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PRACTICE SESSIONS

Design of scenario-based instruction using VR
Ahmed Yousof, East Stroudsburg University

The presentation will explain how to design a scenario-based instruction using VR. The audience will be introduced to the three phases of planning, production, and implementation to develop such a VR instructional model. The session will conclude with a demonstration of a scenario-based VR module about classroom management that was developed by the presenter to train teachers on making decisions related to classroom management issues they experience in the class. By the end of the session, attendees are expected to know how to design scenario-based instruction using VR to be used in their classes or training sessions.

Scenario-based instruction is a training approach that uses well-constructed scenarios to achieve desired learning goals (Errington, 2010). Scenarios could be developed based on a set of circumstances, a story of events, or situations that carry a certain learning experience. To this end, teacher training programs use multiple approaches, such as lectures, role-plays, and seminars, to prepare instructors for varied and challenging classroom contexts (Klassen et al, 2020). However, these approaches are considered traditional, and trainees reported a disconnection between what they learned through these traditional approaches and what they experience in real life (Sorin et al, 2012). As a result, they feel unprepared for instructional roles as they have not had enough exposure to the context of classroom dynamics.

This presentation will introduce the use of VR to promote active learning strategies through the use of scenario-based learning. Scenario-based learning is reported to be an important component of multiple active learning approaches (Sorin et al, 2012). The presenter has developed VR scenario-based instructional model. In this model, he trained newly hired instructors and pre-service teachers on handling classroom management issues such as disruptive behavior, cheating, and poor interaction by students.

The presenter will start the session by explaining pedagogical models for teaching in virtual environments (Fowler, 2015; Dalgarno & Lee, 2010). Then, he will walk the audience through the main phases of developing scenario-based instruction using VR. The first phase is the planning phase in which the scenarios will be developed through the development of a hierarchical or decision tree. The second phase is the production phase where the audience will learn about the VR platforms and other hardware/software elements that can be used to produce such experience with no need for any prior experience in programming. The last phase is the implementation phase in which the audience will learn how to use this instructional module in training programs or in class.

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Klassen, R. M., Rushby, J. V., Maxwell, L., Durksen, T. L., Sheridan, L., & Bardach, L. (2021). The development and testing of an online scenario-based learning activity to prepare preservice teachers for teaching placements. Teaching and Teacher Education, 104, 103385.
Sorin, R., Errington, E., Ireland, L., Nickson, A., & Caltabiano, M. (2012). Embedding graduate attributes through scenario-based learning. Journal of the National University of Singapore Teaching Academy, 2, 192-205..

Connection through reflection: Helping students find their own meaning
Joan Gavaler, Mike Blum, William & Mary

Using the Connection Through Reflection Reflect-Share-Integrate process provides a way for students to connect course material to their own experiences and interests. Reflection puts each student at the center of their learning process and provides the professor with a means to better understand students and teach more effectively. Participants will experience this process during the session and contemplate how they might apply this tool in their own classrooms.

Mike Blum, Assistant Director for Faculty Engagement for the William & Mary Studio for Teaching and Learning Innovation (STLI) and Joan Gavaler, Professor of Dance and 2021-22 STLI Fellow, will offer an introduction and practice session for the Reflect-Share-Integrate process. This process can help students develop and link their individual experiences and interests to your course for deeper understanding and connection with the discipline. It can help each professor stay fresh when engaging new cohorts of learners. Because this process puts students at the center of their own learning, it can assist in nurturing a more inclusive and less hierarchical classroom environment

This session will take attendees through the Reflect, Share, and Integrate process with time for writing, talking in small groups, and coming back together with the full group. We will begin with identifying a course and the learning goals of that course. Participants will write reflections to help them identify the type of open-ended questions that will be effective for the range of students in their courses.

After participants have written individually, we will gather into breakout groups to share these reflections. In these groups, each person has the opportunity to share their thoughts with no cross-talk before coming back to the main group. We will illustrate the integration step of the process by discussing participants' experiences in the session thus far, looking both for commonalities and divergent thoughts about the process.

This session will conclude with a conversation about how this process might be used in a variety of classrooms and the importance of laying the groundwork for an inclusive environment to support authentic sharing. We will think about actions the professor might take that would potentially draw out or limit each student's ability to be authentic about their experiences, including how the professor evaluates and grades student work.

Connection Through Reflection is influenced by performance pedagogy and artistic practice which requires the student or artist to connect personal experience to their discipline.The Reflect-Share-Integrate process is a metacognitive strategy that uses reflective writing and small group sharing to help students discover the personal relevance of what they are learning and allow their connection to the subject matter to become deeper. The reflection, sharing, and integration experience as developed for this session is influenced by the work of educators such as Parker Palmer and James Lang.

Paolo Freire, Pedagogy of the Oppressed (1968)
bell hooks, Teaching to Transgress: Education as the Practice of Freedom (1994)
James Lang, Distracted: Why Students Can't Focus and What You Can Do About It (2020)
Parker Palmer, The Courage to Teach: Exploring the Inner Landscape of a Teacher's Life (1997)

Designing drills for skill-building
Greg Novack, Virginia Tech

We often claim in syllabi that our courses will build skills connected to our fields, but that can be difficult to accomplish in just a semester or two. This session will show how drills can be effective in accelerating student skill-building. What's more, when placed within a suitable framework, drills also have the power to promote student engagement and metacognition. In the interactive portion of the session, participants will have the opportunity to design drills that would help build skills appropriate to their discipline and discuss assessment strategies for incorporating these drills into their courses.

We often claim in syllabi that our courses will build skills, but that can be difficult to accomplish in a semester or two. We can do more to build certain skills (and build them quickly) by treating them as if they were fine motor skills, using a training method we usually associate with learning a musical instrument or playing a sport: drills. For present purposes, drills are exercises that are short, frequent, train isolated skills, and generate regular feedback for the student. I maintain that worthwhile drills are possible even in fields that on the surface don't seem amenable to this--like my own--and this can be done without a prohibitive grading burden. What's more, drills constitute a form of active learning, and when placed in a suitable framework, they also promote engagement and metacognition.

Drills involve repetition, but if e.g. we want to build students' essay-writing skills, it's not feasible for them to write fifty different eight-page essays in one semester or for us to grade that many. The key to this is to "decompose" a compound skill into tiny subskills, and drill the subskills. Just as a tennis player can improve her match-play by drilling an isolated component of match play, like high, crosscourt backhands, a student can improve her essay writing by drilling a subskill like writing with brevity and clarity. (E.g., by rewriting paragraphs by other authors to make them 10% shorter without surrendering important content--and then making their resultant paragraph 10% shorter, etc.)

To promote engagement and metacognition, drills should fit into a framework with these features:

* Feedback is given as frequently as possible (ideally after each repetition), and has some actionable element for the next round.
* Assessments come with ratings, scores, or scales that students can track over time and strive to improve upon.
* Grading stakes are relatively low, so that students needn't be discouraged by their beginner's mistakes. Thus drills are formative assessments [Barkley 50].

In this type of environment, drills do more than just build the skills. They also:
(a) promote engagement by promoting motivation, since they incorporate four elements of the MUSIC model of motivation [Jones 2009];
(b) promote metacognition, since the task/feedback cycle encourages students to self-evaluate and reflect on why they struggled with certain tasks and on why the drills caused improvement. [McGuire 2015].

During the session:
* I will describe concrete examples of drills from my courses, and explain which skill/subskill they exercise, how performance fits into course grades, what feedback to the students looks like, what students report afterwards, and the feasibility of the grading burden.
* The interactive element will be a group brainstorming session in which audience members (i) select a skill specific to their own discipline, (ii) invent a drill to exercise either the chosen skill or one of its subskills, and if time permits (iii) describe what feedback or grading of this drill would look like.

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Jones, Bret D. "Motivating Students to Engage in Learning: The MUSIC Model of Academic Motivation." International Journal of Teaching and Learning in Higher Education, vol. 21, no. 2, 2009, pp. 272-285.
McGuire, Saundra Yancy, and Stephanie McGuire. Teach Students how to Learn: Strategies You Can Incorporate Into Any Course to Improve Student Metacognition, Study Skills, and Motivation. Stylus Publishing, LLC, 2015.

Temperature check: Strategies for improving communication and classroom climate
Karen Rogers, Coppin State University
Jennie Carr, Bridgewater University

Participants in this session will engage with several current, research-based technology tools that increase communication and educational opportunity for all students to improve classroom climate.

Objectives: After attending this presentation, participants will
1) Understand how technology tools can improve communication and educational opportunity to increase classroom climate
2) Be able to implement several interactive communication and technology tools in their classrooms to improve classroom climate
3) Have resources that will actively increase communication and engagement to support diverse learners

A positive classroom climate is essential to the success of students in higher education. Research indicates a positive classroom climate is associated with student achievement and motivation (Brand et al., 2008; Ellis, 2004; Church et al., 2001; Fraser & Fisher, 1982) and is the best predictor of students' overall satisfaction with their college experience (Graham & Gisi, 2000). This multi-presenter session will utilize interactive multimedia software focused on communication technology tools to help enhance, engage, and support marginalized populations of learners to improve classroom climate. The session will include relevant research, benefits and limitations of the technology tools, ideas for implementation, and specific examples and anecdotes from the classroom.

Presenters will lead discussion and demonstrate examples of how these tools can help increase and improve faculty-student and student-student communications and connections to help students of all abilities achieve academic gains. Participants will be encouraged to explore the different technology tools and platforms modeled in the session. The presenters will coach participants and answer questions. Participants will also be encouraged to actively participate in sharing other experiences using instructional technologies throughout the session.

Classroom climate is a broad construct, made up of students' perceptions and feelings about their instructor, peers, and environment. It is affected by classroom structure, power dynamics, pedagogical styles, curriculum, and faculty-student and student-student relationships. According to Bowen (2012), technology can "help bridge the power differential inherent in education;" for students of marginalized populations (p. 31).

This presentation was influenced by our own recent research on both classroom climate and the use of technology tools and students' perception of care, as well as several theories of learning. Social-cognitive learning theory provides an understanding of the social and mental processes in achieving learning outcomes by weaving emotional capacities with cognitive capabilities in the social context (Bandura, 2005). In addition, this study is also informed by the affective-cognitive teaching and learning theory. The cognitive domain is concerned with thinking and reasoning. Affective learning is focused on how students feel while they are learning, as well as with how learning experiences are internalized, so they can guide a student's attitudes, opinions, and behavior in the future (Miller, 2005).

Underlying theoretical influences applicable to classroom climate can also relate to the shared mental image (isomorphism) students have of the classroom construct (Kozlowski & Klein, 2000; Ludtke et al., 2006; Morin et al., 2014), and student success may be heavily influenced by the degree to which they feel accepted and a sense of belonging.

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Bowen, J. A. (2012). Teaching naked: How moving technology out of your college classroom will improve student learning. San Francisco, CA: Jossey-Bass.
Brand, S., Felner, R. D., Seitsinger, A., Burns, A., & Bolton, N. (2008). A large-scale study of

the assessment of the social environment of middle and secondary schools: The validity and utility of teachers' ratings of school climate, cultural pluralism, and safety problems for understanding school effects and school improvement. Journal of School Psychology, 46, 507-535. doi: 10.1016/j.jsp.2007.12.001

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Graham, W. W., & Gisi, S. L. (2000). The effects of instructional climate and student affairs services on college outcomes and satisfaction. Journal of College Student Development, 41, 279-291.

Kozlowski, S. W. J., & Klein, K. J. Klein (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In S. W. J. Kozlowski & K. J. Klein (Eds.), Multilevel Theory, Research, and Methods in Organizations: Foundations, Extensions, and New Directions (pp. 3-90). Jossey-Bass.

Ldtke, O., Trautwein, U., Kunter, M., & Baumert, J. (2006). Reliability and agreement of student ratings of the classroom environment: A reanalysis of TIMSS data. Learning Environments Research, 9(3): 215-230.

Miller, M. (2005). Teaching and learning in affective domain. In M. Orey (Ed.), Emerging perspectives on learning, teaching, and technology. http://epltt.coe.uga.edu/

Morin, A. J. S., Marsh, H. W., Nagengast, B., & Scalas, F. L. (2014). Doubly latent multilevel analyses of classroom climate: An illustration. The Journal of Experimental Education, 82(2), 143-167. doi:10.1080/00220973.2013.769412

Using the FARPET for peer evaluation of teaching

Bobbi Conner, Virginia Tech
Stacey Fox-Alvarez, University of Florida College of Veterinary Medicine
Jesse Watson, NC State University College of Veterinary Medicine

The Formative Assessment Rubric for Peer Evaluation of Teaching (FARPET) was developed in 2020 to aid in peer evaluation of teaching for both synchronous and asynchronous instruction. FARPET is a useful tool for providing formative feedback aimed at guiding an instructor's efforts to improve teaching. A portion of the full self-guided training will be presented to allow attendees to practice using the FARPET and to ask questions of the developers.

Peer evaluation of teaching serves as an important component of faculty development. The Formative Assessment Rubric for Peer Evaluation of Teaching (FARPET) was created to assist educators with peer evaluation of a wide variety of lecture formats, including virtual. It was designed to allow educators of any background or experience to give meaningful, reliable, and actionable feedback on teaching in an efficient manner. FARPET provides a rubric-based method for structuring peer evaluation of teaching feedback. The information packet provides definitions, examples, and incorporates frame-of-reference training to improve consistency of feedback and reduce bias. Pilot use among educators demonstrated consistency of scoring within one Likert scale point of >80% between reviewers and >90% when compared to authors' scores.

Additional materials have been developed to accompany the FARPET and which aid in high quality peer evaluation of teaching. These include an outline/guide for the pre-observation and post-observation conversations that should occur.

This presentation will introduce and familiarize users with a tool to help structure efficient and useful peer evaluation of teaching feedback. The instrument has been trialed in a virtual lecture setting. Attendees will have opportunities to practice using the instrument to assess instances of teaching.

Learning Objectives: By the end of this presentation, attendees will be able to:
Explain the importance of peer evaluation of teaching and how it can benefit them and their colleagues.
Outline, in general, the process of peer evaluation of teaching, including the pre-observation meeting and post-observation debrief.
Use the FARPET to aid the development of a formative evaluation of a teaching opportunity by a peer.

Fox-Alvarez SA, Hostnik LD, Conner B, Watson JS. Development of a Formative Assessment Rubric for Peer Evaluation of Teaching (FARPET) and Pilot Use in Veterinary Online Teaching. J Vet Med Educ. Epub ahead of print: https://doi.org/10.3138/jvme-2021-0015
Link - https://pubmed.ncbi.nlm.nih.gov/34464241/

Using digital tools to enhance learning in the college classroom
Amanda Banks, Shella Sargent-Martin, Terene Stiltner, Darrell Thompson, Bluefield State University

This session offers an overview of free, easy-to-use digital tools piloted in a teacher preparation program to engage and provide students with additional modalities for effectively expressing new knowledge and skills. Participants will be invited to test drive digital tools using their handheld devices while presenters provide guidance and assistance. Participants will engage in discussion about the feasibility of implementing these tools in higher education, and will be invited to ask questions, share ideas, and discuss possibilities. This practice session will allow for exploration of how digital tools can enhance learners of all ages, backgrounds, and ability levels.

To successfully capture students' interest, instructors must consider alternatives to traditional slides, whiteboards, and discussions from the podium. Technology may be an excellent alternative for promoting engagement, improving collaboration, and enriching interactive learning. Digital applications are virtually everywhere, from car dashboards and fast-food restaurant lobbies to classrooms. A number of college students and faculty implement such devices in the classroom on a regular basis (Patterson, 2019). These tools offer myriad options for blending technology with instruction - students can now respond immediately to online polls, videotape their responses to topics, and collaborate with peers on written projects.

Recent studies indicate that digital blending enhances student learning. Digital tools used to complement in-person instruction produce better learning outcomes than face-to-face or digital learning alone (Patterson, 2019). This blended model appears to improve student performance by helping instructors overcome traditional constraints such as widely varying student abilities and large class sizes. Additionally, digital learning has been shown to engage students emotionally. Their attitudes, enjoyment and interests toward learning are shown to increase significantly (Gray & DiLoreto, 2016).

In the last two years, the shift toward digital learning has reinforced the benefits of using technology in both real-time and asynchronous learning. Interactive applications allow instructors to step aside and flip the classroom, and place students center stage in constructing new knowledge. Technology also allows for the collection of formative feedback on student learning and affords students opportunities to focus more intently on readings and other course materials (Bulgar, 2016). In diverse, inclusive college classrooms, digital tools may also be used to differentiate learning where options were previously limited.

In some ways, the development of digital learning has outpaced its implementation in the classroom. The sheer volume of digital options emerging since the pandemic has left many instructors uncertain about which are appropriate for their courses. Our objective is to introduce an array of free, easy-to-use digital tools that we have successfully piloted in the last two years in Bluefield State University's School of Education. We will demonstrate the following applications: Vocaroo.com, Remind Hub, Flip, Slido, Parlay, Padlet, and Flippity. Participants will be provided with opportunities to sample each tool using their handheld device. We will also emphasize how some of these tools may enhance the use of others, as in the case of relying on Remind Hub to swiftly share key weblinks for accessing Vocaroo.com recordings and Flip video invitations.

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Patterson, D. (2019). The human face in play based, shared, digital learning experiences. In proceedings of the Australasian computer science week multiconference (pp. 1-7)

Dr. Ted Lewis
PROVOST & VICE PRESIDENT FOR ACADEMIC AND STUDENT AFFAIRS
Bluefield State University
tlewis@bluefieldstate.edu, (304) 327-4161

Dr. Tamara Ferguson
INTERIM DEAN OF THE SCHOOL OF EDUCATION, HUMANITIES, AND SOCIAL SCIENCES
Bluefield State University
tferguson@bluefieldstate.edu, (304) 327-4160 or (304) 327-4155

Art for learning's sake: VTDITC's experiential learning model
Craig Arthur, Frederick Paige, Virginia Tech

For more than 7 years, numerous organizations have collaborated to create VTDITC: Hip Hop Studies at Virginia Tech. VTDITC is an innovative, iteratively-developing, national award winning series of culturally-sustaining programs. We prioritize celebrating creativity, transdisciplinary experiential learning, and authentic, critical community engagement. This workshop will expand on our 2019 and 2021 CHEP presentations. This time VTDITC's Community Engagement Fellows will co-teach a music production-focused media literacy workshop similar to the more than 200 ones we have taught in the broader community. Come prepared to scratch records and make beats. We look forward to creating and learning with you!

VTDITC: Hip Hop Studies at Virginia Tech is a national award-winning transdisciplinary, experiential learning, and critical community engagement-focused program that takes place across Southwest Virginia. VTDITC: Hip Hop Studies at Virginia Tech is deeply rooted in Hip Hop culture and pedagogy. The program is cosponsored by roughly a dozen organizations - both on-campus and beyond. At the time of this proposal, we have designed, developed, and assessed more than seven hundred events over the past seven years. To highlight a few of our longstanding features, we host a monthly seminar series as well as weekly studio hours in a community-designed and constructed recording studio. We also have taught more than two hundred media literacy workshops in the broader community beyond campus. Simply put, our mission is to: remove barriers to entry, recognize art as scholarship, learn by doing, and, importantly, have fun. This workshop will expand upon our 2019 and 2021 Conference on Higher Education Pedagogy presentations. This time, our Community Engagement Fellows - our team of undergraduate students who iteratively help design, lead, and assess the program - will co-teach a music production-focused media literacy workshop. This session will be very similar to the more than 200 workshops we have taught in the broader community since 2016. We look forward to sharing the lessons we have learned - as well as unlearned - over the last half decade with you. Participants will leave this session able to articulate how Hip Hop culture and pedagogy employs science, technology, engineering, arts, and mathematics. They will also recognize how traditional and new Hip Hop modes of creation are experiential learning in practice. If all goes according to plan, participants will leave inspired to create a collaborative, culturally relevant, experiential learning-focused program that is responsive to the needs of their respective communities.

Participants will...
Be able to articulate how Hip Hop culture and pedagogy employs science, technology, engineering, arts, and mathematics
Be able to communicate how traditional and new Hip Hop modes of creation are experiential learning in practice

References:
Jonathan Kabongo, Craig Arthur, & Freddy Paige. (2022). Dusty & digital media literacy workshops: VTDITC's replicable approach to teaching the Hip Hop arts. The International Journal of Information, Diversity, & Inclusion. 6(1/2): 64. doi: 10.33137/ijidi.v6i1.37118

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(2022). "Media Literacy and Community Connection: A Profile of Virginia Tech's Digging in the Crates Hip Hop Studies Program." In Jimmeka Anderson and Kelly Czarnecki (Eds.), Power Lines: Connecting with Teens in Urban Communities Through Media Literacy. Chicago: American Library Association.

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A. Kwame Harrison & Craig Arthur. (2019). Hip-hop ethos. Humanities, 8(1): 39. doi:10.3390/h8010039

A 21st century search for meaning: Restoring connection through listening
Frida Rundell, Mary Jo Hebling, International Institute for Restorative Practices

This workshop will explore one specific circle practice by inviting learners to share and scaffold knowledge learned in a constructive way. A listening circle invites learners to share in small groups the impact of readings or prior learnings. The structure and norming of listening circles will be explained. Participants will then engage in a listening circle to experience and evaluate the process.

The current emphasis in education has been to place progress on digital technology and evidence-based findings. Searching for meaning and creating connection are often viewed as less of a priority. To motivate learners requires creating a sense of relationship.

Introducing the Relational Care Ladder as a guide that focuses on learners' different developmental and neurological needs for a wide range of different learners. The Structure and Nurture rungs create the foundation for the Engagement rung of the ladder. The Challenge rung provides space for empowering existing knowledge.

This workshop will explore one specific circle practice by inviting learners to share and scaffold knowledge learned in a constructive way. A listening circle invites learners to share in small groups the impact of readings or prior learnings. The structure and norming of listening circles will be explained. Participants will then engage in a listening circle to experience and evaluate the process.

Inviting connective meaning into our classrooms builds resilience. Resilience is embodied within the developmental stages of life. Understanding how we may use awareness, listening, and empathy requires consistent and predictable routines that help connect and generate new ideas and experiences for learners. The social and emotional connections initiates oxytocin in the brain providing a pleasurable experience which enables long term memory storage.

A meta-discussion will explore the applicability of these circles in the life space of the learner. A circles' major purpose is to promote awareness, listening, and empathy where creative thinking is possible. This is a win-win celebration for self, and the learning community. Creating a future where teaching and learning is a collaborative joyous space.

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VT as a global portal: Fostering intercultural competence I
Sharon Johnson, Paul Heilker, Anthony Kwame Harrison, Virginia Tech

The Beyond Boundaries initiative of Virginia Tech includes the goal of advancing Virginia Tech as a global land-grant institution, which President Sands has described as a "global portal." How do diverse fields at Virginia Tech enact the vision of making this university a global portal where our students gain knowledge of the world, and a portable experience where students convey their knowledge back to the world? The VT Academy of Teaching Excellence presents two roundtable discussions of how award-winning faculty foster intercultural competence and educate students as global citizens in the classroom and beyond.

The Beyond Boundaries initiative of Virginia Tech includes the goal of advancing Virginia Tech as a global land-grant institution, which President Sands has described as a "global portal." How do diverse fields at Virginia Tech enact the vision of making this university a global portal where our students gain knowledge of the world, and a portable experience where students convey their knowledge back to the world? The VT Academy of Teaching Excellence presents two roundtable discussions of how award-winning faculty foster intercultural competence and educate students as global citizens in the classroom and beyond.

Intercultural (In)sensitivities In Practice

Intercultural competency means understanding how a people's behaviors, value systems, perceptions and interpretations are inextricably embedded in culture. Professors and students across all disciplines working with international partners--either locally or abroad--will experience cultural miscommunications, even if both share the same language. I will discuss numerous business misunderstandings that can arise, as highlighted in Nancy Adler's International Dimensions of Organizational Behavior. I discuss Disneyland Paris as a case study: when the Disney Corporation set out to build Euro Disney in the early 1990s, their inability to understand basic aspects of French culture led them to lose $1,000,000.00 a day. I will explain how I "train" my study-abroad students to become more culturally practiced so they make fewer cultural gaffes and are thus seen in a much more positive light.

VT Presidential Global Scholars

The VT Presidential Global Scholars program (PGS) - the Honors College semester abroad experience based out of the Steger Center for International Scholarship in Riva San Vitale, Switzerland - is a transdisciplinary, intercultural, collaborative living-learning and research community in which 30 ambitious students work together, with award-winning faculty, and with the resources and opportunities in Europe and beyond to better understand the world and what they might accomplish in it. The purpose of PGS is to help students discover, commit to, and act upon a compelling personal interest in a pressing transnational issue. The central feature of the experience is each student's individual UH 4994: Honors Undergraduate Research project, supported by courses like UH 2514: Data Analytics and Global Citizenship and UH 2544: Social Science and Global Citizenship, which earn credit both for the students' Pathways General Education requirements and their VT Honors Laureate Diplomas.

Learning Cultural Competency in International Spaces: Observations from the Field

The Presidential Global Scholars program is designed as a "collaborative living-learning and research community" that aims to better "understand the world and what [students] might accomplish in it." The program is distinct in bringing together students from a variety of majors in an international context to facilitate experiential and targeted-topical learning. As a cultural anthropologist working in the program for two years, I have been fortunate to spend two weeks with students during their first month abroad. In my social-science research methods course issues surrounding cross-cultural competency saturate our interactions in and out of class. I will share my students' and my insights about their experiences learning and adjusting in this unique setting.

Designing and Mapping an educational escape room: The basics
Denise Wilkinson, Kathy Stolley, Amber Gruszeczka, Virginia Wesleyan University

Escape Rooms have become increasingly popular educational tools for improving the student learning experience. They can be designed for both virtual and in-person formats and effectively utilized for a range of pedagogical purposes. In this session, the presenters will focus on the structure and process of designing and mapping Escape Rooms to meet specific course goals and enhance student experience. Session participants will work through an activity in which they map a simple Escape Room and leave with a basic template to customize and use as a starting point for designing and mapping their own educational Escape Room.

An Escape Room is a theme-based game, played live by a team, that incorporates clues, puzzles, challenges, and props to reach a goal in a limited amount of time. The concept of an Escape Room originated in 2007 in Japan and quickly grew more popular in the rest of Asia, then Europe, Canada, and the USA (Nicholson, 2015). Escape Rooms have also grown in popularity as pedagogical tools. They are utilized in both virtual and in-person formats to engage students in activities ranging from team building, to engaging course content and test reviews, to building transferable skills, to working through real-world scenarios (e.g., Ho, 2018; Iannicelli, C. 2020; Stone, 2016; Ursinus College Instructional Technology, 2020; Vestal et al., 2021; Wiemker, 2020). To best align and accomplish learning goals, maximize engagement and active learning, and provide a better student experience, game structure and mechanics are crucial (Veldkamp et al. 2020).

In this interactive, hands-on session, the presenters will focus on the structure and process of designing and mapping Escape Rooms to meet specific course goals and enhance student experience. First, presenters will provide a quick overview of the basics of Escape Rooms and their varied pedagogical applications. Second, session participants will learn approaches to designing and mapping Escape Rooms that reinforce the connection of students' experience with the concepts learned in the course. Third, session participants will work through an interactive Escape Room design and mapping activity. At the end of the session, participants will have a basic, practical template that can be customized and used as a starting point for designing and mapping their own educational Escape Room.

Ho, A. M. (2018). "Unlocking Ideas: Using Escape Room Puzzles in a Cryptography Classroom." Primus, 28(9), 835-847. ttps://doi.org/10.1080/10511970.2018.1453568

Iannicelli, Christine. (2020.) "Teaching Information Literacy and Digital Literacy Through Escape Rooms." Library Publications and Presentations. 3. https://digitalcommons.ursinus.edu/lib_pub/3

Nicholson, S. (2015). Peeking Behind the Locked door: A Survey of Escape Room Facilities. White paper available online. Retrieved August 24, 2019 from http://scottnicholson.com/pubs/erfacwhite.pdf.

Stone, Zara. "The Rise of Educational Escape Rooms." The Atlantic. Retrieved October 10, 2018 from https://www.theatlantic.com/education/archive/2016/07/the-rise-of-educational-escape-rooms/493316/

Ursinus College Instructional Technology. (2020, May 25). Teaching Information Literacy and Digital Literacy Through Escape Rooms [Video]. YouTube. https://youtu.be/r_oY1eT4laU

Vestal, M. E., Matthias, A. D., & Thompson, C. E. (2021). "Engaging Students with Patient Safety in an Online Escape Room." Journal of Nursing Education, 60(8), 466-469. doi:http://dx.doi.org/10.3928/01484834-20210722-10

Veldkamp, Alice, Liesbeth van de Grint, Marie-Christine P.J. Knippels, Wouter R. van Joolingen. (2020.) "Escape Education: A Systematic Review on Escape Rooms in Education." Educational Research Review, 31 https://doi.org/10.1016/j.edurev.2020.100364

Wiemker, M., Elumir, E., & Clare, A. (2015). "Escape Room Games." Game Based Learning, 55.

A toolkit for teaching empathy in the age of COVID
Eric Rice, Johns Hopkins University

Empathy can be taught effectively, but the COVID experience has demonstrated that it is both more critical and difficult to do in hybrid and remote classrooms. This session presents both the lessons learned from the JHU experience and the tools/experiences we are using to better learn the skill set.

Empathy - the capacity to imagine and feel the perspective of others - undergirds emotional intelligence and effective social interaction skills so is critical to the teaching-learning process, the doctor-patient healing process, and even the company-client satisfaction process (1,2,3,4).

Studies have demonstrated that empathy skills can be taught (7,8). Other scholars have investigated the effectiveness of various instructional methods for designing and delivering empathy instruction (9). But experience at Hopkins has demonstrated that it is both more critical and difficult to achieve during times of remote and hybrid teaching and learning. After experimenting with several approaches, more frequent, short activities seem to produce favorable results. So the focus is applying the effective instructional methods data to create and use relatively short, engaging, generic instructional activities that we can incorporate into classes to effectively teach empathy rather than an entire course on emotional intelligence which many students may not take, or long units that may not necessarily fit with the course disciplinary content.

This session explores the research data about the importance of empathy, explores social science data on how it is learned and involves participants in a series of short exercises that can be used in the college classroom to explore and teach the concepts related to the idea. Among the skills addressed will be reading emotions, finding other perspectives, exercising self-regulation, and developing a moral identity. Participants will leave the session with a toolkit of teaching ideas, a solid understanding of the importance of empathy, data about how we know it is mastered, and an opportunity to have discussed their own experience in working to incorporate the topic into class.

1. Rossi, P.G. & Fedeli, L. (2015). Empathy, education and AI. International Journal of Social Robotics, 7(1), 103-109.
2. Patel, R.A., Hartzler, A., Pratt, W., Back., Czerwinski, M., & Roseway, A. (2013). Visual feedback on nonverbal communication: A design exploration with healthcare professionals. In Proceedings of the 2013 7th International Conference on Pervasive Computing Technologies for Healthcare and Workshops, PervasiveHealth 2013. Venice, Italy, (pp. 105-112).
3. Xiao B., Georgiou, P.G., Imel, Z. E., Atkins, D.C., & Narayanan, S. S. (2013). Modeling therapist empathy and vocal entrainment in drug addiction counseling, In Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH. Lyon, France, (pp. 2861-2865).
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5. Sadri, G., Weber, T.J., and Gentry, W.A. (2011). Empathic Emotion and Leadership Performance: An Empirical Analysis Across 38 Countries. The Leadership Quarterly,22, 218-230.
6. Rahman, W.A. & Castelli, P.A. (2013). The Impact of Empathy on Leadership Effectiveness Among Business Leaders in the United States and Malaysia. International Journal of Business, Economics and Management, 2(3), 83-97.
7. Holt, S. & Marques, J. (2012). Empathy in Leadership: Appropriate or Misplaced. Journal of Business Ethics, 95, 95-105.
8. Riess, H. (2017). The Science of Empathy. Journal of Patient Experience, 4(2), 74-77.
9. Stepien, K.A. & Beernstein, A. (2006) Educating for Empathy. Journal of Internal Medicine,21 524-530.

Integrating project-and service-based learning with client and instructor feedback
Steve Matuszak, Virginia Tech

While students need to learn critical course content, what employers desire (and students often lack) is the ability to apply their learning, especially through challenging interactive settings similar to the marketplace, followed by rich feedback. This program will demonstrate how to substantively trim course content to the foundational core to leave room for: 1) semester-long integrated project-service-learning with professionals/organizations; and 2) intimate client and instructor feedback sessions where the real learning occurs. This pedagogical and course-design shift gives students practical, high-stakes opportunities to enact learning through doing as well as personalized coaching of what they do and how they think.

Based on the 2022 WPI Institute for Project-Based Learning (PBL) and Service-Learning best practices, I've revamped a senior-level Marketing course into a semester-long project. The project is the course. With two sections and 23 teams, I secured 23 professional organizations as clients for whom the student teams will serve as Marketing Firms. I will share with CHEP participants how I secured 23 companies to serve as clients and entrust aspects of their organizations to these students. As I discuss how I reworked a course into a semester-long project with stages, assignments, deliverables, and assessments, the session will be highly interactive and utilize the participants' current courses as working examples of how to re-design them into PBL as well as scaffold assignments, presentations and more. Perhaps most importantly, I will highlight how I increase student learning through intimate client and instructor feedback. This is arguably the most valuable aspect of the session. I have trimmed my courses' content down to what is necessary to achieve the learning objectives. This significant trimming allows me to not only have class days for student presentations and teamwork, but also entire series of days in which I meet with teams and discuss critical aspects of the projects (i.e., their decisions around, and executions of, what they've been learning). Instead of just giving students grades, I give feedback (with corresponding grades) along the way through discussion so they can not only learn, but so that my coaching is informed by a more robust and rarely achieved understanding of their thinking behind their decisions (strategy) and client proposals (oral and written). This process includes: 1) initial teaching and learning; followed by 2) student enactment of the learning for clients and presenting of it to class; followed by 3) understanding their thinking behind their client decisions and interactions, proposals, strategies, etc. through student reflection and intimate discussions; all of which simultaneously informs 4) dual client and instructor feedback (mine being now more informed by insights into students' thinking); followed by 5) student integration of dual feedback into the next stage of the project and repeating that cycle. This allows for not only richer, more effective student learning, but also increased quality of student contribution to their clients. Even greater, students learn far more than course content. They learn how to navigate the often-avoided complexities and challenges of interpersonal and team interactions and dynamics (with each other and clients) that occur in most professions and for which many employers suggest college-students are woefully unprepared. For example, INSTRUCTOR - "It appears your team is proposing this. Is that what you intended?" TEAM - "Oh, no. That's not what we meant. We were thinking more .... because ..." INSTRUCTOR: "Ahh ok, knowing that, here is how I would change your approach/idea/focus/language etc. when you next interact with the client ..." It is these discussions that catalyst deeper learning. I will lead the attendees through participative examples of leading feedback discussions and integrating what is learned into feedback and assessment.

This is the first year I am enacting such substantive course re-design. I am confident, however, that anyone in Pamplin or elsewhere at VT who has seen my teaching can attest to the successful impact on student learning (i.e., Associate Dean Kevin Carlson).

An immersive learning journey in an introductory marketing course
Michelle Wang, Heidi Gailor, William Peace University

Introductory business courses run the risk of focusing too much on terminology and too little on developing skills and mindsets. In this session, we will share a blueprint for incorporating live business cases into the introductory classroom, immersing the student in learning and allowing them to develop the conceptual and practical skills needed to prepare for more advanced study.

Participants will have the opportunity to discuss how they incorporate immersive learning in the classroom. Participants will be encouraged to create or enhance projects for their introductory course using engaging techniques to build a supportive, collaborative, and inclusive classroom learning environment.

This session offers an example of how an introductory marketing classroom shifts when students are challenged to immerse themselves in the learning experience by developing marketing plans for an existing business. Through the development of marketing plans, students learn the following skills critical for success in the marketing profession: assessing marketing goals and current marketing strategies; gathering, analyzing, and presenting relevant marketing information from a variety of secondary sources; and developing marketing objectives, strategies, and activities based on business goals and environmental realities. With a focus on just-in-time learning; concepts are reviewed and applied to the students' marketing plans during each class period with lots of support and structure provided by the instructor.

The focus of the session is to share an example of using experiential, immersive, and project-based learning in the classroom and to discuss possibilities for successfully building student centered learning opportunities into an introductory course. The broad questions that will be addressed are: "What is immersive project based learning?", "How do you immerse students who are learning a new subject?", "How does the instructor create opportunities for experimentation and collaborative learning in an introductory course?"

