: (1) Cite a rationale for giving “closure” for students at the end of the semester. (2) Practice using assessment tools that actively engage students and provide valuable data. (3) Participate in three methods for assessing student learning using active learning techniques (time capsules, class resolutions, and learning summaries). (4) Gain facilitation guides for three closure/assessment techniques that can be used in any discipline. (5) Brainstorm a variety of methods for modifying the three assessment strategies for blended and on-line learning environments.

**The Body of Knowledge**  
Leslie Felbain - University of Maryland, College Park

The Body of Knowledge is an interactive workshop where participants will explore techniques derived from the F.M. Alexander Technique that promote embodied learning. The instrument of expression is the human body, inclusive of breath, movement, voice and thought. The unity of body and mind is the foundation of effective communication, active listening, sharing ideas and expanding perspectives. The art of teaching is a physical activity which demands presence and a teacher’s physical presence is a dominant factor in the learning environment. This session will provide concrete tools for creating a more present and engaging physical environment to enhance learning.

Session Objectives: (1) Learn how to be more present with oneself, with students and with colleagues. (2) Recognize stimulus-response patterns that affect communicating and teaching. (3) Utilize and engage the body as an instrument of expression. (4) Teach techniques of active learning utilizing all six senses. (5) Identify the
effects of stress and how that affects communicating and teaching, and learn techniques of how to manage stress productively while teaching. (6) Learn simple techniques that can easily be integrated into a teaching practice and shared with students.

**Mastering Philosophic Concepts through Use and Application**  
Keith Fennen - Miami University

We look at the relationship between mastering philosophic concepts and the use and application of these concepts. This method stands in contrast to using thought alone or focusing on the philosophic text alone as a means to mastery. The author studies results of midterm exams and papers in contrast to final ones and illustrates the positive impact on student performance. He addresses the potential objection that application and use take students too far away from texts and arguments, and fails to help students understand the nature of philosophic inquiry. We conclude with reflections on the challenges of adopting this instructional method.

**Session Objectives:** (1) Gain the ability to identify and articulate the nature of philosophic questions and concepts. (2) Collaboratively create scenarios that aid in mastering philosophic concepts through their application. (3) Understand the potential objections to this approach and discuss possible responses. (4) Discuss the challenges of implanting this method.

**Use of Technology to Transform Brain-Based Teaching and Learning**  
Henry Findlay and Hyacinth Findlay - Tuskegee University and Alabama State University

Researchers have discovered that technology is changing students’ brains both positively and negatively. At the same time, significant new discoveries in how the brain functions in the teaching and learning process when technology is used are creating new approaches to teaching. Indeed, regardless of their subject area, participants will become knowledgeable about how sleep, exercise, etc. impact brain-based teaching and learning in a technology-rich classroom environment. Participants will also take away from this session a better understanding of how technology is transforming brain-based teaching and learning, and how to foster greater student learning outcomes.

**Session Objectives:** (1) Discover how the brain changes behaviors and how it learns specific subjects in a technology-rich learning environment. (2) Understand the role of sleep, food, and exercise in brain-based teaching and learning—a recipe for deep and lasting learning. (3) Apply strategies in creating a technology-rich classroom environment to improve student learning outcomes.

**Designing Courses to Increase Student Engagement and Motivation**  
Stephen Finn - United States Military Academy, West Point

In this session, the presenter discusses his own success in redesigning an introductory philosophy course to increase students’ intellectual engagement and internal motivation. Using ideas from cognitive scientists as a guide to course design, the presenter has discovered that student engagement and motivation can be greatly increased by focusing not on the question, “What do students need to know?,” but on the question, “What should students be able to do?” The results of an extensive cross-section survey will also be presented.

**Session Objectives:** (1) Understand how course design might improve student engagement and internal motivation. (2) Learn ways in which cognitive science might be used to improve course design. (3) Learn ways to improve course design to increase student engagement and internal motivation.
Visual Thinking Strategies: Encouraging Critical Reflection through Visual Literacy

Abram Fox and Caroline Shields - University of Maryland, College Park

Bombarded with visual imagery, students today decode images constantly, but often without realizing their full complexity. Visual Thinking Strategies (VTS), which fosters critical discussion to arrive at a deeper understanding and analysis of the images students encounter, is a classroom technique developed in recent years based on empirical research into visual literacy. This strategy arms participants with three simple questions, which require the students to make careful observations, articulate those observations, and then provide visual evidence to support their claims. Originally designed for use in museums, VTS facilitates the process of critical thinking through observation and justification across disciplines.

Session Objectives: (1) Understand the theory and research behind Visual Thinking Strategies (VTS). (2) Participate as a student in a VTS-based discussion of different images, resulting in an ability to implement the strategy in your own classroom. (3) Develop ideas on how this strategy can fit into your own curricula.

Linking Leadership Education to the Leadership Experience of Working Professionals through a Virtual Mentoring Program

Joseph Garcia and Wendy Knight - Western Washington University

Learn about an innovative approach to helping students understand the relevance of their coursework to professional practice and their future careers. In this session we discuss the design of an introductory leadership studies course as an example of how students can be connected to working professionals who engage with them on course content and further student motivation and learning. We will share student conversations with their mentors and examine mentor relationships with faculty and the university community as we make connections to combine rigor with relevance.

Session Objectives: (1) Learn how structured virtual mentoring can be used to connect academic content with professional practice. (2) Examine how they might be able to incorporate structured virtual mentoring into their own curriculum. (3) Learn how structured virtual mentoring impacts students, mentors and the university community.

The Role of Assessment in Sustaining a Quality Enhancement Plan

John Gardner and Laurette Foster - Prairie View A&M University

Prairie View A&M University was in the Southern Association of Colleges and Schools class of 2010. iREAD - Increasing Reading and Engagement for Academic Development was approved as the Quality Enhancement Plan. Because of the multiple components of the engagement and academic development expectations, a rigorous assessment plan was identified to maximize and sustain this plan. The plan involves a team of individuals assigned to 200 of the first time - full time students each year. The presentation will share the assessments identified and developed to secure data for the QEP fifth year report.

Session Objectives: (1) Present how to create sustainable strategies for assessing the Quality Enhancement Plan required by the Southern Association of Colleges and Schools. (2) Discuss how to interpret data to make real time adjustments in the strategies of the Plan. (3) Summarize an effective method for managing a Quality Enhancement Plan.
Enhanced Chalkboard-Style Lecture Beats PowerPoint

Bernard Gee - Western Connecticut State University

Many college instructors have chosen PowerPoint (PPT) presentations over traditional lecturing methods. Student preferences have been towards PPT, even though most empirical evidence has shown no learning gains compared to overhead and chalkboard lectures (Susskind 2005). Here, a non-digital lecture approach was developed by using a chalkboard-style format with visual aids. This lecture technique and PPT presentations were both evaluated on learning outcomes in 200-level undergraduate psychology courses. Students that attended the non-digital lectures scored higher on tests than students presented with PPT slides on the same content. Student preferences also matched these learning outcomes.

Session Objectives: (1) Describe a research project to compare the impact of lecture tools on student learning. (2) Present findings examining the use of lecture using visual aids from Chalkboard compared to lecture using visual aids Powerpoint. (3) Discuss classroom implications.

Best Practices in Classroom Peer Review

Edward Gehringer - North Carolina State University

Classroom peer review benefits students, who learn both from the feedback they receive and the feedback they give. Peer review can be done either face to face, or over an electronic peer-review system. In either format, peer review works best when a good rubric is used. Students should have a chance to gain competence in using the rubric; often, some sort of “calibration” is used, where students practice assessing a work that has been pre-assessed by experts. To ensure good reviews, authors can comment on the helpfulness of reviews they received. Or a third party can assess these reviews.

Session Objectives: (1) Introduce the benefits of peer review of student work. (2) Highlight the importance of a good rubric and offer suggestions on how to create one. (3) Discuss different quality-control mechanisms for ensuring careful reviews. (4) Differentiate formative from summative peer review, and compare the challenges of each. (5) Review and compare several online applications for peer review.

Using an Assignment-Centered Course to Promote Student Learning

Bob Gillette and Emily Marshall - University of Kentucky

As two practitioners, one who used an assignment-centered course for the first time last spring and the other who has used an assignment-centered course for over ten years, we share the challenges, lessons learned, and rewards of using an assignment-centered course. We describe our course design which uses collaborative group projects, writing-across-the-curriculum principles, and mentoring of student groups, and share how an assignment-centered course increases student learning and invigorates our teaching.

Session Objectives: (1) Differentiate between an assignment-centered and a text-lecture centered course. (2) Explain how to use collaborative group projects along with writing-across-the-curriculum principles to actively engage students to increase student learning. (3) Explain the importance of mentoring and advising student-project groups. (4) Identify ways that an assignment-centered course invigorates teaching.

Transforming a College to Embrace Active Learning and Flipped Classrooms

Lynn Gillette - Sierra Nevada College

This session will describe how the faculty, students, and administration changed the culture at Sierra Nevada College from low student engagement, little active learning, no scholarship of teaching, little undergraduate research and low expectations of students into a vibrant culture of student engagement, deep learning, high
expectations, flipped classrooms, and innovation. The session will present how we changed the culture and how others may change the culture at their institution.

**Session Objectives:** (1) Learn how to leverage what is learned at the Lilly Conference to make real institutional change. (2) Learn key fundamental steps to transform a department, school, or college to more fully embrace academic innovation. (3) Learn the important role of focusing on student learning outcomes to lead academic innovation. (4) Learn the crucial importance of building trust and patience in leading academic innovation.

### Ensuring Students Prepare So Class Time Focuses on Deep Learning

**Lynn Gillette and Bob Gillette - Sierra Nevada College and University of Kentucky**

This session will describe (1) how we use the definitional grading system and class preparation assignments in undergraduate and graduate courses to ensure that students come to class prepared, (2) how we use active learning teaching strategies to leverage student preparation to produce highly interactive classes and deep learning, and (3) the different ways each of us needed to adjust to our own institution’s needs in order to implement definitional grading effectively.

**Session Objective:** Design a definitional grading system using class preparation assignments to ensure students come to class prepared.

### Encouraging and Assessing Student Reflection

**Ellen Goldman and Margaret Plack - The George Washington University**

This workshop will help participants enhance the reflective assignments in their curriculum. Participants will be guided through a process comparing the ways in which they currently use, encourage and assess reflection with practices suggested in the literature. They will have the opportunity to develop a new reflective assignment or revise a current one with intensive support from the workshop facilitators. Participants will leave the session with a handout of key information, including sample grading rubrics and a reference list; a design/redesign of one of their reflective assignments, and an action plan based on their reflections of their use of reflection.

**Session Objectives:** (1) Identify ways to encourage student reflection. (2) Identify strategies to overcome barriers to student reflection. (3) Recognize requirements for effectively developing and assessing reflective assignments. (4) Formulate/reformulate a grading/feedback rubric for reflective assignments.

### Emerging Teaching Sensibilities: Multi-Pronged Assessment of TA Development

**Cara Gormally¹, Carol Subino Sullivan², and Nadia Szeinbaum² - ¹Gallaudet University and ²Georgia Tech**

Teaching assistants (TAs) teach the majority of introductory lab courses at U.S. research universities. In response to calls for STEM education reform, inquiry-based teaching approaches have been adopted in lab classes to address declines in student interest and persistence. Consequently, preparing TAs to use these innovative approaches is urgent. We triangulate several data sources, including surveys, observations, and interviews to understand how TAs learn to use inquiry-based teaching approaches. Findings from this 2-semester study indicate this process is challenging: TAs have to reconcile long-standing beliefs about teaching while receiving conflicting feedback from their students and faculty mentors.

**Session Objectives:** (1) Improve understanding of the process of learning to teach science as inquiry. (2) Recognize differences in instructors’ enactments of inquiry. (3) Share findings to support professional development for inquiry-based teaching. (4) Identify areas where instructors new to inquiry need more support.
Adaptive Learning Helps Faculty Personalize Instruction, Improves Remedial Student Results
Maureen Greenbaum and Susan Albertson-Mettlen - Union County College

Personalized learning presents the right level of challenge, at the pace set by the student and with teaching style that maximizes understanding. The wealthy, knowing this, hire personal tutors. In the last few years, Adaptive Learning software has started to serve as a personal tutor. In January of 2013 Union County College started a pilot of Adaptive Learning to improve student performance in math. Several different populations that use the college were enrolled. Astoundingly all students greatly improved their performance using adaptive learning. The program was then tried at a large inner city high school, again with great success.

Session Objectives: (1) Contrast traditional approaches to remedial/developmental Math pedagogy to Adaptive Learning. (2) Discuss how technology and dashboards change the role and activities of the educator. (3) Explain how adaptive learning works to address the needs of faculty and students. (4) Argue that Adaptive Learning solves some the precessing problems with traditional pedagogy for “learning the basics”. (5) Proceed with their own investigation of Adaptive Learning using the criteria for sections and list of Adaptive Learning purveyors.

Improving Learning by Having Students Conduct Online Research to Prepare for Class
Jonathan Grenier - Miami University

This presentation reports a new method of student preparation for class. In lieu of quizzes on assigned readings, students respond to 2-3 short answer questions. The questions require students to conduct research on the most important topics of the upcoming class session. Leveraging psychology theory, this method is predicted to improve learning, research/writing skills, and participation as students likely view information that they research as more relevant than information given to them. Assessment data indicate that although there were only slight improvements in class performance, students found the method to be more interesting, relevant, and enjoyable than more traditional methods.

Session Objectives: (1) Learn about a research-based technique for having students prepare for class. (2) Learn how this technique is more amenable to millennials’ preferred learning method than traditional techniques. (3) Learn how this technique benefited student learning and engagement.

Writing Success and Self Efficacy: The Student Perspective
Diane Halm - Niagara University

This research sought to understand how teacher practices impact developmental writing students’ ability to interpret and respond to peer and teacher feedback, their use of secondary support systems, such as the writing center, how these things impact the revision process, and how their learning experience influences both student writing and self-efficacy. The results suggested that without foundational knowledge and modeling, feedback was cursory and unproductive, leaving students unable to make meaningful revisions to essays. This, to some extent, led to minimal learning, low self-efficacy and fear of writing.

Session Objectives: (1) Assess primary and secondary student learning goals in curriculum and lesson planning. (2) Utilize modeling, a key element of social cognitive theory, in order to engage and empower student success. (3) Utilize peer workshops that yield higher level thinking skills and elicit curiosity and motivation through dialogue. (4) Learn ways to offer students quality feedback that will culminate in substantial revisions rather than simply lower-order corrections. (5) Assign research and writing assignments that reflect students’ interest and natural curiosity.
Developing Leaders Against Human Trafficking: Enhancing the Social Work Curriculum

Veronica Hardy - University of North Carolina, Pembroke

While society is emerging in its understanding of human trafficking, integration of this social injustice topic into the social and behavioral science curriculum is important. Preparing students to be leaders in confronting the harsh dynamics of this crime is needed in preparation for professional practice. This poster presentation outlines an introductory social work course about human trafficking for graduate students. Structured in a distance education format, the course learning modules include: child trafficking and systemic influences, evidence-based assessment and intervention strategies, and developing anti-human trafficking community efforts.

