Proceedings for the 17th annual

CONFERENCE ON HIGHER EDUCATION PEDAGOGY™

February 12-14, 2025

The Inn at Virginia Tech &
Skelton Conference Center

CENTER FOR EXCELLENCE IN
TEACHING & LEARNING
VIRGINIA TECH

Conference on Higher Education Pedagogy

Hosted by

Catherine Amelink
Associate Vice Provost, Office of the Executive Vice Provost
Director, Center for Excellence in Teaching and Learning

Tiffany Shoop
Director of Special Programs

Michael Enz
Director of Professional Development

Hannah Harris
Associate Director for Professional Development

Ivonne Wallace Fuentes
Assistant Director for Professional Development

Abbie Gill
Teaching and Learning Project Manager

Samuel Browning
Graduate Assistant

Mitch Gerhardt
Graduate Assistant

17th Annual

Conference on Higher Education Pedagogy

February 12-14, 2025

The Inn at Virginia Tech and Skelton Conference Center

Blacksburg, Virginia

Opening Keynote Address

Thursday, February 13, 2025
12:00 – 1:00 PM

Sylvester Johnson
Professor of Black Studies at Northwestern University
2024 Kluge Chair in Technology and Society at the Library of Congress's Kluge Center

Teaching in the AI Era: Automation, Augmentation, and the Future of Learning

Emerging technologies such as Artificial Intelligence, augmented reality, and remote learning are creating new opportunities as well as challenges for the future of learning. The rapid advance of digital innovation brings both opportunities and strategic questions for education. How might AI affect access to quality teaching and learning? What is the appropriate role of AI in the classroom? What strategies should educators pursue as they embrace positive opportunities for the future of learning? How will K-12 and college/university systems adapt to harness the potential of emerging technology to empower teachers and learners? In this public talk, Sylvester Johnson will examine these key questions and propose a practical set of strategies for educators to navigate the technological and human future of education.

Lunch Plenary

Friday, February 14, 2025
12:00 – 1:30 PM

Mary Huffman
Assistant Professor of Elementary and Middle Grades Education, East Carolina University

Amy Johnson
Associate Dean for Faculty Affairs, Quillen College of Medicine, East Tennessee State University

Julie Stanley
Assistant Professor, East Carolina University

Hannah Sunderman
Assistant Professor of Adaptive and Organizational Leadership, Virginia Tech

Moderator: Michael Enz, CETL Director of Professional Development

Leading Change from Within Your Sphere of Influence

This session features innovative educators who have successfully implemented transformative pedagogical approaches within their institutions. Our distinguished panelists will share insights on their work, highlighting the innovative strategies they have introduced, and their vision for the future of learning. They will discuss the motivations behind their innovations, the risks they navigated, and the impact of their efforts on student learning and institutional culture. Join us as we explore the exciting possibilities and challenges of the future of education and gain valuable advice on how to embrace and lead change within your own sphere of influence.

Table of Contents

"Bad First Drafts": AI vs Humans in First Year Composition ... 9
A Design Challenge Course Supports Student Food Security and Justice ... 10
A Systematic Qualitative Analysis: Strategies for Successful Completion of Research and Professional Doctorates ... 12
A framework for Expert Instructional Design Decision-Making ... 14
AI Readiness: A Stages of Change Approach for Faculty Development ... 16
Activity Design in the Age of AI ... 17
An examination of faculty and students' perceptions of generative AI use for university classes ... 19
Avoiding the Technological Chasm in Academia ... 19
Best Practices in the Construction of Multiple Choice Questions ... 20
Book Club to Classroom: Refining Teaching Practices through Shared Reading ... 21
Bridging Communication: Enhancing Productive and Receptive Language Skills in Higher Education ... 22
Bridging Disciplines Catalyzing Change: Innovative Approaches to High Impact Learning ... 24
Bringing the "Fun" to Fundamentals: Interactive Strategies for College Classrooms ... 25
Building Classroom Communities of Care ... 26
Building a Kindness Curriculum for the College Classroom and Community ... 27
Building high-impact, immersive practices into the curriculum ... 29
Can Pupils Acquire Knowledge by Committing Errors and Subsequently Correcting? ... 30
Candice and Susan Ruin Neuromyths ... 31
Capturing Unconscious Thought: Using Projective Techniques to Guide Discussions ... 32
Chemistry as a Catalyst: Promoting Inclusivity and Belonging in STEM Education ... 34
Co-Creation in Education: Enhancing Learning and Engagement through Collaborative Strategies ... 36
Collaborative CUREs to encourage systems thinking ... 37
Collaborative Efforts towards AI-Assisted Learning of R in Marketing Analytics ... 38
Collaborative Instructional Design Process for Project-based Learning ... 38
College Student Perceptions on AI-Curated OER Course Bundles ... 39
Combating Misinformation in History Education: UDL Strategies for Critical Thinking ... 40
Considerations for AI Adoption in Learning Facilitation Informed by Learning Theories ... 42
Coordinating AI Strategies Among Instructors, Writing Centers, and Instructional Librarians ... 43
Creating and Using an Institutional Definition of Effective Teaching ... 44
Cross-Disciplinary Strategies for Teaching with AI: A Collaborative Roundtable Discussion ... 46
Cultivating Virtues and Skills for Solving Wicked Problems ... 47
Defining Leadership and Collaboration in Post-Pandemic Teaching: An analysis of InTASC Standards and Early Career Teachers ... 49