Small Group Breakout Session 1 Questions:
Are you currently using immersive, project based learning strategies in your classroom? What are they and how have you found success in the efforts to immerse students?
What is an assignment or project that you currently assign students that can be easily tweaked to include experiential and immersive activities?
Large Group Share and Shout Out
Each group shares out best practices, exciting tips, areas of inspiration and growth
Small Group Breakout Session 2 Questions:
In the assignment or project you identified, what are some of the experiential and immersive activities that you want to incorporate into your existing assignment? It's ok to start small!
It's also ok to dream big! What activities would you incorporate into your classroom if you had an unlimited budget and resources?
Large Group Share and Shout Out
Each group shares out best practices, exciting tips, areas of inspiration and growth
Overall, the goal of the session is to create a supportive environment, not unlike the classroom, where faculty can discuss current practices of experiential and immersive learning to grow from existing assignments and projects in their introductory courses. Introductory courses face the challenge of introducing students to new concepts, while building a foundation for future content and curriculum. They run the risk of being based in terminology, formulaic, with a lack of opportunity for students to apply the knowledge they have learned. The goal is that faculty learn from one another, encourage, and inspire each other across disciplines to engage with students while building an inclusive, collaborative, and supportive learning environment.
Helpful Resources:
Bloom's Taxonomy

Mcdaniel, R. (2020, March 25). Bloom's Taxonomy. Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

Shabatura, J. (2018, March 19). Using Bloom's Taxonomy to Write Effective Learning Objectives. Retrieved from https://tips.uark.edu/using-blooms-taxonomy/

Live Case Studies & Career Preparedness

Elam, L.R. & Spotts, H.E. (2004, April). Achieving marketing curriculum integration: A live case study approach. Journal of Marketing Education, 26(1), 50-64. Retrieved from https://pdfs.semanticscholar.org/7fa9/d032351a1722e0983232ad42c9073be08763.pdf

Kennedy, E. J., Lawton, L., & Walker, E. (2001). The case for using live cases: Shifting the paradigm in marketing education. Journal of Marketing Education, 23(2), 145-151. Retrieved from https://login.proxy133.nclive.org/login?url=https://search.proquest.com/docview/204435854?accountid=13141

Rapp, A. & Ogilvie, J. (2019, June 7). Live case studies demystified. Harvard Business Publishing: Education. Retrieved from https://hbsp.harvard.edu/inspiring-minds/live-case-studies-demystified

UDL

About Universal Design for Learning. (2019, April 23). Retrieved from http://www.cast.org/our-work/about-udl.html#.Xo3XzYhKiUl

The UDL Guidelines. (2018, August 31). Retrieved from http://udlguidelines.cast.org/?utm_medium=web&utm_campagin=none&utm_source=cast-home

Tobin, T. J., & Behling, K. T. (2018). Reach everyone, teach everyone Universal Design for Learning in higher education. Morgantown: West Virginia University Press.

15,925,248 ways to improve the equity of grading schemes

Adriana Streifer, Michael Palmer, University of Virginia

While there have long been critiques of A-F grading, the pandemic has revealed the ways grading perpetuates inequities. In response, instructors across higher education have experimented with alternative grading practices. These practices, which vary in their degree of "ungradedness," emphasize formative feedback, enhance transparency, reduce students' anxiety, and shift their focus to learning. But how do alternative grading schemes compare to each other and to traditional methods? More importantly, in what ways do they foster or limit equity? In this interactive session, we'll introduce participants to a Grading Scheme Anatomy capable of systematically guiding instructors to more equitable practices.

Traditional A-F grading as we know it is a relatively new construct. Yet in just 80 years it has become an entrenched, inescapable feature of higher education. Its origins, which are steeped in outdated beliefs about behaviorism and racist beliefs about sorting based on "natural intelligence," are mostly forgotten, but the lingering negative effects on students and their learning persist, particularly for those students who have been historically marginalized, minoritized, and underserved by higher education.

Since the 1960s, when pass/fail grading systems became popular, and especially since the onset of the COVID pandemic, instructors have experimented with alternative grading systems to mitigate the harm done by A-F grading schemes. These systems vary in their degree of "ungraded-ness," and each in its own idiosyncratic way emphasizes formative feedback, enhances transparency, reduces students' anxiety, and shifts their focus and motivation to learning.

Instructors wanting to adopt more equitable grading practices are often presented with a limited number of options: mastery-based, contract, specifications, and labor-based grading are some of the most popular ones. Yet there are myriad ways to improve upon traditional A-F grading. While the actual number of decisions is relatively small, the number of combinations of decisions is staggering. In this session, we will introduce an Anatomy of Grading Schemes designed to help participants characterize the salient features of grading schemes and make equitable decisions about how they grade.

During the session, we will...
Invite participants to share some of the ways in which A-F grading schemes are inequitable;
Connect participant responses to current literature;
Introduce participants to our Anatomy of Grading Schemes tool, describing the main characteristics and decisions instructors face; and discuss the importance of instructors' and students' social identities and contexts in the decision-making process;
Walk through case examples: 1) a good traditional A-F scheme; 2) specifications grading;
Invite participants to work independently with the tool and then collaboratively using the following prompts:
Considering one of your current grading schemes or one you're familiar with, select an option along each major characteristic branch that best describes the decisions.
Identify characteristics you could adjust, if only a little, to create a more liberating & equitable learning environment. Consider who might benefit from these changes and who might not.
Be prepared to share the changes you'd like to make and why.

Blum, S. D. (Ed). 2020. Ungrading: Why rating systems undermine learning (and what to do instead. West Virginia University Press.
Feldman, J. (2018). Grading for equity: What it is, why it matters, and how it can transform schools and classrooms. Corwin.
Link, L., & Guskey, T. (2019). How traditional grading contributes to student inequities and how to fix it. Curriculum in Context, 45(1).
Warikoo, N., Sinclair, S., Fei, J., & Jacoby-Senghor, D. (2016). Examining racial bias in education: A new approach. Educational Researcher, 45(9), 508-514.

VT as a global portal: Fostering intercultural competence II
Greg Tew, Terry Clements, Ozzie Abaye, Virginia Tech

Conference Program Description: The Beyond Boundaries initiative of Virginia Tech includes the goal of advancing Virginia Tech as a global land-grant institution, which President Sands has described as a "global portal." How do diverse fields at Virginia Tech enact the vision of making this university a global portal where our students gain knowledge of the world, and a portable experience where students convey their knowledge back to the world? The VT Academy of Teaching Excellence presents two roundtable discussions of how award-winning faculty foster intercultural competence and educate students as global citizens in the classroom and beyond.

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Life in the Built Environment

We can't solve our global social and environmental challenges without considering the impacts of the places we build. I've developed a new Pathways course for general education at Virginia Tech titled Life in the Built Environment. The course broadly examines what is arguably the most critical issue driving the global challenges - how we build. Climate change - already impacting food production, human migration, species extinction, flooding, wildfires, and fresh water scarcity - is largely caused by decisions and development in the built environment. Moreover, economic disparity and other forms of discrimination are in large part the lasting legacy of racist policies in land use zoning and restrictive covenants. I'll highlight the key issues that have brought us to this unsettling place in time, and offer suggestions for a shift toward a built environment that is more globally sustainable and equitable.

The Grand European Tour Redux

This education abroad program is based upon the premise that design, planning, management, and use of the built environment expresses social and cultural values developed over time. Over a five-week field study and post-travel reflection, students compare places with speculations of the social and cultural values historically grounding the spaces and material culture, or influencing contemporary development.

Much of U.S. design education is based upon Western Civilization precedents. However, many students have neither seen nor experienced how local and federal governments and related social and cultural expectations influence design, planning and management of the built world. During daily seminars student explore experiences to raise connections between places and culture, and conduct research to develop critical inquiry skills related to a more global variety of social and cultural values.

Using Local Experience to Solve Global Issues

In CSES 2244 (Agriculture Global Food Security and Health), students complete service-learning projects to fulfill service requirements for the course. Students have tackled critical global issues like food insecurity and single-use plastic waste management. Two projects students developed were: 1) Building green walls from recycled plastic bottles to grow vegetable crops to help combat plastic pollution, since the negative environmental impact of plastic waste has reached an irreversible level in Africa. 2) Developing recipes using local ingredients and featuring mung bean, a new crop to Senegal used for school meals. The objective was to facilitate the preparation and consumption of the newly introduced grain crop. This year, the students are working on new projects for Senegal and other countries.

You are here: Engaging students with maps
Hannah Shinault, Virginia Tech

Have you heard? Maps aren't just for geography anymore! In this interactive practice session, participants will learn ways to incorporate maps and geographic components into all types of classrooms, as well as how using maps benefits students, share ideas with each other about implementing maps, and get feedback on how to incorporate session ideas into their own courses and assignments.

Students often incorporate images into their work: charts, graphs, photos, and other images, but what about maps? Maps are a great way for instructors to present classroom information and can easily be incorporated into assignments and in-class activities. Maps also give students the opportunity to interpret visual information and present information using a map structure.

In this presentation, participants will learn ways to incorporate maps and other geographic components into their classrooms, share ideas with each other about implementing maps, and get feedback on how to incorporate session ideas into their own courses and assignments.

Using maps is beneficial to students in several ways. First, maps are a visual component that can be used to complement other forms of instruction and increase knowledge attainment for students who are visual learners. Additionally, "Using maps in the classroom invites curiosity, encourages exploration and inspires problem solving. Maps can be used to explore a multitude of topics and can incorporate visual learning, spatial thinking and quantitative skills into a lesson" (Roush, 2020, para. 3). Maps also provide students with the opportunity to build and practice visual literacy skills, which research shows are lacking (Matusiak, et al., 2019).

By the end of this presentation, participants will be able to:

1. Describe ways to incorporate maps and other geographic tools into instruction
2. Explain the impact of maps and geographic tools on student learning and engagement
3. Apply maps and geographic tools to their own courses and assignments

Matusiak, K.K., et al. (2019). Visual literacy in practice: Use of images in students' academic work. Retrieved from https://crl.acrl.org/index.php/crl/article/view/16950.
Roush, A. (2020). Teaching at every level with data-rich digital maps. Retrieved from https://blog.tcea.org/data-rich-digital-maps/.

The net is not neutral: Teaching students about algorithmic bias

Alyssa Archer, Radford University
Liz Bellamy, William & Mary

Americans increasingly get their news from algorithmic sources touted as a supposedly neutral way to provide users with more of what they want and less of what they don't. However, algorithms have potential for hidden biases that can lead down dark pathways.

This session will explore where algorithmic bias comes from, how it impacts news consumption, and how students can mitigate it. Participants will engage in learning exercises from a successful workshop series on algorithmic bias, which they can adapt for their classrooms. Individuals who teach on any aspect of the news and information landscape will benefit from this presentation.

With the 21st century's megaproliferation of information, artificial-intelligence algorithms were touted by technology developers as a supposedly inherently neutral way to cut through the noise, providing internet users more of what they wanted and less of what they didn't. In reality, for information seeking and evaluating purposes, algorithms have provided yet another flawed heuristic with a major potential for baked-in hidden bias that, at its worst, has the power to lead users down some dark rabbit holes.

Yet Americans increasingly get their news from algorithmic sources, whether through social media like Facebook, Instagram, and Tiktok; news aggregators like Apple and Google News; or sites like Youtube. Students tasked with staying up-to-date on current events or bringing news stories to discuss in class are often unaware of just how prevalently algorithms play into their news- and information-seeking behaviors, not to mention how to detect and mitigate the algorithmic bias they may encounter.

This presentation will explore where algorithmic bias comes from, how it shows up in everything from entertainment sources to news feeds to even library resources, and how to teach about combating it on both an individual and systemic level. It will draw from the work of Safiya Umoja Noble, whose book Algorithms of Oppression: How Search Engines Reinforce Racism was one of the first works to expose the biases inherent in results from search engines like Google and how receiving biased results can lead to validation of discriminatory beliefs and behaviors. It will also engage with Jessie Daniels's research on how, even further, radical groups like the alt-right have manipulated algorithmic bias to their advantage to subtly drive attention and engagement to their slant on current events. Finally, utilizing Mike Caulfield's SIFT technique for fact-checking and tenets of the Association of College and Research Libraries' Framework for Information Literacy, it will discuss methods for both teaching students how to be critical news consumers and holding discussion on where we, as a society or as individuals, go from here to combat algorithmic bias.

Participants will have opportunities to actively engage in the material by engaging in active learning exercises from a successful workshop series that demonstrate to our learners the biases baked into common algorithms, enacting Caulfield's SIFT techniques on news stories, and discussing ways to incorporate digital literacy into news- and information-seeking instruction. Individuals who teach on any aspect of creating information - from reporting the news, to creating the code that brings it to readers, to finding and evaluating news, to analyzing discourse at large - will benefit from this presentation.

Caulfield, Mike. "SIFT (The Four Moves)." Hapgood (blog), June 19, 2019. https://hapgood.us/2019/06/19/ sift-the-four-moves

Daniels, Jessie. "The Algorithmic Rise of the 'Alt-Right.'" Contexts 17, no. 1 (February 2018): 60-65. https://doi.org/10.1177/1536504218766547.

Mitchell, Amy, Jeffrey Gottfried, and Katerina Eva Matsa. "Millennials and Political News." Pew Research Center. 2015. https://internet.psych.wisc.edu/wp-content/uploads/532-Master/532-UnitPages/Unit05/MItchell_PewResearch_2015.pdf.

Noble, Safiya Umoja. Algorithms of Oppression: How Search Engines Reinforce Racism. New York: NYU Press, 2018.

Detecting and closing learning gaps in the post-pandemic classroom
Ashley Bentley, Lana Becker, East Tennessee State University

In the wake of the COVID-19 pandemic and the abrupt shift to remote learning, identification of learning gaps in knowledge has become critical. The exposure of these gaps to both learners and educators is particularly relevant to intermediate and advanced courses which build upon foundational knowledge acquired in prior courses. Grounded in the bodies of literature related to cognitive load, self-regulated learning, threshold concepts, and assessment practices, a 4-stage assessment process has been designed to expose learning gaps, especially foundational knowledge, in the context of upper-level courses in this post-COVID era.

With the abrupt shift to remote learning in 2020 and its continuation beyond, it is likely that many learners have fallen behind. These concerns are supported by the results of studies in which remote instruction was determined to be less effective than in-person instruction (Cater et al., 2012; Rovai et al., 2007; Wanner & Palmer, 2015). As such, the impact of the disruptions to learning due to the pandemic should not be underestimated. Much of the knowledge learners are expected to acquire in intermediate and advanced courses is built upon foundational knowledge acquired in prior courses. Without this prerequisite knowledge, learners cannot progress to more challenging topics. Due to the pandemic and rise in remote learning, educators should expect knowledge gaps (Bailey et al., 2021; Dorn et al., 2021). Given these circumstances, it has become increasingly important to design upper-level courses to expose gaps in prerequisite knowledge to both learners and educators. As gaps are uncovered, efforts can then be directed toward closing these gaps, enabling learners to comprehend more complex topics.

Assessment is an integral part of classroom instruction. A limitation of exams and other summative assessments is that these assessments typically occur at the end of a learning unit when it may be too late to address learning deficiencies that may be due to gaps in prerequisite knowledge (Connors, 2021). Rather than waiting until the end of the instructional unit to evaluate cumulative knowledge, formative assessments can be dispersed throughout the learning process, creating a continuous and iterative learning environment in contrast to the traditional linear design. The instant feedback provided by formative assessments allows learners to identify and remediate deficiencies in learning and educators to respond with appropriate course modifications prior to the summative assessment (Russell et al., 2022).

In this session, the presenters will provide a concise review of the literature which supports their development of a systematic 4-stage assessment process. The self-regulated learning literature provides an explanation of why learners inaccurately assess their degree of learning. The literature related to cognitive load offers significant insight about the teaching and learning of complex topics typically found in intermediate and advanced courses. An examination of the research related to threshold concepts augments the importance of foundational knowledge. Finally, the literature related to assessment practices supports the use of formative assessments to detect learning gaps throughout the 4-stage process.

Using a visual model, presenters will explain the stages of this assessment process which initially focuses on the prerequisite knowledge that underlies more complex topics and continues beyond the summative assessment of how well these complex topics have been learned. Although examples from the business discipline with be used to explain the model, participants will be engaged in activities which will allow them to relate the model to their own classrooms, including an exercise focused on threshold concepts as well as an activity to "unbundle" a complex topic within their own discipline.

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A design process for developing authentic problems and activities

Dawn Hathaway, George Mason University
Hong Wang, Northern Virginia Community College

Authentic problems are central to authentic learning models such as anchored instruction, cognitive apprenticeship, and problem-based learning. Yet, little guidance is available to support the development of well-designed authentic problems. This practice session shares strategies and examples to inform the development of authentic problems for in-person, blended, and online environments at the lesson/course levels. Theories associated with and characteristics of authentic problems as well as a design process for developing authentic problems that generate authentic activities, assessments, and digital technology use are shared. Attendees are invited to participate in the design process to develop authentic problems for their practice.

Although well-established in the literature, authentic learning seems to be gaining momentum in higher education as pressure to demonstrate graduate employability increases (Pallant, et al., 2022). Authentic learning models, such as anchored instruction (Cognition and Technology Group at Vanderbilt, 1990), cognitive apprenticeship (Collins et al., 1989), and problem-based learning (Allen et al., 2011), use authentic problems to situate learning in domain-specific contexts, motivate learners, and prepare learners for the real world. Authentic problems are problems that could legitimately exist in real-world contexts or situations and do not necessarily correspond directly to an existing problem (Norton & Sprague, 2001). An authentic problem differs from problems typically designed into courses in that they lead to real-world transfer. Conversely, traditional academic problems or in-school problems "lead only to an enculturation into the practices of classrooms" (Herrington et al., 2004, p. 7).

The use of authentic problems is rooted in social constructivism (Vygotsky, 1978) and situated cognition (Brown et al., 1989). Authentic problems provide the context for situating social interactions, activities, and concept in the culture of use. As such, knowledge can be socially constructed through authentic activities in realistic settings. Authentic problems have the potential to contribute significantly to the learning process and student outcomes (e.g., Rotgans & Schmidt, 2011; Van Berkel & Schmidt, 2000). As Merrill (2002) stated, "Learning is promoted when learners are engaged in solving real-world problems" (p. 45). However, quality of the problem is important. A well-designed problem has the potential to engage and lead to better learning; a not so well-designed problem can have a negative impact on learning (Sockalingam, 2015). Therefore, design plays an important role in the development of quality authentic problems.

A design process that supports quality problems recognizes that the authenticity of a problem derives from its connection to the structures, processes, and discourses of a disciplinary content area or a field of knowledge (Norton & Wiburg, 2003). A well-designed authentic problem supports the identification of authentic tasks, disciplinary background knowledge, constructing activities, and sharing activities. Other characteristics include (Norton & Sprague, 2001):

1. sustained explorations of a situation
2. opportunities to understand the kinds of problems that experts in various disciplinary-content areas encounter, including the tools experts use to solve these problems
3. contemporary, nontrivial, and real
4. complex and ill-structured enough to engage
5. amenable to concrete outcomes
6. derived from the ongoing curriculum; not artificially added

This practice session begins with a brief introduction and discussion of authentic problems in higher education. The presenters share examples from their practice and a design process for developing authentic problems that generate authentic activities, assessments, and digital technology use. Attendees are invited to participate in the design process to develop an authentic problem for their practice.

Both presenters have taught undergraduate and graduate courses in instructional design and technology, in-person, online and blended. They have facilitated professional development programs for higher education faculty and K-12 teachers, using a variety of strategies related to digital tools.

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Equitable writing assessment practices
Sarah Capello, Radford University

This session will engage participants from a variety of fields and disciplines in a discussion of equitable writing assessment practices, propose a framework for equitable writing assessment practices, and provide practice for participants using the framework.

Today's students are entering higher education spaces with more diverse language and literacy practices than ever before, and scholars from an array of critical perspectives argue that higher education practitioners should value, honor, and cultivate the cultural heritages and practices that students bring with them to post-secondary education (Django & Alim, 2017; Ladson-Billings, 1995) as a pathway toward equitable education. Unfortunately, one area of disconnect between theory and practice in this regard is around writing assessment practices. Writing assessment practices in higher education vary widely across fields and disciplines and even within individual departments. Some instructors assess student writing subjectively without clear assessment protocols while others provide detailed rubrics and subtract points for each minute grammatical error. Many base their assessments on Standard American English and traditional notions of academic writing that may not be the literacy practice of all their students. These inconsistencies in assessment practices among instructors can confuse students and lead them to wonder what good writing is and how to do it. Furthermore, instructors may not realize that--by failing to provide clear assessment protocols or by over-enforcing Standard American English grammar and denying the expression of multicultural literacies--they are engaging in inequitable assessment practices.

Therefore, the goal of this practice session is for instructors across a variety of fields and disciplines whose students write for a plethora of purposes and audiences in many different genres to carefully consider their current writing assessment practices and revisit those practices within a framework for equitable writing assessment. In doing so, the presenter hopes that instructors will be able to identify deficit orientations toward groups of students, abandon inequitable writing assessment practices, and uptake equitable writing assessment strategies.
In this session, participants will first reflect individually on their past or current writing assessment practices and discuss the challenges they face when assessing writing in small groups. Second, as a whole group, participants will assess examples of student writing and discuss their reasons for assessing the samples in the way they did. Third, the presenter will introduce a framework for equitable writing assessment and invite participants to comment on it as well as share examples of equitable writing assessment practices that they use. Finally, participants will return to their original reflections and consider how they might adopt more equitable writing assessment practices in their courses and contexts in which they review student writing.

Delpit (1995) argued that educators should provide access to the norms and standards of the majority to increase cultural capital for all students. Therefore, this session will provide instructors with strategies of both privileging students' linguistic and cultural literacy practices while and developing written communication skills that are critical for twenty-first century students.

Delpit, L. (1995). Other people's children: Cultural conflict in the classroom. The New Press.
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One-stop shop for creating open educational resources
Ashley Sergiadis, John Rankin, Philip Smith, Constanze Weise, East Tennessee State University

Have you ever felt dissatisfied with the materials for your courses? We have a solution for you: create Open Educational Resources (OER)! OER are free, online teaching and learning materials that are licensed for instructors to use and customize in their courses. In this session, two faculty, a librarian, and an instructional designer with experience creating OER will guide attendees through activities to identify why and how OER can work for them. Attendees will brainstorm an OER for their course and learn about resources to help them turn their idea into a reality.

Have you ever felt dissatisfied with the materials for your courses? Do you feel like no materials really "fit" your student outcomes? We have a solution for you: create Open Educational Resources (OER)! OER are free, online teaching and learning materials that are licensed for instructors to use and customize in their courses. In our session, two faculty who have co-written an open World History textbook and their support team (a librarian and instruction designer) will guide attendees through activities to identify why and how OER can work for them. During the session, they will be your "one-stop shop" for information on creating OER.

Based on the plethora of research on OER efficacy as well as the presenters' practical experiences, the session will cover the following topics to help you get started on your OER journey.
*Discuss the benefits (and drawbacks) of creating OER.
*Identify what content is missing from your course materials and ways OER can fill those gaps. (OER does not have to be just textbooks. It can be podcasts, videos, slides, and more!)
*Learn where to search for OER that are already available for you to use.
*Understand the basics of copyright related to OER. We will cover how to identify what course materials you can re-use in your OER as well as how to license your OER for other instructors to use it.
*Discover what platforms are available to help you create your OER and where online you can publish them for free.
*Brainstorm Open Educational Practices or in other words assignments to involve your students in the creation of your OER. Creating new course materials does not have to happen alone. By involving your students, you can provide a valuable experience for them and produce content for you to use in your OER.

Research on the benefits of Open Educational Resources is plentiful. The Open Education Group (https://openedgroup.org/) evaluates OER implementation and shares their resources (e.g., surveys).
In addition, two meta-analysis studies have been published on the efficacy of OER within the last few years:

Hilton, J. (2019). Open educational resources, student efficacy, and user perceptions: A synthesis of research published between 2015 and 2018. Educational Technology Research and Development, 68, 853-876. https://doi.org/10.1007/s11423-019-09700-4
Clinton, V., & Khan, S. (2019). Efficacy of open textbook adoption on learning performance and course withdrawal rates: A meta-analysis. AERA Open, 5(3), 1-20. https://doi.org/10.1177/2332858419872212
Presenters have also contributed to the research on OER efficacy. They recently published the following article on evaluating OER implemented through an awards program.
Sergiadis, A. & Smith, P. (2022). Is it worth it? Evaluating an Open Educational Resources awards program. Tennessee Libraries, 72 (1). https://www.tnla.org/page/72_1_Sergiadis_Smith

Indigenous cultures and communities in higher education teaching and learning

Scott Hicks, Kelly Barber-Lester, Jennifer Jones-Locklear, Joshua Busman, Laura Staal, The University of North Carolina at Pembroke

This practice session will introduce participants to engaging Indigenous knowledges and using Indigenous-centered pedagogies in college pedagogies and curricula, through the lens of faculty efforts at North Carolina's historically American Indian university, the University of North Carolina at Pembroke, to redesign their courses in support of a newly-instituted graduation requirement focused on Indigenous cultures and communities. During the session, presenters will (1) describe UNCP's ICC graduation requirement and their efforts to redesign class activities and courses, (2) share models and templates for participants' use, and (3) moderate small-group brainstorming sessions to assist participants in engaging Indigenous-centered pedagogies in their own.

UNCP, as North Carolina's only historically American Indian University, expects its graduates to learn about the cultures and histories of Indigenous peoples to honor and deepen their connection both to the university and to the American Indian communities who founded UNCP. Thus, beginning in fall 2022, the University will require students to complete an Indigenous Cultures & Communities graduation requirement, through coursework, service-learning, and/or internships. As they complete this requirement, students will develop an understanding and awareness of the social, political, economic, and sovereignty issues Indigenous peoples and communities faced in the past and/or are now facing; experience and analyze the communities and cultures, including but not limited to languages, literature, arts, music, and/or spiritualities, of Indigenous peoples; and enhance their ability to apply knowledge and agency to assist and support Indigenous communities in meeting their goals.

That the University will require, as a matter of graduation, Indigenous cultures and communities curricular and/or cocurricular experiences aligns with its founding in 1887 by Lumbee people as a normal school for the education of Lumbee teachers (Eliades et al., 2014). Moreover, the requirement coexists with efforts redoubling the University's engagement with and support for American Indian people and communities, such as expanded recruitment of American Indian students and faculty and the creation of a senior administrative liaison position advising the chancellor. Yet such efforts exist within a "reality [that] ... even when institutions have moved toward becoming more 'Indigenized,' ongoing struggles to overcome racism, covert and overt discrimination, and resistance to the inclusion of Indigenous knowledge(s) within curricular and co-curricular programs and services continue despite best intentions to do better" (Pidgeon, 2014, p. 8).

In response, this presentation affirms Kuokkanen (2007) in the contention that "for universities to transform, they need to start valuing the gift of Indigenous knowledges" (qtd. Pidgeon, 2014, p. 25) and thus centers the commitment and professional development of the presenters to "honor and respect Indigenous knowledges and move policy and practice such that Indigenous knowledges become part of the institutional fabric and culture" (Pidgeon, 2014, p. 25). In reading and discussing the literature of Indigeneity and higher education, the presenters have cultivated and shared perspective and knowledge; through sharing and peer reviewing course proposals, curricula, and class activities, they have created models for Indigenous-focused and -centered teaching and learning replicable across higher education.

During the session, presenters will (1) describe UNCP's ICC graduation requirement and programming to redesign class activities and courses, (2) share models and templates for participants' use, and (3) moderate small-group brainstorming sessions to assist participants in engaging Indigenous-centered pedagogies in their own courses. Our purpose is to inform and inspire attendees toward institutional transformation, supply them with frameworks and templates for their own adaptation and use, and emphasize the importance of Indigenous-centered teaching and learning in US higher education.

Office of the Registrar (n.d.). Indigenous cultures & communities. University of North Carolina, Pembroke. https://www.uncp.edu/resources/registrar/indigenous-cultures-communities

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Effective teams in student-centered learning
Joyce Easter, Virginia Wesleyan University

Students actively involved in the learning process often show increased knowledge acquisition and skill development than passive students. Student-centered learning in its many forms place students at the core of the process typically with collaboration as a key component. As a team, students actively engage and exchange ideas to connect new learning to prior learning and construct new knowledge through authentic learning. Members of effective teams develop positive interdependence and raise their individual accountability while constructing their own knowledge. This session will explore team composition and utilizing roles as strategies for fostering effective teams while modeling a student-centered environment.

Over the past two decades, a variety of instructional strategies have been promoted to enhance student learning. A significant proportion have included student-centered learning. Several characteristics common to the various student-centered teaching strategies include (1) engaging students in the learning, (2) providing explicit instruction on process skills, (3) providing opportunity for students to reflect on their learning, (4) sharing control over the learning process with students, and (5) fostering collaboration (Weimer).

One example of a student-centered instructional strategy is Process Oriented Guided Inquiry Learning (POGIL) which implements small, self-managed teams of students working on intentionally designed materials to master concepts and to develop key process skills. This approach incorporates the five characteristics of a learner-centered methodology with a structure that is consistent with how people learn. Cognitive sciences research (Bransford, Brown and Cocking) documents that people learn by (1) constructing their own understanding based on prior knowledge, experiences, skills, attitudes, and beliefs; (2) following a learning cycle of exploration, concept formation, and application; (3) connecting and visualizing concepts and multiple representations; (4) discussing and interacting with others; (5) reflecting on progress and assessing performance; and (6) interconnecting conceptual and procedural knowledge in large mental structures.

POGIL utilizes self-managed learning teams, guided-inquiry materials based on the learning cycle, and metacognition (Hanson). In the POGIL classroom the instructor is not the expert conveyor of knowledge, but rather is a facilitator who guides student teams in the process of learning, helping them to develop process skills and conceptual understanding, and to apply this understanding in solving problems. Students working in a team environment learn more, understand more, and remember more when they work together. They are also more likely to acquire essential process skills, such as critical thinking, problem solving, teamwork, and communication. (Johnson, Johnson and Smith). While the benefits of collaborative learning have been researched and well documented, it is also possible for a team to be ineffective resulting in frustration and negative impacts on learning (Oakley). The instructor plays a vital role in providing a framework for effective team interactions and a productive collaborative environment.

In this learner-centered session, participants will engage in POGIL activities to explore strategies that can be used to create more effective teams in your classroom, including the composition of teams and utilizing roles to improve team dynamics.

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Exploring design thinking: Role-playing games in a first-year classroom
Michaux Dempster, Kimberly Zicafoose, Virginia Commonwealth University

We will lead participants in an ethical role playing game created for a first-year core curriculum that teaches writing, ethical reasoning, research, and oral presentation, and inspired by our training and experience using Reacting to the Past, a game for higher education students created by educators at Barnard College, Columbia University. In this session, participants with competing goals in a historically-inspired situation work towards creative solutions using design thinking strategies and ethical reasoning. Attendees will also explore the use of role playing games across disciplines, and how this activity can be adapted to various classroom settings and goals.

Our workshop combines elements from the Reacting to the Past role-play game, ethical reasoning, and design thinking to create an engaging experience for students in which they grapple with real-life problems from the past.Reacting to the Past is a role-playing game designed by educators at Barnard College, Columbia University, for higher education students. The game allows students to work in coalitions to solve problems situated in historical contexts, facilitates engagement with "big ideas," and develops critical thinking skills. "Educational games have long been part of the educational landscape (Carnes, 2014; Hertel & Millis, 2011; Van Ments, 1999)"; Widenfeld and Fernandez (2015) found increased levels of student engagement, and Gorton and Havercroft (2012) found that the game was associated with almost perfect attendance and suggested that it caused a significant change in student behavior (qtd in Widenfeld and Fernandez). Bledsoe and Richardson (2022) found that "Students involved in Reacting reported more engagement, perceived learning, and self-efficacy than students enrolled in comparable courses." Hagood et al. (2018) noted that Reacting involves participants in engaged active learning, and has many elements in common with high-impact educational practices identified by the American Association of Colleges and Universities. These authors also infer that Reacting is likely to facilitate the "flow " state described by Cszentmih○□i (1990) (qtd. In Widenfeld & Richardson). The game is also found to increase self-esteem and empathy amongst players ((McCormack & Petersen, 2018, Stroessner et al. (2009).
The Reacting to the Past role-play game also dovetails ideologically and practically with the concepts of design thinking. Design thinking, a creative problem-solving approach, has moved from a concept generally used by engineering students to the business world and continues to impact classrooms and thinking across disciplines. Students use a systematic design approach and skills to solve complex problems. "These skills are consistent with the theoretical traditions of situated cognition (Lave & Wenger, 1991), developmental theories (Piaget, 1972), and constructivism (Bruner, 1990)" (Rizzouk Shute 331). Design thinking is a problem-solving strategy where critical thinking and creative thinking meet. In a quickly moving, technologically advancing world, these skills are becoming essential for success in a variety of arenas. In our session we plan to engage the audience in participation in a Reacting-inspired lesson plan we have created for Focused Inquiry(FI) II, a first-year core course at Virginia Commonwealth University (VCU) that teaches writing, research, oral presentation, critical thinking and ethical reasoning. Participants will explore the ethical implications of medical use of human remains as depicted in Chip Jones' The Organ Thieves, (the "Common Book" being read by all VCU FI classes this year) through a micro-simulation of our classroom activity. Attendees will be assigned roles based on characters from this historical setting, and will be asked to engage in helping their various coalitions succeed in meeting contrasting goals that mirror the various situations that historically occurred. Presenters will identify in a debrief of the activity how the processes that the participants engaged in traversed the pathways of design thinking. Time will be provided for participant discussion (especially discussion of transfer to other disciplinary contexts) and questions at the end.

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E pluribus unum: Fostering integrated student-staff learning communities

Stephen Rutherford, Hannah Doe, Cardiff University

Learners naturally form learning communities - especially within HE. However, there is often a disconnect between learning communities of students, and those of educators. Fostering a stable and effective learning community across the whole university can potentially improve student engagement and success.

This workshop, based on a student-staff partnership project at a UK university, will discuss perceptions of Learning Communities by staff and students, and to investigate ways of embedding students as part of a single community of scholars with academic staff. The workshop will identify barriers to sustaining learning communities and potential ways to address these.

Learning communities are groups of people who share common goals and work collaboratively (Tinto, 1997). Universities are built around learning communities. For example, the community of who share common principles of valuing evidence-based research, developing new ideas and approaches, and reshaping conventional thinking about their disciplines (Henkel, 2000). Collectives of students also form learning communities (reviewed by West & Williams, 2017). Lenning et al. (2013) identify three interconnected learning communities: The student learning community (SLC), the professional/academic learning community (PLC), and the learning organisation (LO). The SLC intersects with both others, and contains student-student, student-faculty, and student-curriculum interactions within it. There are therefore potential links between the learning community structures. Interaction and interplay between the participants is important, and this interaction can be either face-to-face, online, or a mixture of both. Lenning et al. (2013) stress that powerful learning communities can enable students to excel over and above what they could achieve in isolation. Effective learning communities foster improved outcomes for students, higher academic achievement, increased retention, improved thinking and communication, greater understanding of self and others and increased social effectiveness (Krause, 2005). Effective learning communities can also support students who are underachieving, or are facing mental health challenges (Lenning & Ebbers, 1999). Building an effective and established learning community can impact upon the student's transition to, and performance at university.

However, there is typically a visible disconnect between the academic and student learning communities, leading to problems in communication, expectations, and satisfaction with the educational environment (Rutherford, 2019). Embedding an integrated learning community encompassing all stakeholders within the university has significant potential benefits for learning. Socio-cultural models of learning emphasise that learning is a collaborative activity, undertaken by social interactions (Bruner, 1996). In particular, 'Apprenticeship' models of learning emphasise guided interactions between learners and more-experienced others. Rogoff's 'guided participation' (Rogoff, 2003) and Lave and Wenger's 'Legitimate Peripheral Participation' within a Community of Practice (CoP; Lave and Wenger, 1991) present how a na⊠ learner, who is initially on the periphery of a CoP, becomes increasingly encultured within that CoP by increasingly complex interactions. These models, however, assume that the learner and the expert are part of a continuum of expertise within the same community of practice. Yet in Universities, students and academics often perceive themselves as separate communities.

The challenge, therefore, is how to frame University learning to emphasise students as being part of an integrated community, rather than as passive members of a separate community to academics. This workshop will discuss some of the findings of a student-staff partnership at a UK University, to investigate student and staff perceptions of the nature of learning communities, and the barriers and affordances to developing effective learning communities between student and staff. Workshop participants will discuss potential impacts of, and barriers to, effective partnership between students and academic staff. In particular, the workshop discussions will focus on defining ways to establish identities of students as junior members of a broader community of Scholars, rather than 'consumers of a product' in HE.

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Simulations and learning: Using immersion to solve real-world problems
Jessica Hanes, Andrew Hughes, Designing Digitally

As landscapes for teaching and learning evolve, STEAM (Science, Technology, Art, Engineering and Mathematics) careers are more critical than ever. Rote knowledge is important, but learners must demonstrate their ability to understand and apply knowledge in real-world situations. Role-playing and experimentation are optimal ways to teach and assess knowledge; however, providing real experimentation scenarios can be dangerous, expensive, and time-consuming. With increased online learning capabilities, instructional gaming and simulations offer a diverse experience where learners can safely explore, experiment, and fail risk-free. This session explains the benefits of video games and simulation learning in STEAM while providing a hands-on experience.

The benefits of video games and simulations in learning have been known for a long time. Play encourages a part of the brain that serves the emotion and motivation of the learner. Play does not teach cognitively, but rather encourages the learner to explore and learn more about what they are playing with (Lester, & Russell, 2008). Now, STEAM career professionals can benefit from these learning experiences as training programs and classrooms continue to integrate more advanced technologies. As teaching complex materials become more accessible through experience and interaction, gaming mechanics and virtual reality offer an innovative way to evolve learning that can be applied to overcoming real-world obstacles faced within the STEAM community.