Session Objectives: (1) Increase knowledge about the role of social and behavioral sciences in relation to human trafficking. (2) Communicate the development of a human trafficking course in a distance education format. (3) Promote the continuous enhancement of the social and behavioral science curriculum.

Continuing Case Methodology for Community Building & Maintenance

Michael Neil Harford - Morehead State University

Online teacher education graduate programs (M.Ed. and Ed.S.) were redesigned to prepare Instructional This presentation demonstrates the use of continuing case methodology in curriculum integration. Complaints of “silos” in the presentation of curricula exist in educational literature and the structure of a curriculum into a series of courses can create barriers to integration of learning. Continuing case methodology supports both integration of the curriculum and learning community building and maintenance. The presentation documents an example of continuing case methodology for curriculum integration focusing on the development and operation of living learning communities.

Session Objectives: (1) Understand an example of a continuing case method in curriculum integration. (2) Examine learning community building activities in continuing case applications. (3) Understand the value of continuing cases in learning community maintenance.

Maximizing Learning via Group Work: Putting Research into Practice

Christine Harrington and Pattiann McMahon - Middlesex County College

Group work is a powerful way to increase student learning of content while also assisting students with developing important interpersonal skills they will need in the workplace. However, developing effective group activities and monitoring group progress are challenging tasks. During this extremely interactive workshop, participants will review research findings on effective group strategies, discovering ways to improve group work in their classes. Topics such as group assignment (self-selection vs. assigned groups), evenly distributed work load (avoiding social loafing), and of course grading (individual, group, combination approach) will be discussed.

Session Objectives: (1) Discuss findings from research studies on how active learning and group activities can improve student learning. (2) Identify and implement effective strategies to increase student productivity and learning during group work. (3) Describe several effective group activities that can be easily implemented.
Learning Assessments Connected to ISTE Standards for Coaches
Linda Haynes, Danilo Baylen, Yun-Jo An, George Bradford, and Adriana d’Alba - University of West Georgia

Online teacher education graduate programs (M.Ed. and Ed.S.) were redesigned to prepare Instructional Technology Coaches for K-12 teachers. Students in the programs are teachers who are prepared to be more effective in their instruction and be able to coach peers in the implementation of ISTE Standards for Teachers and Standards for Students. The programs emphasize service projects for school clients that allow students to engage in authentic learning experiences that provide immediate use and value to clients. The school clients play a significant role in the assessment of student work and electronic portfolios.

Session Objectives: (1) Explain how online teacher education graduate programs (M.Ed. and Ed.S.) were redesigned to prepare Instructional Technology Coaches for K-12 teachers. (2) Explain how students in the programs are teachers who are prepared to be more effective in their instruction and be able to coach peers in the implementation of ISTE Standards for Teachers and Standards for Students. (3) Emphasize service projects for school clients that allow students to engage in authentic learning experiences that provide immediate use and value to clients. (4) Recognize school clients play a significant role in the assessment of student work and electronic portfolios.

Are You Testing What You Think You Are? How to Successfully Evaluate Test Items
Mari-Wells Hedgpeth and Kathryn Smith - University of North Carolina, Chapel Hill

The purpose of this session is to teach faculty a method for successfully evaluating their written Multiple Choice Question (MCQ) assessments. The meaningfulness of exam scores relies on successfully measuring students’ knowledge of a given subject. MCQs developed by untrained faculty often contain technical flaws that introduce random error leading to a decrease in the assessments’ overall quality. Learning how to classify MCQ items as high quality (e.g., meeting recommended standards) or poor quality (e.g., being technically flawed) will help participants from all disciplines minimize testwiseness (guessing, cueing, etc.) from their own assessments.

Session Objectives: (1) Identify violations of common item writing guidelines. (2) Recognize common technical flaws in multiple choice questions. (3) Develop strategies to evaluate in-house exams.

Reacting to the Past Pedagogy: Engaging Students and Promoting Deeper Thinking
Mark Higbee and Gretchen McKay - Eastern Michigan University and McDaniel College

Reacting to the Past games are famous for producing lively, student-centered classes with extraordinarily high student engagement. Rather than hearing a set presentation on pedagogy, people attending this session will “do” the pedagogy, by “playing” a role-playing game about slavery and abolitionism in the United States, circa 1845. While no preparation is required for this micro-game, students in Reacting classes are inspired to do more prep than is assigned. The Reacting pedagogy is used at many hundreds of institutions, spanning the full range of higher education, and can be used on your campus. Come see how!

Session Objectives: (1) Introduce the Reacting to the Past pedagogy of elaborately designed, role-playing, face to face games used in college classrooms nationwide. (2) Engage the audience in actively participating in a micro version of a full Reacting game, “Frederick Douglass, Slavery, Abolitionism and the Constitution: 1845”. (3) Show how students use oral communication and teamwork in Reacting games, forming strong learning communities. (4) Discuss how and why to use the RTTP pedagogy in one’s own classroom.
Moving from the Individual to the Communal Space through Digital Multimodal Composing
Nabila Hijazi and Douglas Kern - University of Maryland, College Park

With the shift from individual acquisition to artifact mediated collaborative participation, using different modes of technology in teaching writing is a great opportunity to further enhance students’ writing competency. We have begun to ask questions about how digital assignments enhance the student’s composition process. Results from this study and the collected data—including students’ brainstorming activities, interactions, script writings and revisions, reflections, and feedback—will hopefully initiate a community of inquiry and discussion/reflections about curriculum design and encourage important adjustments based on students’ feedback and progress.

Session Objectives: (1) Understand how digital assignments enhance the student’s composition process. (2) Pay particular attention to how the students use multimodalities to collaborate and interact to present their thoughts and arguments to their intended audiences. (3) Inform each other in ways that help develop pedagogical practices aimed at engaging writers in 21st century academic literacy skills. (4) Initiate a community of inquiry and discussion/reflections about curriculum design as well as teaching/researching more generally.

Using Text Messaging to Teach Basic Concepts
Miranda Huffman¹, Stephanie Benson², and Brandy Deffenbacher³ - ¹University of Missouri, Kansas City, ²Southern New Mexico Family Medicine, ³University of Colorado

Advances in modern technology have presented new opportunities for the use of innovative teaching methods. A collaborative of family medicine faculty from eleven residency programs across the country developed electronically-Generated Educational Messages (eGEMs) focusing on musculoskeletal medicine. Each eGEM is a question in text message format. This presentation will review how to use text messages to deliver educational content, including sample text messages and an overview of the eGEMs program. We will review the benefits and drawbacks of using text messaging in education based on our experience and feedback from residents who received the text messages. We will also review how to develop and deliver curricular content using text.

Session Objectives: (1) To explain how a collaborative group from eleven family medicine residency programs implemented a texting program to teach family medicine residents musculoskeletal medicine. (2) To describe how to develop and implement a text message-based curriculum. (3) To develop text messages in a question and answer format that could be delivered to medical students or residents at the participants home institutions.

Youth Perceptions on Participation in the Shelton Leadership Challenge Program
Kimberly Ingold - North Carolina A&T State University

An ethnographic case study documented the experiences and perspectives of high school age participants in the Shelton Challenge, a summer camp designed to inspire values-based, transformative leadership. Critical thinking, values based decision-making, and reflection were program goals. Findings demonstrated that participants took away from the Shelton Challenge the kinds of situated understandings salient to them. Implications for youth development knowledge base include challenging the thought process, experiential engagement, and leadership responsibility. Implications for using ethnographic methods may be pertinent by building a rapport, allowing youth verbalization through conversation, and a relaxed atmosphere with limited distractions to collect authentic data.

Session Objectives: (1) Learn how high school students perceive experiential learning activities in a residential setting. (2) Describe experiential learning based on student informants experiences in areas of: values-based decision making, critical thinking, and reflection. (3) Share ethnographic methods of working with high
school students. (4) Present experiences of youth that provides impact for all partners: doctoral students learn about research and research ethics, and public school teachers learn strategies for interacting with universities to use strategies in their classrooms.

**Walking the Walk, while Talking the Talk: 10 Best Practices for Teaching Online**

Johanna Inman and Carl Moore - *Temple University*

Teaching evidence-based best practices to a room full of teachers? You better be using those practices yourself! This session will describe the course Innovation, Technology, and Teaching in Higher Education, a component of Temple University’s Teaching in Higher Education Certificate. In this hybrid course, the facilitator applied “Ten Best Practices for Teaching Online” from Boettcher and Conrad’s The Online Teaching Survival Guide (2010). Participants will hear examples of the application of these practices as well as lessons-learned. Activities will allow participants to apply these practices to their own course.

*Session Objectives:* (1) Learn 10 Best Practices for Teaching Online. (2) Know learning outcomes from a case study that applied these practices to a hybrid, graduate-level course for college professors. (3) Apply these best practices to their own courses.

**Teaching through Critique: Taking an Extradisciplinary Approach**

Johanna Inman and Suzanne Willever - *Temple University*

What happens when you apply the signature pedagogy of the arts to a non-art course? You have the opportunity to create an active learning experience that provides students with a formative assessment of their work, targeted feedback, and employs peer instruction. This session will 1) establish evidence that the critique is a valuable activity that can help students develop critical thinking and verbal communication skills 2) provide best practices for coordinating a critique in a non-art class 3) strategize what a critique would look like in various disciplines.

*Session Objectives:* (1) Believe in the critique as an effective teaching method that aligns to a variety of learning goals. (2) Know five research-based best practices for facilitating an effective critique. (3) Be able to facilitate a critique in your course.

**Impact of a Creative and Collaborative Laboratory Activity on First-Year STEM Students**

Yasmin Jessa - *Miami University*

The first-year student chemistry laboratory experience has changed dramatically over the past five years from primarily verification-based experiments to those with a focus on guided-inquiry learning along with the use of modern instrumentation, group-work, and written laboratory reports. As we look forward to Miami University's new 2020 plan, a unifying goal is “learning and discovery,” promoting a vibrant environment that produces extraordinary student outcomes. While the changes in our first-year student lab courses are steps in the right direction, the researchers wished to continue to improve the students’ engaged undergraduate experience. In this session we will address the impact of a new, creative, and collaborative laboratory activity from the student perspective.

*Session Objectives:* (1) Learn how changes made to first-year lab courses increased student-centeredness. (2) Consider how a collaborative lab activity can encourage student engagement. (3) Identify ways to promote “learning and discovery” in STEM courses.
A Formative Assessment Model for Higher Education Teaching and Learning
Heather Johnson and Dawn Branham - Michigan State University

Formative assessment is underused in higher education despite the growing body of research that confirms its benefits. Emerging learning formats and technological advancements coupled with a growing interest in learner-centered education has created an impetus for a renewed focus on the implementation of formative assessment in higher education contexts. This session will offer a model for implementing formative assessment strategies in college classroom environments through principles of course design. Examples of formative assessment strategies in various classroom formats are described and the benefits of formative assessment for learners, instructors, and educational systems are explained. Embedding formative assessment into course design is the most effective method of increasing student engagement and motivation at the course level.

Session Objectives: (1) Gain exposure to and increased understanding of formative assessment concepts and research supporting the use of formative assessment. (2) Learn about the types of and importance of feedback. (3) Learn about a model of formative assessment for planning and instruction. (4) Plan a sample lesson using an instruction planning template based on the presented model.

Examining Learning Outcomes for Research/Back-Channel Response/Critical-Thinking Using Twitter
Carol Johnson-Gerendas - Texas Wesleyan University

Social media permeates students’ communication practices and offers instructors opportunities for innovation in classroom practices. Social media affords students immediate access to academic scholars, industry professionals, and current information about almost any topic, but challenges teachers to examine previous assumptions about how learning and information access is accomplished in today’s classroom environments. Indeed, social media’s immediacy requires students to think critically and ethically about their information sources and usage of public data. This round-table explores the classroom use of Twitter to engage students in new ways of researching topics, joining/creating communities of learners, responding to classroom lectures, and thinking critically.

Session Objectives: (1) Provide real classroom examples of students using Twitter for research, including student activities related to connecting to communities of activists/journalists/citizens concerned with international/national social issues. (2) Introduce tools related to Twitter (HootSuite, Tweetdeck, Geofedia, Trendsmap, etc.). (3) Provide examples of Twitter-like usage in the classroom for student engagement and critical thinking. (4) Provide real classroom video/examples of using Twitter as a back-channel tool for gathering immediate student feedback to classroom lectures, as well as a student peer-response tool. (5) Discuss how to incorporate Twitter in class, how Twitter can aid in teaching/learning, and how Twitter can increase student interaction, support, and community building.

Giving Feedback on Students’ Written Work: Efficient and Effective
Janet Josephson and Laura Finan - University of Delaware

This session will provide support for instructors through the process of responding to student writing in an effective and efficient manner. Guided by previous research, we will review a feedback framework which will inform participants throughout the session. After identifying their role as the reviewer, participants will explore the purpose of different writing assignments, review their goals for student feedback, and note what types of feedback can be used to achieve these goals. We will close with an applied example where we discuss ways to provide the most effective feedback to students in an efficient manner.
Session Objectives: (1) Explore a framework for responding to student writing. (2) Identify and discuss different kinds of written feedback. (3) Discuss examples of written work and practice responding positively and effectively.

Introducing Parent Collaboration to the Discipline of Pre-Service Teachers Using Social Media in Early Childhood Education
Donna Karno and Bethany Bilodeau - University of Maine at Farmington

Collaboration with families is a foundation in early childhood education (Copple & Bredekamp, 2009). Social media may present a relevant means of collaboration for a new generation of families. In this study, teachers in a university lab school posted videos and pictures together with comments on the social media site Kinfish for use by children and their families. Parents were introduced to Kinfish at a parent meeting in September 2013 when we began to analyze usage. Because the lab school is used extensively as a teaching field site, issues such as what to post and when on social media are a part of pre-service teacher.

Session Objectives: (1) Participants will learn successful strategies on how to introduce a secure social media site to parents of young children. (2) Identify how teaching pre-service teachers engage parents using social media. (3) Learn important criteria for the selection of type of social media. (4) Explore parental use of the social media site with their child.

Experiential Learning Cycle: A Catalyst to Jump Start Student Reflection
Megan Keiser and Annie Jonas - Brevard College and Warren Wilson College

This dynamic session examines “minds on” teaching by focusing on key features of Kolb’s Experiential Learning Cycle within the context of service learning. The ELC is a powerful tool for engaging students and creating high impact learning experiences for students. Participants will learn how academic programs use the ELC to enhance community partnerships to bridge the divide between “theory and practice”. Participants will learn facilitation techniques to develop students’ reflective practices to generate, deepen, and document the students’ own learning (Ash & Clayton, 2009). Participants will receive implementation tools to apply the ELC to their own teaching.

Session Objectives: (1) Consider the Experiential Learning Cycle (Kolb, 1984) as one construct for implementing experiential learning in the college classroom. (2) Learn about how one type of experiential learning, service-learning, creates collaborative college and community partnerships. (3) Examine service-learning bridges the theory/practice divide. (4) Learn facilitation techniques to develop students’ reflective practices in order to help them generate, deepen, and document their own learning (Ash & Clayton, 2009). (5) Examine concrete examples, receive tools for implementation and have the opportunity to seek collegial feedback about ways to apply the Experiential Learning Cycle in their own courses.