Designing your Course: Student-Centered, Instructor-Sustainable in an Age of AI 50
Developing Empathy in Medical Students Through Community In-Home Visitation 52
Developing and Implementing Case-Based Learning Using AI 53
Difficult Classroom Conversations - Upholding Equity, Inclusion and Free Speech Principles in Classroom Dialogue 54
Does Perceived Community Mindset Relate to Student's Sense of Belonging? 55
Effectiveness of Collaborative Group Projects in College Classes 57
Embrace the Future of Learning: Teacher Centered versus Student Centered 58
Embracing the Future: Course Design for Distance Education 59
Empowering (Instructors) Writing Across the Curriculum to Promote Deep Change 60
Empowering Autonomy: Guiding College Students to Master Independent Learning 62
Empowering Learners, Shaping the Future: Cultivating Metaliteracy Across the Curriculum 64
Empowering Students to Tackle Controversial Issues with Confidence and Civility 65
Engaging and Supporting Adult Working Learners in Online Learning 66
Engaging undergraduates in a 6-week summer Signals and Systems course 68
Enhance Your Course: Applying PDSA for Effective Course Improvement and Skill Development 69
Enhancing College Classroom Instruction through Science of Reading Principles 70
Enhancing Undergraduates' Skills in Writing and Interpreting Results Using ChatGPT 71
Enhancing employability through SDT-inspired internships: Fostering autonomy, competence, and connectedness in undergraduate psychology students 72
Enjoying the Future of Learning: The Practice of Pedagogy and Laughter 74
Enriching University Classrooms with Social and Emotional Support 75
Ethical Advocacy Against Classroom Surveillance: ACLU and the ACM Code 77
Ethics in Education: Perspectives, Practices, and Priorities 78
Evaluating Faculty Engineering Arts Student Teams (FEAST) 80
Exploring Africana Pedagogies for the Future of Education 81
Exploring Instructors' Perceptions of Artificial Intelligence in Higher Education Teaching 83
Exploring Student Perceptions of the Use of Podcasting as a Reflective Medium in an Online, Asynchronous Leadership Studies Capstone Course 84
Exploring the Impact of Personal Finance Education on Undergraduate Students 86
Extending Learning Potential with XR: Putting Theory into Practice 87
Finding the sweet spot: Exploring the connection between self-regulated learning and cognitive load theory 88
Focusing Student Learning During Anatomy Laboratory Sessions: Five Big Takeaways 94
Fostering Curiosity and Advancing Equity in the Higher Education Classroom 95
From Pixels to Polyglots: Translanguaging meets Gamification 96

Future Directions in Teaching Professional Ethics 97

Global Classrooms, Global Futures: Developing Faculty Intercultural Competencies for the Next Era of Higher Education 98

Graduate Students' Views on Artificial Intelligence in Education 100

Growth-Based Grading: Exploring and Applying an Approach to Non-Traditional Grading 101

Guarding JEDI principles in content creation: Let's JEDI our materials by using AI Tools 102

HI | AI: A Case Study in Advanced Architectural Education 103

High-Impact Practices in Teacher Education: Linking Practices with Engagement 105

Homework Software Access Code Replacements and Strategies 107

Impact of College-Level Math Education on Pre-Service Elementary Teachers' Self-Perceptions for Problem-Solving Instruction 109

Implementation of First-year biochemistry CURE for research skill development 109

Improving Teamwork Assessment in Engineering Classes 112

Incentivizing Pre-Class Student Preparation 113

Incorporation of Dissection Task-specific Questions in a Medical Anatomy Course 114

Increasing Universal Accessibility in Undergraduate Biochemistry Laboratory Courses 115