A simulation is played like a video game in that there are specific objectives and goals to achieve. In a simulation meant for learning and training purposes, a specific scenario is created and the player takes on a specific persona within the scenario. There are several careers that use simulations to train their employees. Anything can be taught using these principles, such as teaching someone how to manage a fast-paced restaurant (Designing Digitally, 2022), or learning how to fly a plane in dangerous conditions (Kennedy, 1999, November).

The US Army and the Orange County Fire Rescue Department partnered with the Institute for Simulation and Training (IST) at the University of Central Florida to create disaster preparation simulations for emergency personnel. The simulations varied from live combat training to realistic medical emergencies. Simulations take the concept of role-playing to a new level because the first responder can see, hear and react to their patients. If a split-second decision is made and a patient succumbs to their injuries, the responder can learn from their actions without the consequences of an actual life being lost (Kincaid, Donovan, & Pettitt, 2003).

This session will discuss how instructors and business leaders can leverage video games and simulations to inspire learning and professional growth, the safety benefits of these approaches, and how to successfully implement games and immersive learning into materials that prepare individuals for STEAM careers.

This session will also address common challenges when shifting to new technologies and share tips on how to combat those to make the transition easier for both organizations and learners. In the session's conclusion, participants will have the opportunity to sample different learning simulations and training games through virtual reality devices to gain first-hand knowledge of how this type of education can be used and discover the advantages it brings to the learning experience.

After attending this session, learners will:
Use simulations to further interest and promote critical and creative thinking in STEAM careers
Implement the use of simulations in STEAM learning opportunities
Understand how immersive learning and games can improve safety
Understand ways to overcome fears and challenges within changing technologies
Physically experience various simulations using a virtual reality device

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To teach or not to teach: Evidence-based DEI classroom strategies

Shernita Lee, Zuleka Woods, Isil Anakok, Shania Clinedist, Virginia Tech

Our focus on resources and approaches to teaching DEI to enlighten instructors address the needs of diverse populations in classrooms using evidence-based strategies and adapting curriculum content. We focus on learning materials and group activities used in teaching a graduate school DEI course for more than two years at a research-intensive institution. Using activities like mini-DEI workshops, and other interactive methods, the session aims to enhance the educator's toolkit for fostering an inclusive classroom community. Beyond learning how to teach DEI, this practice session is an interactive way to build an inclusive classroom.

As the student population becomes more diverse due to differences in background and cultures, life experiences, and acquired characteristics (Woolfolk, 2015), the need to have adaptive classroom learning is essential. Acknowledging the diversity of the classroom is not enough as we also must use the diversity to enrich student learning. Thus, how do you teach Diversity, Equity, and Inclusion (DEI) to include the difficult, but much-needed conversations? While there is no single method of teaching that is suitable for all curriculum content, DEI materials must be delivered through methods that are flexible and suitable for adjustment. Adjusting the curriculum with teaching methods known as differentiation (Tomlinson, 2015; Westwood, 2016) is one aspect, but teachers must also be willing to change the traditional ways of teaching to involve students in participating in dialogue that creates an inclusive community in the classroom. Teachers using differentiating learning must go beyond adapting curriculum to include grouping students with clear expectations of starting an otherwise difficult conversation. Therefore, we are proposing a workshop that focuses on resources and approaches to teaching DEI. Our purpose is to enlighten instructors on how to address the needs of diverse populations in a classroom setting using evidence-based strategies and adapting curriculum content to include learning materials, group activities, and assessments. In the context of an inclusive classroom, our proposed design focuses on learning materials and group activities used in teaching a graduate school DEI course for more than two years at a research-intensive institution. Using activities like unpacking the knapsack (McIntosh, 1989), creating mini-DEI workshops, and other interactive methods like the social identity wheel and picking a privilege, the session aims to enhance the educator's toolkit for fostering an inclusive classroom community. Beyond learning how to teach diversity and inclusion, this practice session is an interactive way to build an inclusive classroom.

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Aligning critical disciplinary literacy with course objectives
Kristen Gregory, Melissa Wrenn, East Carolina University

In this session, participants will learn the tenets of critical disciplinary literacy (CDL), why it is important in higher education, and how to integrate it into their course instruction to meet course objectives. CDL involves considering the needs of a given discipline and critical perspectives and related applications (Dyches, 2018). Integrating CDL into coursework across disciplines provides students an opportunity to engage in the critical analysis of disciplinary concepts and their intersection with diversity, equity, inclusion, and social justice. Participants should have access to at least one syllabus with course objectives to work with during this practice session.

In this presentation, attendees will learn about critical disciplinary literacy (CDL) and how this theoretical approach can be applied to existing course design. CDL involves considering the needs of a given discipline, critical perspectives, and related applications (Dyches, 2018). A recent systematic review of CDL concluded that there are few instances of CDL research studies in higher education, which suggests that practice may also be limited (Gregory & Wrenn, 2020).

We argue that CDL is a vital component in higher education today because it offers a framework for bringing diversity, equity, inclusion, and social justice issues to existing coursework. As faculty, we have applied CDL to our courses (i.e., Wrenn & Gallagher, 2021, Wrenn & Stanley, in press) and faculty development (Gregory, 2022). Utilizing our theoretical and practical knowledge of CDL, we aim to share interdisciplinary ways of bringing CDL into higher education classrooms through a workshop setting that uses participants' course objectives as an entr饌 into CDL pedagogy.

After learning about the tenets of CDL, participants will analyze their course objectives in an existing syllabus to identify alignment with CDL components. Then, participants will discuss which areas already align with the tenets of CDL. Next, participants will analyze their course objectives and identify where CDL could easily integrate. Participants will then brainstorm how they can integrate critical disciplinary literacy into their course instruction and assignments while meeting their course objectives.

Many higher education faculty are already adopting a critical stance in their courses (e.g., Howell et al., 2021). However, analyzing their course objectives through a CDL lens may yield a stronger critical alignment - one that begins with the course objectives and weaves throughout the curriculum.

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Body-scan techniques for abating the stressful experiences of teaching

Courtney Ross, Virginia Tech
Alan Forrest, Radford University

Faculty confront many distractions, demands on their time, anxieties about teaching, and emotional reactions from students to course materials. Challenges by students include distraction, anxiety, superficial learning, rigid thinking, inability to see how course material relates to their daily lives, and students who are motivated by grades, rather than by learning. Contemplative practices can provide self-awareness and can transform the way instructors approach the challenges of teaching. This helps instructors to tap into their emotional and physical reactions. Attendees will participate in experiential body scans and in discussion that explores how body-scan techniques can be integrated into the classroom.

Faculty are confronted with many distractions, demands on their time, pressure to multitask, anxieties about teaching, and emotional reactions from students to course materials. There are a variety of teaching challenges that one may encounter by students, including: distraction, anxiety, superficial learning, rigid thinking, inability to see how course material relates to their daily lives, and students who are motivated by grades, rather than by learning. Regardless of discipline and educational context, contemplative practices can provide self-awareness and can transform the way instructors approach the challenges of teaching (and learning) in higher education. Contemplative practices can help instructors tap into their emotional and physical reactions to the constraints and obligations that confront them. This leads to more open and holistic engagement with their roles, courses, and students. Conference attendees will participate in several experiential body scans. A discussion will follow exploring how body scan techniques can be integrated into the classroom.

What gets processed gets learned: Formative assessment and feedback
Suzanne Shelburne, David Hicks, Virginia Tech

This practice session reviews formative assessment as an integral part of effective instruction and examines why formative assessment is an essential pedagogical practice in higher education. We will share our experiences using formative assessments in different courses and provide example strategies that can be employed across disciplines. We will engage participants in a discussion of how they currently use formative assessments in their instruction and ask them to envision how they can implement the exemplar strategies in their teaching.

One challenge for educators, as Graham Nuthall (2004) explained, is "knowing what is going on in the minds of students" (p. 295). Despite a long tradition of assessment in education, determining what students know and understand can be difficult (Black & Wiliam, 1998a, 1998b, 2009, Grant, 2017, Wiliam, 2009, 2011). Dylan Wilam (2011) noted that even when instruction is planned, engaging, and delivered effectively, learning outcomes for individual students vary. For this reason, assessment, specifically formative assessments, or assessments for learning, are an integral part of effective instruction. Carless (2017) noted that assessment for learning is "reasonably well-entrenched as part of higher education pedagogy" (p.3). Similarly, L□-Pastor and Sicilia-Camancho (2016) maintained that a wide body of research shows that formative assessments improve learning for students in higher education.

There are a multitude of definitions for both formative assessment and assessment for learning (Wiliam, 2011, 2018, Brookhart, 2018). Overall, Black and Wiliam (2009) maintained:

Practice in the classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited (p. 9).

These assessments provide opportunities for students to process what they learn and monitor their own learning (Black et al., 2004, Nuthall, 2004, Wiliam, 2011). In general, formative assessments are planned, ungraded opportunities for students to express their understanding (Black & Wiliam, 1998a, 1998b, Popham, 2008, 2011, Wiliam 2009, 2011). Carless (2017) wrote "it is well-recognized that assessment is a crucial driver of student learning and that well-implemented assessment processes provide positive prospects for meaningful learning whereas flawed assessment risks leading student learning in unproductive directions" (Carless, 2017, p. 3). Research suggests that assessments for learning are an effective pedagogical practice across disciplines and in classes of varied sizes (Carless, 2016, Stull et al., 2011).

Formative assessments also offer valuable feedback for both instructors and learners (Black & Wiliam, 2009, Brookhart, 2018, Wiliam, 2009, 2011, 2018). Students receive feedback on the status of their learning and instructors learn how and what the student is thinking (Brookhart, 2018, Wiliam, 2018). This feedback can take different forms and in higher education peer feedback is common (Carless, 2017). Additionally, for assessments to truly be formative instructors must use the elicited evidence to inform ongoing teaching (Popham, 2008, 2011).

In this session, the presenters will review formative assessment as an integral part of effective instruction and examine why formative assessment is an essential pedagogical practice in higher education. We will share our experiences using formative assessments in different courses and present example strategies that can be employed across disciplines. We will engage participants in a discussion of how they currently use formative assessments in their instruction and ask them to envision how they can implement the exemplar strategies in their teaching.

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All a TWITTER over censorship: Engaging undergraduates using social media
Ellen Farr, The College of New Jersey

Today's undergraduates are no strangers to social media so why not leverage it to spark engagement in content material? This session focuses on using Twitter Chats as a novel approach to stimulating discussion, particularly among reluctant speakers. Twitter Chats offer a fast-paced, targeted option for promoting engaging discussion and sharing reactions. We will discuss how to set up a Twitter Chat as an assignment, detailing outcomes, expectations, and assessment. The presenter will share student reactions to the experience and offer suggestions for successful implementation. Attendees will have an opportunity to workshop ideas for their own courses.

Twitter Chats offer a fast-paced option for encouraging a multilogue on a given topic at a scheduled time reaching a broad audience (Megele, 2014). They have held an evolving role in educational endeavors since the mid-2000s. A literature review revealed Twitter chats being assigned to encourage health policy discussion between students and professionals (Patterson, 2020), establish Professional Learning Networks among preservice teachers (Krutka & Daminco, 2020); train ESL students in communication and cultural competence (Borau, Ulrich, Feng & Shen, 2009); form communities of practice among instructional designers (Dunlap & Lowenthal, 2009); and engage education and communication students in topical discussions (Luo & Xie, 2018) to name a few. This presentation illustrates how a Twitter Chat was embedded in an in-person undergraduate children's literature course to increase discourse in a novel way. It shares consideration for assignment creation and assessment, outlines best practices for implementation, and offers suggestions for assigning in one's own course.

The presenter was inspired by a colleague who introduced a Twitter chat assignment for health policy students to discuss health care advocacy with professionals (Patterson, 2020). The presenter immediately saw potential for adapting the assignment to discuss censorship with her children's literature students. As noted in the literature, Twitter offers a platform to develop social presence (Dunlap & Lowenthal, 2009) in a 'protected' space. That is, the option to offer written responses to discussion questions alleviates some concerns about being judged or assessed (Megele, 2014). The anonymous nature of Twitter can be freeing to some students who are too anxious to share their thoughts verbally (Malik, et al, 2019).

In this session, the presenter will provide a roadmap for replicating a similar assignment in either an in-person or online course. The presenter will discuss the assignment objectives--to solicit robust discussion of a controversial topic, synthesize contructs discussed in class with current events, demonstrate digital literacy skills, and analyze and respond to presented viewpoints in an concise and fast-paced manner. She will review assignment procedures such as establishing a common time, selecting a hashtag for tracking, and discuss how to alleviate privacy concerns and comply with social media etiquette. Assessment of participation and content creation will also be reviewed. Finally, the presenter will share student feedback and suggestions for future iterations. Attendees will be encouraged to workshop ideas for their own courses.

This experimental assignment was considered a resounding success by instructor and students as evidenced by students' written reflections and in-person debriefing during the following in-person class session. Students expressed enthusiasm for the assignment. One criticism was some found the threads difficult to follow; the conversation continued before they were able to chime in on another thread. That they shared this sentiment in class allowed the instructor to solicit more information on the topic and thus continue the robust conversation in person. Given the enthusiasm presented by a range of undergraduate students (representinf programs from three schools and all class years) the presenter wishes to share the experience with others seeking to increase engagement in higher education.

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4,000 students in a single class section: Benefits and challenges
Greg Tew, Virginia Tech

As class enrollment increases, teaching and learning can be compromised - assessment, supporting student accommodations, and maintaining student engagement are significant challenges. However, if the challenges can be managed, there are some large class advantages. At the massive scale, a class effectively become a common experience for students - adding to campus community where students engage with ideas they agree with and debate opposing views.

I'll share my experiences teaching twenty, three hundred, and four thousand students in a single class section with time to discuss the positives and negatives of various class sizes in live and online formats.

In 2010, I started teaching a large lecture course with 300 students. In the past three years, the course has grown as an asynchronous online course with more than 4,000 students in a single section. Throughout this time, I have taught the course without GTA or administrative assistance. Four thousand students is a shocking number for most professors, so it seems important to note I've been honored with University level teaching awards when teaching the class at both scales. We don't know what is effective, or isn't, if we don't try new things, and in my experience, progressing from big to huge has been a successful effort to reimagine effective teaching rather than a misguided experiment in managing compromise.

Assessment, supporting students with accommodations, and maintaining student engagement are all significant challenges as class sizes increase. In particular, providing extra time on quizzes and exams and various other accommodations provided to students is a logistical challenge that can limit class sizes. Initially, I found the work load to serve 10-12 students with accommodations paralyzing. I now routinely have more than 100 students with testing accommodations. I'll explain simple solutions to almost entirely eliminate the need for my time, or the student's time, to meet the student's accommodation needs.

Maintaining student engagement is also challenging and can be harder with more students. Lecturing in "sold out" halls with empty seats is a common occurrence and a clear indication students are not fully engaged. Moreover, many of the students who attend class "multi-task" - dividing their attention between class activities and internet browsing. To improve engagement, I'll discuss why I've structured content delivery around reading - a path to learning requiring undivided focus.

A final topic for discussion will be assessment. The lecture hall with empty seats fills to near capacity on test days. With that, a different frustration emerges - cheating. Cheating is rampant when nothing more than a glance offers access to another student's answers. With cheating and the need to satisfy mandated testing accommodations, I'll explain why I've transitioned to online only assessment along with online discussions.

So, why bother teaching big classes? Isn't smaller is always better? Perhaps, but with the right set of policies, custom learning management software programming, and presenting content in ways that appeal to students, a huge class can be better than big, or even small, class. Moreover, I've found that when a course grows to match the size of the freshman class, a valuable common experience emerges that is arguably more effective than the common book assignment some Universities have used to build community.

In the presentation, I will outline my path to teaching huge classes -why and how- and I'll share stories of the successes and failures I've enjoyed and overcome. Participants will be encouraged to share their own experiences and to challenge the reasons, ideas, and methods presented.

LMS data and SPOT score data collected in 11 years of teaching a class that has grown from 300 to more than 4000 students a semester.

Designing digital escape rooms for higher education
Shawn Bielicki, Alexandra Barnett, Liberty University

In this interactive session, participants will learn how digital escape rooms can be utilized in higher education to foster critical thinking and problem-solving. Attendees will be taught to create scripts for digital escape rooms, plan clues, and add props/puzzles- all online! Participants will have the opportunity to share their own experiences, as well as complete a digital escape room on their own (or in teams)!

The purpose of this workshop will be to introduce faculty and faculty developers to Digital Escape Rooms. Digital Escape Rooms encourage students to sequentially find clues, solve puzzles, and accomplish tasks to unravel a problem in a limited amount of time.

The presenters will define digital or online escape rooms, their intent, their potential, and the planning that goes into designing and completing digital escape rooms. They will share how digital escape rooms can foster critical thinking and problem solving. During the session the presenters will demo sample props/puzzles and various processes that can be used sequentially.

Then, participants will develop plans/blueprints for back stories with themes and begin to plan and to replicate these sorts of activities/puzzles in their own courses to accomplish their own objectives. To add further engagement, attendees will share their own experiences with digital escape rooms, as well as complete a digital escape room on their own (or in teams)!

Best practices literature is often cited for student engagement, gamification, and/or the use of visuals or props to spur critical thinking and to build peer relationships. Escape rooms have emerged as a valid pedagogical tool (Berthod et al., 2019; Brown et al., 2019; Seemiller, 2016) in developing critical thinking, while developing teamwork, peer problem solving, and relationships. A meta-analysis of more than 60 studies confirmed that they increase collaboration, relationships, engagement, and learning (Fotaris & Mastoras, 2019).

Objectives:
Upon completion, participants will be able to:
1. Define Digital Escape Rooms and recognize their value in higher education.
2. Participate in a Digital Escape Room.
3. Describe their experience with participating in a digital escape room.
4. Write/plan Digital Escape Room scripts for subjects of their choice.

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Metacognitive modules: Teaching self-regulation to 100-level courses
Donald Snyder, University of Maryland, Baltimore Country

100-level courses provide departments with unique challenges and opportunities, related to the fact that they offer an introduction to majors and are often populated by early inexperienced college learners. While the goal of these courses needs to be focused on providing majors (declared and potential) with an overview of the discipline, they should also focus on orienting students into beneficial practices that will increase their ability to learn effectively in the unique college environment. This practice session explores integrating metacognitive strategies into course and disciplinary content to increase students' self-regulated learning ability.

100-level courses provide departments with unique challenges and opportunities, related to the fact that they offer an introduction to majors and are often populated by early inexperienced college learners. While the goal of these courses needs to be focused on providing majors (declared and potential) with an overview of the discipline, they should also focus on orienting students into beneficial practices that will increase their ability to learn effectively in the unique college environment.

The current session is related to a project conducted over the past 2 years, supported by a Hrabowski Innovation Grant at the University of Maryland Baltimore County (UMBC), where we integrated lessons about metacognition into our Media and Communication Studies 101 Media Literacy course in an attempt to increase students' self-regulated learning skills. Our work built upon the work of Jean A. Cardinale and Bethany C. Johnson's "Metacognition Modules: A Scaffolded Series of Online Assignments Designed to Improve Students' Study Skills." The authors adopt and build upon a series of online lectures by psychologist and educator Stephen Chew about metacognition and self-regulated learners, for their Introduction to Biology course. Based on this experience, and our preliminary data, we are encouraging other first year introduction to the major courses to also increase the integration of metacognition lessons into their disciplinary content.

In the session, the primary investigator will detail our own effort, including adapting the lectures of Saundra McGuire, presented at a past CHEP conference, to better connect metacognition to disciplinary frameworks. We will also discuss unique challenges facing faculty and students due to the shifting modalities caused by lockdowns with the pandemic, and the increased needs for these interventions due to hybrid and online modalities that were new for a majority of students. We have found that this intervention has helped us provide our students with the tools and skills to become better learners--more agile, resilient, and curious--which will continue to be of value as they advance through the University.

The proposed session will provide a short overview of our intervention, along with the models (in other disciplines) we were using to guide our work. I will discuss specific ways we integrated metacognitive strategies with course and disciplinary content, and then open up the discussion for others to brainstorm and share ways they might make similar modules and lessons in their own introductory courses.

3-4 discussion questions

How does metacognition relate to specific content, debates, and ideas in your discipline?

What challenges to new learners at the 100-level face, especially in our current environment?

What strategies do participants utilize in helping to encourage self-regulated learning practices among their students?

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Integrating systems thinking into existing instructional designs

Matthew Norris, Catherine Cotrupi, Danny Mathieson, David Knight, Jacob Grohs, Virginia Tech

The ability to engage in complex socio-technical environments that cross traditional disciplinary boundaries is a critical need for college graduates. Various frameworks of systems thinking offer a diverse toolset to address these issues, but often receive only limited attention as part of already busy instructional plans. How do we as educators ensure our students are learning these important systems thinking skills? Participants will be supported through identifying opportunities to integrate systems thinking into their existing instructional contexts. Examples and small group discussions will address multiple contexts including engineering, environmental problems, and community development.

The ability to engage with diverse stakeholders in socially situated environments and work across traditional disciplinary boundaries is a critical need for college graduates (ACED, 2019; National Academy of Engineering, 2005). To address this need systems thinking has been posed as an important skill for navigating interdisciplinary contexts and increasingly complex work environments(Cabrera & Cabrera, 2015). However, definitions of systems thinking vary greatly within and across disciplines. Systems dynamics definitions emphasize the modeling and prediction of physical and social systems (Meadows, 2008). In contrast, soft systems methodology focuses on negotiating stakeholder perspectives to better define existing problems (Checkland, 1999). Regardless of the systems thinking approach used, systems thinking provides students with a structured approach to connecting knowledge and expertise from diverse stakeholders across disciplinary contexts. In fact, providing varied opportunities to explicitly learn systems thinking throughout their academic experience can provide stronger retention and improve students' ability to transfer relevant knowledge across contexts (Jonassen, 2010). Despite the importance of this skill at the policy level, these critical skills are often relegated to either only specific points within the curriculum or co-curriculum, akin to other interdisciplinary skills (e.g., Lattuca et al., 2017; Palmer et al., 2011). The difficult challenge of understanding how to tie systems thinking into course content is not insignificant, and there are multiple approaches to doing so even within individual disciplines (Scherer et al., 2017). However, given systems thinking's broad applicability and domain-general nature there are many ways to integrate systems thinking concepts into existing instruction plans.

The primary purpose of the session is to equip instructors with a framework to enhance their teaching of systems thinking across existing instructional contexts. We will provide tools and resources geared toward helping students transfer relevant knowledge and experiences across educational contexts. This session will be relevant to instructors in a wide range of settings, particularly those looking to integrate systems thinking into their own teaching context. After engaging in this session, participants will be able to 1) identify what definitions of systems thinking are appropriate for their own contexts and 2) integrate systems thinking into their own existing instructional plans. This practice session builds on existing literature and emerging research into student learning of systems thinking. Faculty and graduate students experienced with various systems thinking frameworks and teaching contexts are co-presenters and facilitators of this session. The facilitators will share their own experiences integrating systems thinking into instructional design and past difficulties. Anchoring on these examples, small group discussions will be held to focus on identifying and scaffolding the inclusion of systems thinking into participants' own existing instructional contexts.

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Authentic project-based learning tasks for any college classroom
Mindy Gumpert, Virginia Wesleyan University

This presentation will identify research around project-based learning (PjBL) at the university level and describe ways PjBL activities are utilized in several college courses. The authentic projects engage students in knowledge construction and provide opportunities for collaboration, problem solving, and higher-level thinking. In addition to enhancing the preparation of teachers through an instructor lens, the PjBL activities offer practices that can be added to the perspective educator's teaching toolbox. Students' artifacts (i.e.,podcast, website redesign) will be shared and differentiation will be discussed. Participants will be provided directions and rubrics to implement PjBL activities in their university courses.

A crucial task of higher education is to provide innovative education for students who enter the labor market in the future as it raises their competitiveness and benefits society in the long term (Crosling et al., 2015). Research suggests project-based learning (PjBL) fosters students' innovation by supporting their autonomy during tasks (Martin et al., 2017), thus meeting those needs. Innovative competence and knowledge construction is achieved when students test and achieve their ideas in the way they want (Krajik & Shin, 2014). Notably, PjBL is cultivating the science of active construction, with an emphasis on knowledge construction.

This presentation will identify contemporary PjBL educator preparation practices that can be added to perspective teacher's repertoire. The projects presented allow for the creation of products to help learners integrate and reconstruct their knowledge, discover and improve their professional skills, and increase interest in the discipline and the ability to work with others. Notably, the final products of PjBL are the concentrated expression of various competencies developed during the process.

Additionally, differentiation strategies for the PjBL activities addressed will be presented. Students' artifacts of meaningful projects and real-world products (i.e., podcast, website redesign) will be shared. Participant outcomes will include a working knowledge of how to implement these PjBL activity in any college course. Additionally, project directions and rubrics will be shared.

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Language isn't the only challenge: Multicultural awareness in curriculum design
Kira Gulko Morse, Virginia Tech

While their TOEFL and SAT scores may qualify international multilingual students for integrated learning environments with their American peers, these students are often faced with the unfamiliar cultural expectations and academic norms within the American contexts. This presentation will discuss curricular challenges that international students face and offer specific recommendations for creating an inclusive environment for international students in liberal arts courses.

When I came to the United States as an international student, I did not quite know what to expect from my university atmosphere or curriculum. Growing up on the "Boy Meets World" TV series while living in Eastern Europe, I was up for a rude awakening that educational settings in the US were not quite what I expected. My misunderstandings also stemmed from differences in cultural norms and curricular experiences. I still remember being stumped by my first assignment in a human development class as I had never experienced an assignment that involved personal writing. I also remember my first visit to a university writing center where I was asked to read my essay aloud and could not explain why I did not hear anything wrong with the word usage in my paragraph.

Now, several decades and a number of advanced degrees and years of teaching experience later, I often witness similar challenges among my international students. These international and foreign-born students have become an integral part of most American classrooms, and it is obvious that their presence enriches the learning process and often provides multiple perspectives. However, as teachers and curriculum makers, we need to be aware of the challenges that studying in a foreign country brings to the lives of our students, so that we can find ways to increase their opportunities for success and minimize the stumbling blocks, especially if we are the ones creating them.

Although the knowledge of American English may seem like the main challenge for the international student adjustment, it plays only a part of the obstacles these students face. While their TOEFL and SAT scores may qualify them for integrated learning environments with their American peers, certain cultural expectations may pose challenges to their success. English language learners and native English speakers from other countries are faced with curriculum that often disregards their native cultural norms and assumes the norms of the American contexts with which these students may not be familiar. Thus, a closer examination of the curriculum is needed in order to ensure that not only the structure of the course, but the themes and reading materials become understandable and not culturally exclusive of those unfamiliar with mainstream American lifestyle, culture, and history.

In this presentation, I will focus on curriculum considerations in four areas: (1) assignment topics, (2) assignment types, (3) academic writing requirements, and (4) error correction strategies. The presentation will also include specific practical strategies that I have developed, as well as those developed by other researchers and practitioners in the field. The attendees will engage in a discussion of appropriate class materials and leave with ideas they can use to review their curriculum in order to provide equitable education to students of varying cultural and linguistic backgrounds.

"KNOCK, KNOCK': Building a community of care through humor

Laura Waldrep, North Carolina State University

The goal of this session is to share a rationale and model for incorporating humor into the college classroom to build a sense of community and engagement among students. Though the saying "laughter is the best medicine" may feel overused and underwhelming, there is research which suggests that comedy and laughter promote self-care and healing. In this session I will explain how I started actively adding moments of humor into my college classrooms, especially in the past couple of years, and what I have learned from this practice about how shared laughter enhances self-care, empathy, self-awareness, and critical thinking.

Many college instructors yearn to build stronger connections with and among their students but struggle to do so. In the past few years, as we have dealt with a global pandemic, the need for creating community feels even more pressing. When we are able to incorporate humor into our classrooms, encouraging laughter as part of learning, we offer students something beyond the stated objectives of the syllabus. We offer them empathy, care, self-awareness, critical thinking, and more. In this practice session, I will share my experiences with adding elements of humor into my writing course and invite participants to consider how they are either already working within this framework or how they can add it to their pedagogical practices.

Using humor in the college classroom is not a new concept; indeed, it has been researched and encouraged for many years. As the world has changed and learning environments have bounced from classrooms to computers and back again, teachers are continuously trying to find the right approach to adjust their classes accordingly, and lightness is especially welcome. By allowing students to laugh in our classrooms - whether the humorous material is related specifically to the course material or is brought in through activities like ice-breakers - we invite them more effectively into a larger community of care, one where they connect with themselves and instructors through shared laughter. Ideally, when students feel more comfortable in the classroom, the transfer of knowledge is smoother and students can engage with the course content more easily.

Some may worry that using humor in the classroom means showing up with a red clown nose and playing the fool, but I will use the practice session to show how we can move beyond these misconceptions. We can, and should, treat students with respect and recognize that their needs in the classroom may extend beyond the academic sphere. When we take the time to engage with them through empathy and understanding, thinking about what might bring them comfort, we build a culture of care which in turn allows them to feel comfortable enough to laugh, listen, and learn.

During the practice session, I will share my experiences specific to my first-year composition classroom. Among other things, throughout the semester, my students: read academic articles related to ideas about humor, laughter, and self-care; view slides using topical memes and jokes related to course content; and engage in a quickly moving Rock, Paper, Scissors tournament. Much of what I do to bring humor into the classroom is grounded in research and is transferable across various disciplines and subject matters, which I will invite attendees to discuss through an open conversation and session participation.

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Podcasting as a tool to assess student learning outcomes
Austin Council, Virginia Tech

In this interactive workshop, the presenter will share personal experiences, relevant data, and facilitate dialogue around the use of podcasting as an instructional tool. The presenter will showcase multiple ways to implement podcasting into the learning environment, as well as appropriate ways to assess student learning outcomes through podcasting tools. Participants will gain valuable insights and strategies for how to implement this learning medium into their respective classrooms.

The global COVID-19 pandemic has forced many schools, universities, and educational institutions to rapidly move their instruction virtual, causing instructors to rethink their pedagogical tools (Murphy et al., 2020). While new technologies are being introduced in higher education (Baker et al. 2008), not all have produced beneficial results (Heilesen, 2010). Many educators argue that the global pandemic has highlighted the importance of audio recordings and podcasting within higher education, some even calling 2020 "the year of podcast teaching" (Wake et al., 2020, p. 30). However, the question remains: How can podcasting be used to benefit student learning? The author proposes a workshop providing participants with the tools necessary to consider implementing podcasting into their classrooms which will include data from a study conducted between two classrooms at two land grant universities.

Podcasting refers to the creation and serial distribution of online audio files to listeners who have the ability to listen to a discussion about a single idea or series 'on the go' (McGarr, 2009; Palenque, 2016; Shamburg, 2009). Podcasts have been utilized in higher education across a wide range of disciplines (Nielsen et al., 2018) with a wide range of purposes, including service-driven, marketing-driven, and technology-driven podcasting (Harris & Park, 2008). Of the limited literature, scholarship points to the potential benefits across disciplines in higher education, which includes flexibility, providing nuance in complex topics and issues, having the potential to further motivate student engagement (Nielsen et al., 2018), and supporting social, creative, reflective (Palenque, 2016), and experiential learning (Alpay & Gulati, 2010).

Additionally, the move to more remote and transitory learning over the past several years has provided a clear outlet for the practical benefits of podcasting. Considering the increased responsibilities of many students, they can download an audio file and listen at a later time, when they are able to more fully engage (Wake et al., 2020). Podcasts are also flexible and accessible, due to their inexpensive nature (Steventon, 2013). Moreover, in a time of increased isolation, many university students have also vocalized the comfort and 'normalization' of hearing a familiar voice (Wake et al., 2020, p. 30), presenting an opportunity to increase inclusivity and belongingness in the learning community (Van Zanten et al., 2012).

Due to its novelty, fairly limited literature exists in providing an assessment of the implementation of podcasting in the classroom. Neilsen and colleagues (2018) called for further research to clarify whether podcasting does truly increase the students' reflection and understanding of a topic. Similarly, Collier-Reed and colleagues (2013) asked, "In what ways does the use of podcasting have the potential to positively impact student learning? (p. 330). The proposed workshop will provide participants with research-based guidance and recommendations on how to implement podcasting into the classroom to achieve student learning outcomes through knowledge gain and learning assessment.

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Now the student has become the master: Letting students teach
Scott Turner, University of Wisconsin - Stout
Matthew Turner, Radford University
Robert Turner, University of South Dakota

As teachers we know the best way to learn a subject is to teach it to others. Yet we forget this lesson when designing our class curriculum. Student-led teaching is a powerful tool that not only removes some of the burden of curriculum preparation from the instructor, but allows students to study and learn the material in depth. When students know that they will have to teach a subject to a class, they are more motivated to learn and understand the material themselves and are often better able to connect with their peers than we can as instructors.

We have all had that moment when, while lecturing in class, we look up from our notes or power point and see a room full of glazed eyes, students surreptitiously checking phones, or chatting with their neighbor. We've lost engagement and as a result students lose out on learning valuable content. Similarly, we've all had the experience of teaching a concept, reiterating its importance, and stressing that it will be on the test, only to have student after student fail to master the material once we evaluate it.

While we are not responsible for a student's learning, as engaged educators it is our responsibility to provide students with every opportunity to thrive. It is at the intersection of student engagement and content mastery that allowing students to direct classroom learning can shine.

In our presentation we will look at a variety of methods to help students take charge in the classroom. Ranging from the well-worn group presentation to more radical suggestions, such as having the students teach a unit and prepare the evaluation. Of course, there are important elements to consider in preparing for student-led teaching. Therefore, the presentation will address both the potential benefits and challenges of letting students lead in the following ways.

What should a student-led course look like?

How much teaching should students do?

What failure points might we encounter?

How to verify that the student is teaching the material effectively (what if the information is just wrong?)

Finally, we will ask the questions, "Can we realistically do this in our classes? and "In what ways to we expect to see student learning improve?

The presentation will include discussion with participants, examination and discussion of examples of student-led teaching, and small group work to start planning student-led activities in the participant's courses.

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Teaching with dramatizations for memorable learning
Helena Carvalho, Virginia Tech Carilion School of Medicine

Dramatization is a fun teaching methodology in which students act out different roles in a 'play' that simulates the content to be learned. It has been used effectively to teach physiology to health sciences students where each student act as cell/structure and the group represents organ/system (reference). It can be used to teach in any area or discipline, it is free of costs and be adapted to any size of classroom. Participants in this practice session will experience learning using dramatization followed by debrief with feedback with the opportunity to share their own dramatization with the group.

Dramatization is an innovative teaching methodology that promotes learning while having fun (3). Students benefit by increasing their confidence level, through active participation in an accessible venue which invites them to ask questions and promotes long-term retention of material. The instructor benefits by being able to identify misconceptions and remediating them immediately. Dramatizations are the ultimate inclusive activity for diverse learning styles such as auditory, visual, and kinesthetic, as each student in the class has a role to play. Furthermore, because of direct engagement, dramatizations make the material more accessible for English Language Learners (ELL). Dramatizations can be used in any level of instruction from undergraduate to professional schools, are free, or with minimal costs, and are adaptable to any class size regardless of the number of students. This workshop will provide participants the opportunity to participate in and create a dramatization they can use in their own courses. At the end of the session the participants will have the opportunity to showcase their newly created dramatization and receive feedback from the other participants.

Participants will:
1. Participate in a whole group dramatization on the cardiac cycle led by the facilitators so they can learn by doing.
2. Analyze and discuss a variety of ways to use dramatizations in different subject areas (whole group)
3. Design and perform a group dramatization activity in small groups based on participants' desire
4. Debrief, provide feedback and share ideas with all workshop participants

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Overcoming student resistance: Recognizing and responding to student disengagement
Amy Johnson, Alison Barton, East Tennessee State University

What does student resistance look like? How can I address disengagement in my classroom? What can I do to help students focus so they can learn? It isn't unusual for us to think about why students engage and why they resist learning. In this workshop we'll explore the characteristics and causes of student resistance to learning. We'll also think about factors related to motivation and how we can use theories of motivation to improve our courses. Finally we will discuss strategies for fostering a culture of engagement in our courses.

Student motivation is an outcome rather than an intrinsic trait. Resistance to learning, then, is the product of a learning environment that has, in one or more ways, disrupted a student's motivation to learn. During the first half of the workshop, participants will identify specific student behaviors that indicate students are actively or passively resisting learning. Participants will also explore the Integrated Model of Student Engagement (IMSE) developed by Tolman et al. This exploration of the IMSE presents a complex picture of what students experience in our classrooms. By incorporating metacognition, cognitive development, environmental forces, and negative classroom experiences, the model also challenges participants to think about their courses and students in context rather than assuming classrooms are isolated settings immune from the effects of social, political, and environmental forces. Exploring the model also encourages participants to explore restorative strategies that can be antidotes for student resistance. The second half of the workshop provides participants with strategies for increasing student engagement in the classroom through the exploration of motivational theory and practice. Participants will explore ways to increase student autonomy, competence, relatedness, and valuation to discourage student resistance and improve student motivation to learn. This highly interactive session challenges faculty to take action when students are resistant and begin to adopt strategies that will improve student motivation in their courses.
Learning outcomes for the session:
Participants:
O Identify resistant student behaviors.
O Discuss the Integrated Model of Student Resistance.
O Use motivational theory and strategies to identify strategies for improving student engagement in courses.
O Identify ways to use subjective value, instrumental value, and situational interest in the development of learning activities

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De-stressing activities within our instructional space
Andrea Randolph-Krisova, Pennsylvania State University-Brandywine
Karen Stylianides, Penn State University

This presentation will focus on relaxation techniques and contemplative practices that can be incorporated into any course. Even though increases in anxiety and depression during pandemic significantly spiked, statistics over the past eight years show a continuation of a troubling trend rather than a singular spike (Centers for Disease Control and Prevention, 2021; Dvorakova, et al., 2019, Lipson et al., 2022, Oswalt et al., 2020). Micro sessions of no more than 3-5 minutes will be introduced. These in-class practices will offer relaxation implementation which could provide a preventive and supporting approach to mental health needs of emerging adults attending college.