Rubrics Three Ways: High-Tech, Low-Tech, No-Tech for Formative Assessment
Jean Kelly, Carrie Scheckelhoff, Jeffrey Smith - Otterbein University

In this interactive discussion, faculty in education, mathematics and journalism tell stories of rubric use as a process for formative assessment. Instead of focusing on rubric creation or rubrics as a grading outcome, we will focus on the process of using a rubrics to maximize student learning. We will explore how this process can be enacted in high tech (visual annotation apps), low tech (online discussion boards), and no tech (pencil-and-paper) arenas. Participants will identify a teaching challenge and investigate ways that rubric-as-a-process may impact their practice.
**Session Objectives:** (1) Explore three ways to support use of rubrics to enhance student learning. (2) Experience articulating challenges, and developing practical solutions for your own practice. (3) Identify common stages of using rubrics as formative assessment. (4) Understand difference between rubric-as-process and rubric-as-grade.

**Student Evaluations: Evidence of Civic Engagement Learning’s Success**
Noel Kent - *University of Hawaii, Manoa*

Students in University of Hawaii Ethnic Studies classes have for some years done community service at sites including public housing centers, homeless shelters, and high schools. An analysis of their capstone commentaries provides strong evidence of the validity of the community service literature’s sense of the field’s potential. After service, students attest to being more empathetic and supportive of disadvantaged and minority “others,” to having a deeper appreciation of socio-economic problems, of feeling more committed to the people and communities they worked with. Here is evidence that some critical goals of student civic engagement can be achieved.

**Session Objectives:** (1) Understand the processes and goals of Community Service (Civic Engagement) Learning. (2) Demonstrate evidence that Community Service Learning heightens student awareness of social problems, empathy for different “others”, and desire to be supportive of disadvantaged people and communities.

**Online Course Structure and Classroom Creativity**
Tamar Klaiman - *University of the Sciences*

Since the inception of online learning we have learned numerous lessons about pedagogy, course design, and student experience. However, many faculty continue to struggle with creating online learning environments that effectively engage students. An important, but often overlooked, tool that allows for greater creativity in online courses is having a clear and consistent course structure. Examples of such a structure include standard deadlines and expectations for discussion posts and assignments, the use of grading rubrics, and faculty deadlines for returning graded work. When course structure is standardized, students can focus on the course content, rather than asking about deadlines, where to send assignments, and grading. Faculty are also better able to focus on the substance of the course. This poster will describe the opportunities associated with standardizing course structure, and it will give specific examples of creative use of course materials. The poster will use a chart to illustrate the questions students raise and outcomes when the course is unstructured, compared to those when the course is consistently structured.

**Session Objectives:** (1) Describe the structure and challenges in online teaching. (2) Identify three specific strategies for structuring successful online courses. (3) Identify three examples of creative online course activities.

**Using an FYE to Introduce the Active Learning Classroom**
Mallory Kolinski and Shannon Beets - *Sierra Nevada College*

Sierra Nevada College faculty have redesigned the First Year Experience (FYE) course to introduce students to the active learning classroom. This presentation will describe the design process and the innovative techniques used in this class, which will be valuable to any faculty member looking to design a course utilizing team-based learning or problem-based learning. It will also be helpful to any institutions looking at redesigning the FYE to better introduce the institutional culture through learning communities.

**Session Objectives:** (1) Develop an understanding of design thinking. (2) Create ideas for how to make the best use of a first year experience (FYE) course. (3) Identify tips for taking the risk on an innovative pedagogical technique.
**Telling Stories**  
Michael Koliska and Sabrina Kramer - *University of Maryland, College Park*

The core principles of teaching for long-term learning or “Sticky Teaching” revolve around the same principles writers and journalists use to turn any given topic into a compelling story. Come join a team of a professional journalist and a faculty developer for an interactive session about storytelling and how you can transform your lessons into compelling and memorable stories.

*Session Objectives:* (1) Describe the components of a good story and how those components can be used in teaching. (2) Develop a story and use the story structure to teach a concept for your own classroom. (3) Describe how the components of teaching for long-term learning or “sticky teaching” relates to creating a good story overlap.

**Team-Based Learning: An Experiential Introduction**  
Karla Kubitz - *Towson University*

Team-Based Learning (TBL) is an increasingly popular instructional strategy developed by Larry Michaelsen (Michaelsen, Knight & Fink, 2002). It involves four essential elements, proper team formation, the Readiness Assurance Process, high quality Application Activities, and accountability. TBL has demonstrated a variety of beneficial effects, including increased student engagement and improved academic performance. This session will provide an experiential introduction to TBL. That is, participants will: (a) be assigned to teams; (b) participate in a Readiness Assurance Process; and (c) complete several 4S Application Activities. These experiences will provide foundational knowledge, and demonstrate the ‘engagingness’ of TBL.

*Session Objectives:* (1) List at least one similarity between Team-based Learning and a courtroom jury. (2) Recognize the essential elements of Team-based Learning, the stages of the Readiness Assurance Process, and the 4Ss of effective Application Activities. (3) Describe the rhythms of the typical Team-based Learning module. (4) Distinguish 4S Application Activities from other types of small group activities. (5) Develop at least one 4S Application Activity for your courses.

**Plenary Presentation: Threshold Concepts and Troublesome Knowledge: A Transformational Approach to Learning**  
Ray Land - *Durham University (United Kingdom)*

This presentation will discuss Threshold Concepts, a discipline-based and transformative model of learning in higher education. The Threshold Concepts Framework can be considered akin to a portal, opening up a new and previously inaccessible way of thinking about something. The model has over the last decade been adopted across a broad range of disciplines in many countries. It represents a transformed way of understanding, without which the learner cannot progress, and invariably involves a shift in the learner’s sense of self. As a consequence of comprehending a threshold concept there is a transformed internal view of subject matter, subject landscape, or even world view. This transformation may be sudden or protracted, with the transition to understanding often involving ‘troublesome knowledge’. This session will provide an outline of the Thresholds approach followed by an exploration of its implications for curriculum design.

*Session Objective:* This session will provide an outline of the Thresholds approach followed by an exploration of its implications for curriculum design.
**Lessons Learned from ‘Flipping’ an Introductory Course**
Laura Landry Meyer and Jacqueline Roe - *Bowling Green State University*

University instructors are increasingly encouraged to consider course “flipping”, whereby students are first exposed to course content through homework assignments and subsequently apply this new knowledge during in-class activities. We made the decision to partially flip an introductory course when we applied for an Innovative Teaching Grant in support of course re-design. Having no prior experience with course flipping, we were excited and uncertain about its potential benefits for students. Our presentation describes the many lessons learned during our first semester of course flipping and their permanent impact on the final re-designed course.

*Session Objectives:* (1) Identify aspects of a flipped-course approach that will have the greatest impact on instructional practice. (2) Describe how data from formative and summative evaluations can be used to enhance effectiveness of flipping a course. (3) Assess benefits and limitations of the inverted (flipped) classroom. (4) Describe strategies for overcoming student concerns about course flipping.

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**Course Re-Design Incorporating the Principles of Universal Design for Learning**
Sandi Lane and Nigel Davies - *Appalachian State University*

Universal Design for Learning (UDL) is a framework for designing courses to meet the various learning styles and abilities of the diverse student population. The UDL framework is based on the three principles of: multiple means of representation; multiple means of action and expression; and multiple means of engagement. It emphasizes a flexible syllabus to accommodate student needs while maintaining quality standards. We will review the principles of UDL and share our strategies for incorporating these guidelines. We will also discuss how we selected strategies to overcome barriers to learning and create the flexibility necessary to maximize student learning.

*Session Objectives:* (1) Identify various methods to successfully engage students in class activities. (2) Identify constraints and challenges for utilizing UDL course design.

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**Could GRIT Help to Shape the Learning Experience?**
Phil Langton - *University of Bristol, United Kingdom*

What qualities do we admire in learners? Mark Twain’s bleak assessment that education is “the path from cocky ignorance to miserable uncertainty”, should make us reflect. Learning can be a rough ride and yet we are busy building a system of education that develops in children the expectation that education is fun? How many pupils would understand Aristotle’s summary that “the roots of education are bitter but its fruit is sweet.”? There are many examples of individuals who see failure as an opportunity to learn. Edison famously embraced having designed 700 light bulbs that failed as 700 steps towards a design that would work. Trial and error is a wonderful teacher of an observant and patient learner. The work of Carol Dweck and Angela Duckworth provide insight into facets of character that serve individuals well in education and life. A growth mindset and GRIT are a winning combination. The question is how to foster these habits of mind. *(Read more here: http://www.sas.upenn.edu/~duckwort/images/Grit%20JPSP.pdf)* We will consider the results of a study in the University of Bristol that tracks the progress of new undergraduates and probes their personal history in hope that we will see the both the value and origins of GRIT and a growth mindset.

*Session Objective:* (1) Considered the impact of the various transitions that students must make between high-school (secondary education) and University (higher education). (2) been prompted to reflect on whether constructs like Grow Mindsets (Dweck) and GRIT (Duckworth) can predict how students cope with transition. (3) Had the opportunity to discuss findings from ongoing investigation into the relation between
GRIT and success in a first year science degree program. (4) Contributed to a debate about the nature of GRIT; where it comes from, what value attaches to it, how to prevent its erosion and even how to grow it?

**Being Chair: The Real Deal**
Wendy Larsen and Tamara Kuzmenkov - *Tacoma Community College*

Being a department chair can be daunting. New department chairs often feel ill-prepared, believing that they lack the skills and knowledge to become effective leaders. This very practical session details the experiences of a successful “Chairs” Faculty Learning Community in which participants learned together to become strategic leaders. The presenters share experiences and resources identified and developed through their collective FLC efforts as they address the four specific points that were the focus of community dialogues around roles and responsibilities and outline how they leveraged FLC structure to improve instructional and departmental goals.

**Session Objectives:** (1) Identify how to use an FLC structure to provide guidance and encouragement for chairs in the areas of managing faculty search and appointment problems and student and faculty complaints and other issues that they face on a regular basis. (2) Describe the ways in which using regularly scheduled forums might support incoming Chairs and instructors in identifying resources for professional development and in developing mentoring activities for new Chairs and faculty. (3) Identify techniques for using FLC structures comprised of individuals who deal with the same management issues and same kinds of questions regarding functions to provide an avenues for open dialogues about institutional issues and roles.

**Student-Facilitated Exploratory Discussions and Critical Thinking Gains**
Suzanne Lea - *Interactivity Foundation*

This presentation will present a student-facilitated learning model that has been developed by the Interactivity Foundation, a small non-profit foundation that dedicates itself to enhancing the deliberative discussion and civic engagement capacities of university students. This process invites faculty to take a coaching role as they encourage students to learn to facilitate their own learning. The presentation will examine data collected among Kansas State University Communication Studies students who took classes in which they learned to facilitate their own exploratory discussion projects. Projects extended through a full semester and required sustained engagement by students, which resulted in significant critical thinking learning gains—evidenced by significant changes on thirteen of fourteen measures of critical thinking that were collected via student self-assessment at Time 1 and Time 2 (start v. end of semester). The presentation will then invite participants to explore using this style of discussion by examining the issue of first generation student success in higher education. Participants will have the opportunity to actively engage with one another in small, self-facilitated groups.

**Session Objectives:** (1) Learn about a student-facilitated model of exploratory discussion to effectively promotes critical thinking gains among students. (2) Learn how/why we suspect these critical thinking gains are made. (3) Explore this pedagogy via active learning engagement of the process. (4) Debrief about how they might apply this method in their classrooms via interaction with the facilitator(s)/fellow presentation participants.

**Integrating Cognitive and Psychomotor Skills to Improve Student Clinical Performance**
Sue Leach - *The George Washington University*

The acquisition of cognitive and psychomotor skills is essential for many healthcare professionals. Cognitive skills may include planning, analysis and problem solving. Psychomotor skills can vary from fine motor skills required by dentists to gross motor skills required by physical therapists. Similarities and differences exist when acquiring skills in the cognitive and psychomotor domains. Although these skills may be acquired
separately, for clinical performance to improve, the integration of these skills is crucial. Methods such as role playing, paper case patients, simulations, and standardized patients can be used to achieve this integration and improve clinical performance throughout the curriculum.

**Session Objectives:**
1. Compare and contrast psychomotor skill acquisition to cognitive skill acquisition.
2. Examine methods to integrate cognitive and psychomotor skills to improve the clinical performance of student healthcare workers.
3. Distinguish types of feedback that can be utilized to foster cognitive and psychomotor skill acquisition.

**New Developments in 3D Holographic Technology and Its Applications in Teaching and Learning**

Hyangsook Lee - *Belmont University*

This poster session introduces participants to the recent developments in 3D holographic technology and its current and potential applications in educational settings. More specifically, this session will (a) provide participants with a brief history and overview of the technology, (b) inform participants of the latest developments in the technology and its educational applications, and (c) invite participants to brainstorm ideas to integrate the technology into their own discipline.

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**Unpacking Issues of Diversity in Online Courses: Leading Learners through a Journey of Change**

Vera Lee, Constance Lyttle, and Kristine Lewis Grant - *Drexel University*

For college instructors who teach courses focused on issues of multiculturalism and diversity, particular attention needs to be given in creating a classroom climate of safety and acceptance, and utilizing teaching strategies that promote learners’ development into culturally responsive, multicultural individuals. In this session, we present a teaching and learning framework for online courses focused on issues of multiculturalism that outlines three areas that are critical in helping learners go beyond a tacit understanding around issues of diversity: the learning climate, fostering transformation, and the learner’s journey of change.

**Session Objectives:**
1. Introduce a teaching and learning framework for online courses that are focused on topics of multiculturalism and diversity.
2. Examine instructional strategies in the development of the three core areas of the framework: learning climate, fostering learner reflectivity/challenging prior assumptions, and guiding learners on a journey of change into culturally responsive individuals.
3. Look at theories and concepts that offer additional guidelines for developing an online course that focuses on learners’ needs, supporting learners as they wrestle with issues of diversity/multiculturalism, and recognizing the critical role of instructors in modeling critical reflection and mentoring students.

**Science Classics-based Teaching in Mixed-disciplinary Class: Challenges and Strategies**

Ming “Kenneth” Li - *The Chinese University of Hong Kong*

This poster presentation introduces a General Education Foundation course ‘In Dialogue with Nature’ which is compulsory for all the undergraduate entrants in The Chinese University of Hong Kong. The challenges of teaching science classics to mixed-disciplinary classes are discussed. To facilitate the development of teaching
strategies and activities, the learning styles of the students from different faculties are analyzed. Appropriate
teaching strategies and activities for each faculty are suggested accordingly. Other strategies and techniques
for teaching science classics and for teaching large mixed-disciplinary class are welcome for discussion. This
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Session Objectives: (1) Understand the development of a General Education Foundation course ‘In Dialogue
with Nature’ which is compulsory for all undergraduate entrants. (2) Identify the challenges of teaching science
classics to students with mixed-disciplinary backgrounds. (3) Analyze the learning styles of students from
different faculties. (4) Develop appropriate teaching strategies and activities according to the learning styles of
the students from different faculties.