Innovative Teaching with AI: Practical Applications and Creative Solutions 116

Innovative Teaching: Small Changes, Big Impact on Student Learning 118

Integrating Service-Learning in Digital Marketing Education: Bridging Theory and Practice for Future-Ready Students 119

Interdisciplinary and Multi-Course Project-Based Learning - Coordinating Complex Cross-Course Projects 120

Introduction to Interior Design in K-12 Education Through Computational Thinking 121

Learning to Teach Digital Literacy: Faculty as Learners 123

Lesson Study as a Tool to Cope with Instructional Challenges 124

Leveraging ChatGPT and Large Language Models for Enhanced Accounting Education 126

Leveraging Generative AI: Enhancing Course Design and Learning Experiences 127

Making Connections: Organically-driven Approaches to Celebrating Faculty Success 128

Maximizing Meaning and Motivation: The Utility Value Intervention 130

Measuring the Motivational Climate in Graduate Courses Using the MUSIC Model Inventory and Strategies 131

Measuring the effectiveness of Faculty Learning Communities 133

Navigating Career Readiness in a Changing Educational Landscape 134

Navigating and Integrating Inclusive Concepts and Paradigms in Health Sciences 136

Navigating the Unseen Paths of EdTech Innovation: A Journey Through Interdisciplinary Collaboration and Authentic Learning 137

Online Education in Case Presentation and Teleconsultation for Veterinary Students 138

Open Educational Resources: Tailor Your Textbook, Not Your Course Design 139
Optimizing Student Wellness: emWave2 Biofeedback in Education 140
Overcoming Barriers to a Dialogic Mindset: The Ladder of Inference 142
PERCEPTIONS OF RECENT HIGH SCHOOL GRADUATES ON WORKPLACE READINESS SKILLS 143
Pedagogical Challenge: A Medical Student Teaching An Undergraduate Anatomy Course 144
Pedagogical Partnerships: A Case Study 146
Pedagogy of/ with emotional Intelligence 147
Pedandragogy: Creating a Learning Environment that Fosters Self-engaged Learning 148
Perceptions of Dual Credit Students in Entry Level College English Courses: A Qualitative Investigation 149
Practical Strategies for Integrating AI in the College Classroom: To Enhance, not Replace, Learning 151
Pride and Bias: Helping Students Find Intellectual Humility 152
Promoting Equity in Higher Education Through No-Code AI 153
Realizing Inclusive Student Excellence through Faculty Development and Student Engagement 155
Reflecting on Classroom Space to set Active Learning Expectations 156
Refocusing and Remotivating Students on Their Education 158
Reimagining Assessment: The Impact of Oral Exams on Student Engagement 159
Relationships Between Motivation Constructs and Key Student Outcomes: A Meta-Analysis 161
Research to Praxis: Transdisciplinary Skill Development in Graduate Education 162
Roundtable discussion: Maximizing student impact from sustained experiential learning activities. 167
Scaffolding Case-Based Learning Environments for Systems Thinking 167
Simulation training for student vaccinators at VCOM during COVID-19 169
Small Things Can Make A Difference: Creating a First-Generation Friendly Learning Space 171
Starting a Community of Practice to Support Better Teaching 172
Stress Mindset: Associations with College Student Well-Being 173
Student-centered learning activities for supporting systems thinking 175
Student-led learning: A CURE for the common ecology lab 177
Students' Perceptions of Specifications Grading in Higher Education 178
Students' perspectives of interactive electronic textbooks in higher education. 180
Study Abroad South Africa: Connect and serve communities abroad 181
Surveying the Motivational Climate in Courses to Improve Student Engagement 182
Teaching (and Leading) from Within: Exploring the Forgotten Virtue of Humility 184
Teaching Social Justice in Global TPC Design: Virtue Ethics in the Digital Era 186
Teaching doctoral-level writing with cultural sensitivity and responsiveness 188
Teaching with Heart in the STEM higher education classroom 189