Penn State University offers over 100 General Health and Wellness (GHW) courses, and sixty-six of these courses are directly connected to the Kinesiology Department (Undergraduate Bulletins, 2022). Their goal is to disseminate knowledge about health, wellness and behavioral changes needed for lifelong wellness. Several classes provide knowledge and instruction on evidence- based techniques that help foster mental health and alleviate stress and/or anxiety. This presentation will discuss the micro sessions of compelling methods that instructors can implement in their everyday presentations.

Stress levels and mental health issues in college students are rising, but not all students are seeking help. Therefore, the classroom can be a space where students address the importance of approaching stress and gain practical skills for applying techniques to mitigate it. Existing evidence proposes that brief interventions for stress management can be highly effective to reduce perceived stress, generalized anxiety and depressive symptoms (Basso et al., 2019; Okado et al., 2020). In addition, practice of some techniques such as mindfulness and gratitude exercise can also support the growth of interpersonal, intrapersonal competencies (Huerta et al., 2021) and personal happiness (Chavan et al., 2017).

This presentation will display brief de-stressing techniques including minute meditation, affirmations (Creswell et al., 2013), gratitude exercises (Flinchbaugh et al., 2013), quieting reflex, progressive muscle relaxation (Rausch et al., 2006), breathing protocols (Huberman, 2022), mindfulness (Dvorakova at al., 2017; Chavan et al., 2017, Huerta et al., 2021), mindful walking (Lu et al., 2019), which can be implemented into classroom environments. A variety of techniques will provide instructors with foundations from which they can choose the ones that would benefit the students and classroom, as well as match their overall setting.

We have experience with implementing relaxation micro sessions in courses such as Kines 81- Wellness Theory; Kines 61-Theory and Practice of Fitness, Kines 83-Exercise and Stress management, Kines 82-Action Methods for Stress Management, but they can find place in courses with primary objectives other than the wellness (Huerta et al., 2021).

Relaxation tools and techniques could be not only helpful in avoiding negative stress-coping techniques, but they could improve students' quality of life, daily outlooks and help to prevent diseases. They can help establish little habits of relaxation (Fogg, 2019) and coping techniques which students can continue for a lifetime.

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Scaffolding undergraduate students' engagement with assigned readings and notetaking
Amanda Bozack, Katie Hilden, Alexis Ridgeway, Radford University

In this session, we will describe how we use the Gradual Release of Responsibility instructional framework to introduce first-semester undergraduate students to a series of reading comprehension strategies and notetaking routines. We will share examples of student-created portfolios where they document how they have used the comprehension and notetaking strategies consistently in at least one course, and we will share their reflections on how these strategies have impacted their learning.

Reading and note-taking are two of the most common skills associated with collegiate academic success, yet many students arrive at college under-skilled in both areas.

Assigned readings serve to deepen content knowledge, supplement class discussion, and enrich connections to prior learning. However, nationally, only 20-30% of undergraduate students typically complete assigned readings (Burchfield & Sappington, 2000). Many don't read because they lack the strategies required to tackle the complex and lengthy readings in undergraduate courses (Ritchey & List, 2021).

Similarly, effective note-taking aids in long-term retention of information and positive learning outcomes (Kiewra & Benton, 1988). However, many students lack the strategies necessary to take notes in a way that supports increasingly complex learning. Just as reading strategies have been shown to improve comprehension, decades of research have shown that notetaking systems and routines improve students' abilities in this area (Robin, Foxx, Martello, & Archable, 1977.)

At Radford University, most freshmen take a 1-credit orientation course focused on student belonging and academic success. For the past three years, we have taught a series of reading comprehension strategies to education majors in this course. The strategies we teach reflect what we know about how good readers comprehend difficult texts--they apply a repertoire of strategies flexibly depending on the text and their purpose (Pressley & Afflerbach, 1997).

First, we teach students to track their thinking using Thinkmarks; this provides a short-hand for annotating texts in ways that allow them to quickly remember and access what they have read. Then, they examine their Thinkmarks to see how their strategy use varies depending on text type and subject.

Next, we introduce the GIST strategy (Cunningham, 1982), which provides step by step support for summarizing and paraphrasing main ideas. Students start by previewing nonfiction text, then move to identifying key words and creating a summary statement that describes the main point of the text.

The GIST strategy leads into the SQ3R routine, which involves a five-step process, specifically designed for textbooks (research review by Asiri & Momani, 2017). Students begin by surveying the text features the reading. They then turn headings into questions and read purposefully to answer the questions. Once they are finished, they self-test by reciting and reviewing the critical information learned. The SQ3R routine reflects the before, during, and after process, which is the hallmark of effective reading comprehension (Pressley & Afflerbach, 1997).

We have also recently begun teaching students a series of five ways to take notes including Cornell notes, outline notes, and ways that encourage students to see relationships between newly learned concepts.

In this session, we will describe how we use the Gradual Release of Responsibility instructional framework to introduce the students to the reading comprehension strategies and notetaking routines. We will share examples of student-created portfolios where they document how they have used the comprehension and notetaking strategies consistently in at least one course, and we will share their reflections on how these strategies have impacted their learning.

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Strategies for building science communication skills
Kristin Phillips, Virginia Tech

Most would agree that it is important for scientists to be able to communicate effectively with non-scientists. Science communication is not an easy feat but it is becoming increasingly important that scientists be able to communicate science in an efficient and accessible manner with a lay audience. However, many science curricula (both undergraduate and graduate) don't formally train students in this kind of communication. This session will share strategies for incorporating science communication into the classroom and provide student testimony of their experience with these assignments.

Most would agree that it is important for scientists to be able to communicate effectively with non-scientists. Having effective communication skills is one of the core competencies in undergraduate science education (National Research Council, 2003; AAAS, 2011). The COVID-19 pandemic highlighted the importance of scientists having the skill to explain science to the general public. However, many science curricula (both undergraduate and graduate) don't formally train students in this kind of communication (Coil et al., 2010; Mercer-Mapstone and Kuchel, 2015a,b, 2016). Most typically emphasize technical skills, research methodology, and the ability to communicate with others in their field. This leaves students (aspiring scientists and non-scientists alike) ill equipped to translate scientific discoveries into accessible explanations for the public. As more science students pursue careers outside of academic research, it is becoming increasingly important that they be able to communicate science in an efficient and accessible manner with a lay audience.

Science communication is not an easy feat. Essential to this are both thorough understanding of the scientific concepts and effective communication skills. It requires the ability to make complex topics accessible without oversimplifying, exaggerating, or inaccurately conveying information. Scientific topics are often laden in discipline-specific jargon and based on foundational concepts that those in their field are often unfamiliar with. The speaker must be mindful of the audience's background knowledge (or lack thereof) and speak to that level without sounding condescending. This is not a trivial task (Racine et al., 2005; Illes et al., 2010; Keehner and Fischer, 2011).

Incorporating instruction on science communication into undergraduate science education has multiple benefits. One, it addresses this important need. Second, this type of training prepares students for a variety of careers outside of academic research. Lastly, being able to effectively communicate scientific findings with a non-scientific audience encourages deeper learning. Students must thoroughly understand a topic and be able to explain it without relying on complex terminology that they may not truly understand (Kaur, 2022).

This session will explain different strategies that can be integrated into science courses to promote the development of these critical communication skills. Some strategies are semester-long projects while others are one-time assignments. In addition, this session will include student testimony, some of which will be live in person, about their perceptions of these assignments and how they perceive their skill in communicating science. The audience will be engaged by assessing their own experiences and interacting with the student panel.

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Designing signature assignments: Promoting integration of learning in your course and beyond
Kimberly Filer, Center for Excellence in Teaching and Learning (CETL), Virginia Tech

Many students plan and experience their education course by course, assignment by assignment, and test by test. Although faculty experienced in the content and discipline see links within and among courses, students often fail to see the connections. Signature assignments intentionally integrate program-level knowledge and promote understanding of how courses and concepts fit together. In this workshop different course designs as well as signature assignment tools are offered to enhance student learning and application of program-level knowledge across their course of study.

A peer coaching model for transformative teaching and formative education

Heather Keith, Radford University
Christina Fabrey, Virginia Tech

Peer coaching is a useful strategy to support faculty experimentation and innovation because it emphasizes non-evaluative, formative, and reflective feedback that is essential for institutions focused on consistent, broad scale development and long-term cultural change. Core competencies in coaching emphasize the process of trust and safety, an important component to encourage new pedagogical approaches. In this session, participants will learn more about peer coaching in a faculty development setting, including practices and programming, all informed by psychological safety research and aimed at high impact and innovative pedagogy.

This presentation offers a theoretical and practical approach to the importance of cultivating trust and safety in a faculty peer coaching model. We explore the research on psychological safety and its connection to faculty development, how the International Coaching Federations's core competency on trust and safety aligns with a faculty peer coaching model, and how practitioners can encourage trust and safety in formative faculty development and assessment through co-created values, validation, and simple techniques. Emphasizing the conditions which enable relationships of trust can contribute to a robust faculty-peer coaching model that bolsters an institutional commitment to faculty and student success. This transformational, rather than transactional, approach has the potential to shift the narrative around teaching as something that people either "are or are not" good at, to an institutional investment in ongoing pedagogical development and innovation.

As we know, "faculty development has measurable impacts on teaching" (Condon, et. al., 2016, p. 114) and strong pedagogy is essential to student success (Pascarella and Blaich, 2013). Innovative teaching often results from experimentation and developmental assessment. Peer coaching is a useful strategy to support faculty experimentation and innovation, because it emphasizes non-evaluative, formative, and reflective feedback that is essential for institutions focused on consistent, broad scale development and long-term cultural change. More specifically, cultivating trust and safety in a peer coaching model, a core competency in coach training according to the International Coaching Federation (ICF, 2019), increases the likelihood of a supportive environment more conducive to innovation and positive change. On the other hand, evaluative models, such as those commonly used in the tenure and promotion process, may yield a more static approach to faculty development and may even be a mismatch with an institution's values (Rice & Sorcinelli, 2002). Conversely, peer coaching aims to create space for experimentation and reflection for the sake of strengthening teaching and transforming institutional culture toward growth and development.

This session will explore the research on trust and safety in faculty development, discuss the benefits of a formative, rather than purely evaluative, model of faculty improvement, offer specific strategies for adopting a peer coaching model (useful for chairs, faculty developers, and faculty peers), and model an interactive peer coaching exercise.

This workshop is based our recent book chapter, Creating a Culture of Pedagogical Innovation through Cultivating Trust and Safety in Faculty Peer Coaching, in Peer Coaching in Higher Education: Opportunities, Explorations, and Research from the Field (Rainville, Title & Desrochers, Information Age Publishers).

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Gamification, Reacting to the Past, and the history classroom
Nicole Greer Golda, Michael Hancock-Parmer, *Ferrum College*

Gamification in the classroom is an emerging trend in our digital age. Using the history classroom as a case study, this practice session will demonstrate how a range of gaming strategies and techniques can improve classroom participation, peak student interest, and enable assessment of learning objectives in creative ways. The goal of this session is to spark conversations between and among the two panelists and audience members in order to think through inclusive teaching methodologies and provide a space to share strategies and activities for innovative classroom techniques.

Gamification in the classroom is an emerging trend in our digital age. From Kahoot! to Quizizz and from role playing games to simulation software, instructors now have a range of game-based tools at their disposal. Further, students in American colleges participate in video gaming at high rates, and research indicates that students respond positively to gamification elements in education. Using the history classroom as a case study, this practice session will demonstrate how a range of gaming strategies and techniques can improve classroom participation, peak student interest, and enable assessment of learning objectives in creative ways.

Dr. Michael Hancock-Parmer (World History) and Dr. Nicole Greer Golda (American History), both from Ferrum College, will start the session by running a ten-minute interactive activity developed by the Foundation for Teaching Economics about the market for indentured servants in colonial Virginia. We will then discuss the literature on gamification and how we use activities such as the mock indentured servant market in our own classrooms. In particular, we will focus on our use of the Reacting to the Past series of role playing games as well as small-scale games used over short sections of class time. We will then open the discussion to the audience in order to spark conversation about the effectiveness of gamification strategies and tools and tips for employing games in the classroom. While our perspectives on teaching in the classroom emerge from our setting at a small liberal arts college in rural Southwest Virginia, our aim is to show how gamification can work in classrooms of all sizes. The goal of this session is to spark conversations between and among the two panelists and audience members in order to think through inclusive teaching methodologies and provide a space to share strategies and activities for innovative classroom techniques.

Best practices in the construction pf multiple choice questions
Brian Hill, Edward Via College of Osteopathic Medicine (VCOM)

As instructors, we test our students regularly, often utilizing multiple choice exams. Many of us merely imitate our former instructors in terms of constructing multiple choice questions as we have had had no formal training in this area. This session will focus on writing better exam questions by presenting the best practices for construction of multiple choice questions, and how to write items that test on higher cognitive levels. Particular emphasis will be placed on the item writing guidelines used by standardized exams such as the Medical College Admissions Test (MCAT) or Graduate Record Exam (GRE).

Multiple choice questions (MCQs) are ubiquitous to high stakes educational exams (ex. GRE, SAT, MCAT, etc.),most licensure exams and continuing education courses. They are heavily used in many academic disciplines, particularly health-related disciplines. MCQs provide unparalleled efficiency in testing large numbers of examinees in a wide breadth of content.

When constructed properly, MCQs can assess content knowledge at the levels of comprehension and application, and they can even be utilized to assess at higher orders of Bloom's taxonomy. As such, they can effectively discriminate between high, medium and low achieving students (1).

A survey of the literature produces over forty principles of MCQ construction, and these are well documented in educational textbooks (2-4). Item writing manuals for profession licensure exams are often concise and practical sources for best practices in MCQ construction. Technically flawed MCQs can affect the validity and reliability of the MCQ (5) and can have a negative influence on student performance (6). In spite of this, very few college faculty are trained in the best practices for writing multiple choice questions and this even holds true in disciplines where MCQs dominate exams. This lack of formal training results in poor construction quality and an abundance of MQCs written to test lower cognitive levels or obscure, unimportant factoids (7,8)

The literature contains multiple studies illustrating the faculty improvement following MCQ writing workshops (7, 9-11). While this proposed CIDER session will not be the equivalent to a full-fledged MCQ writing workshop, it will focus on correcting the most common technical flaws and how to write MCQs that test to higher cognitive function.

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Co-generative learning: Applying the undisguised case teaching method
Samson Adeoye, Eric Kaufman, Virginia Tech

Undisguised teaching case methods offer the potential for bridging the broken link in the education-to-workforce pipeline. They offer possibilities for surfacing the creative forces in students. This is contingent upon rousing interest, provoking conflict, creating empathy, forcing decision-making, and stirring the need to learn. Both instructors and students experience a meaningful engagement in co-generative learning. Participants in this session will learn how to adaptively facilitate a dialogic classroom toward resolving complex real-world challenges.

The American Institutes for Research (AIR, 2021) reported that "the U.S. education-to-workforce pipeline is broken." To bridge this gap, educators must shift from the 'old' concept of education to the 'new,' where instructors understand their role as metaphorically "using a pump to bring individual [student's] latent creative forces to the surface" rather than using "a funnel to pour knowledge into students' brains" (Buber, 2002, as cited by Aspelin, 2021, p. 590). This perspective relieves faculty of the unrealistic responsibility of the 'ultimate knower' but positions them, as facilitators, to know what questions to ask to stimulate students' creative forces and a dialogic classroom instead of a didactic one.

The complexities and intersectionality of issues in our world suggest that teaching must be designed "to engage students in thinking about theoretical, applied and deeper conceptual understanding" (Herreid, 2006, p. 30). Herreid (2006) emphasized this dimension of teaching by popularizing the teaching case method in STEM education. Undisguised and open cases help to maximize students' learning. Undisguised cases (i.e., real-life examples with real protagonists) arouse interest, provoke conflict, create empathy with protagonists, force decision-making, stir the need to learn, and have pedagogical and research utility (Fossey & Glover, 2006; Herreid et al., 2016). Moreover, in an open case, where there are no definitive answers but multiple possible (re)solutions to the problem being studied (Herreid, 2006), instructors and students have the opportunity to grapple with real-world situations and seek to offer practicable answers to case problems through asking the right questions. Through repeated classroom exposure to such co-generative learning opportunities, Fossey and Glover (2006) reckon that students develop skills to address difficult challenges before they are confronted with them in the professional workplace.

Our undisguised and open teaching case problematizes the cyberattack on the Oldsmar water treatment plant in Florida as a leadership crisis, albeit the challenge defies traditional leadership. To foster a practice with potential applicability in the real world, we construct the case narrative around a hybridized framework of adaptive leadership (Heifetz et al., 2009) and leadership-as-practice (Raelin, 2016). This is done by crafting case problems and hands-on class exercises that translate the hybridized theoretical framework into practice. Thus, successfully using the case narrative does not require prerequisite grounding in the theories; however, an aroused need for learning may trigger students' desire for further explorations. Hence, links to relevant resources are provided throughout the case narrative. To help students cement their learning, they also work in groups to develop their own teaching case and facilitate its utilization.

At the conference, participants will be introduced to the undisguised case, given copies of the Oldsmar case narrative, and experience collaborative leadership learning groups (Denyer & Turnbull-James, 2016). The presenters will serve as facilitators, engaging the participants to synthesize the case and harvest their first reactions following reading the case. This will set the pace for a few levels of dialogic processes that foster co-generative learning in a crisis situation.

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Enabling faculty experiential learning through authoring open educational resources

Anita Walz, Kindred Grey, Erin Hopkins, Donald Orth, Laura Neser, Charlotte Baker, Virginia Tech

Open textbook authoring or adaptation programs can support faculty experiential learning while developing peer-reviewed and freely-available course materials relevant for students. This panel discussion features four faculty authors who have partnered with the Open Education Initiative at the University Libraries at Virginia Tech to create or adapt learning materials designed to fit their courses, and to meet the university's Land-grant mission. Join us to understand their motivations, discuss their perceived success factors, challenges, and to identify success factors and challenges for similar projects in your own context.

Virginia Tech faculty are increasingly engaging in creating, adapting, and sharing open educational resources, with 24 open textbooks or other substantive open educational resources published since program inception in 2016. Nationally, faculty exhibit motivation for engagement because of lack of relevant course materials, a desire for more control over the process, and cost reduction for students. This trend requires faculty attention to the complexities of writing for student learning rather than discipline-specific research formats, openness to learning new processes on publishing sharable, openly-licensed resources, and commitment to dedicating time on task. Throughout these processes, faculty expand their skill in time management and setting of reasonable writing goals, knowledge regarding copyright and Creative Commons licenses, development of accessibility features for readers with visual and/or print disabilities, assessment and incorporation of student and peer-reviewer requests, book publication processes, and attention to presentation and design elements that reinforce learning -- including figures, examples, self-assessment tools, learning objectives, and so on. Some faculty develop expertise in WordPress-based publishing software, such as Pressbooks. Others explore integration of non-traditional media such as podcasts, virtual reality, code-environments, embedded interactive graphs, and assessment tools such as gradebook-passback quizzing options.

Such projects benefit from the expertise of a third-party project management team -- in our case from the University Libraries' Open Education Initiative -- which has expertise with open educational resource publication processes, student and external peer-review management, software platform options, print-on-demand services, copyright and open licenses, and provides access to graphic design, copyediting, accessibility, and editorial services.

Building on the process-related themes from a 2021 poster presented at CHEP, "Collaborating to Build, Adapt, and Evaluate Open Educational Resources (OER)," this moderated panel discussion explores faculty motivations for undertaking open educational resource creation and adaptation projects, preliminary impacts on students, impacts on the authors' other work, changes in the way authors view their contributions to higher education, and success factors, both realized and unrealized.

Interactive exercises throughout the session will engage audience members in reflecting and sharing realized or perceived success factors and challenges related to undertaking similar projects at their home institutions.

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Role-playing and cooperative learning activity to teach fundamental biology concepts

Aparna Shah, Virginia Tech
Igilka Pavlova, The University of North Caroline at Greensboro

Role-playing activities involving real-world scenarios can be effective in engaging students and helping them learn fundamental STEM concepts. The role-playing activity, 'When tests disagree, how do I know if I have COVID-19?' is aligned with Vision and Change to teach biology core concepts, such as Structure and Function and Information flow, Exchange, and Storage, and application of competencies, the ability to communicate and collaborate with other disciplines and to understand relationships between science and society. Additionally, it involves concepts in infectious disease and immune response to infection. Presenters will share activity-associated learning objectives, assessments, implementation suggestions, and relevant field notes.

Role-playing activities involving real-world scenarios can be effective in engaging students and helping them learn fundamental STEM concepts. The role-playing activity, 'When tests disagree, how do I know if I have COVID-19?', is intended for use with introductory biology or non-majors biology courses.The activity is aligned with Vision and Change in Undergraduate Biology Education to teach fundamental biology concepts, such as Structure and Function and Information flow, Exchange, and Storage and the application of core competencies, such as the ability to communicate and collaborate with other disciplines and the ability to understand relationships between science and society. Additionally, it involves concepts in infectious disease and immune response to infection.

The activity is introduced with a case scenario of a hypothetical student who takes three different types of COVID-19 tests that return inconsistent results. It is designed in a jigsaw format, where each student role-plays one of three different specialists and prepares as part of homework (supplemented with appropriate test-specific handouts) the underlying mechanisms for either the polymerase chain reaction (PCR), antigen, or antibody tests to detect SARS-CoV-2 virus or anti-SARS-CoV-2 antibodies (determined by their specialty selection). In class, students first hold a conference by specialty to discuss the science underlying the interpretation of their assigned COVID-19 test, guided by their responses to the homework assignment. Next, teams with representatives from each specialty discuss possible conclusions that can be drawn based on the results from the three different tests for the hypothetical student described in the case scenario.

In the first part of the session, presenters will provide a rationale for and an overview of the activity (time frame: less than 10 minutes). In the second part, participants will work in groups to simulate parts of the activity and model how it is implemented in class, so that they can understand the student experience in the classroom and the issues that may arise in discussion (time frame: 15 minutes). In the third part of the session, participants will reflect on the activity and discuss how they can implement it in their own courses (time frame: 20 minutes). Depending on participant interest and time available, presenters can share optional extensions and modifications for upper-level biology or immunology, virology, or infectious disease courses and relevant data collected in the classroom. Participants will be provided with materials for the activity (including pre- and post-activity assessments).

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The teaching triad: A practitioner friendly instructional strategy
Eric Magrum, James Madison University
Mika Manninen, Dublin City University

This session will immerse participants in a mock learning scenario where they will experience an instructional strategy called the teaching triad. As an extension of peer instruction, the teaching triad places participants in three carefully curated roles where students are thrust into an experience where their instructional abilities may mature. The presentation will include the underpinning literature that supports the strategy and encourage participants to apply it to their own disciplines. Finally, participants will be asked to share how they intend to utilize the strategy with their peers.

Teaching is an indispensable skillset that many future practitioners will need. Thus, it is imperative that educators prepare students to assume instructional roles and establish a baseline of competency.

Introduction
The session will start by soliciting information from participants that includes how they believe the information will inform their teaching (situated expectancy-value theory; Rosenzwig et al., 2022)
Activity - The Back Squat (with PVC Pipes)
The teaching triad will be modeled with a common exercise (the back squat). The specific roles for each triad will be discussed. The presenter will then provide an overview and demonstration of the movement as well as common cues that learners can utilize in their own instruction.
Learners will then be placed into groups of three and asked to work through the movement with each participant having a chance to play each role. During this time the presenter will move throughout the room and facilitate learning within the groups.
Reflection
At the conclusion of the activity, the demonstrator will move to carry out the reflective part of the strategy. This portion asks students to think through the experience and recall what went well, what didn't go so well, and how it can be improved. Lastly, the demonstrator will engage the audience with a thumb indicator activity to gain feedback on the session.
Grounding the material in research
After the conclusion of the teaching triad, we will then provide supporting evidence for the use of this strategy with the following research streams.
1. Peer-instruction
2. Experiential learning theory
3. Andragogy
4. Social learning theory
Peer instruction
o Peer instruction has been found to help develop students' sporting skills, while also providing rich opportunities to develop cognitive and affective domains (Jenkinson et al., 2014).
Experiential Learning Theory
o Using Kolb's work (1984) we can understand that "Learning is the process whereby knowledge is created through the transformation of experience." The strategy thrusts students into teaching roles, perhaps for the first time. Furthermore, the strategy calls for the observation of teaching whereby students may learn from each other. Lastly, reflection is an essential element to include when learning from experiences (Tafor et al., 2016).
Andragogy
o When working with adult learners, it is often necessary for educators to explicitly state why the current content is pertinent to and how it will benefit them (Javadi & Zandieh, 2011). There is perhaps no better way to motivate learners than to explain how the information is pertinent to their future success.
Social Learning Theory
o As Bandura (1977) asserted, we can learn by simply talking with and observing others behave. Furthermore, practitioners can positively influence experiential learning by making space for good conversations, whereby students may learn how to connect pieces of information from one another (Kolb & Kolb, 2005).

Conclusion/Applying the material

This section is aimed at engaging the audience in a dialogue to brainstorm the numerous ways in which participants may use or modify this strategy for their own classroom/discipline. A brief summary will be provided and questions will be

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Classroom accessibility skills for teaching faculty
Scott Chandler, Virginia Tech

Learn concrete skills that can improve teaching and learning through small changes to improve how you teach and how learners interact with your content, whether or not students have disclosed a disability. Research and experience have informed what steps most impact student learning, efficacy, and comfort.

Everyone is on an accessibility journey, and no one knows it all. We improve our teaching and resources the same way as our learners, one small step at a time. Accessibility skills and WCAG requirements can be confusing and overwhelming. Each of us can add one skill to our toolbox at a time until we can create broadly accessible products that work for the vast majority of learners.

We discuss dozens of small changes that require very little time but have a meaningful impact on the accessibility of our teaching and educational products. For example, allocating just one cell in Microsoft Excel to accessibility can make workbooks easier to comprehend. Accessibility checkers in many products can find many problems with automation, but some work precisely the opposite of how you'd expect. One method of PDF export is far superior to the other. And cognitive factors are often entirely ignored.

We'll watch and listen to a short screen reader demo showing how the Voiceover screen reader works and how screenreader users experience our content differently.

Experiencing cross-cultural communication on campus: a cultural simulation activity
Homero Murzi, Lisa Schibelius, Mariah Henderson, Virginia Tech

In this session, we will expose participants to a cultural simulation activity that can be implemented in courses to expose students to experience cultural differences. In the session, we will present the cultural simulation activity details, an intervention that was designed with the intention of giving students a feeling of what it might be like to interact with a completely new (i.e., unfamiliar) culture.

The cultural simulation activity was developed for first-year engineering students in a global engineering course called Global Engineering Practice: Leadership and Culture. The cultural simulation was designed with the intention of giving students a feeling of what it might be like to interact with a completely new (i.e., unfamiliar) culture. In the simulation, each student is assigned to one of three "cultures" which are housed within different classrooms in the same building. The three cultures were designed based on Hofstede's model of national culture such that each culture shared one element of Hofstede's model and differed on one element of Hofstede's model.
In this session, we will present the activity to participants and ask them to engage in the cultural simulation activity. They will simulate what it means to be placed into one of the three cultures. Participants will be provided with instructions including a list of rules for interactions between people, guidelines about what to do if people do not follow those rules, and an overall goal to guide their conversations. We have students mingle within their culture and practice behaving in the way described in the instructions. Once they are comfortable enacting their new culture, ambassadors are sent to the other cultures to learn about them. The cultural visits are done in a coordinated rotation with the ambassadors reporting back to the rest of their home culture after each visit. Ambassadors are told to try to learn about the new culture they are visiting. When students ask if they should behave according to their own culture or the new culture, they are told to try both and decide which option makes sense to them. We do not provide students with any information about the rules, guidelines, or goals of the other culture, and the students in the other culture are not allowed to tell ambassadors explicit information about their culture. During the visits, we encourage students who are not ambassadors to carry on acting out their culture once the incoming ambassadors arrive, particularly responding appropriately when the incoming ambassadors do not follow the rules of the culture. Every student has a chance to be an ambassador at some point during the exercise.

In this session, we will lead a discussion about what happened in the simulation and invite participants to share from their reflections as they are comfortable doing so. We next plan to present Hofstede's model to help participants understand that the cultural differences they might perceive in the simulation were based on real cultural differences, albeit somewhat exaggerated for pedagogical purposes. We emphasize that this is just one way to view culture and discuss the importance of avoiding stereotypes of individuals in any culture based on models or other prior assumptions. The cultural simulation has been used in the global engineering practice course for two years and has been well received by students both years.

RESEARCH SESSIONS

Differences in motivational climate in face-to-face, online and hybrid courses

Margaret Ellis, Brett Jones, Hande Fenerci, Fei Gu, Virginia Tech

The purpose of this study was to examine how students' effort, achievement, and perceptions of the motivational climate varied in a course that was taught in three different modalities: face-to-face, online, and hybrid. Participants included 981 students in a computer science course. Results indicated that online and hybrid courses can be designed in ways that lead to motivational climates that are as good or better than those in FTF courses. In addition, they can lead to greater student effort and achievement. We will discuss the successful elements of the online and hybrid courses that led to the positive motivational climate.

The motivational climate of a course has been linked to a variety of outcomes, including student engagement and course ratings (Jones, 2019; Jones & Wilkins, 2022). The motivational climate consists of five aspects: students' perceptions of empowerment, usefulness, success, interest, and caring (Jones, 2009, 2018; Jones, Miyazaki, et al., 2022). How the motivational climate varies in different types of courses is not well understood. The purpose of this study was to determine how the motivational climate varies in a course that is taught in three different modalities: face-to-face, online, and hybrid. In addition, we assessed changes in students' effort and achievement.

We assessed students' perceptions of the motivational climate--along with their effort and achievement--in a first-year computer science course at a large public university in the southeastern U.S. We surveyed students in the course once a semester for three consecutive years. In Year 1 (pre-pandemic, Fall 2019), the course was offered face-to-face (FTF); in Year 2 (during the pandemic, Fall 2020), it was offered completely online; and in Year 3 (Fall 2021) it was offered as a hybrid course that was partially FTF and partially online. In Year 1, the in-person lecture was interspersed with clicker questions and corresponding reading assignments, and quizzes were assigned before the lecture. The Year 2 online course differed from the FTF course in that students watched short (3 to 15 minute) videos (instead of attending class) that were interspersed with optional checkpoint quizzes and graded section quizzes, both of which included updated questions. The hybrid course in Year 3 used the online materials, and students had the option of attending lecture and lab.

Participants were 981 students (n = 229 for Year 1, n = 395 for Year 2, and n = 357 for Year 3). Students completed a survey near the end of the course. The survey included previously validated measures of the motivational climate, ease of the course, time cost of engaging in the course, and student effort in the course (Jones, 2012/2021; Jones & Skaggs, 2016). To determine whether students' effort, achievement, and perceptions of the motivational climate varied across courses, we conducted a one-way MANOVA to compare the means between courses. We identified the source of difference(s) by conducting a one-way ANOVA for each dependent variable and used the Tukey-Kramer test to examine the multiple comparisons.

Statistically significant differences were identified between semesters for all of the variables except usefulness and interest. The Year 3 (Hybrid) students reported higher values than the Year 1 (FTF) students for empowerment perceptions, success expectancies, and ease of course (p < .01). The Year 2 (Online) and Year 3 (Hybrid) students put forth more effort and earned higher grades than the Year 1 (FTF) students (p < .001).

We conclude that online and hybrid courses can be designed in ways that lead to motivational climates that are as good or better than those in FTF courses. In addition, they can lead to greater student effort and achievement.

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Social network analysis for understanding and building cohesive classroom communities
Adam Barger, Alexander Joossee, William & Mary

Research shows that a cohesive classroom community, or the relationships built between students within a classroom, leads to many positive student outcomes in higher education. This research sought to better understand how to build cohesion in a classroom community, a goal that is especially salient given the student isolation caused by the COVID-19 pandemic. We used social network analysis to examine how two common collaborative learning techniques--small group discussions and team-based projects--affect the structure and strength of the community networks in two public affairs undergraduate courses. Results revealed the importance of focusing on relationship-building instructional techniques to encourage student success.

The students and instructor in a class form a classroom community, which McMillan and Chavis (1986) define as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (p. 9). Research has shown many benefits of supportive and tight-knit classroom communities in higher education including increased student persistence and motivation, lessened feelings of isolation, better flow of information among students, and increased comfort in seeking help from others (e.g., Bruffee, 1993; Dede, 1996; Haythornthwaite et al, 2000; Morgan & Tam, 1999; Northey et al., 2018; Watkins, 2005; Wellman, 1999; Wu and Nian, 2021). While these benefits are normatively good, the COVID-19 pandemic and the corresponding increase in student isolation has introduced an even greater urgency to understand how classroom techniques can create more cohesive classroom communities. As a result, instructors can better help their students succeed both emotionally and academically.

The concept of classroom community has been a focus of research for several decades. For example, Rovai (2002) developed the Classroom Community Scale to test how different elements of course design affect the overall sense of classroom community (e.g., Dawson, 2008; Ritter et al. 2009). This study sought to measure classroom community more directly using a different technique: social network analysis (SNA). SNA is a method that enables researchers to map the network of relationships between nodes--which can be any unit of analysis including a person, an organization, a country, etc.-- and measure different properties of that network structure such as the level and form of cohesion and the existence of subgroups (Borgatti et al., 2009; Saqr et al., 2020). It allows researchers to measure the actual changes in relationships instead of asking students for their perspective on how the community as a whole changed.

Because of its focus on mapping relationships, SNA is particularly well suited to studying classroom community. In fact, scholars have used SNA to understand which collaborative learning techniques increase friendship and advice relationships between students (Naim et al., 2010, Kapucu et al., 2012); which types of relationships students are most likely to form in a classroom setting (Chen et al., 2010), and as a way to measure the growth in collaboration between students (Han et al., 2016). Additionally, recent scholarship on collaborative learning across traditional, online, and hybrid environments points to social networks as an integral aspect of collaboration effectiveness (Kofinas & Tsay, 2021; Love et al., 2020). Building on their work, this study seeks to answer two questions. First, in what ways do two collaborative learning techniques, small group discussions and team-based projects, contribute to the cohesion of the classroom community network? Second, how does a student's structural position in the classroom community network affect their learning course?

Instructor mindset and motivation predict teaching practices
Deborah Richardson, Robert Bledsoe, Augusta University

Individuals with a growth mindset view intelligence as malleable; those with an entity mindset view intelligence as fixed. This presentation will examine the relationship of instructor mindset and motivation to self-reported evidence-based teaching practices. Instructors completed measures of mindset, motivation, and teaching practices. Social Science and Humanities instructors reported using more evidence-based teaching practices and having more motivated attitudes about student efficacy than STEM instructors. Mindset was a significant predictor of teaching practices for Social Science instructors. Only Instructor Mastery Goals significantly predicted teaching behaviors of STEM and Humanities instructors.

Literature
Individuals with a growth mindset view intelligence as malleable; those with an entity mindset view intelligence as fixed. Multiple studies (Dweck, Mangels, & Good, 2004; Sisk et al., 2018; Wilson & Linville, 1985) have revealed that students with a growth mindset are willing to exert effort to succeed and are likely to perform well in their classes. However, there has been little research on instructor mindset (Rattan et al., 2012). This presentation reports the results of a study that examines the relationship of instructor mindset and motivation to evidence-based effective teaching practices. Based on previous research on the relationship of mindset and motivation to STEM instructor teaching practices (Richardson et al., 2020), we predicted that instructors with a more growth-oriented mindset and mastery goals would engage in more evidence-based, learner-centered pedagogical practices than those with a fixed mindset. We also examined whether these relationships would be consistent across academic disciplines.

Methodology
Faculty members completed a measure of growth mindset using items from Dweck's Implicit Theories of Intelligence Scale - Short Version. We adapted items from the Patterns of Adaptive Learning Scales (Midgley et al., 2000) to assess instructor mastery goals and attitudes about student efficacy. Teaching behaviors were assessed with items from the Teaching Practices Inventory (Weiman & Gilbert, 2014), which assesses the extent to which instructors adopt teaching practices that have been shown to be effective for student learning.

Analysis and Results
Pearson Product-Moment correlation analyses revealed that growth mindset and instructor mastery goals were positively related to teaching behaviors for the entire sample. Analysis of variance examining differences among disciplines revealed that Social Science and Humanities instructors reported using more evidence-based teaching practices and having more positive attitudes about student efficacy than STEM instructors. Humanities instructors evidenced more growth mindset than did STEM instructors. Growth Mindset was significantly positively correlated with evidence-based teaching practices for all groups. However, regression analyses in which both mindset and motivational factors were included as predictors revealed that mindset remained a significant predictor only for Social Science instructors. Only Instructor Mastery Goals significantly predicted teaching behaviors of STEM and Humanities instructors.