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styles of the students from different faculties.

“I hated it at the time”: Student and Teacher Perspectives on Effective Assessment
Andrew Lind, Klive Oh, Elanor Spadafora, Ava Popovska, and Heather Lindenman - University of
Maryland, College Park

Have you ever wondered what your students think about those weekly reading quizzes? Our empirical
study explores the perceived effectiveness of assessment tools from both the instructor and student
perspective. Concentrating on large courses at a research university, we report on the data from surveys
of both instructors and students. During our presentation, we will share our list of top assessments that
enhance student learning and describe the mismatch between instructor and student perceptions. We will
then facilitate a discussion on the effectiveness of different assessment practices and how to incorporate
recommended assessments into the curriculum.

Session Objectives: (1) Compare and contrast features of effective assignments as identified by university
students with those identified by instructors. (2) Discuss the barriers impeding effective assessment practices
from being implemented (especially in large classes). (3) Develop, based on presenters’ research findings and
participants’ expertise, practically feasible ways for instructors to improve assessment practices. (4) Apply tools
learned in the presentation to design or adapt an existing assessment (of your own).
**Instructional Strategies Designing Geometry in Art as an Online Course**  
**Pamela Lowry - Lawrence Technological University**

Geometry in Art is a course that examines underlying mathematical principles relating to different aspects of art and architecture. These principles can include symmetry and tiling, solids and golden ratio, perspective, surfaces and motion, etc. Different strategies/innovations need to be considered carefully when developing this as a course online. This course needs to be as effective online as a face-to-face or hybrid format. Strategies need to be considered concerning how students and instructors interact with these innovations and how they influence teaching and learning. Student's attitudes toward Geometry in Art and achievement will be discussed.

*Session Objectives:* (1) Identify instructional strategies assisting students to visualize concepts such as symmetry and tiling. (2) Identify technological innovations to assist students in visualizing concepts. (3) Describe how students can grasp and visualize concepts such as frieze and wallpaper patterns. (4) Analyze different ways students and instructors can interact online based on topics in a Geometry in Art class. (5) Analyze how to handle assessments such as problem sets, quizzes, projects, etc.

**Learning through Advocacy: Course Assignments that Promote Community Change**  
**Kelley Massengale - University of North Carolina, Greensboro**

Students who participate in advocacy activities as a part of course assignments may develop lifelong skills for advocating on behalf of themselves and others. This session will explore advocacy activities conducted with undergraduate students enrolled in public health and teacher education courses that may be adapted for undergraduate students in any discipline. Photovoice, a methodology for using photography to document community concerns, and letter writing will be discussed in-depth. Challenges in teaching advocacy and in encouraging students to become informed advocates will be shared in the context of evidence based approaches.

*Session Objectives:* (1) Identify effective and meaningful advocacy activities for undergraduate students to engage with course material while advocating for a change on a course relevant topic of personal meaning. (2) Articulate key content to include in lectures for undergraduate students learning about advocacy. (3) Discuss challenges in guiding undergraduate students to become informed advocates. (4) Apply knowledge of how advocacy activities empower undergraduate students and encourage future acts of advocacy.

**Pediatric Community Clinical Experiences: Camp Nursing in Baccalaureate Nursing Education**  
**Tabatha Mauldin - Winston-Salem State University**

Nursing student anxiety in clinical settings is directly related to four main categories: initial clinical anxiety, theory-practice gap, clinical supervision, and professional role. Of particular interest is the concept of a theory practice gap associated with assimilation of concepts of growth and development in pediatric nursing. Nursing students are experiential learners and clinical experiences should support this type of learning. Providing students with clinical experiences where they actively use principles of growth and development will enhance their learning.

*Session Objectives:* (1) Identify types of learning experiences which support learning for nursing students. (2) Define theory practice gap in nursing education as it relates to pediatric clinical experiences. (3) Identify the theory practice gap in pediatric nursing education. (4) Describe experiential learning experiences that support assimilation of growth and developmental principles.
Developing Metacognitive Skill to Teach Critical Reasoning

Jeffrey Maynes - St. Lawrence University

While critical reasoning is a pedagogical objective for many of our assignments and courses, teaching these reasoning skills is beset by two obstacles. First, explicit instruction on critical reasoning does not provide students with the widely-applicable skill we intend to teach, but rather a course specific one. Second, students are subject to cognitive biases which impede reasoning, and which are difficult to address through traditional critical reasoning pedagogy. In this session, participants will explore how developing metacognitive skills addresses these concerns, how metacognitive skills can be effectively taught and how to apply this pedagogy to their own field.

Session Objectives: (1) Define metacognition. (2) Learn about evidence that metacognition is essential to developing critical reasoning skills. (3) Understand pedagogical techniques designed to aid in the development of metacognitive skill. (4) reflect on the struggles students face with critical reasoning by analyzing our own reasoning. (5) Develop a critical reasoning strategy for students you can use to begin metacognition instruction. (6) Develop a checklist students can use when employing the reasoning strategy.

Addressing Anxiety and Learning Outcomes During the Transition of a Course to Online Delivery

Thomas Mays - Miami University

Students enrolling in Quantitative Methods for Business at Miami University’s regional campuses generally have had little exposure to math beyond introductory algebra, and many have anecdotally reported experiencing anxiety, fear, and avoidance in math oriented courses. This study covers an academic year including a face-to-face section in the first semester, and an online section in the second semester. Changes in student anxiety as well as a review of the effectiveness of course learning activities and assessments are reviewed. This presentation covers data collection and analysis through the mid-point of the second semester of the study.

Session Objectives: (1) Explain ways to address student math anxiety in an online course. (2) Describe methods for delivering content in an online environment. (3) Discuss methods of evaluating the success of course enhancements.

The Blended Effect: Engaging Early Childhood Pre-Service Teachers in Multicultural Education

Grace McDaniel - Otterbein University

Developing the cultural consciousness and multicultural education knowledge of early childhood pre-service teachers is critical to addressing the cultural and academic needs of an increasingly diverse student population. Through a blended-learning format that allows for differentiation, pre-service teachers explore issues of multicultural education, engage in a community of learners, and reflect on their practice. Through an overview of the course and problem-posing case scenarios, participants will review the opportunities and impact of blended learning.

Session Objectives: (1) Identify the strengths and challenges of delivering multicultural education content in a blended-learning format. (2) Explore the value of blended-learning as a tool for differentiation and reflective practice. (3) Enhance their understanding of strategies that will increase the level of pre-service teacher engagement with multicultural issues.
Integrating Cultural Competence across a Graduate Curriculum
Marilyn McFarland, Connie Creech, Gwendolyn Pryor, Marilyn Filter, and Hiba Wehbe-Alamah - University of Michigan, Flint

In 2008, the Department of Nursing at the University of Michigan-Flint developed a new Doctor of Nursing Practice program using evidence-based cultural competence as a major thread throughout the graduate curriculum, so nursing students will be prepared to provide culturally effective, competent, and safe care. Transcultural-certified nursing faculty mentored academic peers toward integrating cultural competence into their courses. At three junctures during their education, students were assessed using the Nursing Self-Efficacy Tool (Jeffreys, 2010) to determine the level of confidence regarding their knowledge and ability to provide culturally competent care among diverse populations. Using paired t-tests, a statistically significant improvement in overall score of 27.8% exceeded the goal of 25% for improvement. It is proposed that all healthcare disciplines would benefit from implementing a transcultural healthcare course and related content throughout their curricula.

Session Objectives: (1) Describe importance of cultural competence in professional doctoral level health science curriculum in the 21st Century. (2) Analyze a professional doctoral level health science curriculum for cultural competence content. (3) Discuss cultural competence in a professional doctoral level health science curriculum survey results (4) Design strategies to increase cultural competence content in a professional doctoral level health science curriculum.

Addressing Student Resistance to Video Critique in Public Speaking Courses
Tim McGee - Rider University

When students in a face-to-face Public Speaking course resisted using the rich-media options for their online critiques of their classmates’ recorded speeches, the instructor wanted to find out why and to discover ways to overcome that resistance. Based upon findings from an article called “Student Perceptions of Asynchronous Computer-Mediated Communication in Face-to-Face Courses: and the results of interviews with the resistant students, the instructor proposes to apply aspects of Wiggins and McTighe’s “WHERE” approach to assessment for the redesign of key assignments. Participants will be asked to evaluate which approaches look to be most fruitful.

Session Objectives: (1) Learn that students prefer submitting written critiques of peers’ speeches rather than audio or video critiques and examine the reasoning behind students' preferences. (2) Assess the costs and benefits of written communication vs. rich media communication in an online environment from both the students’ and the instructor’s perspectives. (3) Evaluate various adjustments to assignment design intended to address student resistance to video critique in a public speaking course.

Research in Science (RIS): A Seminar for Recruiting Freshmen in STEM
Larry Medsker and Gerry Feldman- The George Washington University

We are piloting a freshman course called Research in Science (RIS) with the objective of engaging incoming students in STEM fields early in their undergraduate careers. Surveys show that such an intervention has a significant impact on retention of undergraduate STEM majors. Students in RIS develop an appreciation for research by analyzing models of creativity and innovation, learning about research programs at GW and the broader community, gaining scientific literature search skills, and writing their own proposals for summer research projects. Session participants will experience effective elements of the course, and we will present assessments of the course and outline future directions.
Session Objectives: (1) Explain ideas about how freshman students can gain knowledge and skills about STEM research. (2) Name the key elements of the Research in Science (RIS) freshman seminar course. (3) Experience the key RIS activity of analyzing a Big Question in STEM research. (4) Describe current evaluation data on the effectiveness of freshman seminars like RIS.

Meeting Your Students as Learners: First Day of Class Activity
Sal Meyers and Brian Smith - Simpson College and Graceland University

This interactive workshop will provide a brief overview of the research on the first day of class and the research on the importance of student-instructor rapport for learning. Attendees will participate in a first-day-of-class activity designed to (a) get to know students, (b) encourage students to think of themselves as learners, and (c) introduce students to the course. Students select a photo representing themselves as learners and write an explanation of how the image reflects them as learners. Attendees will leave with detailed instructions to replicate the activity and ways of adapting and extending the activity for their own courses.

Session Objectives: (1) Summarize research findings about (a) effective techniques to use on the first day of class and (b) the importance of student-instructor relationships to learning. (2) Facilitate a first day of class activity designed to (a) get to know students, (b) encourage students to think of themselves as learners, and (c) introduce students to the course. (3) Identify specific ways of adapting and extending this activity for use in their own courses.

Telling the Tablet Tale: Teaching and Learning in a Mobile-First Classroom
Kimberly Miller - Towson University

As educators continue to explore active learning techniques, putting learning back into students’ hands is difficult in traditional classrooms equipped for “sage on the stage” lecture. While mobile technologies bring promising advantages to an active learning classroom, the current focus on 1:1 technology initiatives and BYOD environments leaves little discussion of supporting instruction in dedicated mobile-first learning spaces. Based on one university library’s recent experience implementing and supporting instruction through iPads in a mobile-first classroom, this presentation will discuss mobile technology affordances related to student-centered learning, including the opportunities and challenges of mobile-based instruction spaces in higher education.

Session Objectives: (1) Identify affordances of mobile technology related to student-centered, active learning in order to articulate the potential of such technology in the classroom. (2) Describe strengths and challenges of mobile learning spaces in order to evaluate the impact of mobile-first classrooms. (3) Discuss the experiences of designing, implementing, and supporting a mobile-first classroom without a 1:1 technology initiative or “Bring Your Own Device” (BYOD) program in order to assess the viability of similar learning spaces in a variety of education settings.

Faculty’s New Toolbox: A Three Part Model for Skill Development
Tracy Miller - Northern Illinois University

The exponential growth of online or blended teaching and learning have motivated higher education’s faculty into reaching into a “new” teacher’s toolbox. Faculty members want to be more comfortable with technology; and wish to sharpen their skills in using learning management systems, multi-media and social media tools. This presentation will introduce a three-step method to faculty development in an evidence-based environment. In a session activity, attendees will break down the essential skills for creating an engaging and interactive online experience and create a plan to build their own 21st century teacher toolbox.
Session Objectives: (1) Hear about key trends in teaching with technology in higher education. (2) Learn how to identify and assess essential skills in delivering online and blended content. (3) Introduce faculty development Objective, Competency, and Assessment model for online instruction.

Reality-Based Course Design for Today's Student
Richard Minoff - University of the Sciences

Observation and research indicates that a lack of student engagement results in students electing to opt out of learning in favor of just attaining a “grade”. This makes for a less than rewarding experience for both students and their instructors. However, by designing and delivering courses with multiple active learning activities, especially problem-based learning and uniquely designed “reality” learning experiences, not only is interest, engagement and motivation significantly higher, but so is the ability to achieve necessary student learning objectives. By utilizing a “reality-based” classroom that models real world situations, student learning can be easily activated and maintained.

Session Objectives: (1) Assess your course approach and determine how to drive needed, increased student engagement and incorporate at least one relevant reality-based exercise/assignment into your course(s) going forward. (2) Evaluate various assessment methods designed to measure reality-based course design. (3) Determine the most appropriate assessment tool(s) given your decision to incorporate a reality-based exercise(s)/assignment(s) into your course.

Teaching so Everyone Learns: Using Universal Design for Learning in the College Classroom
Belinda Mitchell, Dawne Burke, Laura Porter, Karin Spencer, Dorothy Hively, and Georgiann Toole - Shepherd University

This presentation will briefly describe Universal Design for Learning and why it is important for Institutes of Higher Education and their students in the 21st century. Using a hands-on workshop approach, the main focus of the presentation will be to inform participants of ways they can incorporate Universal Design for Learning into their classrooms to engage students and promote success for all.

Session Objectives: (1) Better understand how Universal Design for Learning components lead to success for all students. (2) Discover why using Universal Design for Learning is beneficial in the university classroom. (3) Understand the three components of Universal Design for Learning. (4) Learn what Shepherd University is currently doing to facilitate Universal Design for Learning. (5) Discuss ways that Universal Design for Learning can be woven into your University classrooms.

Strengthening Racial Identity for Improved Learning Outcomes
Michelle Mitchell, Medha Talpade, and Geetika Agarwal - Clark Atlanta University

This presentation will identify constructs and behaviors conducive to successful learning outcomes among African American male college students. Results based on preliminary research on strengthening Racial Identity via role modeling and increasing awareness of behaviors related to academic success with the Start-Stop-Continue model will be shared. Participants can expect to learn how to implement the Start-Stop-Continue Model as well as enhancing their ability to increase student behaviors related to academic success.

Session Objectives: (1) Explore how contextual factors such as racial identity impacts academic success. (2) Discuss how present scholarship builds on earlier thinking about benefits of racial identity and role modeling on academic success. (3) Share a transferable framework that (a) increases awareness of behaviors which should be started, stopped, continued (b) engages those behaviors related to academic success (c) provides
quick feedback and (d) initiates change among students. (4) Expand participants’ ability to consider racial identity/ethnic identity when teaching core courses. (5) Enrich participants’ repertoire of approaches to help students achieve academic success.