Tech-Savvy Success: Empowering First-Year Students with Essential Skills for the Digital Age 190
The Benefits of Undergraduate Research For Faculty 192
The Bloom's Taxonomy You Don't Know 192
The Connection Project: Finding Connection and Belonging at Virginia Tech 193
The Effect of Instructor Mindset on Student Motivation 194
The Effectiveness of AI Onboarding Activities for First-Year Students 195
The Effects of Metacognition Exercises for Students in Online Degree Programs: An Experimental Design 197
The Future is Yours: Implementing Student-Goal Driven Pathways in a Culminating Course 198
The Pedagogical and Interpersonal Benefits of Food Studies in Lesson Design 200
The Power of Peer Education for the Future of Learning 201
The Transformative Power of Experiential Learning 202
Trauma-Informed Pedagogy: Creating Classrooms That Are Safe Enough To Be Dangerous 204
Understanding Health Professions Students' Intentions to Work with Older Adults 205
Use of an Acute Vigorous Aerobic Exercise Intervention to Improve Neurocognitive Outcomes in Undergraduate STEM Students 206
Using Accessible Technology Tools to Meet (Disabled) Students' Access Needs 207
Using Continued Growth to Increase Progression 209
Using MS Teams to support active learning in F2F Classrooms 210
Using Telepresence Robots for Teaching and Learning in Higher Education 211
Using The New York Times as an Instructional Tool 212
Using Undergraduate Teaching Assistants to Increase Student Engagement 214
Utilizing a Continuous Quality Improvement (CQI) Process in Student Assessments 215
Warehouse Wars: A Problem-Based Board Game to Teach Warehousing Systems 217
When future learning is a revisit to past: Within-discipline collaboration 218
Y'all Already Do This Every Day: Qualitative Student Research in Online Spaces 220
"AI Activities in the Humanities Classroom" 221
"This class sucked…" Collaborating to process negative course evaluation comments 222

"Bad First Drafts": AI vs Humans in First Year Composition

Courtney Martin, Melissa Mowbray, Michele Ren, *Radford University*

Abstract: How important is a distinct author's voice in academic writing? How useful is the writing advice given by Large Language Models such as ChatGPT? Can a student use SnapChat to write an academic essay? We explored these questions and more when we had first year composition students create AI versions of our course texts about writing using ChatGPT, snapchat, Gemini, and other platforms.Our presentation will discuss the assignment, the outcomes, and some things we will do/have done differently as we move forward.

During the 2023-2024 academic year, we taught English 111 to thirty students (two sections) as a team. When students submitted their first drafts of our first essay, we found that a little more than 10% of them had used AI to write anywhere from 25 to 100% of their essays for them. The same week, we had a professional development meeting about using AI in class and decided to change our second essay (a comparison or synthesis) to a comparison of an original essay to an essay produced by a Large Language Model.

Students prompted Bard, ChatGPT, Gemini, and/or SnapChat to write an essay about "Shitty First Drafts" (Lamott, 1997), "How to Write With Style" (Vonnegut, 1980), about "Be[ing] Specific" (Goldberg, 1986), and about grammar and voice in writing (Young, 2022). After creating AI versions of our class texts, we changed the prompt for the second essay. Instead of comparing/synthesizing these authors and their advice for writing, students were assigned the prompt of comparing the original texts to their AI-generated counterparts. Students' essays explored the strengths and weaknesses of AI through comparing written elements like voice, ability to communicate, incorporating personal experiences, and style.

Rather than succumbing to the "chatbot panic" described in Rethinking Writing Instruction in the Age of AI when "writing teachers around the world discover that the ground is shifting beneath their feet," we decided to let students decide for themselves why bringing their own lived experiences and unique voices to their writing might be preferable to letting LLM's do the work for them (Laist, 2024, p. 3).

Our poster will detail the in-class activities we did (pre-writing), students' response/reactions to the texts they generated using LLMs, and some discussion of the final essays. Oral components of the poster presentation will include discussing what worked and what didn't, which of us used the assignment again for Fall and how we have modified both the assignment and the pre-writing activities.

References

(2019). A writer's argument for political correctness. The Writer (Madavor Media), 132 (6), 4-5.

(1986). Writing down the bones. Shambhala

(2024). Rethinking Writing Instruction in the Age of AI: A Universal Design for Learning Approach. Cast, Incorporated.

(1997). Bird by bird. Anchor Books

(1980). How to write with style. IEEE Transactions on Professional Communication, PC-24(2), 66-67. https://doi.org/10.1109/tpc.1981.6501703.

(2022, April 25). A letter to that man who emailed me to correct my grammar. Washington Post. https://www.washingtonpost.com/magazine/2022/04/25/damon-young-letter-that-man-who-emailed-correct-my-grammar/

(2023, August 29). Here's my AI policy for students: I don't have one. Washington Post. Retrieved September 25, 2023, from https://www.washingtonpost.com/opinions/2023/08/29/ai-student-policy-chatgpt-college/.