Conclusion
Although mindset was found to be a correlate of instructor adoption of evidence-based, student-centered teaching practices, instructors' goals for student mastery was a more important factor. Instructors who reported being motivated to assure student mastery/learning also adopted teaching practices that were likely to enhance the probability that the students would learn. In sum, the teaching strategies that instructors employ relate not only to their attitudes about ability/intelligence (i.e., mindset) but their goals for student learning. [426 words]

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Know thyself: How understanding change readiness can facilitate pedagogical change

Brian DeLeivie, Vanderbilt University

Change inevitably comes with uncertainty, ambiguity and resistance. Research shows that the success of pedagogical change efforts within higher education rests upon an individual faculty's change readiness (e.g., beliefs, attitudes, intentions, etc.) and the change context. Through examining and discussing a 2021 research study involving the University of Colorado College of Liberal Arts and Sciences STEM faculty and their efforts to implement equity, diversity, and inclusion-centered pedagogical change, this session will discuss ways the construct of change readiness can be used to understand better faculty's capacity, desire, or urgency to undertake pedagogical change initiatives, future challenges, and refine implementation strategies.

Building and nurturing cultures of inclusiveness and decreasing drop, failure, and withdrawal rates amongst underrepresented students have been identified as essential in achieving larger STEM higher educational goals (Guy & Boards, 2019; Olayemi & DeBoer, 2021; Whitcomb & Singh, 2021). To meet this challenge, university change leaders (UCL) are considering a variety of change implementation strategies to guide and engage their faculty in developing the systems, tools, and protocols necessary (Holt et al., 2007; Lehman et al., 2002; Weiner, 2009) for effective and systemic pedagogical change.

Change readiness (CR) is defined as the scope to which change participants hold positive views about the need for change, the ability of the organization's capacity to successfully make those changes and the extent to which they believe that such changes are likely to have positive implications for themselves and the organization (Armenakis et al., 1993; Eby et al., 2000; C. A. Holt & Laury, 2002; Miller et al., 1994; Weiner, 2009). Furthermore, CR is dependent on the active attempts of change agents to influence the beliefs, values, intentions, and behavior of individuals within an organization.

Organizational change research has shown CR to be a central mediating factor in organizational change effectiveness (Armenakis & Bedeian, 1999; Eby et al., 2000; Haffar et al., 2013; Weiner, 2009). Inquiry has noted that failure to adequately address the needs, wants, and fears of individual faculty will have a determining impact on the overall effectiveness of any change program (Armenakis & Harris, 2002; Chawla & Kelloway, 2004; Ford et al., 2008; Maurer, 1996; Piderit, 2000; Strebel, 2009) and will likely result in decreased commitment to adoption and added resistance (Alvi & Ahmed, 1987; Coch & French Jr, 1948; Eby et al., 2000; Goldstein, 1988; Herscovitch & Meyer, 2002; Kotter & Schlesinger, 2013). Empirical investigations have also revealed that a failure to establish sufficient readiness accounts for over half of unsuccessful change efforts (Bolman & Deal, 1984; Bucy et al., 2016; Erwin & Garman, 2010; Kotter, 1996; Smith, 2005). Conversely, faculty are more likely to show initiative and co-operate when CR is favorable, resulting in more effective implementation and systemic change (Holt & Vardaman, 2013; Weiner, 2009).

Via a workshop approach, this session will examine a 2021 research study at the University of Colorado Denver and the variables affecting change readiness among the College of Liberal Arts and Sciences (CLAS) STEM faculty concerning college-wide pedagogical equity, diversity, and inclusion efforts. Session participants will learn how the factors of change readiness (academic culture, efficacy, valence, uncertainty, commitment and trust) were used to provide CLAS leaders a "snap-shot" into their faculty's CR and gain insights into potential barriers and opportunities when undertaking future pedagogical change initiatives as they continue to address underrepresented minority STEM student's drop, failure, and withdrawal rates. The workshop will conclude with a discussion about the ways the construct of change readiness can be used to better understand faculty's capacity, desire, or urgency to undertake pedagogical initiatives, identify future challenges, and refine implementation strategies.

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Graduate students' dispositions toward educational research methods

Lloyd Rieber, University of Georgia

The purpose of this project was to explore the preferences and dispositions of graduate students enrolled in a master's level research methodology course toward educational research. A unique approach was used to gather data on this topic based on an adaptation of Q methodology, called Q pedagogy. Results revealed differing viewpoints about the class pertaining to preferred research methods and the value of research methods in the instructional design process. A post-activity survey indicated that participants generally felt positive about the use of Q pedagogy as a classroom activity.

The purpose of this project was to explore the preferences and dispositions of graduate students enrolled in a master's level research methodology course toward educational research. A unique instructional approach, called Q pedagogy, was used to explore this topic. Q pedagogy is an application of Q research methodology (Q), a methodology designed specifically to study subjectivity of a person or within a group of people on a given topic. The design of Q pedagogy has been evolving over several iterations over a period of six years within the context of several academic disciplines (see Dinkelman & Rieber (2022); Rieber, Zimeri, & Li, in press). Q pedagogy uses a data collection technique found in Q, called a Q sort, to reveal the viewpoints present among students in the class (Rieber, 2020).

The following research questions guided this research:

oIn what ways does revealing students' subjectivity on a given topic through the Q sort activity support classroom discussion and other class activities?
oWhat are the design principles of Q pedagogy that foster students' engagement and reflection on a given topic based on their subjective perspectives?

The setting for this research study was a graduate course on the topic of introduction to research methods. The course was required by master's and specialist degree students at a southeastern research university. The course was conducted during a shortened summer semester. A total of 29 students participated in the course and of these 23 agreed to participate in the research study. The course provides a survey of research methodologies (i.e. quantitative, qualitative, mixed) along with applications in the instructional design process.

Results of the Q sort on participants' dispositions or preferences toward educational research revealed four distinct viewpoints held by members of the class. During a live online class, each group participated in a break-out room discussion with the task of defining or describing their viewpoint. They were encouraged to construct a short label or motto that encapsulated their view. Each group then explained their group's viewpoint during a subsequent whole class discussion. The groups' viewpoints ranged from strongly favoring quantitative approaches to those wanting to avoid quantitative methods. There was also a general view of not favoring mixed methods. Interestingly, the fourth group favored qualitative methods, yet showed resistance to interview techniques.

A quality class discussion has two important requirements: 1) The degree to which each member of the class contributed to the discussion; and 2) Whether all students felt comfortable voicing their point of view, especially if it seems to be counter to those views already expressed most vocally by a few students. The Q sort activity used in this study addressed both of these criteria. Students immediately saw that their voice was represented in this group of statements. Next, the sorting task itself forced all students to consider of the points of view in the class. There is no taking sides when doing a Q sort. Instead, the Q sort captures the nuance of a student's point of view.

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That's research? Student perceptions of course-based research skill development
Nikki Lewis, Tamar Ballard, Virginia Tech

Course-based undergraduate research experiences (CUREs) and transdisciplinary courses are two areas of pedagogy with unexplored overlap in student learning gains. The skills and practices necessary to define, evaluate, and propose solutions to the complex problems we see in transdisciplinary spaces requires skill sets that we see practiced in research environments across disciplines. This presentation showcases a means to evaluate learning in transdisciplinary classes using assessment tools relegated to undergraduate research experiences and disciplinary courses. The outcomes show the connections between disciplinary and transdisciplinary pedagogy and call attention to the need to explore this research space further.

Course-based undergraduate research experiences (CUREs) are a relatively new pedagogical development in which students learn the research process through inquiry-based learning in the classroom (Dolan, 2017). CUREs within scientific disciplines are typically large classes led by a single instructor who guides students through research using elements of and extending beyond a teaching lab structure (Auchincloss et al., 2014; Dolan, 2017). CUREs hold the potential to provide students with the rigorous, independent research experiences they expect to encounter in undergraduate research experiences, but on a larger scale (Auchincloss et al., 2014). The course-based structure also provides an avenue to increase engagement of students from underrepresented groups, such as transfer students, non-traditional students, and minority populations, in the research process (Bangera & Brownell, 2014).

Experiences that combine curricular training programs and research internships have proven valuable to the process of educating undergraduates about research (Branchaw et al. 2020). Students enrolled this type of course explore multiple scientific practices in a shared group experience (Auchincloss et al. 2014) and grow as a cohort of peers. As valuable as this experience can be to persistence in scientific fields, limited work to investigate CUREs outside of STEM classrooms exists in the literature, and even less is known about learning outcomes for CURE pedagogy in transdisciplinary instruction. Transdisciplinary courses, which are also a newer pedagogical approach (Appel & Kim-Appel, 2018; McGregor, 2017), are spaces where iteration and process learning are the focus rather than discipline-specific skills. The skills and experiences in transdisciplinary courses may equate to learning experiences seen in CUREs, but an evaluation of this potential congruence is needed.

Within a series of problem-based, transdisciplinary seminars with imbedded research practice elements, we asked students to report the types of learning they encountered in the class. Presented with a survey as part of their final course reflection, students were asked to indicate if they experienced learning gains associated with practical research skills (14 items, 5-point scale), research communication (15 items, 5-point scale), and problem solving (15 items, binary selection indicated experienced or not). The first two sets of measured items were derived from a learning gains assessment tool vetted for assessing student perceptions of learning after engagement in the Entering Research curriculum (Branchaw et al., 2020; Butz & Branchaw, 2020). The two selected themes translated to critical thinking and collaboration practices within transdisciplinary spaces and therefore were isolated for this study. The problem-solving items were derived from the AAC&U VALUE Rubric for problem-solving (Universities, 2009). For this third theme, the students' abilities to recognize elements of the problem-solving process in the class were evaluated rather than learning gains because prior problem-solving experiences and learning could influence responses. Preliminary data suggests students recognize and indicate gains in learning a subset of skills associated with undergraduate research experiences. Details of this preliminary study and lessons learned thus far will be presented. The study outcomes connect the value added by engagement in undergraduate research and CUREs to the value attributed to transdisciplinary course engagement.

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Learning students' names before and during COVID-19

Christopher Seitz, Muhsin Orsini, Appalachian State University

The purpose of this study was to determine if there were changes in learning students' names before and during COVID-19. A random sample of faculty at a large, four-year, public university were invited to complete the study's questionnaire. On average, faculty learned 15% fewer of their students' names. In addition, faculty also required 3 additional weeks on average during COVID-19 to learn names, compared to before the pandemic. Faculty reported learning fewer students' names due to: face masks, low student attendance, and a lack of student engagement. The findings' implications will be discussed with attendees.

BACKGROUND AND PURPOSE:
Published research strongly indicates that knowing students by name is an important factor in building a classroom community, improving student engagement, and enhancing professor-student rapport. Unfortunately, during COVID-19, anecdotal evidence suggested that professors were not learning their students' names as well as before the pandemic. As such, the purpose of this study was to determine if there were changes in faculty learning students' names before and during COVID-19.

METHODS:
University IRB approval was obtained before data collection began during November 30 to December 15 of 2021. A random sample of 300 faculty (out of 1,024) at a large, four-year, public university in the southeast region of the United States were invited to complete the study's questionnaire. A total of 92 faculty from the sample (30% response rate) participated in the study.

The questionnaire consisted of demographic items on: faculty status (lecturer, assistant professor, associate professor, full professor), academic discipline (business, humanities, natural and applied sciences, social sciences), number of courses taught per semester, typical class enrollment (small classes of less than 15 students, medium classes of 16-35 students, large classes of 36 or more students). The questionnaire also asked faculty to estimate: the percent of students' names they learned, and the usual number of weeks required to learn those names, before COVID-19 and also during the Fall semester of 2021. Finally, if participants learned less names than normal, they were asked to report the reasons why they learned less names. Statistical analyses were conducted on faculty demographics compared to the percent of students' names learned, and the weeks required to learn those names, before and during the pandemic.

RESULTS
The participants varied by lecturers (23%), assistant professors (21%), associate professors (34%), and full professors (22%). Faculty taught in each academic area, including business (17%), humanities (25%), natural and applied sciences (23%), and the social sciences (35%). They taught in small (9%), medium (68%), and large (23%) classrooms.

Before the pandemic, on average, faculty learned 80% of their students' names, with 40 faculty (43%) reporting that they knew all of their students' names. However, during the pandemic, on average, faculty learned only 65% of their students' names, with only 27 faculty (29%) reporting that they knew all of their students' names. In addition, before the pandemic, on average, faculty learned their students' names in 4.6 weeks, compared to 7.6 weeks during the pandemic. Due to space constraints, the differences in faculty status, academic discipline, and course enrollment will be discussed further during the conference presentation.

DISCUSSION
A significantly lower number of students' names were learned by faculty during the pandemic. Given the importance of learning students' names, there was likely a negative impact during the Fall of 2021 on student learning, classroom community, and faculty-student rapport. Recommendations for learning students' names during potential future crises will be discussed with those who attend the presentation.

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The invisible student: Retaining minority males & the PEACE academy
Jill Wendt, John Holloway, Emory & Henry

This session will examine and address problems with minority student persistence within higher education. Presenters will facilitate a discussion on strategies for engaging minority male students in order to support the students involved to achieve higher levels of persistence & academic achievement. Additionally, the PEACE Academy is another model for embracing diversity, equity, inclusion & belonging. This includes a cohort of diverse students with curriculum focused around conversations about identity, intersectionality, power and privilege, etc. that expands from the classroom into the PEACE house. Students take an active role in their learning by living together in a residential program.

This session will highlight two different models, one of minority male retention through reciprocal mentoring. The second model is called the PEACE Academy (People Empowering Antiracist Communities Everywhere) is a model that embraces diversity, equity, inclusion & belonging. Model #1:Disparities exist among minorities in educational attainment. The gap widens when examining access to higher education and persistence rates among minority males as compared to their white counterparts and minority females. The purpose of this action research study was to explore the impact of reciprocal mentoring model between faculty and minority male students in an effort to examine the effects on student persistence and the students' academic experience. The researcher attempted to examine mentoring relationships, the process of reciprocal mentoring, and the effects on persistence and the students' academic experience for the purpose of learning about one another's perspectives. The researcher used a mixed methods design and used Critical Race Theory (CRT) as the theoretical framework by which to examine issues pertaining to minority male student perspectives and experiences. The resultsyielded eight assertions related to minority male retention and persistence. Costner, Daniels, and Clark (2010)assert that when faculty members do not embrace the cultural richness that exists within minority students, they fail to recognize the benefits of these diverse perspectives thus limiting the curriculum to that of the dominant culture. Model #2 Secondarily, a model called the PEACE Academy (People Empowering Antiracist Communities Everywhere) is a model that embraces diversity, equity, inclusion & belonging. There is curriculum focused around conversations about race and racialization, identity, intersectionality, power & privilege, etc. that expands from the classroom into the PEACE house. Students take an active role in their learning by living together in a learning student housing residential program. This model provides a platform for students (PEACE scholars) to explore difficult conversations, examine existing belief systems in an effort to gain intellectual, emotionally intelligent and practical skills to be civically engaged on social justice issues. This model is aimed at empowering PEACE scholars be agents of change for racial justice and transformation. The PEACE Academy offers a promising path forward for various student communities to identify, question and challenge, generational and community influenced values and entering assumptions about race and race relations. Through a combination of debating different academic constructs in the classroom and the direct living learning experiences in the PEACE House, we seek to dispel unfounded fears and threats and instead build meaningful alliances and community coalitions. Through intensive training, workshops (on campus and beyond) this program elevates the issue of race/racialization in the Appalachian context to hundreds of students and community members. Reynolds (2010) states that there is a substantial need to approach issues of racism and assertsthat by using CRT an educational theory, the result would be an analysis that provides a richer understanding, critical insight and interventions that are culturally sensitive. Upon completion of the session, facilitators will engage the participants with activities discussing collective strategies.

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Social justice and sense of belonging in STEM
Lindsay Wheeler, Nathaly Santos, Juan Garibay, University of Virginia

This research session will share findings from a qualitative case study that explored students' sense of belonging, social identities, and experiences in undergraduate STEM courses that integrate social/racial equity content. Analysis of interviews and course artifacts resulted in two main assertions about the impact of the Equity in STEM courses on student's understanding of and experience with racial inequities and the importance of in and out of class representation for students' sense of belonging. By situating the findings in the STEM education and equitable and inclusive teaching literature, recommendations for instructors will be provided.

Sense of belonging - a feeling of connectedness and an experience of being valued by others (Strayhorn, 2018) - matters for undergraduate students (e.g., Walton & Cohen, 2007), and particularly for students of color and women who have historically been excluded from higher education. While research examines STEM classroom-related factors influencing students' sense of belonging (e.g., Booker, 2015; Wilton et al., 2019), few studies seek to explore how integration of social/racial equity content into STEM courses impacts students' sense of belonging. We sought to explore this using a qualitative case study approach to answer the research questions: 1) What factors promote/hinder students' sense of belonging in STEM? 2) How does a social/racial justice-focused undergraduate STEM course relate to students' sense of belonging?

METHODS
The IRB-approved study took place in fall 2021 at a research-intensive mid-size university with a history of slavery, racism, and exclusion. Twelve female and 10 male undergraduate students were interviewed following enrollment in a STEM course integrating racial equity/justice content. Four participants self-identified as Black and/or Latinx. Data were preliminarily analyzed using an analytic induction approach. We acknowledge that our identities as a white female educational developer, Latina female staff member, and Latino male associate professor of education play a role in our understanding and interpretation of the data.

FINDINGS & IMPLICATIONS
We developed two main assertions:

Assertion 1: Black, Latinx and female participants' sense of belonging in engineering related to the social identities of engineers.

Participants who were not white males had mixed views on their belonging in STEM. All Black and Latinx participants and some female participants expressed not feeling like they belonged in STEM or at [institution x] because the university/discipline are dominated by white males.

Assertion 2: Learning about social/racial justice content enabled awareness for students.

Participants continually discussed their growing awareness of systemic racism in the U.S. as a result of the STEM course content. For Black and Latinx participants, their own racialized experiences and identities along with this awareness enabled them to critique dominant values in STEM and to question what they are belonging to. White participants had similar growth in awareness about systemic racism, and the impact helped them empathize with those negatively affected by racism.

For our participants a) representation in/out of the classroom mattered for Black and Latinx students' sense of belonging in STEM, and b) integration of racial equity content into STEM courses helped all students become more aware of systemic oppression and was differentially beneficial for students based on their race and experience with race in the U.S. Furthermore, Black and Latinx students questioned whether they wanted to uphold problematic STEM values/practices, indicating the importance of understanding what they are belonging to within a sense of belonging framework. By situating findings in the literature, we will provide instructors with strategies and suggestions for integrating social/racial justice content into STEM courses.

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Labor-based contract grading and multilingual learners

Breana Bayraktar, George Mason University
J. Indigo Eriksen, Northern Virginia Community College, George Mason University

Labor-based grading (Inoue) has become an increasingly prevalent evaluation model in composition classrooms, but research on the practice in two-year colleges, and specifically the experiences of multilingual learners (MLLs), is limited. This presentation will share results from a study exploring MLLs' understandings and experiences of labor-based grading in first-semester composition courses at a large multi-campus two-year college and a large R1 university. Data collected include semi-structured interviews, presented as a collective case study (student and instructor profiles). With a focus on MLLs, this study explores student and instructor positionality/intersectionality, and labor realities of alternative grading practices.

This research presentation will share results from a small-scale IRB-approved interview study exploring multilingual learners' (MLLs) understandings and experiences of labor-based grading in first-semester composition courses at two institutions with large numbers of multilingual learners: (1) a large multi-campus two-year college, and (2) a large R1 university with a significant community college transfer student population. While labor-based grading (Inoue, "Antiracist Writing Assessment Ecologies" and "Labor-Based Grading Contracts") has become an increasingly prevalent model in composition classrooms, research on the practice in two-year colleges, and specifically on the experiences of MLLs, is limited (Carillo).

Translating labor-based grading for MLLs in the two-year setting is particularly challenging. The population of MLLs in U.S public schools is growing; 10.4% of the fall 2019 public school population was classified as English language learners (National Center for Education Statistics), while second-generation students account for almost 20% of all U.S. college students and 24% of community college students (Community College Consortium for Immigrant Education). MLLs come to higher edcuation from many different linguistic, cultural, racial/ethnic, academic, and socioeconomic backgrounds. Language learners often need explicit instruction to help them apply what they already know about language to the new discourse patterns and conventions they are learning (Bergey et al.; DeKeyser), and desire access to dominant, standard forms of discourse (Lee). Because of the diverse identities and academic needs of MLLs, it is challenging for instructors to provide instruction appropriate for all students in multilevel classrooms (e.g., Mathews-Aydinli and Van Horne; Scordaras). Making implied expectations clear (Delpit) and introducing labor-based grading, which differs from the hierarchical organization of traditional evaluation methods, is an additional challenge for instructors, as is shifting their pedagogical perspective to adopt a resource-oriented framework (Bunch and Kibler) instead of seeing MLLs through a deficit orientation (Valencia). The work of alternative grading is particularly challenging for the large body of part-time/adjunct faculty, who teach two-thirds of all composition classes at the community college level (Center for Community College Student Engagement), and who may have less compensated time, training, and support for working with students still acquiring proficiency in academic English.

This study aimed to explore the phenomenon of grading as experienced by students and instructors in a labor-based contract grading environment. The goal of this study was to explore (a) how students describe their understanding of labor-based contract grading after taking a course in which this grading practice was implemented, and (b) how instructors describe their experience implementing this grading practice. Data collected include semi-structured interviews of 3-5 instructors and 5-8 students, presented as a collective case study (student and instructor profiles). With a focus on MLLs, this study explores student positionality and intersectionality, and the labor realities of alternative grading practices for students and instructors.

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Instructional assessment strategies aimed toward improving online learning experiences

Abbot Packard, University of West Georgia
Glen Holmes, Alicia Johnson, Bryce Patt Kayanuma, Gabriel Adeneye, Virginia Tech

The relevance or "ecological validity" of course content can enrich students' learning experiences (Conradty & Bogner, 2016). Students' attitudes toward the subject also play an essential role in their grasp of content (Coleman & Conrad, 2007). Using problem-based scenarios to introduce relevance in students' minds is one method that can enrich students' learning experiences (Conradty & Bogner, 2016). This presentation will report findings associated with the researchers' use of problem-based strategies (i.e., scenarios) during the assessment phases of an online research methodology course delivered to graduate students at a northwestern Georgia university.

Introduction

Without strict graduate degree course requirements, students rarely elect to take courses in research methods - either face-to-face or online. Instructors, who intuitively sense the presence of enrolled students who would rather be doing something else, too often report difficulties in making their course content meaningful, relevant, and reasonably challenging to grasp.

Previous research suggests that using problem-based scenarios to engage students, coupled with interactive teaching strategies, helps them "see" the relevance of the material (Alfares, 2021; Lin, 2018; Rillero & Camposeco, 2018) as well as promotes further mastery of learning outcomes (Mahle, 2011).

Method

Master's students (N=60) enrolled in an educational research course offered at a northwestern Georgia university comprised the sample population for this study. In addition, research sampling methods (Chapter 6) were selected as the investigation's content area, specifically those typically used in educational settings.

Students were asked to read and carefully study the entire chapter. After a two-week delay, they were exposed to an online problem-based scenario related to sampling methodology. They were asked to respond to various data categories (quantitative vs. qualitative) questions. In addition, students were asked to identify typically used in standard research practice and align the generic data types with sampling methods most often used to gather the data (e.g., convenience, random, stratified, and the like).

Since the study was, in part, aimed at determining if students "enjoyed the experience" and felt they learned from it, several questions were presented to help determine their reactions. Examples include, "Were you confident with the decisions you made during the scenario?" Would feedback at each decision point during the scenario be helpful?" and so on. The questions ended with students being asked to present a rationale for each of their previous responses. It should be noted that students were also queried regarding their attitudes/dispositions toward self-efficacy and cultural competency. However, these data are not reported nor discussed in the current paper.

Results

A 5-point Likert scale was used to collect student responses related to their ranking (e.g., 1 to 5i) of their experience using the tool. Table 1 below summarizes that students responded favorably to their experience using the online application.

Table 1:

Questions: On a scale of 1 to 5	Mean
Would regular use of this instructional strategy (i.e., interactive scenarios) be helpful to you in the future?	3.97
Would you benefit from additional scenarios focusing on the same topic but addressing it at a higher level of cognitive processing?	3.6
Did you get enough opportunity to gain the correct responses?	3.54
Is knowing the correct answer to the scenario necessary for your learning?	4.62
Would feedback on each decision choice be helpful?	4.48

Discussion

The study results were encouraging and will be used to guide further development and implementation of instructional strategies used therein. One ancillary, yet key observation, surfaced during the study. A back-end relational database approach is warranted, if not essential, to expedite the further design, development, and delivery of scenario-based instruction.

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Practical techniques to enhance teaching & learning and boost subjective wellbeing

Scott Geller, Samuel Browning, Jack Wardale, Virginia Tech

This research developed and evaluated an innovative scale designed to evaluate teaching/learning techniques with regard to their impact on overall learning and on five dimensions of subjective wellbeing (SWB). The evaluation scores for the virtual instruction techniques did not vary significantly on the five dimensions of PERMA--Positive emotion, Engagement, Relationships, Meaning, and Accomplishment--except that icebreakers were judged significantly more engaging than lectures. However, a wide range of ratings were evidenced from the evaluations of in-person instruction, with group projects rated most effective at facilitating SWB and overall learning; and recorded lectures were rated as being least effective.

Positive psychology is a burgeoning discipline in psychology that studies the positive side of human experience (Seligman & Csikszentmihalyi, 2000). Positive psychologists develop, implement, and evaluate interventions to enhance people's subjective wellbeing (SWB). Students in higher education often sacrifice their SWB while responding to the demands of ongoing research, coursework, and an assistantship. Moreover, the COVID-19 pandemic restricted optimal teaching/learning at colleges and universities. Thus, it is critical to support not only students' academic success, but also their SWB. Martin Seligman (2011) proposed the acronym PERMA to reflect the following five dimensions of SWB: Positive emotion, Engagement, Relationships, Meaning, and Accomplishment.

While each of these dimensions of PERMA reflect SWB, they also imply ways to make classroom instruction more effective. Connecting positive emotion with lecture information makes the presentations more memorable and enhances engagement of the learner. Plus, learning is facilitated when students discuss course concepts with other students-termed cooperative learning-and this leads to better relationships, better academic performance, and better psychological adjustment (Johnson et al., 1998). Communicating with other students about the real-life meaning or application of course material contributes to a sense of engagement, which may contribute to academic achievement and ultimately to more positive emotion.

Thus, whenever teachers facilitate the PERMA dimensions in their classrooms, they enhance learning and boost SWB. The virtual university instruction necessitated by the COVID-19 pandemic stifled students' positive emotions, interactive meaningful engagement, relationship building, and their sense of accomplishment. This situation gave us an opportunity to compare various teaching/learning techniques delivered in-person and virtually with regard to their overall impact on learning and SWB, as they relate to the five dimensions of PERMA. This research presentation will explicate the development, implementation, and evaluation of an innovative teaching/learning evaluation tool that asks students to use a seven-point Likert scale to evaluate a particular teaching/learning technique with regard to its overall teaching/learning effectiveness and the five pillars/dimensions of SWB: Positive emotion, Engagement, Relationships, Meaning, and Accomplishment. Our scale includes a space for providing a rationale for each of the PERMA ratings, as well as for the rating of overall teaching effectiveness.

The application of this PERMA scale to evaluate various virtual teaching techniques in a positive psychology class evidenced no significant differences between the various teaching/learning techniques applied, except for finding that icebreakers were significantly more engaging than were lectures. However, when we asked 21 research students to evaluate the variety of teaching/learning techniques they have experienced throughout their college/university experience, a much wider range of ratings were obtained. Group projects were rated most effective at facilitating SWB, and they scored significantly higher on overall teaching/learning effectiveness than virtual presentations.

We are following up this study with systematic evaluations from 35 research students who will provide quantitative rankings and qualitative/subjective opinions of several teaching/learning techniques with regard to PERMA and overall teaching/learning effectiveness. We expect to provide evidence for including the PERMA scale in students' end-of-class evaluations of their instructors.

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Are you listening? Innovative lecture capture in health science education
Kelly Negley, Megan Moran, Marymount University

This session will provide an overview of the literature on the use of live lecture capture technology in health science education, and provide a demonstration of how to uniquely implement this technology into the student learning experience. Findings from a quantitative study, within our physical therapy program, that explored the use, student perceptions, and learning outcomes after the integration of this technology within our lecture halls, and laboratory classes will be disseminated. The audience will also be involved in a discussion surrounding how to be innovative in addressing the pedagogical challenges associated with the use of live lecture capture.

Millennial and Generation Z learners are eager for faculty to use recording technology in the classroom. There has been an uptick in the use of live lecture (LL) capture technology to record face-to-face lectures in health science education in recent years. Proponents for the use of LL capture argue that it improves learning outcomes, allows for flexible learning, and improves inclusivity by appealing to all learning styles. Other authors have suggested that there are no differences in learning outcomes between students that use lecture recordings and those that do not, and report concerns with decreased attendance and student engagement. Even before the onset of the Covid-19 pandemic, LL capture was being used and explored in health science education, to include physical therapy (PT) programs, to create online, blended or hybrid courses.

Based on the limited, but supportive evidence for its use in PT education, faculty in our program elected to use LL capture in lecture courses starting in 2016, and offer limited use in laboratory courses to record psychomotor skill demonstration in 2019. Students routinely request that faculty use the technology in all classroom settings. Lecture capture use in higher education is not a new phenomenon, however, based on the student interest and supporting literature, faculty at our institution have designed and implemented new instructional strategies with the technology to enhance the student learning experience. In an attempt to contribute to the research and understand best practice, we designed a quantitative study to examine student usage, perceptions, and association between lecture and laboratory recording utilization and student learning outcomes.

During this practice session, we will share the findings from our quantitative study, in a doctor of PT program. We will report descriptive statistics on the usage of the lecture recordings across three different cohorts in our program. We will share the students' views about how our instructional strategies with LL capture impacted their grades and levels of stress. We will demonstrate how our program integrates LL capture with our learning management system for lecture and laboratory based classes. Furthermore, we will model examples of segments of lecture capture to encourage student engagement and provide attendees with a basis for LL capture course integration. After sharing how we use the technology and the benefits we see for our student population, we will facilitate a discussion with the audience about their practices, challenges and successes with LL capture.

By the end of the education session, attendees will be able to: (1) understand the research landscape of lecture capture technology, (2) describe current practice of lecture capture in health science education, (3) discuss, model and evaluate innovative pedagogical practices using lecture capture at their respective institutions. This collaborative experience will help attendees expand their practice with lecture capture and navigate the evolving learning needs of today's students. In particular, because of the rising levels of stress and anxiety noted in graduate health science students, faculty should be kept abreast of instructional strategies that can minimize levels of stress and anxiety in this population.

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A nudge experiment an academic outcomes and flu vaccination
Sheryl Ball, Esha Dwibed, Virginia Tech
Steve Trost, University of Wisconsin, Madison

Behavioral science courses are often taught primarily with traditional classroom lectures. We conducted an experiment to evaluate an out of class active learning exercise about flu shots which we designed to improve understanding and build curiosity about "nudging" - a policy intervention that encourages behavioral change. Students enrolled in introductory courses at Virginia Tech who participated showed significant improvement in both engagement and test scores compared with controls. We also find significant increases in flu shot uptake among individuals who received the nudge. Vaccination uptake, but not learning, varied across students based on both gender and political orientation.

Active engagement in the classroom leads to better learning outcomes compared to passive lecture environments. Active learning is supported by extensive research, especially in college-level science courses (Deslauriers et al., 2011; Freeman et al., 2014) and research documents increased attendance, engagement, and improved attitudes regarding subject matter (Watkins et al., 2013). Despite this, classroom lectures are still used extensively, especially in large-enrollment college courses (Handelsman et al., 2004; Stains, M. et al., 2018), often because some active learning strategies do not scale well to large classes. Previously studied active learning methods in economics include think-pair-share, minute papers, classroom experiments, and team-based learning (Hettler, 2015).

We conducted a health intervention nudge experiment where students participated in a field experiment on improving flu shot uptake. Our primary goal was to use active learning to familiarize students with how policy experts test potential policy nudges. Nudging is a strategy that comes from behavioral economics, behavioral decision making, behavioral policy, social psychology, and related behavioral sciences, which changes people's decision environment as to influence their behavior and decision-making (Thaler and Sunstein, 2009). Our secondary goal was to increase flu shot uptake among college students.

One approach to improving the use of preventative health care services is to reduce the distance between an individual's location and available health care facilities. Beshears et al., (2016) explored the impact of functional proximity to medical facilities in improving workplace vaccination rates. The nudge in our experiment rewards students for decreasing their own proximity to a location where flu shots are available, then measures whether they choose to receive a vaccination.

Our experiment involved 928 students enrolled in introductory economics courses at Virginia Tech during fall semester 2021. Two large introductory economics courses participated in the experiment itself, with a third section of the same course serving as controls. All participants were provided information on venues providing flu vaccination. Students were offered extra credit for uploading a picture of themselves in one of two categories of locations. Students in one section of the course were asked to take their picture at any Sports Facility (gym, tennis courts, etc.), while students in the treated section were asked to take a picture at any venue that provided flu-shots (student health center, drug stores, etc.). When they submitted their picture, all students were also asked to indicate whether they received a flu shot. The control course received extra credit for an unrelated activity.

Students in all three courses watched a guest lecture on health interventions during scheduled class times near the end of the semester. Their last midterm exam included 5 questions about policy interventions, a topic covered in their textbook. Students also completed a Minute Paper assigned to gauge their interest and understanding.

Students who participated in the experiment showed significant improvement in both engagement and test scores. We also find significant increases in flu shot uptake among those in the treated section. Vaccination uptake, but not learning, varied across students based on both gender and political orientation.

Opportunities and barriers for supporting development of self-regulation through assessment

Stephen Rutherford, Cardiff University

Self-regulated learning (SRL) is a fundamental skill for effective learning in Higher Education. Assessment can play a major role in the development of SRL, by developing skills in planning, self-management, critical thinking, and self-evaluation. However, assessments do not always build student capacity for self-regulation, for a range of reasons. This presentation will present work undertaken with students, and with staff across a range of nationalities, to identify potential challenges, barriers, opportunities and benefits to focusing assessment practices as 'assessment for learning', or 'assessment as learning', and the building of self-regulatory capacities in students.

The capacity for effective independent 'self-regulated' learning (SRL) is fundamental to Higher Education, but is a skill that undergraduate students often struggle to develop (Bjork et al., 2013). In particular, a key graduate attribute for a successful independent learner is the ability to self-critique or self-evaluate their own work. Assessment practices have the potential to either promote this self-regulation (by encouraging students to be active agents in the activity) or limit it (by placing the students as passive participants in the activity) (Panadero et al, 2017). There are a range of institutional facilitators and barriers to developing assessment practices that support student self-regulation (Evans et al. 2019). Similarly there are differences in the educational cultures of different national contexts, so these facilitators and barriers will vary between national sectors (Schneider & Preckel, 2017). Some factors are institutional (Schneider & Preckel, 2017) and others are based on personal experiences and perceptions (Pekrun et al., 2002). The aims of this research are to identify the key perceptions, and the impact of those perceptions, that either enable or inhibit engagement with assessment that empowers students to develop self-regulatory skills, and the ability to evaluate their own work independently.

This work, part of an European Union-funded international initiative involving 5 institutions within Europe, identifies the opportunities and barriers to assessment supporting self-regulation, that are impacted by the perceptions of assessment by the students and staff themselves. A qualitative approach was undertaken, evaluating student comments in interviews relating to their perceptions of the purpose and limitations of assessment. In addition, responses were evaluated from staff regarding their engagement with key drivers of self-regulation in assessment design.

Key perception factors from students focus on seeing assessment primarily as an audit process of learning, rather than a key element of learning. In addition, a key impact on students' Staff perceptions relate to levels of understanding of institutional guidelines, and the role of assessment as learning, for assessment for learning. Analysis of the outcomes of the research are ongoing, in particular the relative impacts of factors between different national contexts.

This talk will identify common factors, and suggest ways to address them and encourage assessment design that encourages students to become independent, self-evaluative learners. Proactive engagement between both students and staff to co-create, and revise, these assessment and feedback activities is key to success in this process.

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POSTER SESSIONS

Supporting the Mental Health and Wellness of Our Students
Callie Victor, Shenandoah University
Lisa Simmons, Trinity Washington University
Kristen Maisano, St. Catherine University

College students are experiencing stress and anxiety at increasing rates each year. The American College Health Association surveyed 7,660 graduate students enrolled at 39 institutions of higher learning during the Fall 2019 semester to understand the health and well-being of graduate students (2020). Of those surveyed, over 56% of students experienced anxiety within the prior 12 months. About 18% of postgraduate students surveyed reported that anxiety has negatively impacted their academic performance. Almost 4% of respondents said that anxiety in their lives had delayed their degree completion (ACHA, 2020).

Similarly, the American College Health Association surveyed 30,084 undergraduate students enrolled at 58 higher learning institutions during the Fall 2019 semester to gain an understanding of the health and well-being of undergraduate students (2020). Of those surveyed, over half of the students experienced anxiety within the prior 12 months. Over a quarter of respondents reported that anxiety has negatively impacted their academic performance. Over 3% of undergraduate respondents said anxiety had delayed their degree completion (ACHA, 2020).