The Call of the Story: Innovative Approaches in STEM Classrooms
Karobi Moitra - Trinity Washington University

Storytelling predates writing and has been employed as a pedagogical tool even before the advent of the written word. In this study we have demonstrated that storytelling in the undergraduate STEM classroom [Introductory Genetics, Cell and Molecular Biology and Evolution courses] engaged at-risk students and motivated them to score well on subsequent examinations. Pre and post course tests were assessed and student surveys were undertaken to evaluate the success of this type of pedagogy. We conclude that this method of teaching can be introduced into STEM fields to motivate, engage and retain students in STEM disciplines.

Session Objectives: (1) Demonstrate that storytelling can be used as a powerful tool in the STEM curriculum. (2) Validate that “hard” science content can be taught effectively through different types of storytelling. (3) Train participants how to incorporate this type of pedagogy into their own classes. (4) Illustrate how this pedagogical tool may help student retention in the STEM fields (including a discussion on student assessment data and student surveys). (5) Learn how to create your own stories and assignments through interactive group activities.

Teaching Strategies in the Sciences: The Ancient Art of Storytelling
Karobi Moitra - Trinity Washington University

Storytelling is an ancient art that originated long before the written word. Stories can be leveraged as effective educational tools because they engage the students and enable them to recall facts from the story. We have created an undergraduate Genetics curriculum based on this innovative pedagogy in order to maintain rigor while delivering courses to students that are under represented and under prepared. The focus has been on story telling to achieve this goal. Student learning assessments and surveys showed that this choice of pedagogy proved to be an effective teaching method in an introductory Genetics course.

Session Objectives: (1) Demonstrate that storytelling can be used as a powerful tool in an Introductory Genetics course. (2) Present data and supporting evidence on the impact of this type of pedagogy on student learning outcomes and student retention. (3) Inform the participants on how to incorporate this type of pedagogy into their own classes.

Teaching Students How to Fish: Empowering Self-Sufficient Learners
Carl Moore - Temple University

If you teach a student content, they may learn; but if you show them how to learn, you will have provided them with the skills to learn for the rest of their lives. In this highly interactive workshop we will imagine how to use evidence-based teaching practices as a means of enabling students to take agency and accountability for their learning. Join us if you would like to discover how to become a partner with your students in the teaching and learning process!

Session Objectives: (1) Better understand the opportunity teachers have to teach learners how to learn. (2) Identify practical strategies for empowering student self-directed learners. (3) Recognize the power to teach students how to learn. (4) Create a plan for teaching students how to learn in their courses.
**Temple University Teaching in Higher Education Certificate**  
*Carl Moore - Temple University*

Good teachers are born, but great teachers are made. In order to become a more effective educator, focus on teaching beyond a single workshop or conference experience is often needed. The graduate-level Teaching in Higher Education Certificate (THEC) is offered for faculty seeking a more comprehensive learning experience. This 2 course certificate program is offered in face-to-face, hybrid, and strictly online formats for those who seek to enrich their pedagogy with research-based best practices. Join us to hear ways that THEC has helped empower educators to become more learning-centered. During the session we will share more details about THEC and have sample syllabi available. We look forward to seeing you there!

*Session Objectives:* (1) Understand certificate goals. (2) Value the Teaching in Higher Education Certificate as a means of promoting learning-centered teaching. (3) Identify program components and curriculum.

**Flat Class: Democratizing the College Classroom with Collaborative Course Design**  
*Carl Moore and Per Faaland - Temple University*

The traditional top-down way of educating students can promote non-participatory and even uncivil roles in society. How do we work within present-day institutional realities and stakeholder-expectations to re-socialize students to exercise their right of autonomy, practice of democracy and engagement of civility in their social settings? One approach is the use of the “Flat Class” structure in our classrooms. Join us if you would like to hear about our experiences using this approach where students design the syllabus and partner with teachers to run the class; and dialog around ways to democratize your class.

*Session Objectives:* (1) Presenters will walk participants through this process. (2) Learn concrete plans for democratizing education in varied settings - motivated and informed, to value opportunities to collaborate with students to advocate for course offerings. (3) Identify strategies to enlist student and community participation. (4) Recognize ways classes can be reorganized to operate horizontally (5) Create a plan for enlisting students to create a course syllabus.

**Strengthening Institutions Grants: Facilitating Faculty Development and Student Success**  
*Stephen Moore - Fairmont State University*

A Title III: Strengthening Institutions Grant has enabled one small university to pilot several promising innovations. This presentation will elaborate on two of those innovations during their startup phase and seek participation from the audience regarding suggestions for future development of these piloted projects. The main purposes of the grant are to infuse technology into instruction using lecture capture, faculty development, curriculum development to support active learning, and the startup of a student peer mentoring program.

*Session Objectives:* (1) Elaborate on two innovations during the startup phase of a Title III grant. (2) Seek participation from the audience regarding suggestions for future development of these piloted projects.

**Designing an American Sign Language Composition Course**  
*Kristin Mulrooney and Frank Griffin - Gallaudet University*

Gallaudet University is a bilingual university that uses American Sign Language (ASL) and written English as our languages of instruction. ASL. As an institution we are tasked with improving students academic English and ASL. A first year general studies course was redesigned to become an ASL composition course. This required the articulation of a composition pedagogy to be used with a language that does not have a written
form and to tackle challenges that a language that does not have a written form bring. How give feedback on a video? How does a student produce drafts of an assignment? Are there any frozen academic text that can be used as models for students? It also demonstrated how technology can be used in unexpected ways to resolve some of these issues as well as engage students to want to improve their ASL composition skills.

**Session Objectives:** (1) Expose participants to the challenges of teaching composition in a language that does not have a written form. (2) Engage in a discussion and generate ideas for teaching composition of a signed language. (3) Demonstrate how technology can be harnessed in creative ways to mitigate teaching composition that does not have a written form.

**Invest 90 minutes. . . Leave with 7 New Ideas You Can Implement Tomorrow**

*Joanne Munroe, Christopher Soren Tamara Kuzmenko, Wendy Larsen, Danielle Ritter, Darlene Rompogren, Melissa Stoddard, and Dawn Weber - Tacoma Community College*

This fast-paced workshop is based on Todd Zakrajsek’s five minute workshop concept. The team from Tacoma Community College invites you to laugh, play and learn your way through multiple stations on an adventure through the sort of emergent learning that defines the 21st century. Based on Seely Brown’s new culture of learning (2011), the workshop addresses the question: “What happens to learning when we move from the stable infrastructure of the twenty-first century to the fluid infrastructure of the 21st century, where technology is constantly creating and responding to change?”

**Session Objectives:** (1) Apply seven new tools in new ways in service of student learning. (2) Identify ways to structure short, meaningful, effective workshops. (3) Describe the ways in which bounded, structured environments allow freedom to experiment with new things within those boundaries.

**Contributing to Scholarship on Teaching and Learning: “Dos” and “Don’ts” from Two SOTL Journal Editors**

*Jessamyn Neuhaus and Becky Kasper - State University of New York, Plattsburgh*

The editors of The Common Good: A SUNY Plattsburgh Journal on Teaching and Learning (http://digitalcommons.plattsburgh.edu/commongood/) will share proven strategies for crafting and publishing a scholarly article on teaching and learning. Presentation will include real, concrete examples of “Dos” and “Don’t” for authors. More than simple common sense advice for any would-be journal contributor, this presentation draws directly from our experience working with instructors from a wide range of disciplines who wish to contribute to the SOTL. In addition, we will also briefly reflect on how editing a SOTL journal has given us new insights into the field as a whole.

**Session Objectives:** (1) Briefly note some of the current major trends in the scholarship on teaching and learning. (2) Share with audience some specific strategies for crafting a successful article on the scholarship of teaching and learning. (3) Share with audience some specific pitfalls of researching and writing on teaching and learning.

**YSIWYG: A Visual Course Framework to Enhance Student Learning**

*Joyce Joines Newman - East Carolina University*

The Course Organizer Routine is a teaching strategy developed at the University of Kentucky that summarizes visually specific course elements and their relationship to the overall course intention, structure, and requirements. By making the central course questions, content, standards, concepts, and community principles of the course transparent and accessible to learners, the COR supports metacognition and self-authorship.
Students may also participate in establishing community principles, learning rituals, and performance options, and can track their performance throughout the course. This presentation focuses on COR implementation in three diverse university courses, rather than secondary-level environments, and on its implications for student learning.

Session Objectives: (1) Introduce the teaching strategy of the Course Organizer Routine. (2) Describe how the COR was used in diverse university courses. (3) Summarize instructor and student response to the use of the COR, based on instructor observation, student focus groups, and student surveys.

Launching Undergraduates into the World of Scholarship: Reading Scholarly Literature
Susan Norland - The George Washington University

Undergraduate students at research institutions are challenged to engage in scholarly research, yet many students do not know how to approach the task of reading scholarly literature. The prerequisite to creating research is understanding how to read and interpret scholarly articles. Even though students may conduct research in diverse areas, there are components in research common to all scholarly texts written for virtually any discipline. Knowing how to navigate the world of scholarship is a skill that should be incorporated into classes early in the college career to help students build a bridge to academic success.

Session Objectives: (1) Understand how scholarship in virtually any field of discipline follows a pattern of common elements. (2) Learn to locate and identify three common components of a text in a scholarly journal. (3) Define and identify information referencing previous scholarship in the body of the text and footnotes (“research terrain”). (4) Define and identify the author’s perceived deficiencies in previous scholarship (“niche” or opportunity for further research). (5) Define and identify the author’s purpose in writing (“thesis statement”).

Flipping the Classroom: Chemistry for Nursing Students
Nisreen Nusair - Walsh University

Flipping Chemistry classroom is an effective learning pedagogy that has facilitated learning of Nursing students. Prerecorded lectures are viewed by the students before the class session, while in-class time is more devoted to application of concepts, solving problems, and discussions. Students found this approach motivating, in that it allowed for using their class time to apply what they have learned from the lectures and working often in collaboration with other students in the presence of their instructor. Instructor can more easily determine if students need additional instructions on certain subjects. Flipping classroom offers a blended course design that allows self-paced lectures more aligned to how each student learn.

Session Objectives: (1) Describe how flipping classroom facilitates student learning. (2) Explain how flipping classroom offers a self-paced learning pedagogy. (3) Examine how flipping classroom promotes active learning. (4) Examine how flipping classroom encourages social interactions among students and students with their instructor.

Triadic Small Group Teaching and Learning
Eva Nwokah - Our Lady of the Lake University

Small group teaching has increased in popularity as a move away from traditional lectures and towards active learning. Small group size and related activities in the literature on teaching and learning vary from 3-50 students and may include working in pairs. Yet few examples exist of triadic small group teaching where two students interact and their interactions are scored by a third student. This method incorporates peer evaluation of a skill so encourages listening and practice. Student reflections on this classroom technique used in a child language course are presented along with suggestions for other disciplines.
Session Objectives: (1) Create two designs of checklists for students to use for peer evaluation in small groups. (2) List three types of triadic learning groups. (3) Describe two challenges and two benefits of triadic small group teaching with peer evaluation.

Guiding Pre-Service Teachers through Curriculum Design: Using the Instructional Design Project to Teach Assessment-Based Instruction
Linda Pacifici - Appalachian State University

An assessment-based model (Instructional Design Project - IDP) for developing instruction with teaching and learning through curriculum design is presented. Conceptual and research background information provides the context for the IDP and its use in teacher education. Responses from pre-service teachers’ feedback on the development and use of the IDP during an internship are summarized. Each model component is outlined and handouts are provided.

Session Objectives: (1) Learn the pedagogical, conceptual, and research basis of curriculum design and assessment components used in the Instructional Design Project (IDP). (2) Explain the IDP components and purpose for each component (including handouts for session participants). (3) Present summarized survey feedback from pre-service teachers who developed and taught their IDPs in elementary classroom settings during a senior year fulltime internship experience. (4) Provide an example of an assessment-based interdisciplinary instructional model for teaching and learning.

A Formal Active Mentoring Program for Teachers and Its Implementation
Dana Pape-Zambito - University of the Sciences

We have adapted a research-centered formal mentoring model to construct a teaching-centered active mentoring model to help early-career faculty and post-doctoral teaching trainees. This model presents a progressive process with unique but parallel pathways for the mentee and mentor. We present our model and provide information about how it can be used to identify and implement the major growth areas for the mentee. In the mentee’s General Biology class, course alignment was improved, students’ average exam scores increased 10% and students’ agreement response to the statement “learned a lot in this course” increased from 35% to 84%.

Session Objectives: (1) Understand how and why our teaching-centered mentoring model was developed. (2) Recognize the value of a formal active mentoring relationship and determine if our formal active mentoring model is suitable to their needs. (3) Understand how our active mentoring model was implemented. (4) Recognize how our model improved students’ performance and perception of learning. (5) Recognize how the model facilitated the mentee’s confidence in teaching.

A Picture for a Thousand Words: Video Feedback and Student Engagement
Christopher Penna - University of Delaware

This presentation explores ways that freely available, screen capture software can provide students with annotated video samples of assignments and with video feedback on their own work. The presentation will also demonstrate how this technology can be used interactively in the classroom to create collaborative, archival resources to guide students in ongoing assignments. Building on examples from a business writing course and an introduction to literature course, participants will engage in guided brainstorming to discover how this tool can be purposefully integrated into a variety of disciplines to generate greater student engagement and interactive learning.
**Session Objectives:**
(1) Learn the ease of creating video feedback and best practices for creating video feedback.
(2) Consider how screen capture videos can encourage student engagement and enhance their courses.
(3) Explore the possibilities of using video feedback in your courses.

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**Teaching Race and Diversity: Social Identity and Student Perceptions**
Donna-Marie Peters and Mary Etienne - *Temple University*

How do we bridge the distances between white teachers and students of color as well as between teachers of color and white students, in order to fulfill our primary purpose of effective pedagogy in the race and diversity classes that we teach? This self-reflective workshop addresses this question and asks faculty in attendance to turn the interrogation onto the self as educator. We propose to raise questions about teaching and learning and make suggestions for bridging the divide. We will discuss individual stereotyping, social identities, specific pedagogies, and instructional methods that support the challenges that faculty of diverse backgrounds face.

**Session Objectives:**
(1) Examine our own race, class, ethnicity, and gender privileges and non-privileges.
(2) Examine how students of diverse backgrounds see us and how they might respond to our social identities.
(3) Develop pedagogical strategies that allow students of different backgrounds to move beyond their stereotypes of us.

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**Formal Faculty Mentoring: A Successful Program for Retaining Diverse Faculty**
Susan Phillips and Susan Dennison - *University of North Carolina, Greensboro*

Retention of international and minority faculty is an integral part of strategic planning for most universities today. Minority and international faculty were strongly attracted to a faculty mentoring program that combined one-on-one mentoring with group mentoring. Both one-on-one mentoring and group mentoring have been found to be beneficial to these two groups. Data from this five year faculty mentoring program demonstrates the differential benefits perceived by minority and international faculty who participated in this dual-approach mentoring program. When compared with new faculty who did not participate in this program, faculty participants from diverse groups were retained at 96% versus 69% for non-participants.