A Design Challenge Course Supports Student Food Security and Justice

Rachael Budowle, Brenna Demko*, Honors College*
Kim Niewolny*, Department of Agricultural*
Bree Williams*, Civic Agriculture & Food Systems*

Abstract: The Justice Challenge, a national Honors and Agriculture collaborative wherein students address wicked problems in food, agriculture, natural resources, and human sciences focused on food justice in 2023-2024. As a partner, Virginia Tech hosted a justice and equity-focused student food security design challenge course. Using a community-engaged project-based learning approach, students completed three projects with and for the Assistant Director for Food Access Initiatives: a food share cabinet toolkit, a food access resource map, and The Market of Virginia Tech Cookbook. This presentation shares strategies, project outcomes, and student and partner reflections to inform future teaching and learning.

The Justice Challenge is a United States Department of Agriculture National Institute of Food and Agriculture (USDA NIFA) Higher Education Challenge Grant-funded collaborative of Honors and Agriculture program scholars across the country. The collaborative supports students to address wicked problems in food, agriculture, natural resources, and human sciences (FANH) through 'grand challenges' themes. The inaugural 2023-2024 cohort theme was food justice. Broadly, food justice is a transdisciplinary movement focused on dismantling injustices in the food system, including food production, distribution, consumption, and disposal. Grassroots and policy strategies strive toward social equity, food security, food systems transformation, community participation and agency, and environmental sustainability (Holt-Giméénez & Wang, 2011; Hayes & Carbone, 2015; Murray et al., 2023). In fall 2023, students from 14 institutions participated with scholars in a 9-week synchronous online colloquium using a 'what, why, and how of food justice' framework. That framework prepared students to apply food justice concepts in a spring semester signature experience.

As a primary partner in the collaborative, the Virginia Tech Honors College and College of Agriculture and Life Sciences hosted a design challenge signature experience for nine students in spring 2024. An overall community-engaged project-based learning pedagogical approach allowed students to address real-world, complex challenges (Center for Community Engaged Learning, n.d.; Frisk & Larson, 2011; Helle et al., 2006). Course objectives were to:

- Explore a real-world food justice approach to a FANH issue in the surrounding community;
- Engage with community mentors, partners, and/or members;
- Design, with and for partners, approaches to support or address that issue.

Teaching and learning strategies included peer-facilitated discussion; envisioning and reflection around community-engaged learning, change-making, and food justice; field trips; and most centrally, a hands-on, team-based, semester-long project identified and guided by a campus-community partner.

In keeping with rates found at universities across the country, around 30% of Virginia Tech students experience food insecurity. Moreover, particular groups of students (e.g., students of color, international students, LGBTQIA+ students) inequitably experience food insecurity (Hall et al. 2024). Accordingly, course projects centered on justice & equity approaches to student food security at Virginia Tech. Building from a case presented in the fall colloquium, such approaches engage with these inequities and emphasize student-led and culturally diverse strategies that aim to reduce stigma and enhance dignity (Budowle et al., 2023; Porter et al., 2023). Mentored by the Assistant Director for Food Access Initiatives, students completed three projects with and for their mentor: a food share cabinet toolkit, a food access resource map, and The Market of Virginia Tech Cookbook. Projects culminated in a report, presentation, and tangible deliverables. Students then completed final reflections on their project, including deliverables and outcomes, mentor relationship, group process, and overall project-based learning and change-making experiences. Additionally, students reflected on summative learning around the food justice framework throughout the Justice Challenge and, more specifically, the design challenge course experience. The proposed poster presentation will elaborate on above pedagogical strategies, project outcomes, and student and partner reflections to identify and share lessons learned for future community-engaged, project-based, and justice and equity-focused teaching and learning.

References

M., & McLennan, C. (2023). Justice and equity approaches to college and university student food (in)security: Introduction to the special section. Journal of Agriculture, Food Systems, and Community Development, 12(2), 3-9. https://doi.org/10.5304/jafscd.2023.122.013

(n.d.). Definitions & Terminology. Michigan State University. https://communityengagedlearning.msu.edu/resources/definitions-terminology

& Larson, K.L. (2011). Educating for sustainability: Competencies & practices for transformative action. Journal of Sustainability Education, 2. http://www.susted.com/wordpress/content/educating-for-sustainability-competencies-practices-for-transformative-action_2011_03/

P., Agnew, J., Liu, W., Petrie, L., & North, C. (2024). Systematic investigation of inadequate food access at a large southeastern land grant university. PLoS ONE, 19(3), e0298041. https://doi.org/10.1371/journal.pone.0298041

& Carbone, E.T. (2015). Food justice: What is it? Where has it been? Where is it going? Journal of Nutrition Disorders and Therapy, 5, 179. http://doi:10.4172/2161- 0509.1000179