Stress and anxiety were a concern for college students before the COVID-19 pandemic and has only been exacerbated since the onset in Spring 2020 (Lederer et al., 2021). This presentation will discuss techniques we use to address student mental health and wellness in our distance education and hybrid programs. This interactive presentation will allow participants to reflect on their current practices and increase their toolbox of engaging activities to address the needs of their diverse student populations. Our goal in entry-level programs is to help students develop evidence-based knowledge and skills, develop clinical competence, and build confidence to safely and effectively work with clients. Faculty are asked to address more than just the academic needs of students. As we look to create an inclusive workforce that can meet the needs of a diverse population, then faculty must be prepared to positively impact the mental health needs of the students they educate.

Holland, Middleton, and Uys (2012) reported that students should participate in activities to decrease their stress and anxiety throughout their occupational therapy program. How can this be done in clinical programs facilitated in distance education and hybrid formats? How do we build confidence and clinical competence in our students? What is the importance of timely and constructive feedback? What is universal design for instruction and tolerance for error? If you're wanting to know our responses to any of these questions, check out our session to learn more about engaging with your students in a supportive and active learning environment.

Hokie Haiku's: Fostering creativity in the classroom through community poetry
Cori Ruktanonchai, Virginia Tech

Creative performance and creative thinking is crucial in solving complex and nuanced problems, ranging from economic crises to pandemics (Pearson and Sommer, 2011). Creativity has also been shown to have a relationship with learning and academic performance (Karwowski et al., 2020) and has important implications for students across disciplines (Alvarez-Huerta et al., 2021). Within public health, novel and innovative thinking has proven essential for health professionals to adapt to ever-evolving variants (Cohen and Cromwell, 2021). The necessity of creative thinking skills, specifically above and beyond critical thinking skills, are essential in achieving core Council on Education for Public Health (CEPH) domains, reflected in CEPH domains (https://ceph.org/) such as:

9) Planning & management to promote health: "Design a population-based policy, program, project or intervention."

13) Policy in public health: "Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes."

16) Leadership: "Apply principles of leadership ..., which include creating a vision, empowering others, fostering collaboration and guiding decision making."

18) Communication: "Select communication strategies for different audiences and sectors."

At its core, creativity is a problem-solving process that is necessary to solve novel, emerging, and evolving problems at the individual, community, and societal level (Amabile, 1983). Yet despite this, cultivating creativity and creative thinking in higher education often remains overlooked and underemployed (Grigorenko, 2019; Marquis et al., 2017). Here, I report on the use of a community poetry activity designed to foster creativity in an introductory epidemiology course among undergraduates of junior- and senior-standing. Specifically, I engage the students on a variety of relevant topics, eliciting a few words that spontaneously come to their minds. Using these words, I demonstrate the creative process to the classroom by incorporating their words into a haiku, which I call "Hokie Haiku's". I present these results to the classroom, and further challenge them by offering bonus participation points for students to come up with other creative and novel ways of presenting the words from class. In this session, I aim to engage the audience by demonstrating the activity in real-time with attendees, reflecting upon successes, challenges, and lessons learned, while eliciting feedback and brainstorming from the audience to facilitate future implementation.

Undergraduate Teaching Assistants: The Underused Resource for Hybrid Communications Classrooms
Kathleen Carper, Virginia Tech

2020 changed the landscape of academia forever. Norms have changed, leaving many instructors unsure about how to best teach courses. One of the most prominent changes in academia is the increase in the use of the hybrid learning modality. While it had and has many benefits in helping to mitigate risks of COVID-19 spread, this delivery modality has its own pedagogical merit.

The term hybrid learning was coined around 2011 (About Us, 2018). Defined as the blend of online and face-to-face instruction, hybrid learning allows for many benefits with scheduling flexibility (Crawford, Barker, & Seyam, 2014). Because of this, hybrid learning can also cut down on some infrastructure needs and costs (Peercy and Cramer, 2011).

Hybrid learning dabbles in two popular delivery modalities: online and face-to-face. The biggest difference is in how those two are blended, which is a pedagogical decision for the instructor. Patterned attendance (e.g. Tuesday and Thursday) is not required, which allows students more flexibility in choosing when they work outside of designated face-to-face class time. Perhaps one of the biggest benefits of hybrid learning is that classroom space can better be used to meet enrollment demands by designing smaller class meetings through student group rotations (Olapiriyakul & Scher, 2006).

The use of teaching assistants at the university is not a new endeavor; however, the most common use is through graduate teaching assistants (GTAs). While undergraduate teaching assistants (UTAs) are also used, they typically do not have the same roles. One of the easiest arguments to make regarding the use of UTAs over GTAs is cost. UTAs cost approximately 1/10 of a GTA, but money is not the reason to make the change. When a professor and a UTA are present within the same classroom space, students get significantly more feedback on work. This is likely because most UTAs are undergraduate students who have previously taken and enjoyed the course, forming a good relationship with the instructor, thus leading to interest in the opportunity (Luckie et al., 2020). Most UTAs are also motivated to have leadership experiences. By providing them that opportunity, UTAs can regularly interact with students in the class, providing invaluable feedback to the instructor about students' progress. This allows for two or more people to provide feedback to students in a classroom setting because UTAs can also be the "the eyes and ears for an instructor" (Ruder & Stanford, 2020, p. 3527)

Overall, hybrid learning with UTAs can allow for flexibility in delivery, as well as additional feedback and help in delivering the course in the best way possible; however, using a hybrid learning delivery with UTAs challenges two

of the norms in education, so more research and knowledge is needed to make hybrid learning paired with UTAs effective across higher education.

Bridging Blacksburg and Roanoke for a new undergraduate research curriculum
Carlos Perez-Torres, Virginia Tech

The Integrated Health Science and Research (IHSR) curricula is a new initiative established in collaboration between the College of Science and the Fralin Biomedical Research Institute. While both partners are part of Virginia Tech, the former is based on the main undergraduate campus in Blacksburg while the latter is located in Roanoke as part of the Health Science and Technology campus. The goals of the IHSR curricula are to increase experiential learning opportunities for students interested in biomedical fields and secondarily increase the undergraduate population in the Roanoke campus. IHSR is the first formal undergraduate activity in this campus. There were three main challenges that had to be taken into consideration: the target student population spans multiple majors, travel between campuses takes at least 45 minutes, and similar research opportunities are already present in the Blacksburg campus.
Based on the goals and challenges, we decided to design a curriculum that started in sophomore year with the aspiration that students could be full time in Roanoke by senior year. The opportunity to be fully immersed in the Roanoke campus is meant to overcome the travel distance though the students would have to travel between campuses before that. The senior year in Roanoke is where IHSR distinguishes from other programs in the main Virginia Tech campus and includes clinical shadowing (as additional experiential learning) as well as biomedical courses unique to the curriculum. Additional scaffolding courses are included to create programmatic cohesion and increase reflection on the experiential learning experiences. Students were recruited for the first cohort in the Spring of 2021 from 3 College of Science majors directly as well as through relevant student organizations. In total there were 71 applicants with 86% from the target majors. The committee then created a short list for interviews and a cohort of 20 students was selected. The cohort was diverse with 50% being either URM or first generation based on self-reported information.

This first IHSR cohort started the curricula in Fall 2022. Since this is the first cohort, we did not limit applications to only sophomores. The cohort included 5 seniors, 4 juniors, and 11 sophomores. Of the 20 students, 8 have already been placed in a research lab while 12 have not. New courses were created: in the case of the former they will be part of a journal club that includes discussing their current research experience and the latter are part of an introductory course covering lab safety and matching students to research labs. The poster includes curricular details including proposed growth pattern. Program evaluation will consist of analysis of post-graduation outcomes and persistence in the curriculum and research labs.

Using Individual and Collaborative Examinations to Increase and Incentivize Engagement
Michael Nolan, John McNamara, Virginia Tech

Student success in preclinical basic science courses is typically determined by performance on written examinations developed around the stated objectives of the course. In some cases, examination questions are written by the faculty while in others questions are obtained from external sources such as the National Board of Medical Examiners. Advantages of the former include the ability to directly link a particular question to a specific principle or topic judged to be important. An advantage of the latter is the ability to provide students with rigorously developed and validated questions.

Considerable variation exists regarding the types of questions developed for and included on basic science examinations. Most commonly examinations are composed of multiple-choice questions, with or without images, tables or figures designed to best present the material to be learned. Specific questions can vary in difficulty from relatively simple recognition tasks to the more complicated and demanding synthesis and evaluation tasks. Less common, but perhaps more helpful in preparing students for the learning environment of the clerkship years are examinations composed of open ended, short answer questions requiring students to recall and present previously learned information, frequently in the oral format; a method of knowledge assessment frequently used in the clinic, hospital ward or other patient care settings.

An additional factor related to the assessment and evaluation processes relates to the frequency and weighting of examinations administered during or at the end of a course. Some courses include multiple examinations scheduled throughout the course with each examination score contributing a specific percentage to an overall final course grade. These examinations may be limited to content to topics addressed during a particular unit of the course or may be cumulative in content, recognizing the progressive nature of learning in medical school. Alternatively, student success may be determined by performance on a single, summative examination administered at the end of the course.

Separate from matters related to student assessment, that is, how student learning is measured, is the issue of how student success or satisfactory performance is determined using those assessment tools. For most preclinical basic science examinations such as those composed of multiple-choice questions, success is defined an earned score that is above a particular value, often referred to as the "cut score". In some courses the "cut score" is the only determinant of success; students receiving a grade of either pass or fail. We note that irrespective of the methods used for assessment and evaluation, student success in preclinical basic science courses is typically determined by a students' individual effort on an examination.

Based on the work of previous investigators, we developed a method for measuring student accomplishment and assigning grades on examinations intended to encourage and incentivize collaborative efforts, reward students for active participation with their peers and that would be viewed as valuable. We present examination performance data as a measure of our success in achieving these goals, summarize student perceptions regarding this approach and discuss issues to be addressed when considering the use of this approach.

MCQ vs. FITB Examination Question Performance in Human Anatomy
John McNamara, Michael Nolan, Virginia Tech

We developed three, 50 question anatomy summative examinations, one for each of three Blocks of instruction focusing on the back and limbs, thorax and abdomen/pelvis, respectively. Each examination was composed of a combination of MCQ's with and without images (recognition questions) and single or several words (less than three words) fill in the blank (FITB) questions also with or without images (retrieval questions). Questions with images were of different levels ranging from lower-level questions such as "Name the structure marked by the tip of the arrow." (FITB) or "Which of the arteries listed below supplies the structure marked by the tip of the arrow?" (MCQ). Others were of a higher order such as "Which of the following clinical finding would most likely be observed in a patient with injury involving the structure marked by the tip of the arrow?" (MCQ) or "On which side and in which intercostal space is the pulmonary valve best auscultated?" (FITB). The majority of both types of questions were formatted as clinical vignettes using National Board of Medical Examiner guidelines. All questions were based on stated lecture and laboratory objectives included in the course Anatomy Guide & Workbook. A practice examination consisting of questions comparable in terms of scope, depth, difficulty and format was administered during the week prior to the summative examination during each Block. Examinations were administered using Exam-Soft and scored using Exam-Score technology.

We compared performance on MCQ with FITB formatted questions. Our hypothesis was that, even with advance notice that the anatomy examinations would include retrieval type questions as well as recognition type questions, students would perform less well on the retrieval type questions initially, but would adapt their learning to perform better as the course progressed.

Student examination scores on FTIB questions were on average 23% points lower than for MCQ questions for Block I. For Blocks II and III performance improved and with only a 2-3% point difference for the two types of questions.

Our results indicate that early in their academic experience students perform less well on examination questions requiring retrieval of information than on questions involving recognition. We also observed that over time, performance improves to levels similar to those for MCQ's. These data suggest that on their first exposure to retrieval formatted questions, despite practice opportunities with these types of questions, performance is still not as good as for questions where several answer options are presented.

That performance on FITB questions improved on the two subsequent examinations and appeared to be comparable to performance on MCQ questions suggests that students were able to adapt their study habits to the answer retrieval questions more effectively. We believe that preparing students for the types of formal and informal assessments they will encounter during the clinical phases of the curriculum is an important goal for faculty to undertake during the foundational, largely preclinical years. This was an objective we had hoped to achieve by inserting these types of questions on our anatomy examinations.

Cooperative Learning: The Tale of Merging Two Classes for a Project in Designing Physical Activities for People with Disabilities

Lorie Kramer, Penn State University- Hazleton
Karen Stylianides, Penn State University

Collaboration, cooperation, and actively working in teams or small groups to is increasingly being encouraged and sought by employers. These skills are becoming more expected and valued in the labor market. In our globally and technically advanced world, Johnson, Johnson, Roseth, and Shin (2014) advise there is a growing need to prepare graduating students with 21st century abilities to develop the next generation of creative thinkers, problem-solvers, and leaders. For this reason, higher education classrooms should continue seeking ways to provide students with the opportunity for cooperative learning spaces. Loh and Ang (2020, p. 23) define cooperative learning as "a more defined, structured form of learning in which the teacher needs to be a 'task-setter' by carefully creating a highly structured and well-organized learning environment that requires the active participation of each student." Cooperative learning provides students with the chance to develop interpersonal, social, and teamwork skills (Mendo-Lazaro, et. al., 2018). Herrmann's (2013) study on cooperative learning offered the following suggestions for faculty in higher education: the task and subject matter must be challenging without being too difficult, the teacher must balance supporting students and making sure they are on track without turning to lecturing, and students will more fully engage in cooperative learning if they find it meaningful.

This presentation will describe a cooperative learning activity which merged two classes from different disciplines to participate in a creative assignment. Students from a kinesiology course and a rehabilitation & human services course were brought together in the gymnasium at Penn State Hazleton's campus. Students were randomly assigned to groups and each group assigned a different type of disability. Individually, students conducted research on the type of disability and, collectively, designed an accommodating, appropriate, and safe activity for those with the disability to promote physical movement and wellness. Students demonstrated their activity for the entire class, followed by all students rotating through and participating in each other's activities. This provided students an opportunity to explore each activity, gaining insight and an understanding into the importance of physical movement and wellness for people of all abilities. The activity promoted creativity, critical thinking, diversity, and inclusion. After completing the events in the gymnasium, all students met to view a video filmed documenting the project. Students in their groups then participated in a poster gallery walk to answer questions, followed by a discussion to process the entire cooperative learning activity.

The presentation will provide a) a brief overview of the existing literature on cooperative learning in undergraduate education b) information on the pre-implementation, implementation, and post-implemental phases of the cooperative learning activity c) logistics and challenges in the development of the activity d) a description of the outcomes and e) viewing a video of students engaging in the cooperative learning activity during the spring 2022 semester.

The presenters will leave ten minutes following the presentation to engage with the audience to answer questions and have the audience brainstorm and share ways they potentially could merge two classes for a cooperative learning activity.

Hello! Can you Hear Me? Communicating to Increase Student Engagement

Megan Emori, Virginia Tech

Have you ever felt as though class announcements weren't getting through to students, or had an issue with attendance at events due to lack of student awareness?

While emails remain the most common method relaying information, it's been shown that they are only one piece of a comprehensive communication network, and success relies on buy-in from the entire higher ed community as well as on data-driven assessment (Wesley & Dunlap 2020).

As shown by Katz et al in 2021, the pandemic and online learning only exacerbated the need for clear and effective communication to students, and students who were not as comfortable navigating digital communication methods were less likely to succeed at remote learning (Katz et al. 2021). Thus, successful communication is a key component of improving equity as well as engagement among undergrads, especially those in underrepresented and underserved communities.

In this session, we will use our 3-year journey exploring student communication through a collaboration of the Biological Sciences Student Ambassadors program and the HHMI Inclusive Excellence grant as a springboard to discussing the discrepancies in how students and faculty communicate, barriers to communication, different methods of communication (successful and less successful), and ways to encourage date-driven analysis of communication efficacy.

Our experience involves a departmental survey to students regarding engagement and communication, a departmental canvas resource hub, social media targeted to undergrads, and a bi-weekly newsletter. We also want to share our successes in hiring and supporting undergrads in the communication process using a "by undergrads, for undergrads" model, and in building a comprehensive communications team. Lastly, we will discuss data analysis, challenges surrounding data collection, and our experiences in measuring the efficacy of communication methods through event attendance and follow up surveys to determine the usefulness of our bi-weekly newsletter.

Changes in the Undergraduate Student Population since the Pandemic
Eric Lovik, Radford University

Higher education has been in flux ever since the COVID-19 pandemic forced campuses to operate differently. Depending on the location and type of institution, changes ranged from moving to completely online to a mix of hybrid and in-person instruction. Meanwhile, enrollment leaders and institutional executives have kept their eyes on other factors connected with the looming enrollment cliff. Following spring 2020, different sectors and geographic regions of higher education have experienced various changes in enrollment. One type in particular is the regional public university. This study compares the undergraduate student population prior to the start of the pandemic with subsequent years at a public regional university. The focus institution is a state university located in the southeast with a population of about 10,000 students. Its basic Carnegie Classification is a public masters university. A high percentage (nine out of 10) of the undergrads are from within the state. One-third of the undergraduates are first generation, and about the same proportion are from underrepresented ethnic backgrounds. The gender distribution is three-fifths women to two-fifths men. Following the onset of the pandemic, this institution experienced declines in the number of first-time-in-college (FTIC) students which, along with other factors, led to decreases in the entire undergraduate population during subsequent years. To account for changes in total numbers, this study focuses on percentages of the current student population to see whether the demographic makeup remained relatively constant despite the changes in enrollment. Among some of the key findings was a significant drop in the percent of first generation students both among FTIC and all undergraduates during the 2020-21 academic year. Interestingly, the proportion of underrepresented ethnic minority students remained about the same during the first year of the pandemic as did the percentage of full-time students. There was a slight decline in the proportion of male students. Looking at financial impacts, surprisingly there was no change in the percentage of FAFSA filers. The average income of FTIC households dropped at the onset of the pandemic, then picked up during the following years. While there was an increase in the proportion of students taking federal loans, there was also a corresponding increase in students who were awarded Pell grants. Higher education researchers and practitioners are continuing to learn new information about the impact of the pandemic on undergraduate students. The preliminary results of this case study indicate that, similar to regional public universities in other parts of the nation, this institution has felt the negative effects of the pandemic on its first-year and overall undergraduate enrollment. Next steps in this study include expanding the number of variables of interest and examining multivariate interactions to gain deeper insights.

Mentorship through Land-Centered learning at the VT Indigenous Friendship Garden
Mae Hey, Virginia Tech

Purpose: This presentation will provide a brief orientation on the pedagogy being used to support Land-centered learning at our Indigenous Friendship Garden. However, the focus of the discussion will be on the emerging outcomes related to creating inclusive spaces centered on mentorship and cycles of reciprocal care.

Method: This will be an interactive presentation between presenter and participants. A PowerPoint will guide our discussion, but I would like our time to be as conversational as possible--responsive to the emergent interests, needs, and questions of the participants. Key themes will be brought to the group's attention to guide the conversation using practice-based evidence, but the group will be prompted to share their ideas an experiences on each theme.

Learning outcomes: Participants will leave the session with ideas for not only how to let the Land lead us in non-hierarchical mentoring, but also in the nature of the outcomes possible. Additionally, the themes discussed will be supported by references from literature to inspire and provide direction for the participants' own follow-up research.

Model/ framework/ tool proposed: I have created a model that encompasses the seven directions, allowing us to tap into the inner fires of our mentees as well as ourselves. This transformational model guides us in protocols for understanding and honoring where we are coming from, to know who we are, and where we need to go. It helps germinate our mentees and our selves to consider histories, work, and reflection relevant to personal and community transformation. Additionally, I will describe vignettes of implementing this model.

Testing/ evaluation: This model and its success has been evaluated and proven through the processing, by a reflective practitioner, of mentees' generative artifacts. A variety of approaches have been adopted and attempted to find which support optimal mentee/ mentor growth as well as provide meaningful feedback so the mentor can plan relevant future engagements that build on insights. Artifacts from mentee reflection as well as the process of being a reflective practitioner will be shared.

Significance: As a society, we are faced with shared contemporary challenges including prolonged isolation, environmental instability, and food insecurity. We need to be discussing and implementing strategies for re-knitting our communities--for working together and sharing--so that all may thrive. This presentation will provide discussion helpful to that purpose.

Mentoring Re-Imagined - Designing a Mentoring Program that Fits
Sarah Harendt, Mariah Rudd, Shari Whicker, Carilion Clinic
Avery Mahaney, Virginia Tech

Scholarly literature across many sectors highlights the various benefits of mentorship with emphasis on improved engagement, job satisfaction, academic promotion, leadership preparation, skill development, career advancement, and retention.[1] Conversely, a lack of mentoring has been found to decrease job satisfaction, slow career development growth, and reduce academic productivity.[2] Mentoring can be designed and facilitated in a variety of ways based on the needs of the institution and its desired measurable outcomes. This workshop will walk participants through a brief overview of mentoring models and frameworks that can be utilized when developing a mentorship program, potential modifications to fit specific needs within the organization, steps needed to think through content creation and delivery modalities, and structural implementation of a mentorship program that reflects the needs of faculty. Programmatic elements and evaluation will also be discussed.

Workshop Outline:
*Outlining the various Mentoring Models and Frameworks - 10 Minutes
*Audience interactive learning - What's needed to build a Mentorship Program for your faculty- 10 min
*Tools to implement a faculty mentoring program at your institution (guided discussion with interactive tools) - 30 min
~How to identify your institution's faculty mentorship needs
~How to create your unique Mentorship model
~Identifying modalities that fit your model and participant needs
~How to identify resources & content experts for mentoring content
*Wrap- up / Q & A - 5 minutes

In conclusion, this workshop will encourage a strategic thought process for the creation of a mentorship program while utilizing novel approaches to programmatic structure, design, and delivery strategies.

Engaging Students in Active Learning with ABC Graffiti
Amy Allen, Carey Stewart, Virginia Tech

Researchers find distinct learning differences between classrooms where students passively receive information versus classrooms where students have an active, participatory role (Barton, 1995), and creating a classroom environment where student talk and discussion is valued is essential to the broader aims of education (Engebretson, 2018). However, research shows teachers have a tendency to teach as we have been taught, even after being introduced to more effective instructional strategies (Lortie, 1975; Parker & Hess, 2001). In other words, lived educational experiences influence teachers and the instructional choices they make when planning courses.

However, even when professional development in a specific instructional strategy is available and teachers want to successfully implement that strategy, they are not always effective in doing so (Bickmore & Parker, 2015). This may be because many professional development sessions feature passive learning experiences, like listening to lectures, rather than engaging teachers in active learning experiences that model instructional strategies and require participants to enter as learners (Callahan et al., 2016). However, research shows professional learning is more effective when learners are asked to actively participate in constructing knowledge as opposed to passively listening to lectures (Desimone and Pak, 2017; Zwart et al., 2014)

In this session, attendees will have the opportunity to learn a new instructional strategy, ABC Graffiti (Rozzelle & Scearce, 2014), by actively participating in the strategy. ABC Graffiti is a group brainstorming strategy designed to promote thinking about a topic, concept, or text. When engaged in this active learning strategy, students activate prior knowledge and have the opportunity to recall information from a text (such as an assigned reading or video), elaborate and clarify on that information, paraphrase that text, synthesize diverse thoughts, and express opinions. Students can also make connections to new learning via additional resources.

Participants engaged in ABC Graffiti (Rozzelle & Scearce, 2014) move through a series of ABC posters every few minutes. As they transition from poster to poster, they are charged with generating words and phrases for each letter of the alphabet related to the topic provided by the learning facilitator. Once participants are back at their original posters, they are asked to construct a statement to summarize the information on their original poster. Small groups are then provided an opportunity to share their synthesized summaries with the class. The facilitator may also extend the activity by providing individuals an opportunity to develop a more detailed written response about some aspect of the topic, the text being discussed, or the activity.

To facilitate this session, the presenters will first share an overview of the ABC Graffiti, outlining the strategy along with how it is grounded in research. Second, participants will read a one page document about active learning strategies, then will participate in the technique. As part of the final discussion, participants will be asked to share why this strategy is effective and how this strategy could be used in their respective field. Before leaving, each participant will receive a handout with basic instructions for facilitating this strategy in their classrooms.

Can a Syllabus Affect Students' Perceptions of the Motivational Climate?
Brett Jones, Xiao Zhu, Virginia Tech

Some researchers have found that students' perceptions of the motivational climate within a course can be influenced by the course syllabus (e.g., Ludy et al., 2016; Richmond et al., 2016). However, most of this research is not based on experimental studies with students who are currently enrolled in the course. Furthermore, most studies do not assess a range of motivational climate variables in their studies. To address this gap in the literature, we conducted two studies to assess the extent to which syllabi language and organization can affect students' perceptions of the motivational climate in hypothetical and real courses. We used the MUSIC Model of Motivation (Jones, 2009, 2018, 2020) as the theoretical framework to guide our examination of the motivational climate. In the first study, 29 undergraduate students reported their perceptions of the motivational climate based on hypothetical syllabi statements

related to the course overview, late submissions, attendance, and use of electronics. We found that students' perceptions of the motivational climate were statistically significantly different for different types of syllabi statements. In the second study, we conducted an experiment with 37 students in a "real" course. We randomly assigned the students to one of two conditions and gave one condition a "regular" syllabus and gave the other condition a syllabus that was designed to increase their perceptions of the motivational climate. We assessed students' perceptions of the motivational climate using the MUSIC Model of Academic Motivation Inventory (Jones, 2012/2021), which has been validated for use with undergraduate students (Jones & Skaggs, 2016; Jones & Wilkins, 2022). The statistical tests revealed that there were no differences in students' perceptions of the five aspects of the motivational climate in the two conditions. One implication is that more studies need to use students enrolled in "real" courses, as opposed to simply asking them about hypothetical syllabus statements. More research is needed to examine the types of syllabus changes that are most effective and how many changes are needed to affect students' perceptions of the motivational climate.

Students in Remedial Courses Need Help Reigniting Their Motivation
Lauren Bryant, Patrick Wallace, Virginia Tech

Often in remedial courses or courses for students on academic probation, instructors are encouraged to focus on teaching study skills and techniques. However, this assumes that the only reason most students end up on academic probation is because they lack skills in taking notes or skim reading. While these students may need to develop these skills, they are often simultaneously grappling with difficulty motivating themselves. When students in an academic probation remedial course at a Research 1 university in fall of 2022 were asked to rank the top reasons they felt they ended up on academic probation, the top four reasons were poor study habits (ranked first by 20% of respondents), time management (ranked first by 18% of respondents), procrastination (ranked first by 16% of respondents) and physical and mental health issues (ranked first by 16% of respondents).

To bolster both students' academic skills and academic motivation in the same course in the Spring of 2022, the researchers (the instructor for the course and an A/P faculty member with a background in student motivation research) applied the MUSIC Model of Motivation (Jones, 2009). In discussing the five components of the MUSIC Model (empowerment, usefulness, success, interest, and caring), the researchers hypothesized that the students would need motivational support in two specific components: success and caring. Conversations between the instructor and his students provided evidence that the students were feeling low levels of confidence in their ability to complete their undergraduate programs and felt chewed up and neglected by the system.

The researchers applied these two components to the existing course structure in the following ways:

1. Reframing existing instructional activities so that they could practice new study skills and strategies in the context of their own degree programs, with the aim that this would bolster their confidence in their degree-related coursework.

2. Adding whole-group discussions wherein the instructor could share personal stories about overcoming challenges in undergraduate studies. This allowed the instructor to demonstrate compassion for the students while also serving as a success story.

3. Adding opportunities for the students to provide advice to and support each other. In this way, students not only learned that they had valuable contributions to make to others, but this also created a support network for the students to draw on during the semester.

Students were surveyed at the end of the semester using the MUSIC Inventory (Jones & Wilkins, 2013). Results showed that students demonstrated high levels of motivation on all five components, including interest (a component that one would expect to be low in a remedial study-skills course).

The open-ended responses on the survey supported quantitative findings:

I think that the instructor has been a great help and has related to us on a personal level, making the class feel welcoming...

Letting everyone share their own experience really helps others to improve.

Grassroots Garden Initiatives: Growing Undergraduate Research Interests
Georgianna Mann, Victoria Zigmont, Anne Cafer, University of Mississippi

Experiential and service-learning, where service-learning is a form of experiential learning, has long been touted for its benefits in multiple contexts (Eyler et al., 2001; Kolb, 1984). Similarly, undergraduate research experiences have be lauded for not only gains in professional development but also personal development for students involved (Hunter at al., 2007).

Grassroots Garden Initiatives was a summer undergraduate multidisciplinary research pilot program that combined experiential learning with research. The goal of the research initiative was to develop strong undergraduate researchers and gain valuable insight into campus needs to develop appropriate programming to improve health outcomes for the community. The program was primarily housed within public health and nutrition, but also included faculty in sociology and pharmacy administration. Students (n=5) enrolled in an eight-week paid program in summer of 2022. Program activities were threefold: complete an on-campus needs assessment, work in the campus garden, and engage in service-learning with a local farmer's market. Weekly meetings addressed literature reviews, methodology, and analysis. Each student selected a research project that fit within the overall campus needs assessment for staff and graduate students. The needs assessment included a quantitative piece (survey) and qualitative (interview) arm. Every student also helped to collect data by performing interviews with staff or graduate students and transcribing respective interviews. Students also worked on several initiatives with the on-campus garden that needed repair and fresh interest. Throughout the duration of the program, students worked with a farmer's market to help develop recipes and educational/promotional pieces and completed reflective journals. At the conclusion of the project, students presented their research in a multidisciplinary joint poster session with nanoengineering students on campus where friends and family were welcome to come. One student reflected: "I am extremely excited to see what our collective data tells us and the impacts we will be able to make on this university with the information we have collected." Some noted a sense of community working with the farmer's market, while some expressed frustrations over scheduling difficulties and unexpected health issues. Overall, this program was effective for research skill development while the experiential components helped students to contextualize some of the information they learned while collecting data. Three of the five students are continuing their work with the Garden Club and have kept activities ongoing at the on-campus garden site. The farmer's market continues to be a steadfast service-learning partner in the community nutrition courses. The program worked well for the completion of the needs assessment, bringing enthusiasm back to the on-campus garden, and data collection. The eight-week program duration was too short for data collection and analysis. Future projects of this nature should be at least 12 weeks, if not longer. However, a way to overcome this is to set the program up as a summer and fall program, where data collection occurs over the summer and continues into the fall. New faculty starting summer research programs should have schedules to give students prior to joining the program, detailing any deadlines that exist within the program.

Designing Clinical Faculty Professional Development for Health Systems Science
Sarah Harendt, Natalie Karp, Mariah Rudd, Shari Whicker, Carilion Clinic

Professional development of clinical faculty to support integration, modeling, and assessing of Health Systems Science (HSS) content within clerkship learning environments is lacking in medical education and scholarly literature to date. While efforts do exist, they are often focused on one or two specific HSS domains. This session is designed to provide participants with tangible takeaways to help them begin building an HSS faculty development opportunity.

The HSSIP Clinical Champion Cohort Faculty Development initiative (HSSIP Cohort) experience has been structured to promote collaborative learning of HSS content and complementary pedagogy over a 12-month period beginning in November 2021.

The primary goals of the HSSIP Cohort are to:

-Support cohort participants' development as educators and role models to lead knowledge creation and collaborative change around HSS concepts; and,

-Develop practical HSS curricular content scalable across the healthcare system.

Monthly sessions are designed with both internal and external HSS content experts to provide a broader knowledge-base and an opportunity to drill down into the healthcare system. Sessions also consist of interactive workshop content designed to provide a framework and model (Kern's model) through which HSS curricular content can be created, implemented, and assessed.

An important consideration across the HSSIP Cohort design and implementation has been thoughtfully considering equity, diversity, and fostering a sense of belonging (DEI). The following demonstrates our focused strategies to address DEI in an impactful way:
-Considering diversity of HSSIP Cohort participants in the recommendation and selection process
-Intentional identification of a diverse set of internal and external workshop presenters
-Curated resources representing a wide variety of perspectives and disciplines
-Utilizing a Community of Practice model in the creation of the program structure and interactive elements

As their deliverable, all cohort participants have developed novel M3 clerkship HSSIP curriculum session(s), selecting a primary and secondary HSS domain to integrate into their curricular content.

Next Steps & Session Plan:

The following plan will be utilized to assist workshop attendees in visualizing how they might implement this project at their own institution. Presenters will share strategies implemented, unexpected outcomes, and challenges navigated during the creation and implementation of the HSSIP Cohort initiative. The workshop session will follow the format described below:

~Outlining the HSSIP Clinical Champion Cohort Faculty Development Initiative - 10 Minutes
~Audience interactive learning - What's needed to build a Faculty Development opportunity around HSS - 10 min
~Tools to implement an HSS FD program at your institution (guided discussion with interactive tools) - 30 min
~~How to identify your institution's faculty development needs within HSS
~~How to select your champions
~~How to identify resources & content experts for HSS domains
~~How to utilize Kern's model in building an HSS-focused faculty development program

Wrap- up / Q & A - 5 minutes

Session attendees will come away from this workshop with tangible tools and a plan for how to determine faculty development HSS-related needs, how to identify resources that exist, methods for creating and implementing a faculty development program, and how to evaluate outcomes.

Teamwork and Collaboration in Construction Management and Engineering Education
Saeed Rokooei, George Ford, Mississippi State University
Ali Shojaei, Virginia Tech

Information technology has reshaped the structure of organizations and factions in many industries. Similarly, the construction industry has experienced unprecedented changes in design, development, control, and maintenance. Many construction projects are performed through a decentralized approach in which various teams and groups are geographically dispersed. Such teams are characterized by a manifold of knowledge and skill level, cultural approaches, and work routines. However, differences or dissimilarities between professional individuals should be properly managed to avoid any low morale, quality, or failure. Therefore, forming orchestrated teams with effective communication, collaboration, coordination, and conflict resolution systems become vital for construction projects, and hence construction programs should emphasize teamwork and collaboration in their curricula. This project reports on the collaborative experiences between construction and architecture students in a design-build studio and highlights important features of effective collaboration in an educational environment. The teamwork and collaboration skill sets are underscored by the fact that one of the student learning outcomes (SLO), defined by the American Council for Construction Education (ACCE), emphasizes this skill set. ACCE, as the primary accrediting body of the construction

management program, highlights the teamwork in SLO 9, in which it is expected that students "apply construction management skills as an effective member of a multidisciplinary team."

This project aims to address different features of collaboration efforts between two programs of Architecture and Building Construction Science in two six-credit-hour courses. The research question in this study was to explore how different aspects of collaboration and teamwork are perceived by students. This study included the analysis of students' perceptions of their major teammates as well as their collaborative teammates. In the first phase, a quantitative method in the fall of 2021 was employed to highlight similarities and differences between the two sides. The results indicated a sense of identity, trust, time management, and effort commitment. The findings also illustrated how different students might have different interpretations of the same subject. This study will contribute to the body of knowledge by providing inputs for construction educators and scholars to consider factors impacting the collaborative effort or projects. This will help construction students to develop their managerial skills and become effective team members in collaborative environments.

History Lab: Fostering Experiential Learning Across the Disciplines
Todd Ogle, David Hicks, Paul Quigley, Thomas Tucker, Virginia Tech

History Lab: Creative technologies, hidden histories, and Informal learning is a new transdisciplinary experiential learning course (https://vtx.vt.edu/videos/k/2022/02/1_6899adsz.html) designed and taught by faculty from across campus who sought to take and mirror their ongoing research and outreach collaborations [1] into an undergraduate course. The course is designed to offer an experiential learning opportunity for students interested in history, education, and the application of creative technologies to these areas [2, 3]. The course is designed to serve as a bridge among students interested in STEM fields, the Humanities, Education and the Creative Arts, employing immersive technologies to illuminate the past [4]. The course deliberately guides students through group project work, stressing an AGILE team-based approach and intensive design critique as students complete and document their progress on interdisciplinary projects.

In our session we bring the case study model to an exploration of how a team of faculty from different departments designed and implemented a transdisciplinary experiential course. Introducing our curricular work as a case study will allow participants to immerse themselves within key aspects of the case in order to develop an awareness of the potential and provisos of engaging with and negotiating in such experimental course development within their own future practice.

A case [5] is a story or narrative, based on real events or problems, that requires participants to unpack the complexities, ambiguities, and uncertainties facing them within the case. Cases provide the opportunity to engage in thoughtful discussions and reflections while also looking at how what is learned from each case can inform future practice. Cases require participants to: 1) tease out key issues from the messiness and complexity of the real world scenario; 2) identify issues at hand (paying attention to context and problem parameters); 3) explore possible solutions, 4) formulate strategies and recommendations for action; 5) make decisions, and; 6) identify how to implement these decisions within their future actions.

In this two-part session employing an Explain/Demonstrate and Participate framework, we first provide participants with a case study of how and why a team of faculty designed and implemented an experiential transdisciplinary course - "History Lab: Creative Technologies, Hidden Histories, Informal Learning" (Explain/Demonstrate). First, we trace the trajectory of our work from the course's inception to the final product, while sharing the course proposal, syllabi, assignments, students products and outcomes, examples of iterative design based on critique sessions, workload agreements, and the course's culmination in a public exhibit of student projects. The second half of the session will be a question / answer dialogue to allow participants to unpack the case study in more depth (Participate).