**Session Objectives:**
(1) Delineate the benefits of faculty mentoring for minority and international faculty.
(2) Identify the different needs of international faculty versus minority faculty in terms of faculty mentoring.
(3) Report retention data from a five-year faculty mentoring program that positively impacted the retention of minority and international faculty.

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**Turning Excellent Teaching into the Scholarship of Teaching and Learning**
Margaret Plack, Kimberly Acquaviva, and Jennifer Halvaksz - *The George Washington University*

Excellence in teaching is an expectation of every faculty member. How can we transform excellence in teaching into the scholarship of teaching and learning (SOTL)? Where do busy professionals find time to pursue scholarly projects? The secret, working smarter not harder! Make your work count twice; translate your teaching efforts into scholarship. We will present concrete steps for turning everyday teaching into scholarship. You will work collaboratively to identify SOTL projects in your own practice. Through facilitated exercises, rapid-cycle brainstorming, and peer feedback sessions, you will develop a practical, low-cost SOTL project that can be implement in your own classroom.
Session Objectives: (1) Identify a topic to explore through SOTL in your current work as an educator. (2) Develop a data collection and analysis plan to address/answer your purpose/question. (3) Critique and provide feedback to colleagues on their scholarship of teaching and learning project. (4) Apply the lessons learned to future professional development through the development of individual action plans.

The Ethics of Online Education: Lining up First Principles, Learning Objectives, and Methodology
Laura Miller Purrenhage - Kettering University

Online classes have proliferated at a remarkable rate, partially due to such factors as market pressures and the desire to make learning more accessible. As a result, academia has not yet had time to agree on standards of best practice or pedagogy that best meets the needs of students or the objectives of universities. The result has been a vast variety in approach, methodology, and professor involvement in on-line courses, some of which have proved detrimental to student-learning. Through examining the responsibilities of administrators and professors and the methodology that best meets these responsibilities, this presentation will explore the ethics involved in creating on-line classes. If a concurrent session slot becomes available, I would be happy to modify this presentation accordingly.

Session Objectives: (1) State a basic foundational ethical principle for the creation of on-line courses. (2) Apply this principle to the creation of three course objectives for your own courses. (3) Identify at least two teaching methods that meet your course objectives while maintaining ethical standards.

Rethinking Measurement and Evaluation: Teaching with Relevance and Enjoyment
Susan Radius - Towson University

Undergraduate professional preparation programs strive to communicate knowledge supporting students’ success after graduation. Our instruction, however, often includes content for which students have no real-world context or appreciation. This presentation discusses redesign of a Measurement & Evaluation course to increase educational relevance as well as enjoyment. Real-world scenarios as vehicles for student learning, application and collaboration are reviewed. The contribution of role playing, with students as evaluators for designated stakeholders, is discussed as well as ways to improve undergraduates’ understanding of the community they hope to serve through focused interactions with community professionals.

Session Objectives: (1) Differentiate among indicators of student capabilities (e.g., skill-based, knowledge-based) as contributors to students’ success as entry level professionals. (2) Evaluate constraints of undergraduate preparation programs in providing students with knowledge and skills appropriate to their effective performance as entry level professionals. (3) Discuss implications for undergraduate preparation programs in marrying academic achievement with requirements for effective real-world performance. (4) Identify ways to integrate real-world constraints and expertise in undergraduate education.

A Course Portfolio of Teaching Effectiveness in Athletic Training Education
Sarah Radtke - Aurora University

Based on student development theory, I facilitated a senior-level as completely student-driven in which the students were completely in charge to “create” the syllabus, determine the pace, the organization of the course, and the assignments. I created an environment in which the students took complete ownership of the course. The three main goals of the course were: 1) increasing student knowledge of administration practices in athletic training; 2) increasing student self-directedness; 3) students demonstrating successful application of knowledge. The evidence collected for the three goals included: 1) pre and post tests of the content; 2) pre and
post Self-Directed Learner Readiness (SDLR) scores; 3) samples of athletic training simulation project. The students saw marked improvement in self-directedness but not in retention and application of knowledge.

Session Objectives: (1) Present student self-directed instruction methods. (2) Assessment of student learning using student-centered, student-directed instruction. (3) Assessment of student self-directed learner readiness following student-centered, student-directed instruction.

Reshaping “Contact Time” in a Small Liberal Arts College
Matt Rearick - Roanoke College

Over the past decade, blended learning has become more in vogue as technology has become simpler and less expensive to use. Nevertheless blended learning pedagogies have not been examined thoroughly, particularly in small liberal arts institutions where small class size and traditional classroom settings still predominate. This study examines two semesters of a flipped course. Student academic performance, engagement, as well as instructor evaluations and actual vs. projected “contact time” are examined and compared with the same course taught traditionally. Overall, students perform equal to or better in a flipped setting with significantly less instructor contact time.

Session Objectives: (1) Gain an expanded understanding of the concept and policy of “contact time” with students in an undergraduate setting. (2) Better understand the difference of student academic performance, engagement and outlook in traditional versus blended learning environments. (3) Gain insight and an expanded skill set for how to combine traditional pedagogy and online technology to improve the academic experience for students in a liberal arts classroom.

Teaching to Learning with Students In Mind: Using Faculty Learning Communities for Institutional Change
Danielle Ritter, Darlene Rompogren, and Dawn Weber - Tacoma Community College

Representatives from three of the faculty learning communities focused on the student experience of learning at an Achieving the Dream leader college outline the benefits and the challenges of working together in faculty learning communities that combine and recombine membership. Presenters outline how they create community, provide support and enhance their own creativity as they change and align curricula and programs to benefit students in their various programs. The presenters detail how they affect cross-pollination of ideas among various component programs and offer support for one another’s work as they emphasize the student voice and the student experience of learning.

Session Objectives: (1) Connect faculty learning communities structures with strategies for curricular alignment and program change. (2) Identify structures and strategies for moving to a tipping point in stalled learning communities. (3) Describe how faculty learning communities may be used to connect faculty work to institutional mission.

Researching the Value of Using Literacy Bags in First Grade Urban Classrooms
D. Cherie Roberts and Molly Hupcey-Marnella - Bloomsburg University of Pennsylvania

The purpose of this research was to study how Literacy Bags encouraged home and school interaction by using this literacy bag assignment given to pre-service teachers. The research was used to determine if these literacy bags encouraged an interest in reading through the participation of reading activities. Four literacy bags were distributed to two urban 1st grade classrooms. Students/parents voluntarily had the literacy bags at home and complete post-surveys. The results demonstrated the connection between the assignment’s value and application in a real elementary school classroom setting which was shared with our college pre-service teachers.
Session Objectives: (1) Demonstrate that literacy bags promoted parent and child interaction. (2) Present how literacy bags are a beneficial educational component in helping promote a connection between the home and the classroom. (3) Describe the connection between college pre-teachers' assignments and actual value and application in a real elementary school classroom setting.

Universal Design for Learning Strategies for Transforming Face-to-Face Courses to Hybrid or Fully-Online Courses
David Robinson and David Wizer - Towson University

This session will present strategies for transforming face-to-face courses to hybrid or fully online courses based on the principles Universal Design for Learning (UDL) and the Quality Matters Rubric (QM). The Quality Matters Rubric is a set of research based “general and specific standards used to evaluate the design of online and blended courses” (Quality Matters, 2011, para.1). Universal Design for Learning is a set of principles for curriculum development that give all individuals equal opportunities to learn (Rose, Meyer, Strangman & Rappolt, 2002; CAST 2011). Online course design is optimally facilitated by the conjunction of QM and UDL principles.

Session Objectives: (1) Learn summary information related to online teaching and learning about Universal Design for Learning (UDL) and the Quality Matters Guidelines (QM). (2) Receive and share design and implementation strategies for transitioning face-to-face courses to blended (combination of hybrid and face-to-face) or fully online courses. (3) Receive resources for designing an online course/course module to a model online course site, including electronic resources that facilitate the incorporation of UDL and QM in online course design.

A Six Step Methodology for Teaching Fire Science
Scott Rockwell - Eastern Kentucky University

Many professors discuss how they know that they should not be using a “talking head approach” to lecturing in their college classes but simply do not know how to implement changed into their courses. This presentation describes a six step process for teaching concepts that includes using videos, concept reinforcement, active student group learning, and puzzle/game like problems to solve. The methodology shown has been used successfully in both freshman and junior level classes with students in a wide range of ability and nationality.

Session Objectives: (1) Use active learning techniques to teach science concepts. (2) Apply in-class activities. (3) Model visual demonstrations, such as videos.

Plenary Presentation: Teaching for Life: The Importance of Hope and Empathy
Katherine Rowell - Sinclair Community College

All too often, faculty focus on technology and pedagogical strategies in improving teaching and learning. In recent years, new and compelling research has been published examining the often noted “affective” domains of student learning. This presentation will explore new and exciting research on the importance of academic hope (other types of hope will be discussed) and the role of empathy in increasing student learning and success. In other words, this presentation will discuss how “emotion” is an important and significant tool in even the most “scientific” of college classrooms. Participants will learn about research and explore ways to make the college classroom connected to the lives of our students.

Session Objectives: (1) Learn about research on measure of hope and empathy in the college classroom and the importance of each as predictors of student success. (2) Be given an opportunity to learn about their own levels
of hope and empathy and the role that might play in predicting student success. (3) Explore ways they can increase hope and empathy in their teaching. (4) Receive a bibliography along with teaching tips they can use on Monday when they return to their college campuses.

**Preparing Students to Manage High Risk Emotionally Charged Situations in Practice**
**Elizabeth Ruckert, Margaret Plack, and Alison Deleo - The George Washington University**

Preparing students for professional practice requires knowledge, skills, and attitudes that are developed in the classroom environment as well as practice setting. Students must manage unanticipated, highly emotional situations, such as medical emergencies and volatile family relationships, in a rapid, effective, professional manner. We describe a series of innovative progressively complex learning experiences across a professional curriculum to prepare students for these uniquely challenging experiences. Methods include: didactic sessions, simulations, reflections, role-plays, video models, standardized patients, paper cases, and interprofessional practice sessions. These strategies allow for safe and authentic practice with varied feedback that appeals to multiple learning styles.

*Session Objectives:* (1) Design educational experiences to manage high risk emotionally charged professional situations. (2) Design curriculum that scaffolds learners’ knowledge, skills, and attitudes to prepare them to manage high risk emotionally charged professional situations. (3) Align the assessment of learners’ competency with desired learning objectives.

**Numeracy from Practice to Theory: Using Interactive Case Studies**
**Matthew Salomone - Bridgewater State University**

Numeracy—the skill to use and understand numbers in everyday contexts—is a key learning outcome in higher education. However, rates of adult numeracy in the U.S. trail nearly every developed country, suggesting a need to better connect mathematics education with the concrete situations of an increasingly data-saturated world. We present a pedagogical approach to numeracy using “interactive case studies,” in which data and visualizations drawn from authentic examples may be manipulated interactively with technology to explore the effects of changing conditions and illustrate underlying concepts. Free tools and resources for using and creating interactive case studies are also provided.

*Session Objectives:* (1) Compare and contrast mathematics with numeracy (or mathematical literacy). (2) Contrast the manners in which traditional and numeracy-focused pedagogies scaffold abstract and concrete reasoning skills. (3) Use an “interactive case study” to explore both concrete and abstract problems related to numeracy concepts. (4) Identify free tools and resources for using or creating interactive numeracy case studies.

**Using Health-Related Problems in Introductory Biology for Health Science Students**
**Florence Schmieg - University of Delaware**

We describe a new one semester Introductory Biology course designed for students pursuing degrees in Nursing or Dietetics. Topics were drawn from what is normally a two semester offering for Biology majors and include content considered most important for preparation in these disciplines. Cooperative group problem solving is used to foster the ability of students to work in teams, to make connections between abstract content and real-world applications relevant to their future professions, and to gain experience using online resources and texts to find information to solve problems. Student and faculty evaluations of this approach will be presented.
**Session Objectives:** (1) Present a course design that matches biological content objectives to the educational needs of pre-professional students in health science majors. (2) Explain a teaching method that melds scientific content with students’ professional interests by way of cooperative group problem solving of health-related scenarios. (3) Provide examples of student surveys that measure the impact of cooperative group problems on student understanding of biological concepts to give examples of student surveys that measure the impact of cooperative group problems on students’ application of biological concepts to current health-related issues.

### The Case of the Disengaged Students: Motivating Learners through Evidence-Based Teaching
Karen Schramm - Delaware Valley College

They sat there, sullen and inert, while everyone else spoke animatedly and substantively within their groups. Whenever we discussed a concept, an assignment, or a program, these two invariably replied, “That’s so stupid!” Though I am usually a great favorite of students, these two individuals rejected everything associated with me and apparently with college. They needed intervention. Delving into disciplines as diverse as cognitive science, business, the legal profession, and pop culture, I intensified my approach. The result? Definite improvement. This roundtable presents proactive strategies to engage all students.

**Session Objectives:** (1) Identify and reject unproductive teaching approaches. (2) Describe the realities of contemporary student culture and why pedagogical change is appropriate. (3) Offer proactive, high-interest teaching solutions based on solid principles and practices of business, law, psychology, and cognitive science.

### Using Student Feedback to Evaluate the Effectiveness of “Place-Based” Learning Exercises in Urban Field Experience Classes
Damon Scott - Miami University

Guided learning experiences outside of the classroom can be an effective teaching tool for relating the urban built environment to socio-economic processes that both shape and reinforce patterns of inequality. Drawing from focus groups with students who previously participated in off-campus, urban field courses, the author presents feedback from participants on the effectiveness of reinforcing key concepts from readings and lectures in guided walking tours of urban areas. After discussing with the focus group the pedagogical rationale for “place-based learning,” the students were asked to evaluate the degree to which this pedagogical approach effectively met the course learning objectives.

**Session Objectives:** (1) Summarize the pedagogical rationale for “place-based learning”. (2) Demonstrate how to design, implement and assess student learning outcomes for guided field-based learning experiences. (3) Present assessment data on the effectiveness of reinforcing reading and lectures with learning exercises outside of the classroom. (4) Provide resources for developing field-based learning experiences.

### Creating Learning-Centered New Faculty Orientations (NFOs): Keeping Them Awake and Motivated
Whitney Scott, Daisy Lemus, Janet Oh, and Greg Knots - California State University, Northridge

Offering a learning centered new faculty orientation (NFO) is one of the most powerful ways a university can effectively engage new faculty and secure their organizational identification. Unfortunately, many traditional NFOs do not model the learning centered philosophy and miss the opportunity to establish a collaborative and celebratory tone. This upbeat session will invite participants to co-create the ideal NFO while considering how to embed technology into NFO. This learning centered simulation-based session will leave participants with programming instruments, concrete ideas to augment a NFO (e.g., sample NFO agendas, tools, activities), and pathways to continue networking with fellow audience members.
Session Objectives: (1) Exchange NFO programming best practices. (2) Model community building, networking, and collaborative strategies for NFOs & teaching in the classroom (3) Leave with at least 3 concrete ways to modify a NFO program.