(2006). Project-Based Learning in Post-Secondary Education: Theory, Practice and Rubber Sling Shots. Education, 51(2), 287-314. https://doi.org/10.1007/s

(2011). Reform or transformation? The pivotal role of food justice in the US food movement. Race/Ethnicity: Multidisciplinary Global Contexts, 5(1), 83-102. https://doi.org/10.2979/racethmulglocon.5.1.83

(2023). A scoping review of the conceptualisations of food justice. Public Health Nutrition, 26(4), 725-737. http://doi:10.1017/S1368980023000101

M., Grimm, K., & Budowle, R. (2023). Narrowing the equity gap in student food security: A student-led approach at the University of Wyoming. Journal of Agriculture, Food Systems, and Community Development, 12(2), 37-45.

https://doi.org/10.5304/jafscd.2023.122.016

A Systematic Qualitative Analysis: Strategies for Successful Completion of Research and Professional Doctorates

Amanda Rockinson-Szapkiw, *University of Memphis*

Abstract: Doctoral completion requires integration into the university and consideration and management of personal factors, and "student retention [strategies] differs" (Tinto, 2006-2007, p. 4) across doctoral programs stages and types (Castelló, Pardo, Sala-Bubaré, & SuñeSoler, 2017; Rockinson-Szapkiw & Spaulding, 2014). Therefore, this presentation provides the doctoral student and faculty with doctoral completion strategies, developed through a qualitative research synthesis of the literature and translated into a co-edited book, across two program types - research and professional- and across the five stages of the doctoral process (Rockinson-Szapkiw & Spaulding, 2014).

The doctoral journey has been characterized as an experience of a "different order" (Hawley, 2003). Doctoral students describe the doctoral process as dissatisfying, demanding, and stressful (Lovitts, 2001; Zemirah, 2000). Consequently, research documents that 40 percent to 60 percent of students fail to complete the doctoral journey (Bowen & Rudenstine, 1992; Council of Graduate Schools PhD Completion Project, 2008). Doctoral completion requires integration into the university and consideration and management of personal factors, and "student retention [strategies] differs" (Tinto, 2006-2007, p. 4) across doctoral programs stages and types (Castelló, Pardo, Sala-Bubaré, & SuñeSoler, 2017; Rockinson-Szapkiw & Spaulding, 2014). This concept of integration is central to Tinto's (1975) theoretical framework. Tinto (1993) suggested that doctoral student persistence is "shaped by the personal and intellectual interactions that occur within and between students and faculty and the various communities" (p. 231). Holmes and Rockinson-Szapkiw (2019) found that academic and social integration are intertwined for doctoral students, purporting that persistence is related to program integration (Holmes & Rockinson-Szapkiw, 2019). Therefore this research was guided by this framework and research.

A systematic qualitative research synthesis of the literature (e.g., meta-aggregation) on the doctoral persistence and integration was conducted, offering "valuable contributions to the literature" as it is distinctive form of research that aggregates a body of knowledge (Torraco, 2016, p. 62). Meta-aggregation was used to generate "context rich recommendations relevant and applicable to practice" (Lockwood et al., 2015, p. 186). Research articles chosen for this review met were studies that purpose was focused on the phenomenon of doctoral persistence and integration. Data was examined for significant phrases and ideas, similar ideas and meanings were grouped into, and finally, findings synthesized into an "overarching description of a group of categories" (Lockwood et al., 2015, p. 184). The synthesis was used to produce a list of topics salient to doctoral persistence and in turn develop generalizable recommendations for doctoral students and faculty (Lockwood et al., 2015). Given that doctoral education is distinguishing between the two models—research and professional, the strategies or recommendation are presented according to model type . While there is some intersection of strategies, some strategies are unique to the different program models.

Below is an example list of the synthesized categories in which more in-depth discussion will ensure during

the presentation. After sharing findings, we will facilitate discussion of the implications for students and doctoral faculty who wish to increase persistence and program completion.

Program Model and Modality
Personal and University Assets
Family, Academic, and Work Integration
Technology
Wellness
Community
Research Understanding
Self-Directed Learning
Relationship with Faculty
Types of Dissertations
Topic, Conceptual Frameworks, and Literature
Student to Professor or Practitioner
Post Depression of the Program

As "student retention [strategies] differs" (Tinto, 2006-2007, p. 4) across doctoral programs stages and types (Castelló, Pardo, Sala-Bubaré, & SuñeSoler, 2017; Rockinson-Szapkiw & Spaulding, 2014), strategies related to integration and personal factors for doctoral persistence need to be created and discussed if doctoral degree attainment is to be within reach of more than 50% of students who begin.