Innovative Options: Tech Tools to Build 21st Century Literacy Skills
Karen Rogers, Coppin State University

The purpose of this poster presentation is to provide both relevant research and practical application for incorporating instructional technology to enhance, engage, and support all students, including marginalized populations, in building 21st century literacy skills across disciplines.

The poster will focus on ways today's faculty can use several current technology tools to increase educational opportunities and experiences across disciplines using interactive multimedia software. It will include relevant research, benefits and limitations of the technology tools, ideas for implementation, and specific examples to demonstrate how these tools can provide an engaging way to explore new ideas and make connections between them to help students of all abilities achieve academic gains.

Over the past few decades, people have drastically changed the way they access and interact with information. Today's students have grown up with Siri and the term "Google it." Information is readily available at the touch of a fingertip or with a single voice activated phrase. In 2011, Common Sense Media (2011) reported children (on average) start using a computer at 3.5 years of age. Faculty need to meet students where they are by effectively incorporating technology tools that engage learners, enhance content knowledge, and make connections in today's classrooms.

Research shows that technology can address marginalization, and digital resources have translating capabilities that are unlike traditional methods. Technology can "help bridge the power differential inherent in education" for students of marginalized populations (Bowen, 2012 p. 31). Educating young people gives them the option to learn how to use digital technology to advance their education (Hourcade, Bullock-Rest, Schelhowe, 2010). Integrating technology has "reinvigorated curiosity intergenerationally" causing students and faculty alike to explore new opportunities (Addison, 2012, p. 306).

When it comes to technology, faculty have the choice of banning it, ignoring it, limiting it, enhancing it, or transforming it (Johnson, 2010). I believe we should transform it and lead by example, utilizing technology to increase educational opportunity for all learners.

Literacy is the foundation of virtually all other learning and strong communication skills are vital in all interactions, from the classroom to today's global communities. NCTE's (National Council of Teachers of English) definition of "literacy in a digital age" asserts that students must: build relationships with others to pose and solve problems collaboratively and cross-culturally and design and share information for global communities to meet a variety of purposes. The strategies and technology tools presented in this poster will help teachers and learners achieve gains in these areas to thrive in today's technology driven world!

Adopt-a-Dataset: Authentic Experiential Learning in Social Science Methodology
Nathaniel Porter, Virginia Tech

At the undergraduate level, most sociology and criminology students have limited opportunities to practice original quantitative research, particularly with data that has not already been carefully curated to minimize its complexity. This poster will present a model, being piloted in Spring 2023 in the Virginia Tech Department of Sociology, for a senior seminar course where students will conduct a complete research study process with a unique survey of whistleblowers whose data was at high risk of being permanently lost. The course builds on core major required courses and integrates human subjects protection training, archival research and digitization skills, data cleaning, theory-based data analysis, writing policy briefs, and data archiving. By the end of the course, the class will have prepared the data for deposit in the ICPSR data archive, making it permanently available to future researchers and groups of students will have prepared brief whitepapers describing and summarizing new analyses and findings using the dataset. This model, if successful, can be adapted to work with other data sources and types to simultaneously enrich student learning and data preservation and sharing.

The Brain: An Owner's Manual for College Success
Jennifer Rainville, Rachel Diana, Timothy Lipuma, Virginia Tech

The COVID-19 pandemic forced students and instructors into distance education. Some students began their college instruction during the midst of the pandemic, and had not had in-person instruction for over a year. Much of the research on COVID-19 and education focused on coping with and adapting to distance learning, but to our knowledge, little research has been done on the transition back to in-person learning.

Even before the pandemic, student attainment has been widely examined through a variety of approaches, including Carol Dweck's growth mindset, metacognition, and practice of high-yield study approaches. We posit that there is an untapped approach to bolstering student attainment. Although many interventions point to psychological and neurobiological outcomes related to improved learning outcomes, e.g., neuroplasticity and the growth mindset, to our knowledge, there are no interventions that equip students with both evidence-based tools to studying, along with the neurobiological and psychological mechanisms by which these tools are efficacious.

Our intervention focuses on neuroscience and psychology students, who take a variety of STEM and general education courses. Students will be given an initial survey to assess their study practices/strategies, metacognition, and growth mindset. Students will then participate in a seminar that is designed to teach them mechanisms of studying, learning, and performance, both from a neuroscience and psychology perspective. Students will be taught several practices, such as self-testing, SMART goals, and attention management. A follow-up survey will be administered to the same students one month later, to assess changes in their study practices/strategies, metacognition, and growth mindset. An end of semester follow-up will be conducted to see if the intervention had long-term impacts on any of the intervention measures, as well as course grades and overall GPA.

Bodies&Bites: a healthy taste of anatomy, physiology, and nutrition
Kristofer Rau, Virginia Tech

"Bodies&Bites" is an educational program in which medical students from the Virginia Tech-Carilion School of Medicine (VTCSOM) and graduate students from the Fralin Biomedical Research Institute (FBRI) apply active learning strategies to teach anatomy, physiology, and nutrition to 2nd-5th grade kids in Roanoke, Virginia. This four-week program is held in the Fall and Spring at the West End Center for Youth (https://www.westendcenter.org/), which is an after school educational center that serves K-12 children who live in one of Roanoke's most disadvantaged and under-served neighborhoods. Children from the West End Center rotate through a different topic each week and learn about specific body systems, including the nervous system, cardiovascular system, digestive system, and musculoskeletal system. These sessions are a combination of small group discussion and hands-on activities and crafts, and are facilitated with the use of 3D anatomical models. Each session ends by making a healthy snack with the kids that relates to that particular system. For the medical students, this is also a valuable opportunity for them to participate in critical service learning through the VTCSOM Engage program (https://medicine.vtc.vt.edu/community/vtc-engage.html), which is a required component to their curriculum.

Racial-Ethnic "Rebooting" in Popular Media: Modalities and Cross-cultural Learning
Diana Rios, University of Connecticut
Mary Helen Millham, University of Hartford

Our intention is to explain how different teaching delivery modes (asynchronous online, face-to-face, etc.) and writing modalities (short online responses, short essay, longer term paper) can be used in cross-cultural learning, using media "reboots". Students learn more about the topic and instructors learn more about teaching controversial race and media issues. Multiple writing modalities span between starting points and longer contemplation about pressing diversity topics. Assignments can position students to wrestle with ideas, concepts, and terms related to cross-cultural "otherness" and historic marginalization of characters of color. When it was announced that "Snow White" (2024) will feature a Latina as the iconic lead character, there was much positive opinion, but also some racially-based insults in social media about changing an historically white female role with a brown/black actor. Fears of cultural difference and of socio-economic competition and white ethnic replacement, were revealed in some audiences' reactions. The

new "Rings of Power" (debut Fall 2022), based on J.R.R. Tolkien's fantasy stories, and Disney's "The Little Mermaid" (2023) provoked similar reactions to their multicultural casts and character voice-overs. Class lectures (with video examples) and thought questions prepare students to think critically about issues surrounding "rebooting" or updating and thus multiculturalism. For writing assignments, students dig into the what, how, where and why of certain media revamping, reconfiguring, and re-imagining, and use selected cross-cultural communication concepts and terms. As uncomfortable as it may be, writings should also discuss the negative criticism against rebooting--the what, how, where and why of the racialized reactions, using cross-cultural concepts of "otherness". Depending on the course level, and assignment type, instructors can expect variations in breadth and depth of writing on behalf of the students: the 300 word online discussion posting with cites, APA formatting and peer review (everyone sees it); the short 4-page essay with citations, APA formatting, to instructor only; the longer 6-page essay with citations and APA formatting, to instructor only. We ask the instructor to consider the general topic's fit within their pedagogical toolbox: Would it be expanding and enriching or not? Would your campus environment allow for controversial discussions of race and popular culture revamps in your live or online classroom? What are your professional considerations as an instructor and campus community member? How well would students address racial issues connected to rebooting when class peers can read their online discussion postings? Will students feel compelled toward an ecologically-flavored analysis in a class group context for "conflict avoidance", or "face-saving"? Will students' authentic opinions be more clearly revealed in assignments that go only to the instructor?

Reflecting on relevance: Increasing student engagement with course content
Christine Terry, Erin Friedman, Jamie Brooks, University of Lynchburg

Has a student ever asked you, "Why do we need to know this?" or "Why does this matter?" Do you teach a service course? Do your students struggle to engage with the course content? As instructors of an introductory biology course at a primarily undergraduate institution that is taken by both majors and non-majors, we have struggled with all of the above (and more!). To address these concerns, we designed and implemented a 2-week capstone module to provide a bridge from remembering & understanding toward application & analysis by prompting students to consider how the course topics related to their personal interests and goals.

Briefly, the students completed interest surveys and instructors selected one interest per student (which was assigned as that student's "role"). Instructors then created groups of three to four students with unique roles. Within the assigned groups, students first worked independently to connect their role to each of 11 major course themes and then worked as a group to rank those 11 topics based on perceived applicability and personal interest. Ultimately, each group chose one of those topics (random group selection order was determined by a spin wheel), and students then worked independently to expand upon the relationship between the topic and their individual role. Groups also worked together to create a common topic review that contained essential topic elements for all roles in the group. Class time was provided for group work sessions, and instructors provided individual feedback for deliverables due in each class period. The final presentations were held in-person during the final exam period; there was a group score for the common introduction and an individual score for each student's role presentation, allowing for flexibility and minimizing group tension with respect to grading. At the end of the presentation session, the students performed a metacognitive reflection.

Students overwhelmingly enjoyed the activity and reported feeling a deeper understanding of and appreciation for the content they had learned that semester. Just as importantly, the students had fun engaging with the material, exploring their own interests, and sharing with and learning from classmates. At a time when students are typically stressing over final exams and rushing to finish the semester, this was a positive way to bookend learning and stimulate new questions and an interest in science.

Does topic order matter in undergraduate biochemistry instruction?
Sasha Marine, Virginia Tech

Undergraduate biochemistry courses are often taught following the chronological order of the textbook, beginning with proteins and carbohydrates and ending with lipids and nucleic acids. Although the majority of college textbooks adhere to this "traditional layout" (1,2), the topic order does not reflect the central dogma of biology (i.e, the processes

of transcription and translation). This order of biochemical topics also obfuscates the interdependent nature of biochemical pathways, as subjects are fragmented and siloed (3). Content delivered in this manner may come across as haphazard and dated, impacting student interest in the subject and integration of new information with knowledge gained in previous classes. However, very few published studies have investigated whether the presentation order of biochemical topics impacts student learning and success. Here, we sought to empirically address the role of content topic order on student learning outcomes and academic self-efficacy by modifying the order of information presented between two general undergraduate biochemistry course sections that run in parallel in spring semesters. Student learning outcomes were measured using exam performance and item analysis. Academic self-efficacy was measured using Likert scale surveys administered at the start and end of each topic section. Data collection began in spring 2021, and was collated into a data dashboard allowing for deeper review of impact of topic order presentation to student outcomes. Student outcomes were determined based on academic performance, confidence in subject matter, and perceived relevance of topic to future career paths. Our work will supplement the minimal pedagogical research that exists on the relevance of presentation order, as well as improve instructional delivery and student learning for general undergraduate biochemistry courses.

EdD Students' Perceptions of Self-regulation and Writing during the Dissertation
Sarah Daniel, Annmarie Noonan, Courtenay Nantz, Shenandoah University

EdD students can struggle to finish their dissertations in a timely manner if at all (Locke & Boyle, 2016). Two factors linked to this struggle are the mastery of academic writing and engagement in self-regulation (Kelley & Salisbury-Glennon, 2016). Writing and self-regulation skills are essential during the dissertation, as candidates are expected to design and write a dissertation independently with minimal support (Kelley & Salisbury-Glennon, 2016). Even students who are proficient in academic writing can struggle to self-regulate during the dissertation phase because they are no longer operating in the coursework environment of externally imposed assignments and due dates. Self-regulated learning refers to one's ability to understand and control one's learning environment (Schraw et al., 2005). Self-regulation abilities include goal-setting, self-monitoring, self-instruction, and self-reinforcement.

This sequential explanatory mixed methods study explores the relationship between academic writing and self-regulated learning during the dissertation development and writing process. In the quantitative phase, survey data was collected. The qualitative phase will be completed by November 2022. Our quantitative phase methods and findings are discussed next.

Our survey gathered information about participants' perceptions of their self-efficacy to self-regulate, use of self-regulation strategies, attitudes toward academic writing, dissertation stage (working on proposal, passed proposal defense, graduated) and demographic information. The survey was sent to 31 EdD candidates and recent graduates from a small private university in Virginia. Nineteen completed the survey (68% response rate). Eleven were in candidacy with three working on their proposal and eight who passed their proposal defense, additionally eight were recent graduates. We tested our hypothesis that participants' self-efficacy to self-regulate, use of self-regulation strategies, and attitudes towards academic writing would vary depending on which of the three stages they were in (working on proposal, passed proposal, or graduated) using one-way ANOVAs. When looking at self-efficacy to self-regulate during the dissertation, those who had not passed the proposal defense reported significantly less self-efficacy to self-regulate compared to those who had passed the proposal defense and recent graduates. When looking at the ability to self-regulate during the dissertation, those who had not yet passed the proposal defense reported significantly less ability to self-regulate compared to recent graduates. Regarding the degree of concern about writing, all stages reported low levels of concern. When looking at the degree of positive feelings about writing, each stage indicated moderately positive feelings. Our phase one findings support the literature in that those who have confidence in their ability to self-regulate and utilize self-regulation strategies are more likely to progress further in the dissertation process, including completing the dissertation.

In the qualitative phase we are interviewing purposefully selected participants who indicated interest in being interviewed on the survey. Interviews are designed to supplement the survey findings, allowing us to explore other factors (e.g., course content and sequencing, candidate-chair dynamic) that could relate to students' perceptions of self-regulation and academic writing during the dissertation process. We plan to share our quantitative survey and qualitative interview findings in our presentation if given the opportunity.

Engaging the Text: A Social Annotation Practice Session
Michele Ren, Kali Smith, Radford University

The COVID-19 pandemic provided students the unique and taxing situation of quickly modifying almost every aspect of their lives. Stress can have a detrimental impact on the performance of students academically especially combined with a generally stressful learning environment such as college. Research indicates, "...stress interferes with cognitive functions, and, particularly, with executive functioning"(p. 3). Having and developing executive functioning skills are invaluable to the success of college students. These skills are "...a set of cognitive processes involved in planning, executing, monitoring and adapting goal-directed behaviors" (p. 3). With the added stress of a worldwide pandemic, college students everywhere felt the impact. According to a study based on Argentinean undergraduate students, "... higher stress levels were associated with worse reading comprehension performance..."(p. 11). Tabullo, Chiofalo, and Wainselboim (2022) confirmed that students experiencing stress had struggles with executive functioning skills that was reflected by their difficulties comprehending reading. While teaching English 111 and 112 courses during a global pandemic, we noticed a similar trend in students at Radford University.

In our classes, we observed that this stress and its impacts on executive function meant that students were less likely to complete assignments outside of class. Even before the pandemic, Hollander, et. al (2022) found that 60-70% of undergraduates "'did NOT complete the assigned reading on most days'" (p. 97). They further discovered that "students do not seem to be aware of or concerned about their lack of these skills," even if their professors were (99). They concluded that while students skip readings because they do not see an immediate benefit, professors worry that students do not have the reading skills necessary to excel in college.

As co-instructors for a first year composition course that required "Students employ reading strategies to facilitate written communication," we had to make sure that students were doing the reading, and the lead professor's experience with teaching in the first year of the pandemic suggested that reading in-class would be best for that. But even while in class, making sure students are reading requires attaching a graded assignment to the reading. The lead professor had tried the "Save the Last Word for Me" protocol in an upper level literature class, but was not sure that would work for first semester students. She also looked into programs such as Hypothes.is and Perusall, but because the text was an in-house e-text, freely available on the web, settled on using a simple Google doc.

Goals and Objectives

Upon completion of the session, participants will have:

A sense of how social annotation can get students to engage the course readings

Some examples of prompts to get students commenting

Some strategies for getting students to comment on readings thoughtfully

Ways of promoting ownership of the class and a sense of community among students

Strategies for reading and grading student comments

Closing Equity Gaps through Mentored Course-based Undergraduate Research Experiences
Tiesha Martin, Jamie Lau, Jennifer McDonel, Heather Keith, Joe Wirgau, Jeanne Mekolichick, Radford University

It is well documented both at our own mid-sized public university and across higher education in the United States that a range of equity gaps exist, including retention and graduation rates for racially minoritized student populations. Using internal data demonstrating the positive impact of undergraduate research, scholarship and creative inquiry (URSCI) on retention and graduation rates, the Elevate Research Program was built to close equity gaps for minoritized student populations and increase retention and graduation rates for all of our students. Data demonstrate that the positive impact of an URSCI experience is largest for students in their first and second year.

With the generous support of the Jessie Ball duPont Fund, the Elevate Research Program addresses several institutional strategic priorities, including expanded and equitable access to undergraduate research experiences, increasing leadership opportunities in the classroom for Black, Indigenous, and People of Color (BIPOC), closing equity gaps in retention and graduation rates, and helping faculty and students map career-readiness competencies to the benefits of engaging in URSCI.

The program supports faculty infusing URSCI into the curriculum by creating Course-based Undergraduate Research Experiences (CUREs), with a focus on first- and second-year courses, and includes student research mentors to assist with the course. Faculty attend a course (re)design institute, work with a BIPOC Elevate Research Student Mentor in teaching the course, and are provided a range of additional professional development opportunities. The Elevate Research Student Mentors are successful, upper-level undergraduate BIPOC students who provide representative leadership within the class, expertise in an area of study, and a channel of communication that may be less intimidating than the faculty to first-time researchers. Students are also supported with professional development, career and networking opportunities.

In year one, 10 faculty fellows, 12 student mentors, and 388 students were enrolled in newly-developed CUREs. Six of the initial faculty continued teaching the CUREs in additional semesters with a student mentor. Initial data indicates that students taking an Elevate Research CURE were retained at roughly the same rates as students not in the Elevate Program and equity gaps were smaller in the Elevate Research courses. Student and faculty focus groups helped to provide insight into areas that were working and other areas that need refining as the second cohort starts. In our presentation, we will discuss the format of the program, lessons learned from implementation, summary data from the first cohort, initial data from the second cohort, and future plans for the program.

Wicked Problems across the Curriculum
Paige Tan, Heather Keith, Radford University

Growing out of the broader Wicked Problems literature (Rittel and Webber), the specific inspiration for Radford's exploration of Wicked Problems in teaching was a faculty learning community on Paul Hanstedt's Creating Wicked Students: Designing Courses for a Complex World (2018). From our campus' engagement with the book, many initiatives have sprouted, including an increase in problem-based learning, a Wicked Problems course, a Wicked Problems minor, and a biannual Wicked Festival. This poster shares the results of Radford's exploration of teaching wicked problems in an interdisciplinary, across-the-campus fashion. We discuss preliminary impacts, as well as thoughts on future directions for our campus-wide wicked problems approach. More than offering problem-based learning in discrete courses, our integrated approach encourages faculty development in PBL in a connected suite of courses, and we offer students the opportunity to do important work in a program of study and in major presentations at our Wicked Festival each semester. Consistent with career competencies recommended by the National Association of Colleges and Employers (NACE), students in the courses and minor learn communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and technology skills. From John Dewey (1916) to bell hooks (1994) to Paul Hanstedt (2018), we know that an integrated wicked problems approach engages students, gives them a sense of their own authority as growing experts, and prepares them to transfer learning to other courses and to careers. It also offers students multiple levels of engagement with the campus, community, and world as change agents and policy experts. Finally, coming together around courses and a full curriculum, faculty are able to connect and engage in peer development with colleagues equally committed to offering an important and meaningful education to our students.

Using Accessible Technology to Assist Learners with Diverse Learning Needs
Pearl Xie, Kimberley Homer, Mark Nichols, Virginia Tech

The increased enrollment of learners with disabilities in higher education, as well as the fact that some of these learners may prefer online learning for its temporal and spatial flexibility, makes digital accessibility a critical component in building inclusive learning environments (Linder et al., 2015; Mike & Harrington, 2013; Xie & Rice, 2020). Providing accessible course content is necessary because learners with disabilities deserve access to equivalent learning experiences (Lewis, 2021). In many countries, there are also legal consequences for denying accessible materials to learners who need them as a result of identified disabilities (United States Department of Justice, 2015; World Wide Web Consortium, 2018). Even where accessibility is not legally required, providing access to accessible educational materials is ethical and can support recruitment and retention efforts (Lee, 2017). Importantly, research has shown that students with disabilities will persist and achieve academically in institutions of higher educations (IHEs) when they are instructed with accessible materials (Aguirre & Duncan, 2013; Black et al., 2014; Burgstahler, 2015;

Hromalik et al., 2020). However, most teaching faculty have not received training about accessibility remediation or evaluation, and many digital too ls and apps are inaccessible to student users (Trust, 2020).

The Accessible Technologies (AT) team within TLOS is missioned to share technology tools and strategies for creating accessible educational materials and providing professional learning opportunities for faculty and staff across the university. We will use the universal design for learning (UDL) framework to conceptualize this professional learning dialogue with colleagues in the university community and beyond. Research has been showing UDL as a strong candidate for professional learning events to help instructors use inclusive design and pedagogy to identify and support diverse learning needs in various learning environments across the disciplines in IHEs (Al-Azawei et al., 2016; Scott et al., 2017; Xie & Ferguson, In Press). Guided by the UDL framework, TLOS AT aims to proactively address some critical topics, such as accessibility and engagement with technology in our modern learning environments, ensuring all users have access to content.

In this session, we use Padlet to engage participants in a conversation and have them identify some existing digital accessibility challenges in their educational spaces. Then, we summarize Canvas accessibility institutional report (ALLY) at VT in Fall 2022 and identify and summarize existing digital accessibility challenges in Canvas courses.

In addition, we share best digital accessibility practices and demonstrate how to use the PREP remediation software with built-in artificial intelligence features to address persistent digital accessibility challenges in PDF documents. In the end, using a 3-2-1 reflection method, we have participants describe three takeaways they have learned from the session, two questions they have regarding digital accessibility, and one thing they would like to learn more. Overall, we will model how to use accessible technology to assist learners with diverse learning needs.

A New Tool for Reviewing Learning Objectives
Alice Hawthorne Allen, Concord University

Converting learning objectives to student-centered, concise, measurable, relevant language fosters student success and provides instructors clarity when designing and delivering their course. This interactive practice session will introduce the concepts of such learning objectives and utilize the new review rubric tool to guide participants through a complete a step-by-step process of reviewing learning objectives. The participants will determine if the objective is a course, module, or activity level objective, and whether the objective is student-centered, measurable, concise, and relevant. They will also check that the wording uses plain language and is outcome, rather than activity, oriented. If time permits, additional discussions of alignment within the course and within a program will be discussed. Participants will practice with known examples provided and then have an opportunity to practice with their own learning objectives, if desired. This workshop format has previously been used successfully with faculty at my university through our CU Center for Teaching and Learning.

Understanding Faculty's Mental Models of Assessment
Amanda Ross, Andrew Katz, Holly Matusovich, Virginia Tech
Kai Jun Chew, Embry-Riddle Aeronautical University

In recent years, there has been an increase in pedagogical research, which has centered around best teaching practices in regards to student learning and conceptual understanding. As a result, there has been an increase in implementation of new evidence-based teaching methods and strategies within the classroom. However, assessment research has lagged behind, and there is comparatively less research that looks at how assessment methods should or should not change to better suit these new teaching methods. Because of this, assessment methods are often misaligned with these new teaching practices. The purpose of this study is to better understand how engineering faculty think about and use assessments in their courses using a mental model framework. Understanding faculty members' mental models is important in helping address the problem of misaligned assessment methods because these are the individuals who ultimately have the power to enact change and implement assessment methods that are aligned with their teaching practices. Interviews were conducted with 28 faculty members from engineering departments across the United States. Participants were asked about their use of assessments in their classrooms, as well as their conceptual beliefs of assessment. These interviews were then qualitatively coded using the theory of mental models as a guide. Results show that the codes developed can be grouped into nine themes: types of assessment, descriptions of assessment,

decision makers of assessment, assessment measures, factors for creating assessment, grading, assessment tools, feedback, and other. Within each of these themes, multiple mental models are represented, and piecing these themes together provide a descriptive overview of how engineering faculty think about, view, and use assessments in their classrooms. These results can be used by administrators to inform faculty development and training around assessment, as well as by faculty to increase their self awareness of their own mental models. By reflecting on their own mental models of assessment, faculty members can better implement intentional design in their assessments, which can lead to better alignment between teaching practices and assessment methods.

Evidence of Effectiveness for Student-Centered Mathematics Courses
Sara Whipple, Gregory Hartman, Virginia Military Institute

In 2018, as part of the Quality Enhancement Plan (QEP) for accreditation in The Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), Virginia Military Institute (VMI) introduced the Math that Matters (MtM) curriculum. The two-course sequence in mathematical modeling without calculus is geared toward first year students across a variety of majors. The goal of the QEP was to create a student-centered educational environment that enhanced both cognitive and affective outcomes. To accomplish this, curricular redesign incorporated real-life data and interdisciplinary problems, shaped by faculty from various academic departments, presented in an active-learning, student-centered environment. Classes involved extensive group work and the use of Microsoft Excel.

To determine the effectiveness of curricular and pedagogical changes, we collected data on students' mathematical knowledge, attitudes, and motivation over the past 7 semesters. Mathematical knowledge was assessed each semester using a combination of questions from coursework, tests, and a final exam. Of the five mathematical knowledge outcomes assessed, students in the new MtM curriculum met or exceeded pre-intervention scores on four categories. Furthermore, the rates of D, F, and W grades in the the MtM sequence are 1/3 of the rates of the pre-intervention courses.

In addition to improving mathematical knowledge, a primary goal of the MtM sequence was to improve students' attitudes toward math. Each semester students completed online attitudinal surveys that were created by the evaluation team. Compared to a pre-intervention cohort, those in MtM were more likely to report feeling comfort, enjoyment, and confidence in their ability to use computers, particularly Excel, to solve mathematical problems. Specifically, while approximately 75% of students in the pre-intervention group agreed that "technology can make mathematics easier to understand," average agreement rates for the post-intervention semesters varied between 78% and 94%. Each semester students also completed the 32-question MUSIC Survey (Jones, 2016) which measures perceptions of motivation in the areas of empowerment, usefulness, success, interest, and caring on a Likert scale ranging from 1 (low) to 6 (high). Average scores at the completion of the course sequence rose over the first three years of implementation of the MtM curriculum, meeting or exceeding pre-intervention scores in all 5 domains. Scores dropped during the 2021-22 academic year, while at the same time faculty indicated significant challenges in teaching students whose junior and senior years in high school were disrupted by the pandemic.

The effectiveness of the MtM sequence continues to be assessed. Lessons learned and future directions will be addressed.

Understanding Virtual Participation in a Graduate class through Ethnography
Tahsin Chowdhury, Homero Murzi, Virginia Tech

To provide ongoing learning experience for students during the Covid-19 pandemic, most educational institutions have currently adopted online learning environments. Students are transitioning from a culture of face-to-face learning to fully online learning (Van Lancker & Parolin, 2020). Engagements among students and instructors have shifted from an in-class experience to synchronous video engagement, social media communication, and asynchronous discussion forums by using several communication technologies (Yan et al., 2021). With the current condition of the pandemic, online learning could have lasting impacts on global education system and most education institutions will continue offering online learning experience for students (Molnar et al., 2019). Hence, understanding students learning experience in the online environment becomes imperative.

There are several studies that discuss valuable insights about students' experiences during online learning in the K-12 and undergraduate learning context (Baczek et al., 2021), however there is little understanding on the students learning experience in Graduate level education. In addition, there are few studies that investigate the cultural phenomena of virtual engagement among graduate students participating in an online environment. Such information could assist educational institutions, more specifically graduate schools to better comprehend students' barriers and potentially improve their online learning experience.

The purpose of this study was to understand the experiences of students who attended the graduate level class in the virtual format in terms of their participation and engagement. Hence, the study will answer the following research question,
RQ: How do students experience online engagement and social interaction in a graduate level hybrid class?

For this study, we focused on a graduate level class which is conducted in a hybrid format. Students had the opportunity to join the class virtually through 'Zoom, an online communication software or attend class in person. The instructor for this class led the teaching experience in person. For this study, We used the ethnographic method of qualitative research to understand the culture of engagement among students participating in this class virtually.

Data collection in this study involved participant observation, semi structured interview, and artefact collection. The data was analyzed using Critical Incident Analysis technique to better understand the culture of engagement among students who are attending the class virtually. The results from this study expand on several focal events which provide implications on online engagement, student participation, instructor responsibilities, and use of communication technologies.

Meaningful Practices to Encourage the Student Writing Process
Laura Purcell, Kacy McAllister, Zack Sowder, Claire Boor, Dorothy Conner, Dale Jenkins, Virginia Tech

Kids these days! I can't understand their writing! Teachers and employers have bemoaned the writing skills of young people since time immemorial. One of the biggest problems that plagues today's students, however, is that they write *exactly* the way they've been taught--an overly standardized, formulaic process where students focus on the grade they receive rather than the careful, complex craft of writing messages others can understand (Warner, 2018). Before their higher education journey, students learned to agonize over every decimal point of an online grading portal and spent weeks of each academic year taking standardized tests. This has conditioned students to "perform" writing, and they often make no connection to the process of using words to create meaning (Warner, 2018). Many college writing assignments are transactional, informative, and identify only the teacher as the audience (Melzer, 2014). However, students reach a higher level of success and engage in writing when they can make a personal connection (Eodice, Geller & Lerner, 2019). This does not just mean writing personal narratives but allowing students to build connections between what they are learning and their desired careers, modeling more real-world formats in writing assignments, and providing autonomy in the choice of writing topics. This practice session will include practical strategies to engage students in the writing process at every step, from brainstorming to interpreting instructor feedback. Strategies will help instructors establish real-world relevance for their students' writing assignments, integrate examples and mentor texts that help students develop their own voices, and offer feedback strategies that students will actually use.

Real World Applications of Video and Audio Skills
Kevin Bowers, Radford University

In order to best prepare students for audio and video production careers, it is important to seek out opportunities that mirror what takes place in the professional world. Practicing specific techniques and using in-class exercises can only take students so far. Once students reach a sufficient skill level, they can truly benefit from applying their skills in ways that reflect professional practice. Some skills such as working with a client or colleague or working within the constraints of a schedule or budget are often hard to replicate in the classroom setting. Connecting students to professional projects pushes them to expand their skillset by forcing them to address all aspects of production, not just the hard skills like setting up camera shots or editing. Changes in the audio and video production industry have made

it easier for professionals to work at an individual or small group level, but requires the application of skills beyond the traditional, specialized production skills that the industry previously focused. Today's graduate need to be more well-rounded in order to successfully connect with clients and complete projects for them within budget and time constraints.

Along with the acquisition of new skills, there are several other benefits of real world applications of video and audio skills. These projects give students examples for their portfolios that can be used as students begin applying for jobs. More importantly, students also have the chance to connect with campus partners or the local community, which may lead to further community work and provides networking opportunities for students entering the job market. Other academic departments, campus organizations, local businesses and non-profits are just some of the examples of entities students may connect with to complete projects and build valuable relationships that will serve them well as they develop into professionals.

Applying the MUSIC Model of Motivation to Improve Attendance Post-COVID
Zhuo Fu, Matthew Komelski, Brett Jones, Virginia Tech

One impact that COVID has had in higher education is plummeting class attendance. According to a global survey of academics conducted by Times Higher Education (Williams, 2022), 76% of educators in the survey reported a drop in attendance rate despite COVID-19 restrictions easing. We believe that one of the major causes in depressed attendance is a lack of student motivation. The pandemic broke many societal expectations and norms of daily life and made it clear that society would not collapse due to virtual attendance at work or school. Although the pandemic brought many negative consequences, it also slowed the rush of modern life from place to place and opened a kind of individual freedom to complete tasks at one's own pace. These changes in lived experience and perception of social rules around the necessity of attendance may be undermining certain aspects of a student's motivation to return to class regularly. For this reason, we believe that now more than ever, it is important to understand student motivation and leverage pedagogical techniques and structures that increase motivation. We believe that the MUSIC Model of Motivation (Jones, 2009, 2018) is a particularly appropriate and effective framework for designing courses that increase students' motivation and engagement. The MUSIC Model addresses five aspects of the motivational climate that can be used to motivate and engage students: eMpowerment, Usefulness, Success, and Caring (MUSIC is an acronym for these five aspects). To try to improve student engagement, we redesigned the lab course of Neuroscience lab I to consider the elements of the MUSIC model. For example, in order to address the Usefulness element of the model, we made sure to address real-world applications of lab skills in every lesson and scaffolded skills so that skills learned early in the semester could be reused later. To address the Interest element of the model we developed light-hearted multimedia introductions to each lab that students viewed as homework before attending. These introductions may also have addressed the Success element of the model by helping students to visualize their potential to complete the lab. Other examples will be shared in the session. After the redesign we noted an attendance rate that averaged 90% and a failure rate of less than 1% during the Fall 2021, a semester when attendance was optional for the in-person lab modules. Additionally, the overall student course evaluation scores increased from 5.5 pre-COVID to 5.8 during this post-COVID semester..
Our practice presentation will briefly discuss our rationale and success in revising the labs, along with an overview of how we applied the MUSIC model to our redesign. The majority of the time will be used to workshop the application of the model to attendee's courses with time at the end for attendees to ask questions and share out ideas.

Using Digital Tools to Enhance Learning in the College Classroom
Amanda Banks, Terene Stiltner, Shelia Sargent-Martin, Darrell Thompson, Bluefield State University

To successfully capture students' interest, instructors must consider alternatives to traditional slides, whiteboards, and discussions from the podium. Technology may be an excellent alternative for promoting engagement, improving collaboration, and enriching interactive learning. Digital applications are virtually everywhere, from car dashboards and fast-food restaurant lobbies to classrooms. A number of college students and faculty implement such devices in the classroom on a regular basis (Patterson, 2019). These tools offer myriad options for blending technology with instruction - students can now respond immediately to online polls, videotape their responses to topics, and collaborate with peers on written projects.

Recent studies indicate that digital blending enhances student learning. Digital tools used to complement in-person instruction produce better learning outcomes than face-to-face or digital learning alone (Patterson, 2019). This blended model appears to improve student performance by helping instructors overcome traditional constraints such as widely varying student abilities and large class sizes. Additionally, digital learning has been shown to engage students emotionally. Their attitudes, enjoyment and interests toward learning are shown to increase significantly (Gray & DiLoreto, 2016).

In the last two years, the shift toward digital learning has reinforced the benefits of using technology in both real-time and asynchronous learning. Interactive applications allow instructors to step aside and flip the classroom, and place students center stage in constructing new knowledge. Technology also allows for the collection of formative feedback on student learning and affords students opportunities to focus more intently on readings and other course materials (Bulgar, 2016). In diverse, inclusive college classrooms, digital tools may also be used to differentiate learning where options were previously limited.

In some ways, the development of digital learning has outpaced its implementation in the classroom. The sheer volume of digital options emerging since the pandemic has left many instructors uncertain about which are appropriate for their courses. Our objective is to introduce an array of free, easy-to-use digital tools that we have successfully piloted in the last two years in Bluefield State University's School of Education. We will demonstrate the following applications: Vocaroo.com, Remind Hub, Flip, Slido, Parlay, Padlet, and Flippity. Participants will be provided with opportunities to sample each tool using their handheld device. We will also emphasize how some of these tools may enhance the use of others, as in the case of relying on Remind Hub to swiftly share key weblinks for accessing Vocaroo.com recordings and Flip video invitations.

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Applying partial credit to machine-graded final exams

James Lord, Chris Galitz, Virginia Tech

Assessing student performance in large multi-section foundational courses can be challenging, especially summative assessment which is commonly conducted with a cumulative final exam. Exams must be comprehensive and appropriately assess students' understanding of the material, while also being gradable within ~2 days.

Our department has historically used multiple-choice final exams for such courses, which offer certain advantages such as fast and consistent machine-grading [1, 2], while being reliable, valid assessments [3]. However, these exams have drawbacks such as risks of guessing, inability to differentiate between conceptual and procedural errors [4, 5], and inability to identify levels of misunderstanding [6]. The all-or-nothing approach for each question results in scores that are often lower than similar constructed-response exams [7], which can pressure faculty to apply arbitrary curves which may have statistical drawbacks [8]. It would be better if raw scores on the multiple-choice exams could be improved, rather than relying on a curve.

Several methods have been trialed to award some form of partial credit on multiple-choice exams, with the goals of improving scores and better assessing students' comprehension of the subject. Examples include answer-until-correct exams [9], elimination marking [10], two-tiered questions [11] or partial manual grading [4]. However, all these methods have drawbacks and most are unsuitable for our exam format. We sought a fast method for supplying partial credit without fundamentally changing the structure of our exams, which require calculation of a numeric answer based on correctly applying course principles and equations. Students are tested on their ability to correctly solve

problems. We explore a method where one numeric distractor answer for each question would be reached if the student made a relatively minor common mistake. Final exams were written such that approximately half of the questions had a 'common-mistake' distractor. The exams were administered and machine-graded as normal, but the 'common-mistake' answers were awarded 50% credit.