**Plenary Presentation: College Teaching: Myths, Evaluation, Improvement**

Peter Seldin - *Pace University*

No group is more full of myths about college teaching than college teachers, themselves. This session will address three such widely believed “truths”. It will also look at changing practices in evaluating teaching and will compare practices used in 1984 with practices used today, some thirty years later. Surprising and important changes found in the presenter’s nationwide research will be highlighted. Lastly, the session will examine characteristics of effective teachers and will take a close look at what separates great teachers from those that are just good.

Session Objectives: (1) Learn three widely believed myths about college teaching. (2) Compare how evaluation of teaching today differ from approaches used earlier. (3) Examine what great teachers do that good teachers do not.

**Engaging Science & Nonscience Majors: How I Taught Students to Think in Chemistry**

Ester Sesmero - *University of Maryland, Baltimore County*

Chemistry is considered a tough class for most of the students. What if we could make it attractive enough to get their attention? What if we could break it down enough so everybody could understand it? This is the challenge that we face in the classroom. To make students interested in the course first we need to show with our enthusiasm that we think the course is interesting and show them how what you say makes sense, as we have all experienced “you don’t like what you don’t understand.” It’s necessary to make them realize that there is logic on what you are explaining and that they are able to find out things by themselves. We need to teach them how to think so they can do it by themselves. In this presentation I will discuss how I met these challenges.

Session Objectives: (1) Discuss how to teach the students to think about an experiment. (2) Demonstrate how to make the students be interested in the course. (3) Illustrate how to make a tough course accessible to the students.

**Building Lifelong Learning Attributes in First-Semester Students Using the Effective Lifelong Learning Inventory (ELLI)**

Suzanne Shaffer and Barbara Eshbach - *The Pennsylvania State University, York*

Students in a first-year college reading support course learn reading strategies and apply them in a paired environmental science course while at the same time building lifelong learning attributes. Half of the instruction targets concrete reading/learning strategies and skill development. The other half of instruction builds lifelong learning attributes through self-reflection, coaching, and goal setting/action planning. Outcomes of the project showed significant gains in the seven dimension of the Effective Lifelong Learning Inventory. A wide variety of activities were used to build student motivation and engagement. Course activities and assessments, student reactions, and learning outcomes will be presented.

Session Objectives: (1) Present the rationale for incorporating lifelong learning instruction. (2) Discuss the elements and organization of the approach. (3) Discuss student reactions and outcomes. (4) Discuss next steps and possible changes.
Implementing Freshman Learning Communities to Foster Retention, Progression, and Graduation
Melody Shumaker and Hassan Hassani - Columbus State University

In today's college environment, connectedness to the university is essential for first-year students. Freshman Learning Communities afford students opportunities to participate and to gain a sense of belonging at the university. When Learning Communities are implemented, students are provided with tools to help establish themselves at the university and to explore available options. The following aspects of Learning Communities will be covered in relationship to equipping students for college and career paths: group dynamics, individual learning preferences, faculty collaboration factors, and student services. Participants will gain skills of how to implement and maintain effective learning communities where students thrive.

Session Objectives: (1) Utilize learning preference instruments to identify individual learning preferences of your students. (2) Identify and adopt effective collaborative skills and strategies for student success. (3) Learn how to better enlighten students on how to access resources from support services for college success.

Medical Residents Embrace Using Text Messages to Improve Knowledge
Ben Skinker - University of Pittsburgh Medical Center Shadyside Family Medicine Residency Program

A text messaging program to improve medical knowledge was developed and piloted to a collaborative of family medicine residents. Programs were randomized to receive the intervention or not. Focus groups were convened of either participating or nonparticipating residents to discuss the use of technology for learning and the acceptability factors of the use of text messaging. Over sixty percent of focus group participants endorsed the use of a text messaging program for studying. Other suggestions for improvement of the format are explored in the data acquired.

Session Objectives: (1) Explore three or more factors for improved acceptability of a text messaging program designed for medical residents. (2) Analyze qualitative data compiled from focus groups performed after the intervention, to formulate their own strategies for utilizing a text messaging system. (3) Discuss three or more limiting factors which were identified as the text messaging program was designed and implemented.

Influence of an Online Poverty Game on Students’ Attitudes toward People in Poverty
Carriann Smith, Ann Bilodeau, Priscilla Ryder, Michele Schultz - Butler University

This presentation will focus on a program that seeks to change student perceptions about people who live in poverty. Negative attitudes toward those in low economic situations could interfere with the provision of high quality services for a wide range of disciplines. In using an online game to introduce students to the difficult decisions faced by those in poverty, our preliminary data show that this simulation experience can have a positive impact on student awareness and understanding. Our plan is to describe how the game was used with students from multiple health professions and to discuss whether this method can help students to be more effective advocates, more client focused and more empathetic when working with this population.

Session Objectives: (1) Outline the features of the online game in order to implement with a student population. (2) Describe the use of poverty simulations and attitudes toward poverty scales. (3) Discuss evidence that using a simulation activity can impact student attitudes about poverty.
Effective Use of Field Supervisors During the Internship in an Administrative Certification Program
Cyndi Speace - Cabrini College

Building level administrators fill an inordinate amount of roles: instructional leader, strategic planner, staff developer, visionary, data analysis manager, change agent, supervisor/evaluator, team builder, human resource agent, mentor, budget developer, community liaison, curriculum/instructional/assessment expert to name a few. This workshop will show the steps one small college took to make its administrative certification program internship a supportive and integrated component of the aspiring administrators’ total experience. Placement of the internship in the curriculum model, specific and standards-driven internship opportunities required, and field supervisor positions will be discussed.

Session Objectives: (1) Learn how internships recognize the developmental level of aspiring administrators; learn how to plan more deliberative field experiences during the internship. (2) Understand the off-campus cohort structure that supports this internship model. (3) Create a Field Supervisor model that effectively utilizes this person as a liaison between the college, the aspiring administrator, and the internship sites. (4) Present and appreciate student data about the model.

The Virtual Self in Social Psychology: Learning Self-Concept through The SIMS3
Jessica-Anne Stansbury and Qing Li - Towson University

The effectiveness of video game use for instruction of the self-concept in a social psychology course was evaluated. Half of the students volunteered to play The SIMS3 computer video game throughout a five week summer session as a supplement to reading the chapter in the textbook. All students were required to read the self-concept chapter in lieu of a self-concept lecture. Mixed methods revealed that students who played the game demonstrated a significant increase in content knowledge compared to those who solely read the textbook. Student's perceptions of learning, engagement, and fun were also explored.

Session Objectives: (1) Provide innovative teaching methods in psychology courses. (2) Provide a pedagogical approach in teaching issues and theories related to the self-concept.

How to Adopt a Studio Arts Approach to Interdisciplinary Learning
Amy Stevens - Gallaudet University

Learn the secrets of active learning that studio art instructors have known for centuries. Adopt this interdisciplinary approach to foster critical thinking, inquiry and experimentation. At the center of this approach are one-on-one interactions and real-time assessments that cultivate introspection and aid in revisions. See how critique sessions modeled on the artistic paradigm help students engage in group learning, and problem-solving activities that replicate real-world environs in every discipline.

Session Objectives: (1) See how to apply a student-centered approach to learning that has guaranteed success. (2) Learn how one-on-one interactions and real-time assessments encourage introspection and revisions. (3) Discover the power of “critique session” that engage students in problem-solving activities and real-world environments.
Recycle, Reuse, and Remix: This Is Not the Next Best Thing
Melissa Stoddard and Joanne Munroe - Tacoma Community College

Many of the promising practices currently suggested in higher education are similar to, if not based on time-tested 20th century educational theory. We use these theories at very deep, but not always conscious levels. In this fast-paced, fun presentation, participants explore practical, actionable ways to design classroom and program activities intentionally. Using a playfully selected top ten of the “greatest hits” or big ideas from the past 100 years of educational thought, the presenters invite team and inquiry-based learning that motivates students, develops deeper understandings and uses frequent, meaningful low-stakes assignments and assessment for engagement and mastery.

Session Objectives: (1) Explain how and why it is important to move students towards intrinsic motivations and self-discipline based on the literature. (2) Identify the place of peer review, cooperative learning techniques, short demonstration lectures, shared cases and scenarios and struggling with messy problems in constructing and assessing mastery. (3) Transfer and apply some guided inquiry techniques that use frequent, low-stakes assignments to create the deeper learning that leads to mastery.

Bringing Global Cultural Diversity into the Classroom
Jin Su - Indiana University of Pennsylvania

Culture is an important construct in fashion business because culture has a profound influence on all aspects of fashion consumer behavior and impacts every aspect of fashion industry. Recognizing the importance of cultural diversity and international perspectives on college curriculum and the dramatic increase in the number of international students enrolled in U.S. higher education, we developed a collaborative approach by involving on-campus international students in course project. Our example from one Fashion Merchandising class highlights the effectiveness of bringing global perspectives and culture diversity into classroom by developing the teaching and learning linkage with on-campus international students.

Session Objectives: (1) Better understand global cultural diversity in textile and apparel higher education. (2) Develop the teaching and learning linkage with on-campus international students. (3) Bring global perspectives and culture diversity into classroom.

Using a Concept Ideation Process to Design an FLC Program
Lalita Subrahmanyan - St. Cloud State University

In this double session, participants will engage actively in the steps of a collaborative Concept Ideation process to envision, design, and plan a Faculty Learning Communities program that is mindful of the unique history and context of their university. The presenter will guide participants through the steps after situating the creation of one such program at her university within the faculty development literature on Faculty Learning Communities, and then sharing the analysis of the path taken by the program during the first three years.

Session Objectives: (1) Situate the creation of one Faculty Learning Communities (FLC) program within the faculty development literature on FLCs. (2) Appreciate the analysis of the path involved in creating a Faculty Learning Communities program that is mindful of the unique history and context of a university. (3) Use a collaborative Concept Ideation process to design appropriate FLC programs for their contexts that could result in greater student and faculty engagement in teaching and learning while also enhancing community among faculty.
Craft(y) Faculty Development Workshops: Teachers as Learners
Suzanne Sumner1, Kathryn Cooke2, Debra Hydorn1, Brooke Di Lauro1, Angela Pitts1, and Marie Sheckels1 - 1University of Mary Washington and 2University of Virginia

The best programs for keeping teaching and learning fresh and engaging bring a mix of junior, mid-career, and senior faculty with diverse needs and experiences to the same table to learn from each other. We will introduce participants to a well-tested strategy to spark creative engagements and to build learning communities among faculty and staff (The Great Craft Workshop). Furthermore, the lessons faculty learn about themselves as learners and as teachers are easily adapted to classroom use.

Session Objectives: (1) Learn about building faculty learning communities focused on teaching. (2) Demonstrate the usefulness of reflection, sharing, and community building. (3) Learn about creating mentor relationships.

Meaningful Field Experiences: Better Collaboration for Better Experiences
Kimberly Sutton1, Robin Hamme2, and Jamie Malloy2 - 1York College of Pennsylvania and 2Lincoln Intermediate Unit #12

Field experiences, a component of teacher education programs, focus on the skill development of the pre-service teacher. While children may benefit from this additional attention and instruction, teacher education field experiences are not designed with that in mind. Field experiences in special education classroom settings can be particularly problematic. In this presentation, the need for more clearly structured field experiences will be discussed and a partnership between university and local intermediate unit personnel will be detailed, with particular emphasis on how required field experiences have been developed to benefit both the pre-service teacher and the exceptional child.

Session Objectives: (1) Learn about the limitations inherent in current teacher education program field experiences, particularly those that are specific to those required to be special education settings. (2) Gain information on how a collaborative relationship between university faculty and local intermediate unit personnel has been developed to better address the structure of required pre-service teacher education field experiences in special education classroom settings designed for children with behavioral and emotional disorders. (3) Learn about research efforts embedded within the field experience program and how data obtained may translate into improved transition practices for children with behavioral and emotional disorders.

Utilizing Service Learning to Prepare Students to Work with Diverse Learners
Judit Szente - University of Central Florida

This presentation introduces a service-learning component that provided undergraduate students with essential opportunities to work with culturally and linguistically diverse children in K-3 school settings. Pre-service teachers documented their experiences in journals and case studies throughout the semester through various levels of reflections. The evaluation of the service-learning experience is based on the content analysis of these entries following Harwood, Fliss, and Gaudling’s (2006) model to measure students’ progress in various areas. Findings are presented in six various categories as they appeared at various points in the service-learning experience. Implications and recommendations for service learning programs will be provided.

Session Objectives: (1) Introduce how service-learning activities can be utilized to enrich academic course content for pre-service teachers. (2) Describe a successful service-learning project with early childhood pre-service teachers. (3) Describe ways of assessing pre-service teachers’ reflective entries.
The Perceived Key Concepts in the STEM Fields of Biology, Geology, and Chemistry across Educational Levels
Jeff Thomas, Chelsy Calhoun, and Josh Long - University of Southern Indiana

Come see and discuss which concepts college students and college professors stated were the most important concepts in their subject areas. Over a one-year period data was collected from high school teachers, college students, and college professors about what they perceived were the most important concepts in their areas of study. Data was collected in biology, chemistry, and geology to determine how much overlap existed between perceived key concepts. We will discuss the possibilities for completing such a data collection as a teaching activity or research opportunity in your setting.

Session Objectives: (1) Share the perceived key concepts among college freshman, college seniors, and college instructors in biology, chemistry, and geology. (2) Discuss how the experience can be recreated into a teaching experience. (3) Provide context and about the connection to high school teachers’ perception and ongoing work at our university to coordinate high school teacher and college instructor communication. (4) Complete a concept exploration depending on time length of session.

Integrating Role Playing Games into Computer Science Courses as a Pedagogical Tool
David Toth and Mary Kayler - University of Mary Washington

Research has shown that engaging students with games in courses can improve students’ enjoyment of courses and as a result, increase their learning. We integrated role-playing game (RPG) aspects into a computer science course in the fall semester and are doing the same thing for a different course in the spring semester. A significant portion of the students enjoyed the RPG aspects of the course and provided positive feedback, as well as suggestions for improving the RPG aspects. In this presentation, we present what we did and what we learned from the experience.

Session Objectives: (1) Learn about integrating role-playing game (RPG) into course content. (2) Learn about the benefits and pitfalls of RPG integration. (3) Receive materials to infuse RPG aspects into their courses. (4) Learn the value of soliciting student feedback through courses surveys. (5) Learn about the challenges of student-based learning versus faculty-led learning and ways to support the transition.

Applying Blackboard Tools to Promote Contact Learning in Blended Classes
Hui-wen Tu - Berkeley College

Contract learning is used as a communication tool via which the educator and the adult learners come to an agreement of the teaching and learning. The main purpose is that the educator as a learning facilitator can use it to motivate students to be more responsible for their learning. However the quality of the instructor’s management of contract learning is critically affected by the class size. Continued from the author’s previous study on group behaviors in blended classes, this study is aimed to discuss the effect of applying new learning tool-Blackboard to promote and manage contact learning in blended classes.