References

(2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. Higher Education, 1- 16. https://doi.org/10.1007/s10734-0160106-9

W. & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th Ed). Sage.

(2003). Being bright is not enough: The unwritten rules of doctoral study.

C. Thomas.

(2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. International Journal of Evidence-Based Healthcare, 13, 179- 187.

E. (2001). Leaving the ivory tower: The causes and consequences of departure from doctoral study. Lanham, UK: Rowman & Littlefield Publishers.

E. (2008). The transition to independent research: Who makes it, who doesn't, and why. The Journal of Higher Education, 79(3), 296-325.

(2004). Doctor dropout. The Chronicle of Higher Education, 50(2) 120-129.

S., & Rockinson-Szapkiw, A. J. (2012). Hearing their voices: Factors doctoral candidates attribute to their persistence. International Journal of Doctoral Studies, 7, 199-219.

R., Snyder, M. M., & Dringus, L. P. (2009). The developmental, validation, and application of the doctoral student connectedness scale. The Internet and Higher Education, 12(2), 112-116.

(1993). Leaving college: Rethinking the causes and cures of student attrition (2nd. Ed.). Chicago, IL: University of Chicago Press.

J. (2016). Writing integrative literature reviews: Using the past and present to

Human Resource Development Review, 14(4), 404- 428.

O., & Onwuegbuzie, A. J. (2011). A mixed research investigation of factors related to time to the doctorate in education. International Journal of Doctoral Studies, 6, 115-134. Retrieved from http://ijds.org/Volume6/IJDSv6p115-134Wao320.pdf

A framework for Expert Instructional Design Decision-Making

Maurine Kwende*, researcher*
Nada Dabbagh*, Advisor*

Abstract: The purpose of this study was to examine how expert instructional designers made decisions and a proposed model for design decision-making. Exising research revealed many factors that instructional designers, novice and expert alike made decisions. A pilot study was conducted to further investigate validated the literature review but didn't state clearly how decisions were made. Another study was conducted to determine specifically how expert instructional designers made decisions in the workplace. 200 experts participated in this study. Findings validated the research and indicated three factors experts relied on the most, challenges and a proposed model discussed.

The purpose of the research study was to evaluate how expert instructional designers (IDs) made decisions. IDs make decisions every day when performing various tasks in their job. The daily tasks include; needs assessment, curriculum or content design, researching learning technologies to determine what to use to develop instructional content. Knowing that IDs perform these tasks daily, it is very important to examine how IDs make design decisions and the factors they rely on to guide them in the decision-making process to allow for the effectiveness and efficiency of learning solutions.

To carry out this research, a delphi study was conducted with expert instructional designers. Existing research to determine how IDs made decisions indicate many factors including intuition, past experience, ID models, peer feedback, cognitive and social skills, media, budget, time constraints, ID Strategies, and employer demands. Despite these many factors, the existing research still did not clearly state how IDs made decisions. Having a clear process will help IDs decision-making process. Expert IDs (N=200) in a Delphi study completed three rounds of questionnaire to gain a consensus on the decision-making process. The data was transcribed, and coded, and themes were identified and analyzed using thematic analysis.

The findings confirmed all the literature review and revealed additionak factors expert IDs relied on making it a total of 17 factors. However, the study revealed the top 5 factors reorganized into three broad categories: ID Factors category, contextual factors category, and human-centered factors category. The findings also identified five challenges on decision-making. To conclude, the study, an AI driven guide or model was proposed for decision-making.

One limitation of the study is the sample size. The study started with N=200 and the last round of survey had

N=60 participants. Having a larger sample size would have made the study more generalizable. The outcome of the research is intended to guide IDs when making decisions. The outcome is also intended to impact all those in the education and training space regarding decision-making. The outcome of this expert instructional designer study will hopefully add to the existing body of literature on instructional design decision-making.