Three large foundational engineering courses were selected across 2 semesters:

	Statics	Mechanics of deformable Bodies	Basic Principles of Structures
Fall 2021	602 students, 11 sections	158 students, 4 sections	158 students, 1 section
Spring 2022	194 students, 4 sections	396 students, 7 sections	-

Mean student scores increased in each exam when allowing partial credit, and became closer to mean scores on constructed-response midterm exams. There was a significant increase in the mean number of students receiving at least some credit for questions where partial credit was available, indicating that those students had a good idea how to solve some problems but made a common leading to an incorrect answer. It is encouraging that the exams were able to identify that scenario in some cases. There was a positive correlation between student scores on the multiple-choice final exam and on their constructed-response midterm exams.

This method of awarding partial credit on multiple choice exams shows some promise and, for our specific needs, has certain advantages over other methods, including the ability to require numeric answers, minimal change to the existing exam format, and only a small increase in time to create the exam.

Bringing Classroom Discussions Back to Life: A Flipped Classroom Approach

Brandi Quesenberry, Kacy McAllister, Laura Purcell, Dorothy Conner, Zack Sowder, Cemone Paul, Katie Thomas, Claire Boor, Virginia Tech

Most educators have experienced the difference between having a lively, participatory class versus one where students barely engaged with class discussion. Research confirms that student participation tends to make classes more effective (Rocca, 2010).Students who participate in class have higher levels of motivation, earn higher grades, become better critical thinkers, and learn more (Weaver, 2005). This poster presentation will share specific strategies for encouraging classroom participation.

Many instructors face the difficulty of keeping their students engaged in class discussions. The flipped classroom approach offers a non-traditional approach to curriculum design (Bauer, 2017). Studies have found the use of a flipped classroom cultivates a hands-on experience by using class time to engage in assignments and allowing technology to play a role in learning (Bauer, 2017). According to Al-Samarraie et al., (2019), "in the social sciences and humanities the flipped approach was used to increase the interaction between students or between student and instructor." For example, an icebreaker to start class can make facilitating topic-specific classroom discussion easier later.

Bridge to Learning (2019) suggests that a personal approach to student engagement is key. When instructors share, it creates an environment where students feel more comfortable to share as well. Finding opportunities within lesson plans to engage students in storytelling, whether as an impromptu speaking activity or response to a relatable prompt will also support students' desire to participate and listen to classmates. Instructors can lead a pre-class activity aimed to stimulate classroom discussion. Before beginning to reach content objectives, put 8-10 questions on the board for students to "check in." These questions can focus on students' sharing moments they are proud of, struggling with, looking forward to, songs/shows they are enjoying, or a new place on campus they like. This exercise prompts low-levels of self disclosure and gets them talking, which often precipitates communication later in content-based discussions.

Howcast (2019) suggests movement in the classroom can aid in creating a more motivating environment for discussion. This can be include having students get up and move around or simply raise their hands as part of an exercise. Holding class in the library, outside, or taking time to visit another side of campus can also provide novelty that will stimulate discussion. Instructors should also incorporate movement by visiting each group and either

contributing, teaching, or listening in on the lively discussions. Online discussion forums can provide additional chances for engaging, real-time thoughts for classes that are in person or mediated.

A foundational tip for generating increased student participation is to clearly identify what counts as participation. This can vary from attendance to note taking to orally responding to instructor questions. Research shows that an essential factor is to provide students with an appropriate amount of time to respond during discussions. An instructional method like write-pair-share can help prepare students to participate in a larger group discussion. Applying a participation-based flipped classroom approach across disciplines may incorporate varying elements, but should include movement, chances for self-disclosure, and collaborative discourse to reach increased levels of engagement.

Improving Students' Software Testing Practices using Curated Mutation Analysis Feedback
Rifat Sabbir Mansur, Virginia Tech

Graduates of Computer Science programs nowadays are expected to become proficient in software testing. To teach students about software testing, Computer Science educators have long applied different quality measures, with code coverage becoming a de-facto standard for measuring the quality of student test suites. Despite its simplicity and shortcomings, educators often rely on code coverage as a test suite quality measure. However, code coverage suffers from several shortcomings. As an alternative, mutation testing, DeMillo et al. [1] can provide a stronger quality measure. In a recent study, Kazerouni et al. [2] show that it is possible to implement selective mutation testing with reasonable computational cost and minimal loss to measure the adequacy of test suites. To concretely apply the insights of this study to improve the effectiveness of measuring the quality of testing, we propose a system that practically implements selective mutation testing for use in an online auto-grader. The system is to be used sparsely to reduce the load on the server side. We further propose to supplement this with support and direct feedback within students' Integrated Development Environment (IDE). Our proposed system has the potential to assess students' test suites with more reliable test quality measure and to provide students with better incremental feedback on their programming assignments in order to guide them throughout the development cycle. Providing feedback to students directly within the same development environment can significantly reduce the technical overhead of switching multiple platforms while working on improving the quality of their test cases. We found that the test suite quality improved significantly in the student submissions upon using our proposed system compared to previous semesters. Finally, we curated the feedback from mutation analysis based on literature review [3, 4, 5] to provide easy-to-understand feedback and actionable recommendations to help students improve their test suite quality. We applied our system to CS3 level data structures and algorithms courses in Spring '22 and Fall '22 (ongoing). In our practice demonstration, we will do two exercises of writing, one with previously used code coverage metric and another with our proposed system of using selective mutation analysis with curated feedback. We plan to exemplify our proposed system in two parts, 1) client-side: using student developer environment Eclipse, and 2) server-side: using Web-CAT online auto-grader. As part of our demonstration, we will write a simple Java application and write test cases around its functionalities. We will use our system to measure our test cases and improve the quality of our test suite using our systemic feedback curated for intermediate-level student programmers. The audience will be able to follow our step-by-step instructions and get a hands-on experience by using our proposed system. For a hands-on experience, the audience will only need to bring their own laptop. Finally, we plan on listing a complete pedagogical roadmap on all the necessary steps, choices, and results from my system to help the CSEd community with future research in software testing pedagogy.

Learning Lighting Design: Hands-on Activities with a Light Booth
Elif Tural, Virginia Tech

Lighting is a significant component of interior design education. The impact of lighting on task performance and safety are well documented in the literature. The nonvisual effects of lighting on human health with respect to circadian rhythms and sleep patterns have been increasingly considered by design researchers and professionals. As highlighted in the literature, teaching and learning lighting is difficult as it is technical in nature, but requires addressing the qualitative/perceptual aspects of lighting (Gustina, 2011; Theodorson, 2006; Brown, 2004). This

empirical study tests the effectiveness of using a light booth and hands-on learning activities in improving students' understanding of fundamental lighting design constructs related to color properties of light.

In the Spring of 2021, third-year interior design students in a CIDA-accredited program of a public university (n = 30) took a pre-test after the light and color constructs are introduced using a traditional lecture/reading assignment method. Lighting demonstrations and hands-on learning activities were introduced in the course using the light booth and color cards, and filters. Following the on-hands activities, the students took a post-test. They were also invited to complete an online survey on the perceived impact of the lighting demonstrations on their learning. They also provided suggestions on other ways the light booth can be used to enhance their learning.

The Wilcoxon signed-rank showed that the hands-on activities using the light booth elicited a statistically significant increase in students' test scores (Z = -4.607, p < .001). The pre-demonstration quiz scores (Mdn = 6.25) significantly improved following the intervention (Mdn = 12), with 27 students improving their scores, two ties, and one with a lower post-test score. The Qualtrics survey had 10-point Likert-scale questions on student perceptions on how light booth activities influenced their learning. The students reported that they have a better understanding of lighting and color constructs as a result of the light booth demonstrations/ learning activities (M = 8.57, SD = 1.31), and found those activities helpful (M = 9.13, SD = 1.20). they also suggested ways to integrate the tool throughout the lighting course and in the interior design curriculum, such as design studios and materials courses.

This study demonstrated that the light booth is a useful learning tool for interior design students. Light and color concepts can be rather confusing to novice learners, and the findings supported that this approach is preferable to students and enhances their learning. This visual presentation will provide examples of these learning activities, and encourage attendees to discuss and provide feedback on how to teach lighting concepts for supporting human comfort, health and wellbeing in interiors.

Adaptive strategies for project based learning in online courses
Susan Sumner, Pete Ziegler, Scott Douglas, Mark Sumner, Virginia Tech

These one-credit classes taught at the introductory level offer students the opportunity to learn new skills in art and design, The course material is linked across the courses, which allows a student to take the courses in any order and in different semesters, The courses allow students flexibility to meet specific general education requirements that might not fit into their regular semester schedule if not offered online.
Within these introductory courses, students are exposed to a project-based learning concept. Students may work individually or in a team to complete their projects. Each course has an embedded iterative project that is centered on building knowledge and skills using an artistic medium. The overall linked theme for the individual three courses examines the connection between the arts and agriculture. Most individuals are several generations removed from a farm setting, yet agriculture touches everyone's life.

Strategies used in the courses include: adaptive projects that fit the technology students are using, develops flexible structure that targets key learning outcomes and provides ongoing feedback to promote student reflection. The types of projects include: creative photography, podcasting, and garden design.

In one of the courses, students analyze works of art that tell the story of farming, highlighting social, economic, and environmental dimensions of agriculture. Students make connections between artistic imagery and agriculture as they explore featured artists while reflecting on how these works contribute to our perceptions of agriculture. The students then apply this new understanding through creative photography that expresses their connection to agriculture.

A second course investigates oral history and agriculture through storytelling. Through this course of study, students use podcasting as a medium to explore agriculture and life sciences. Agriculture touches everyone's life differently. Society faces a global challenge of balancing sustainable production of food, fiber, and fuel while protecting valuable natural resources and stable ecosystems. Through this course students discover how agriculture impacts your life even if you have never lived on a farm, seen crops grow in a field, or touched a cow!

The development of these courses gave faculty members the opportunity to build courses which contain foundational teambuilding skills. Faculty and students both examine unexpected or overlooked connections to agriculture.

Creating a Sense of Belonging to Improve Student Engagement
Laura Vernon, Radford University

A sense of belonging matters. According to research, a sense of belonging is correlated with student success (Strayhorn, 2019; National Survey of Student Engagement, 2020; Northeastern University's Center for Advancing Teaching and Learning Through Research, 2021; Nunn, 2021). When students feel a sense of belonging, they are more motivated and engaged, ready to learn, and better prepared for their careers. Psychologist Abraham Maslow identified belongingness (feeling connected to and supported, accepted, and valued by a group) as a basic psychological need; in other words, all people share a strong need to belong. This includes students in our classrooms. As instructors, do we foster a sense of belonging, or community, with our students? If not, how can we do better during a time when student motivation and engagement are at all-time lows, and hiring officials regularly indicate that students are not prepared for the workforce? We can do better, and this presentation seeks to open the conversation for us to learn more about our particular students' needs and how we can meet their sense of belonging. Doing so has implications not only for student success but also for student retention and growth, positive identity with one's discipline, and university pride.

Creating a sense of belonging at the classroom level can take many forms. For example, we can ask ourselves the following questions: Do we include inclusive language in our policies and when speaking with others about our courses? Do we model inclusive behaviors and attitudes with our students, faculty, and colleagues? Do we foster positive instructor-student relationships as well as positive peer relationships? Do we keep students informed and offer ample opportunities for them to share experiences and receive support? Do we increase collaboration where students are given more decision-making authority? Do we offer peer mentoring? Do we demonstrate care and compassion? If we do all these things (and more), what are the implications for our individual classrooms? These questions and more are the focus of the discussion to follow this presentation. Attendees will be able to learn ways to create a sense of belonging in the context of their own classrooms while considering other issues such as feasibility, appropriateness, and outcomes. In addition, the presenter will explore some methods in her own courses (professional writing) and report her findings as a way to demonstrate how an instructor may begin the process of creating community, or a sense of belonging, in the post-pandemic classroom.

Experiential learning in Civic Agriculture curriculum: a 12 year reflection
Peter Ziegler, Kim Niewolny, Kasey Owens, Virginia Tech

Virginia Tech has committed to the inclusion of experiential learning to be embedded in all degree programs, where all students to engage in authentic learning through experience. "Extending students' traditional classroom learning to tackle authentic problems and work in real-world contexts provides students motivation and passion to synthesize theory, concepts, and habits of mind thus maximizing their learning and development at Virginia Tech."

A key challenge to this goal is to foster a sense of community beyond the university for an authentic learning experience. The involvement of community partners both in and outside of the classroom helps breakdown the imaginary divide of "real-world contexts" and emphasizes that civic engagement is a means of life-long learning. The Civic Agriculture and Food System minor helps prepare students to be better food citizens through hands on, collaborative engagement in the local food system. Reflecting on these interactions over the 12 years of the program may provide an example for other university programs.

STEM Faculty's perspectives on adopting culturally responsive pedagogy

Pearl Xie, Virginia Tech
Yuna Ferguson, Truman State University

The STEM workforce has steadily grown in recent years; however, Black/African American, LatinX/Hispanic, American Indian, Women, and Alaskan Native individuals are disproportionately underrepresented in this workforce, compared to other demographic groups in the U.S. (U.S. Census Bureau, 2018). To prepare a qualified STEM workforce and to provide pathways for entry into the STEM workforce, it is necessary to increase efforts to recruit and retain diverse students in STEM disciplines in higher education (HE) (National Academies of Sciences, 2016).

To support the success of diverse student populations in STEM disciplines in HE, researchers have recommended that faculty be more culturally responsive (Gay, 2002; Ladson-Billings, 1995; Jabbar and Hardaker, 2013; O'Leary et al., 2020). Faculty members need to be pedagogically prepared, be reflective of and be mindful of the privilege gap, make efforts to reduce implicit bias, and play an active role in supporting the academic success of all students (Killpack and Melon, 2016).

Culturally responsive pedagogy (CRP) shows great potential towards achieving equity in access to and success in STEM disciplines and careers (Gay, 2002; Ladson-Billings, 1995, Corneille et al., 2020). Currently only a few existing studies have focused on uncovering the pedagogical machinations that govern how academics teach and engage with their culturally and ethnically diverse students in the context of STEM higher education in the United States (i.e. O'Leary et al., 2020; Ortiz-Rodrez et al., 2021; Winstead et al., 2022). This study of culturally relevant instructional strategies is a part of an ongoing effort to help educators engage with students with diverse cultural backgrounds and attract them to select and persist in STEM majors in universities. The following two research questions guided the study: (1) what are instructors' perspectives on various components of culturally responsive teaching that facilitate a safe and cross-cultural collaborative learning environment? (2) How do STEM instructors describe the challenges that they face in adopting culturally responsive pedagogy?

In this qualitative study, we used three focus groups to collect the data, informed by phenomenology (Morgan, 1996). This approach allowed participants to elaborate on and share issues raised, with the phenomenon being put at the center of a group dialogue (Bradbury-Jones et al., 2008). Eight faculty members with rich teaching experiences from various STEM disciplines at a research-focused institution in the Midwest in the United States participated in this study during September and October of 2021. We video/audio recorded the focus group sessions with the participants' permission.

Themes that emerged during analysis revealed instructors' perspectives on various components of CRP. These include acknowledging the importance of addressing issues of diversity in teaching, instructor efforts to accommodate students' backgrounds and experiences in their teaching, efforts to invite and incorporate student voices in course design and learning materials. The findings also disclosed the existing challenges in adopting CRP for STEM faculty members. This study contributes to faculty professional development training programs and, ultimately, to addressing long-standing challenges in recruitment and retention of students from underrepresented and disadvantaged groups in STEM fields in HE.

OER to Catalyze Student Investment in the Life Science Laboratory

Gillian Backus, Northern Virginia Community College

Lab Manuals are expensive and required in our lab-based science courses. Many college instructors work with publishers to generate customized lab manuals at a lower cost. But what if we could create a no-cost (or at-cost) lab manual by using Open Educational Resources (OER)? Our team of three anatomy and physiology instructors have created 15 case study-oriented Open Educational Resource (OER) labs for our 100-level Anatomy and Physiology students. We have used it successfully in the laboratory since 2022. The OER manual is free and accessible to all 23 colleges in the Virginia Community College System (VCCS). It is also available as a pdf and can be shared using CANVAS, our learning management system. Using this lab manual strengthened our lab curriculum, encouraged critical thinking and independent work in our students, and, most importantly, significantly reduced the course cost

for each student. This OER lab manual offers a pedagogically rigorous curriculum design which fills a unique niche in the OER publishing realm.

Accelerating the First-Year Experience
Timothy Hayes, Catherine Vickers, Shirley Alt, Shannon Williams, Chowan University

For more than a decade, colleges and universities throughout the United States have sought to provide a meaningful and effective First-Year Experience to incoming students. The main goals tend to be higher retention rates by fostering student success and providing first-year students with a greater sense of belonging. But none of this, as anyone who has worked either to create or to deliver a First-Year Experience (or first-year seminar) knows, it's rarely easy to achieve measurable and meaningful success. The challenges are myriad and ever-changing, particularly with the recent disruption that Covid-19 created. Chowan University, where all four of us teach, has an enrollment of about 800 students, most of whom are underprepared, first-generation college students. In an effort to ease their transition into college, we have taken a bold step in reimagining their introduction to the culture and expectations of academia.

In response to these challenges, a small and dedicated group of administrators and faculty at Chowan University have worked since last spring on an innovative approach to the first-year seminar, accelerating and compressing what was once a full-semester course into one that met every weekday (15 times) for the first 3 weeks of the semester. This was a response to the reality that our full-semester course didn't teach essential skills until several weeks after those skills were first needed.

Beginning in May 2022, we developed a list of essential priorities that would allow us to foster student success in terms of technology, academic knowledge, and social skills. We then included as many of these priorities as we could in our 15-day time frame. As the 3 weeks of this new course unfolded, instructors collaborated on planning the content for individual class days, creating presentations and instructional activities for all the instructors to use. This collaboration added consistency to the instruction delivered across all sections. Our experiences in the classroom and initial surveys of students give an early indication that this approach has created a palpable sense of momentum and energy in our first-year students. At the same time, we fully expect to make changes as it evolves to meet the needs of our students.

In this proposed practice session, we plan first to ask those in attendance about their own experiences with first-year seminars and what issues they've encountered. Then, those in attendance will be invited to work in small groups to develop a process that might work for their home institutions, identifying priorities and trying to map out how to account for these in a 15-day, MTWTF course. We will then share details about the priorities, plans, and actions that we implemented for our three-week session and the feedback we have received from our students. The session will close with feedback and questions from attendees as well as insights and thoughts on what's next from the panelists. Our goal is to conduct research and assessment on our program and report on these findings at a future conference.

Accessibility vs. Access - Defining the Difference
Nikita Reis, Virginia Tech

Online learning has taken a more prevalent position in the world of education since its development. This has led to its rise as an everyday part of educational society. According to the National Center for Education Statistics ([NCES], 2020), the amount of students enrolled in distance education courses in postsecondary institutions rose from 25.5% to 36.3% from 2012 to 2019 before skyrocketing to 72.8% in 2019 to 2020 as a result of the COVID-19 pandemic. Online learning became the go-to method for instruction due to its flexibility to learn anywhere at any time and the opportunity for students to learn at their own pace (Hiranrithikorn, 2019). Along with the growth of online learning, there was an increase in the other uses for online education, such as webinar-based training. These trainings equip those teaching online classes or trainings to become more knowledgeable in the applications of online education (Toquero & Talidong, 2020). With the increasing mixture of synchronous, asynchronous, and hybrid options, it is vital that all materials are presented to learners equitably because "every learner matters and matters equally" (UNESCO, 2017). Two areas where equity plays an important role is through accessibility and access. These two

areas can enhance the ability to create opportunities to enrich learning, thus creating a supportive environment for individualized learners, "...whatever their personal characteristics and home circumstances" (UNESCO, 2017).

The researcher argues that accessibility and access require more formal, distinctive definitions, descriptions, and discussion. Based on the experiences from working at multiple Universities in varying capacities, the researcher has experience as a student, student worker (GA and TA), and a staff member.

Acting as a staff member during the transition and uncertainty of COVID-19, the researcher encountered confusion, misuse, and misinterpretation between accessibility and access and aims to ground the definitions in a more formal, literature-based lexicon. By creating a conversation around these two terms, the researcher wants to provide an interactive discussion around accessibility and access and the differences that separate them. Additionally, the researcher plans to advise on how these two terms can work together to create the ultimate equity-focused classroom. The researcher will begin by asking two questions to enhance discussion: What is your understanding of accessibility and what is your understanding of access? After building a baseline understanding from the participants, the researcher will provide working definitions based on relevant literature. Then, the researcher will start a conversation about the differences between the terms and how they can work together. This will be facilitated by posing questions to the group, such as: (1) How can you see access and accessibility being utilized in your online learning environment? (2) How do you see access and accessibility impacting your students? (3) Why do you feel like it is important to differentiate the two terms? The overall goal for the session is to create a conversation around the differentiation between access and accessibility and how to utilize both efficiently and effectively in an online learning environment to promote equity among all learners.

Looking for the Light in "Dark" Communication Student Papers
Mary Helen Millham, Hartford University
Diana Rios, University of Connecticut

Part of living in and communicating in our digital age is understanding that, for all the positives of our digital life, it does come with negatives, or a "dark side" (Downs, 2019). If we are tasked with teaching students how to communicate in this digital age, we need to ensure they have the literacy skills to help them succeed long after they leave the classroom. Using a mixed methods approach, we will review approximately 60 student papers from an introductory communication course. Effective with the Fall 2022 semester, a new textbook was adopted for this course that was more in line with the course title of "Communication in the Digital Age." The decision was also made to have the research paper more closely align with the "Digital Age" focus instead of the previous interpersonal/intercultural communication focus. Since this is a "brand new" assignment, there is a lot of opportunity to study the results and see how successful this change is and what might need to be modified for future semesters. The ultimate goal is to conduct multiple analyses over several semesters. The data collected will be utilized by the department to convey the effectiveness of the course.
Students received a detailed assignment handout breaking the paper into four steps and the students will receive constructive feedback at each stage:
(1) Topic Selection and Thesis Statement -- choose a broad topic from the list provided, choosing a corresponding reading from a selected group of readings as well as identifying areas in the textbook that apply to their topic. They will then have to narrow their topic and submit their thesis statement for review;
(2) Finding applicable academic sources to support their topic and thesis;
(3) a detailed outline with citations;
(4) a final paper that is between five and seven pages long.
Our analysis will look at how well these student papers met three of the five stated objectives for the course as well as two Essential Learning Objectives (ELOs) as defined by Association of American Colleges & Universities. The three course objectives stated in the syllabus are:
Explain different perspectives on the role that technology plays throughout the field of communication
Explore ethical dilemmas throughout the field of communication (e.g., the use of deception, privacy invasions, censorship, truth in advertising)
Identify scholarly literature in the field of communication and understand proper scholarly citation methods (specifically APA)

The assignment handout provided to the students also explicitly states two ELOs that should be accomplished through the completion of the paper assignment: Inquiry and Analysis along with Critical Thinking.

The post-semester analysis will examine how well the papers satisfied not only the chosen course objectives, which are implicit in the assignment handout, but the explicitly stated ELOs as well. The goal of this post-semester research is to establish a baseline from which successive semesters can be analyzed against. Using both quantitative and qualitative methodological approaches will allow for greater insight into the quality of the student work.

A System for Providing Targeted Feedback in Teaching Engineering Mechanics

Arinjoy Basak, Clifford A. Shaffer, Nicole Pitterson, Jacob Grohs, David Dillard, Sneha Davison, Virginia Tech

In this work, we focus on the unique problems faced by undergraduate engineering students when solving homework exercises in mid-level engineering courses. For our situation, we require an intuitive, visual, framework that would allow students to rapidly solve problems that require building systems of equations in multiple steps. We aim to provide instantaneous targeted feedback to the student on their proposed solution to a problem, with the aim of improving their problem-solving skills, and expanding their range of problems. Similar efforts include Andes [1] and Dragoon [2], which take unique visual approaches towards teaching physics and teaching data modeling, respectively.

Our current prototype provides a simple, intuitive environment that allows students to explore different ways of solving engineering mechanics problems. Students can create systems of equations from a palette and by connecting variables in different equations and plugging in quantities from the problem text. Students see the problem prose, relevant figures, and workspace areas with clickable elements that allow them to solve single-step and multistep problems. Built within the OpenDSA eTextbook [3] system, these exercises can be served directly through learning management systems such as Canvas. Additionally, interaction logs are collected that can be analyzed post-hoc to understand the sequence of steps taken by a student when solving a problem.

We have developed an automated feedback engine which is designed to compare the student's problem-solving attempt with the instructor's solution to an exercise problem, and provide targeted feedback on where the student made mistakes. These errors can range from notifying about incorrect/missing parameters plugged in, incompatibility in quantities used, to marking wrong/missing equations and incorrectly constructed systems of equations. The feedback engine is simple to train, in that it only requires the instructor to solve the problem using the prototype interface once to record the solution, following which this solution is always used to compare with the student's attempt. The feedback engine is also powerful and flexible in that it can account for alternative solutions that students can submit, by reducing ambiguities and focusing instead only on analyzing the mathematical structures created by this solution, and it achieves this by transforming and analyzing canonical representations of the systems of equations.

In the past, we have conducted user studies with the prototype system and received positive feedback from the students [4]. Over the past year, we have also conducted a survey on the prototype with many instructors who teach engineering mechanics at the undergraduate level. We also introduced the prototype system with the integrated automated feedback engine in a live course setting. We present our findings from both studies, lessons learned from both the students' and instructors' experiences in using our system.

Promoting Community Education for STEM and Agriculture learning in Senegal

Erika Bonnett, Ozzie Abaye, Virginia Tech

To facilitate the introduction of mung bean to the St. Louis region of Senegal, initially designed school-based curriculum lessons. However, the high level of community interest re-directed the program from a classroom-oriented curriculum to a community-based learning experience in the villages of Thiago, Temeye Thiago, and Keur Mbaye Peul (Table 8 and Figure 2). A total of 147 community leaders, teachers and children took part in the program. The overarching goal of the program was to build linkages between communities-schools and students to achieve the maximum buy-in for the introduction of mung bean to the St. Louis region of Senegal. For the community-based curriculum, we developed four mung bean driven lessons (below) that are related to plant growth and development (water, soil, and air) that we thought will result in the maximum community engagement. Following the lessons, the

community had a chance to reflect on the lessons. The feedback from the community, specially from the teachers who were present during the training reviled several points 1) their teaching methods are theory-based with no substantial experiential learning (learning by doing) activities, and 2) the community never had any opportunity to get involved in children's education. Thus, this initial strategy helped connect what is being taught in school with the community at large.

Based on the high level of interest from the teachers attended the community-based curriculum activities, we focused on multi-levels of school-based curriculum lessons. The schools have a structured, theory-based learning program around plant science, but lack the hands-on practical application. Learning the teachers desire, and high demand from the schools to transfer their theory-based curriculum to experiential learning model (Figure 3), we introduced a total of ten science and technology-based curriculum lessons. The lessons focused on the dissemination and adaptation of mung bean through curriculum designed for primary age youth to learn about the mung bean value chain. We used the experiential learning model that promotes the theory and learning of mung beans in villages that have school and/or community gardens. In 2020 and 2021, we trained 116 teachers and additional 22 regional and local facilitators, ANCAR (Senegal's extension agents), DRDR and local representatives from the ministry of education.

During the last few months of the project, the school-based curriculum and the lessons focused on delivering: 1) user centered learning approach by creating collaborative learning between teachers from different villages and schools 2) helping teachers adapt the lessons and the tools provided to local resources. We had two teacher-centered workshops one in Dagana and one in Podor.

Development of interprofessional education (ipe) sessions in medical school curriculum
Theresa McCann, Via College of Osteopathic Medicine

With the goal of improving the quality of teaching and learning in higher education, while reflecting the collaborative nature of medicine and health care, faculty at Edward Via College of Osteopathic Medicine (VCOM) began providing Interprofessional Education (IPE) sessions at four points throughout the academic year. The IPE sessions were organized around National Interprofessional Education Collaborative (IPEC) domains and competencies. Sessions developed on the VCOM-Virginia Campus through a faculty collaboration of practitioners and educators in clinical medicine, pharmacy, and preventive medicine/public health.
Sessions have been incorporated into each block of the Preventive Medicine Course at VCOM since October 2020, and have become an opportunity for students to interact with peers in other areas of health care as a way to share and discuss strategies for providing optimal patient care in real-life situations.

The educational process begins by understanding the important roles of everyone on the healthcare team. Once responsibilities are identified, effective communication, conflict resolution, and goals sharing are reinforced through realistic scenarios. We feel that effective communication and collaboration involves understanding each person's role, demonstrating respect for other professions while expressing interprofessional roles, communicating clearly, quickly and productively resolving conflicts, and sharing goals to make the best choices with the patient.
The IPE sessions focus on educating future health care workers to effectively work together in ways that will improve patient care outcomes. Virtual sessions via Zoom are organized around themes, each comprising videos, interactive polls, breakout groups of students from different health care programs to discuss a clinical case, and wrapping up with debriefing of the case, using tools and strategies introduced in the session. Guest speakers and faculty from partner programs help to debrief at key points and answer questions. VCOM faculty have been able to interact more with colleagues from other schools and programs, which has led to good ideas for future sessions and opportunities that will enable more students to participate. Rather than exam questions, students are required to submit a brief reflection following the session in response to a prompt that's tied to the session.

One limitation is the time differences between VCOM's daytime (8-5) curriculum in years 1 and 2, and the practice-based days and evening curriculum often found in other programs. This has made gathering students together for participation in IPE sessions quite challenging. Another limitation is the distance between programs that generally precludes participation in a setting other than virtual.

Leaning Human-Centered Design Through Environmental Assessments

Alp Tural, Virginia Tech

The aim of this study is to explore the influence of environmental data collection protocols and assessment tools on interior design students' building systems-related knowledge retention. It is hypothesized that immersion into on site environmental data collection methods and increased experiential learning opportunities in the interior design systems courses would help gain a better understanding of interior design building system concepts. Additionally, such pedagogical interventions would help bridge the gap between the supportive courses and the design studio in the interior design curricula.

Standard 14 of the Council of Interior Design Accreditation (CIDA), addresses student learning expectations related to environmental systems and indoor environmental quality and comfort (2020). Typically, the fundamentals and strategies of thermal design and their impact on interior design solutions are introduced in Building Systems courses in the interior design curricula. Unlike light and color concepts (standard 12) or the building code-related learning goals (standard 16), which are also discussed in system courses, the learning expectations for thermal environment and comfort conditions do not necessitate demonstrated student work for attaining the expectation, and students of interior design are seldom required to exhibit such knowledge on their interior design studio projects (unless specifically listed as part of the project prompt). While student understanding can be demonstrated via in-class exercises, assignments and projects, hands-on learning opportunities merging empirical thermal data and subjective thermal sensations are vital to ensure that the information on thermal environment is not addressed only in studio-supportive courses. To enhance the teaching modules and help students develop their own meanings in the Building Systems course--in line with cognitive constructivist teaching methods, pedagogical interventions were proposed during the Fall 2021 and Fall 2022 terms.

This study focuses on the outcomes of the employed strategies for teaching the thermal comfort and indoor air quality module and report findings of the environmental comfort data collected in the design studio environment. In addition to reinforcing students' understanding of thermal design concepts, the second goal is to expose them to interior design research and data collection methods.

For the quantitative data collection phase, eleven data loggers were installed in the sophomore interior design studio that collect data on sound level, air temperature, relative humidity and indoor air quality. A thermal imaging camera is used to visually experience surface emissivity of interior finishes.

Following the in-class thermal comfort, passive and active heating and cooling strategy discussions, sophomore level students will fill out a point-in-time thermal comfort survey that is prepared in line with the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standard 55 (2013 edition). The survey will inquire interior design students' thermal comfort sensation, acoustical comfort and lighting assessments in the design studio space and include questions that will help calculate predicted mean vote (PMV) data.

Survey findings will be correlated with the environmental data collected in the design studio and findings will be discussed with the students to further their understanding of the environmental comfort-related concepts.

Indigenous Wisdom Meets Accessible Tech

Kimberley Homer, Mae Hey, Virginia Tech

Mae and Kimberley met while serving on Virginia Tech's Commission on Equal Opportunity and Diversity, and succeeded in gaining recognition for Indigenous Peoples' Day at the university. Mae has welcomed Kimberley to the Indigenous Friendship Garden and to cooking circles that celebrate Indigenous food ways and restoring our relationship with the land, the water, and each other. Kimberley has provided technology assistance, especially with the shift to all online classes in 2020, and noticed that Mae's classes were inclusive by design, though Mae is not a certified UDL practitioner. (UDL, or Universal Design for Learning, is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.) It occurs to Mae and Kimberley that honoring an inclusive-first approach is just as important as a credential or certification, and they wonder if other teachers would be more confident about their own inclusive practices if they weren't worried about measuring up to a specific standard. Assessment is an area that is fraught with difficulty for learners with mobility, vision, hearing, and cognitive disabilities, especially with timed and technology-centric tests. The goal of UDL assessment is synergistic, so both teacher and learner can engage, comprehend, and reflect on the course content. Mae's course assessments are done with written reflections, iterated on and informed by weekly talking circles. The trust and curiosity engendered

by these talking circles is also useful in science and technology courses, and it is Mae and Kimberley's hope that instructors of all subjects will consider this technique in their accessibility practices.

Student or Teacher? The dichotomy of a Graduate Teacher Assistant
Brandi Quesenberry, Veronica Giron, Olivia Moyer, Virginia Tech

This poster will address specific topics such as the importance of support and growth opportunities for new graduate teaching assistants (GTAs), and the need for continued training related to both personal and professional development.

Some of the topics that new GTAs may want or need to address include how to successfully teach the material and manage the classroom, as well as how to navigate work-life balance and beat the imposter syndrome that often comes with stepping into a new role.

Effective teaching is not simply a gift that some people possess as a natural talent (Mistaken Beliefs about Learning to Teach, 2011). As a result, GTAs require instruction on the various teaching strategies to manage the classroom and bolster learning amongst their students. While some GTAs may begin their positions with a sense of confidence, most will need guidance on how to be successful in their new role as both student and also teacher.

Managing the demands of a busy graduate student schedule can leave some students yearning for more worklife balance. It is important to set boundaries and know peak productivity hours to avoid burnout. Daniel Pink, in his 2018 book "When" provides research suggesting that since our cognitive abilities do not remain static over the course of the day, we should learn and apply the science of timing to our daily lives.

The impostor phenomenon seems to be more common among people who are embarking on a new endeavor (Weir, 2013). Several strategies can help reduce or reframe feelings of fraudulent success. Mentorships can be one of the most helpful solutions for combating imposter phenomenon.

Training new graduate teaching assistants to make a successful transition to the classroom as first time college teachers poses numerous opportunities and challenges. Although many departments employ GTAs within their programs, formal and continuous training is often limited.

Exploring new behaviors and challenging assumptions regarding professional expectations and what it means to be successful as a GTA may be difficult at times, but with proper training and mentoring, a smooth transition to becoming a junior colleague in the academy can be accomplished.

Onboarding Graduate Researchers for Success
Alicia Johnson, Glen Holmes, Bryce Platt Kayanuma, Gabriel Adeneye, Virginia Tech
Abbot Packard, University of West Georgia

Employee Onboarding

Typically we associate "onboarding" with the process employers sometimes use to orient, welcome, and equip employees "with the tools and resources needed for professional and personal success" (Hall-Ellis, 2014). When an employee experiences poor onboarding, the possibility of them finding another job can double (Sapling HR, 2021). Unlike an employee, graduate student researchers are often part of a research group in addition to coursework, family life, dissertation research, and graduate assistantships, simply for the much needed experience they need to take into their post-graduation career.

Student Onboarding

Using the concept of employee onboarding for onboarding graduate students to a research team could reduce fear and doubt, enhance self-efficacy, and encourage a culture of communication and collaboration. Employee onboarding can

reduce anxiety, which, in turn, may enhance self-efficacy (Bauer, 2013). Students with reduced self-efficacy often need positive research experiences to have a strong research self-efficacy (Tiyuri, et al., 2018). Self-efficacy is a person's belief in their ability to successfully complete a learning or performance task (Pajares, 1996).

Practice Session

In this practice session, presenters will engage with attendees through crowdsourcing to work through and answer together the following questions:

For faculty -
How do you "onboard" your student researchers?

For students -
Have you ever been "onboarded" in a research group?

We will then describe where we are in our process -

Encouraging Creativity
True Collaboration
Open Communication as Equals
Team Research Culture

We will compare notes with others creating their own student researcher onboarding

VENDOR PRESENTATION

The impact of social annotation on learning
Sonja Visser, Hypothes.is

Social Annotation brings the age-old process of marking up texts to the digital learning space. Using social annotation, students and professors can make meaning of text, have conversations around and with the test, and work together to become more proficient readers of academic material. During this session, you will be introduced to social annotation and the various ways it can impact student learning in your courses.

Benefits of Teaching and Learning:
Hypothesis is easy-to-use and works right on top of your course readings to:
- Develop foundational and advanced skills in reading, writing and critical thinking
- Build connection that support community within the classroom and across campus
- Encourage peer-to-peer learning and strengthen digital collaboration skills
- Provide instructors with early and ongoing insight into student engagement, comprehension and skill development

Hypothesis in your LMS:
Using Hypothesis in your LMS enables instructors to:
- Create annotable readings from PDFs and websites
- Grade student annotation sets quickly.