Session Objectives: (1) Learn the idea of practicing contract learning in college blended classes. (2) Learn how the presenter utilized the Blackboard course tools to facilitate contract learning. (3) Learn how the students’ cultural backgrounds affect the practice of contract learning, especially in Blackboard environment. (4) Join the discussion and learn the limitation of the learning tools in college blended learning. (5) Join the discussion and share the ideas to improve the quality of teaching, learning, and retention rate.
Challenges and Dilemmas Facing Ethical School Leaders
Clifford Tyler and Dorothy Singleton - National University

School leaders have been ethically challenged to make difficult decisions while coping with high stakes pressures from political leaders and the public, along with school accountability legislation. More recently, leaders’ codes of ethics compete with conflicting state and federal standards, laws, landmark state and Supreme court cases, community/student interests, and special interests groups for decision-making. The objective of this paper will be to summarize standards, leadership ethics, and nature of pressures creating leaders’ dilemmas of making the best decisions that balance these conflicting elements. Following this discussion, the audience will be involved in real life decision-making situational scenarios emphasizing ethics.

Session Objectives: (1) Understand the difference between state and federal education standards and leadership behavior ethics. (2) Gain an understanding of the recent changes of school leadership in face of new challenges. (3) Gain an understanding of the challenges and dilemmas face by today’s public school leaders in balancing ethics with standards in their decision-making in the best interest of students, parents, and community stakeholders. (4) Enhance interpersonal skills of working with participants in their respective groups to solve specific real-life case scenarios faced by school administrators in their ethical decision-making.

Using Collaborative Notetaking Software in Higher Education: The Advantage of Web 2.0
Nikki Usher - The George Washington University

Etherpad is a collaborative software often employed by the open source programming community to have real-time extended discussions among participants who cannot discuss things in real time. This is an online note-taking software that works as a real-time, immersive online tool that can be used in online classrooms and physical classrooms. The goal is to create one space for notetaking for all users in the class and create a productive and alternative space for laptop and tablet engagement. This presentation will focus on teaching and exploring this software for classes.

Session Objectives: (1) Understand how to apply etherpad to a variety of classroom situations and discuss at least 5-7 different classroom environments where the technology could be employed. (2) Introduce the technology - provide a link to all members to explore on their own, and monitor for sign in. (3) Create an etherpad and ask at least 40 percent of participants to contribute through signing in to page. (4) Show how students can be assessed by asking members of the audience to silently count and write down data metrics to then share with the group. (5) Use etherpad to practice commenting through post-conversation comment posting - create list of potential users to email following the discussion for further conversation.

Are You Flipping Engaged? (What to Do with All That Class Time?)
Kimberly Van Orman - University at Albany, State University of New York

When most people think about flipping their course, they start by focusing on making or finding videos for their students to watch. That can be an important part of the process, but it’s not the most important. If you get all that content out of your class, what will you do with the time you free up? In this session, we will think about the flipped classroom as composed of three elements: pre-class content engagement, preparation accountability, and classroom application exercises. We will focus specifically on how to create effective application exercises that give students skill practice in your discipline.

Session Objectives: (1) Apply skill-based goals for their flipped course. (2) Apply a schema for implementing a flipped course design. (3) Apply the “4S” activity design technique adapted from Team-Based Learning’s for the flipped classroom (with several modeled examples). (4) Share useful techniques for activity design for the flipped classroom from the experiences of other participants.
The End of Faculty Academic Freedom: Accreditation, Assessment, and Administrative Syllabus Control
Richard Vatz - Towson University

There are at least three major arguments supporting external control of full-time faculty-taught courses, including those based on: university rules for syllabi, alleged demands for adhering to accreditation requirements and demands for assessment requirements. Why are said claims so successful? Appeals to accreditation and assessment mystify faculty, almost similar to the case wherein Gilbert and Sullivan’s Pirates of Penzance were intent on piracy, except when they thought they were dealing with orphans. When administrators say that assessment, accreditation or university rules require “x” in the classroom, disagreement stops, and classroom excellence, academic freedom and faculty autonomy are attenuated.

*Session Objectives:* (1) Consider the extant threats to faculty autonomy in their courses. (2) Identify mystifying rhetoric used to justify limiting faculty control. (3) Discuss the political power unaffected by their tenure to affect their teaching.

Cognitive Assessments Conducted by a Computerized Intelligent Interviewer
Kathy Weaver - University of Maryland, Baltimore County

Currently, most cognitive assessments are presented on a computer where the student reads the questions, then clicks on a radio button to indicate the most appropriate answer. This method does not allow for clarification of questions or answers. Recent advancements in technology allow assessments to be conducted using a Computerized Intelligent Interviewer, where the student interacts with a computer presented as either a Text Interviewer, an interaction similar to instant messaging, or as an Embodied Interviewer, where the computerized avatar vocally asks questions, and the student vocally responds. Both of these methods allow for a more clear and accurate assessment.

*Session Objectives:* (1) Learn about an experimental alternative for conducting cognitive assessments. (2) Become familiar with a Computerized Intelligent Interviewer. (3) Gain an initial understanding of how certain types of learners prefer to take cognitive assessments.

Assessing Student Class Participation
Rob Wells and Pallavi Guha - University of Maryland, College Park

This presentation explores the latest literature on how to assess student learning as we shift from traditional lectures to an active classroom environment. We ask how instructors can fairly and transparently assess soft skills, such as participation, teamwork, and risk taking. The presenters offer a draft rubric spelling out a method for assessing participation and open the subject for audience input.

*Session Objectives:* (1) Discuss the latest literature on how to assess student class participation. (2) Receive a draft rubric to assess class participation. (3) Share thoughts on how to structure classes to maximize student participation.

Engaging Students in Classroom Discussions Using a Student Engagement Technique
Sheila Whitley - North Carolina A&T State University

A lesson plan based on the Student Engagement Technique - Role Play from Elizabeth Barkley’s book is explored in this presentation to support the following research question, “What techniques or teaching strategies engage students in a rich and informative classroom discussion?” This technique is used to engage class discussion on Media and Politics. Students role play Washington Post reporters Bob Woodward and Carl Bernstein interviewing Richard Nixon.
Session Objectives: (1) Explore challenges and obstacles to classroom discussion. (2) Explore various teaching techniques to engage a class. (3) Effectively employ engagement techniques in class to enhance classroom discussion.

Course Redesign: A Rocky Road Paved with Good Intentions
Susan White and Karen Hallows - University of Maryland, College Park

Course redesign employs a number of innovative teaching methods, including using technology to deliver lower levels of learning (knowledge, comprehension) and face to face classes for higher levels of learning (analysis, evaluation, synthesis). The road to a successful implementation of a blended course can be rocky, even with instructors experienced in blended learning. This session looks at both the costs and benefits of course redesign as implemented in an introductory business finance class. Participants will have an opportunity to share ideas and hopefully not repeat the mistakes made by the presenters.

Session Objectives: (1) Describe the redesign of an undergraduate finance class to a fully blended (hybrid) format. (2) Discuss the pitfalls of course redesign, including technology issues, student resistance, high set up costs. (3) Discuss the benefits of course redesign, including improved student learning, mimicking real world situations, creating lifelong learners.

Inquiry-Based Laboratory Pedagogy across Scientific Disciplines
Nathan Winter and Mark Minger - St. Cloud State University

Our investigation consists of an assessment of the impact of a pedagogical intervention facilitating scientific inquiry within five different laboratory-based courses and five different scientific disciplines. A quasi-experimental design is employed by utilizing different sections of the same courses as experimental and control groups. Control labs are conducted in the traditional expository manner, while experimental labs are focused on making testable hypotheses (an important step of inquiry based learning). Student outcomes assess the effect of this intervention on student learning of lab content and students’ general attitudes toward science and inquiry-based learning.

Session Objectives: (1) Describe improvements in student learning of lab content when inquiry-based learning is implemented. (2) Describe improvement in students’ general attitudes toward science and inquiry-based learning when inquiry-based learning is implemented.

The Morality of Grading
Eleanor Wittrup - University of the Pacific

Discussions of the ethics of grading too often start from a false premise: that assigning grades is an issue of distributive justice. But grades are not scarce goods, so the standards of justice do not apply. The fundamental ethical problem of grading is one of truthfulness. Letter grades are an extremely poor information technology. Complicating matters, the meaning of a grade cannot be the same for professors, students and readers of transcripts. I offer a standard for evaluating the morality of grading practices, and in conclusion offer some ideas about how they can influence student learning.

Session Objectives: (1) Understand the moral context and standard appropriate to evaluating grading practices. (2) Learn to evaluate grading practices for objectivity and fairness. (3) Learn new grading techniques that potentially make grades more meaningful. (4) Learn how traditional grading practices can discourage students' efforts and undermine student learning.
Fixing the Mismatch between Assessment & Student Achievement Thresholds
Kathleen Wood - Gallaudet University

Graduating-senior data suggested that some were still not being coherent in papers and presentations. Faculty disagreed about why some texts seemed coherent. But in this age of institutional assessment and accreditation accountability, “I know it when I see it” isn’t good enough. We wondered, “what is (Bennett 2012)” going on in these texts? And when there is a mismatch between crucial threshold concepts (Meyer and Land 2006) and “what is” being promoted via our assessment tools—what then? This presentation is a summary of a SoTL study of the coherence strategies of a bilingual student—how she accomplished coherence, with and despite the assignment checklists and Institutional Rubrics, which participants will have an opportunity to unpack and discuss.

Session Objectives: (1) Consider the accuracy of assessment tools (from our Institutional Assessments to the checklists and rubrics we make for assignments) in assessing what is at the very heart of what we want our students to learn. (2) Consider ways to fix the miss-match between what IS crucial for success on an assignment and what it is the assessment tools SAY is crucial. (3) See how one student managed her thesis statements quite well—despite the assignments, rubrics and checklists that variously highlighted (or did not) the importance of those thesis statements.

Using Technology to be Active and Collaborative: Even in STEM Courses
William Wuest and Liesl Wuest - Temple University

The Seven Principles of Good Practice in Undergraduate Education by Chickering and Gamson stress active and collaborative learning, but this can seem difficult to implement in large STEM classes. This session will highlight ways to integrate the active and collaborative principles into large classes and discuss how technology can be used to meet the other principles as well. Taking advantage of easy-to-use and readily available technological solutions like Socrative and a variety of media outlets, students have improved test scores and report higher overall satisfaction in a class that is often students’ least favorite—organic chemistry.

Session Objectives: (1) Review the Seven Principles of Good Practice in Undergraduate Education. (2) Discuss the benefits of the Seven Principles (3) Identify ways to use technology to create active and collaborative classes and address each of the Seven Principles.

Plenary Presentation: Teaching: Joys and Challenges of the Greatest Profession
Todd Zakrajsek - University of North Carolina, Chapel Hill

Teaching in higher education is in many ways a gift. Having the opportunity to mold future societies is an amazing experience. That said, this profession also comes with a multitude of challenges. In this session we will explore teaching as a “profession,” looking both at why teaching is exceptionally important to everyone and how research on teaching can help all of us to be better at educating others. This session is designed to encourage attendees to think about education, the role of the teacher, and the role of the student in new and fundamentally different ways.

Session Objectives: (1) Identify three key instructional challenges for faculty members today. (2) Explore strategies you can use to address those challenges. (3) Better understand how you can impress your friends and family by explaining to them the complexity of your work as an exciting evidence-based profession.
How to Use Prezi to Make Your Presentation More Engaging

Wei Zha - University of Cincinnati

In order to make instructional approach more effective, college instructors can make use of innovative online tools and resources to make their presentation more engaging. This presentation will explore an online tool Prezi by focusing on tricks or techniques with which instructors can design their presentation slides in three-dimension format. With the help of such a 3-D dimensional format, explaining complicated theories and principles becomes easier for instructors and students are more likely to understand the inner relationship between among different theories. The presentation will also try to explore how to convert PowerPoint lectures to Prezi-format presentation.

Session Objectives: (1) Learn to use Prezi to make presentation slides. (2) Learn how to illustrate and demonstrate theories in 3-dimension format. (3) Learn an easy method to convert PowerPoint lecture slides to Prezi slides.
Institutions Represented

Acer
Alabama A&M University
Alabama State University
American University, Cairo
American University, Chevy Chase
Appalachian State University
Aurora University
Baylor University
Belmont University
Berkeley College
Bloomsburg University
Bowling Green State University
Brevard College
Bridgewater College
Bridgewater State University
Brigham Young University, Idaho
Brooklyn College
Butler University
Cabrini College
Caldwell College
California State University, Northridge
California State University, San Bernadino
Carnegie Mellon University
Case Western Reserve University
Cedar Valley College
Central Michigan University
Central Michigan University, Detroit
Christopher Newport University
Clark Atlanta University
Columbus State University
Delaware Valley College
Drexel University
Duke University
Durham University
East Carolina University
Eastern Kentucky University
Eastern Michigan University
Embry-Riddle Aeronautical University
Fairmont State University
Fordham University
Gallaudet University
Gannon University
Georgia Tech
Graceland University
Harrisburg Area Community College, Lancaster
Howard Community College
Howard County Public Schools
Howard University
Indiana University, South Bend
Interactivity Foundation
James Madison University
Johns Hopkins University
Johnson & Wales University
Juniata College
Lawrence Technological University
Liberty University
Lincoln Intermediate Unit 12
Lynchburg College
Magna Publications
McDaniel College
Miami University
Michigan State University
Midwestern University
Morehead State University
National Institutes of Health
National University
Niagara University, New York
Niagara University, St. Catharines CA
North Carolina A&T State University
North Carolina Wesleyan College
Northern Illinois University
Ohio University, Athens
Ohio University, Chillicothe
Ohio University, Lancaster
Otterbein University
Our Lady Of the Lake University
Pace University
Palo Alto College
Portland State University
Prairie View A&M University
Red Deer College
Reinhardt University
Rider University
Roanoke College
Institutions Continued

Saint Cloud State University
Saint Louis University
Samford University
Seton Hill University
Shepherd University
Sierra Nevada College
Simpson College
Sinclair Community College
Slippery Rock University
South Carolina State University
Southern Baptist Theological Seminary
Southern Connecticut State University
Southern New Mexico Family Medicine Residency Program
Southern Utah University
St. Joseph’s College
St. Lawrence University
St. Mary’s College of Maryland
Stevenson University
SUNY Geneseo
SUNY Plattsburgh
Sussex County Community College
Tacoma Community College
Temple University
Texas Wesleyan University
The Chinese University of Hong Kong
The Georgetown University
The New School University
The Ohio State University
The Pennsylvania State University, Fayette
The Pennsylvania State University, Lehigh Valley
The Pennsylvania State University, University Park
The Pennsylvania State University, York
The University of Toledo
The University of Toledo - Main Campus
Towson University
Trinity Washington University
Tuskegee University
Union County College
United States Military Academy
University at Albany
University of Bristol
University of Central Florida

University of Cincinnati
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University of Hawaii Manoa
University of Helsinki
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University of Mary Washington
University of Mary Washington
University of Maryland University College
University of Maryland, Baltimore County
University of Maryland, College Park
University of Michigan, Flint
University of Missouri, Kansas City
University of North Carolina, Greensboro
University of North Carolina, Pembroke
University of Pittsburgh Medical Center
University of San Francisco
University of Southern Indiana
University of the Pacific
University of the Sciences
University of Virginia
University of West Georgia
University of Wyoming
Villanova University
Virginia Commonwealth University
Walsh University
Warren Wilson College
West Texas A&M University
Western Connecticut State University
Western New England University
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