References

Y., Ruipérez-Valiente, J. A., Lee, S., & Pritchard, D. E. (2019). Are MOOC learning analytics results trustworthy? With fake learners, they might not be! International Journal of Artificial Intelligence in Education, 29(4), 484-506. https://doi.org/10.1007/s40593-019-00183-1

(2021). A history of instructional media, instructional design, and theories. International Journal of Technology in Education, 4(1), 1-21. https://doi.org/10.46328/ijte.35

(2022). Fairness and explanation in AI-informed decision making. Machine Learning and Knowledge Extraction, 4(2), 556-579. https://doi.org/10.3390/make4020026

(2001). Thematic networks: An analytic tool for qualitative research. Qualitative Research, 1(3), 385-405. https://doi.org/10.1177/146879410100100307

(2021). Consensus in the Delphi method: What makes a decision change? Technological Forecasting and Social Change, 163, 120484. https://doi.org/10.1016/j.techfore.2020.120484

(2018). Automatic collection of user behavior in 360 multimedia. Multimedia Tools and Applications, 77(16), 20597-20614. https://doi.org/10.1007/s11042-017-5510-3

(2009). Inductive & seductive science thinking: A model for lesson development. Science Scope, 32(6), 36-41.

(2019, October 9). How chatbots could be the future of learning. E-learning Industry. https://elearningindustry.com/chatbots-future-learning

M., Guo, M., Gyabak, K., Khlaif, Z., & Techawitthayachinda, R. I. (2017). Core judgments of instructional designers in practice. Performance Improvement Quarterly, 30(3), 199-219. https://doi.org/10.1002/piq.21250

(2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3, 77-101. https://doi.org/10.1191/1478088706qp063oa

M., Clayton, M. A., Calahan, P. T., & Draude, B. J. (2014). How should I offer this course? The course delivery decision model (CDDM). Journal of Online Learning and Teaching, 10(2), 326-336.

(2011). Change by design. Journal of Product Innovation Management, 28(3), 381-383. https://doi.org/10.1111/j.1540-5885.2011.00806.x

(Ed.). (2020). ATD's 2020 trends in learning technology. ATD Press. https://cdn.prod.atdchina.com.cn/72/be/8772134246318b883fd4a542ee4c/111912-2020trendsinlearning-samplechapter.pdf

AI Readiness: A Stages of Change Approach for Faculty Development

Jenny Hall, Kim Baskette, Sallie Beth Johnson*, Radford University*

Abstract: Join us for a dynamic roundtable discussion on tailoring AI training for faculty in higher education using the Stages of Change model. This session will explore the current state of AI adoption among faculty, highlighting the unique needs and challenges across different experience levels. Participants will assess their readiness for AI integration, discuss barriers and facilitators, and share strategies for advancing AI use in their teaching and learning. Insights from survey research at Radford University will guide the conversation, providing practical guidance for developing targeted professional development opportunities to support faculty in leveraging AI effectively.

With the rapid advancement of artificial intelligence (AI), there is an urgent need to provide faculty in higher education with training to build their knowledge, confidence, and skills in integrating AI into their courses. A one-size-fits-all approach to faculty development often fails to address the varying levels of readiness and experience among faculty members. Tailoring AI training programs to different levels is crucial because each group has unique needs, challenges, and applications for technology and methodologies. According to a recent study from the Association of Colleges and University Educators (ACUE), only 16% of faculty reported receiving formal training on leveraging AI in their courses, and only 17% reported receiving sufficient guidance from their institutions regarding AI integration. However, half of the faculty (48%) reported being excited about integrating AI into their courses, with 38% expressing confidence in their understanding of AI technologies and 35% feeling comfortable using AI to support their teaching.

The Stages of Change model, also known as the Transtheoretical Model, provides a structured framework for understanding faculty readiness for AI integration and is a valuable tool for guiding the development of training for increased AI adoption in educational settings. This model outlines the change process that individuals go through when making a behavior change and consists of five stages: precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage, faculty are not yet considering using AI or may feel that AI is irrelevant to their teaching. During contemplation, faculty begin to recognize the potential benefits of AI but are still unsure how to implement it. In the preparation stage, faculty plan to adopt AI, gather resources, and seek out training opportunities. The action stage involves actively integrating AI into their courses, and finally, in the maintenance stage, faculty have been continuously refining their AI strategies based on student performance data and feedback for six months or more. Applying this model ensures a structured and supportive approach to AI adoption and training, leading to enhanced teaching effectiveness and better student outcomes.

This roundtable will explore faculty participants' readiness and engagement with AI to inform the design of tailored AI training programs. First, presenters will share results from their own survey research of Health and Human Services faculty at Radford University, providing insights into the current state of AI adoption and engagement among faculty and highlighting faculty distribution across various stages of AI integration. Second, using the Stages of Change Model as a framework, participants will assess their readiness for AI integration into their teaching and learning. Third, small groups will be formed by stage, where participants will discuss barriers and facilitators in their current stage and resources that would advance them to the next stage. Finally, a full group discussion will allow participants to share their experiences and recommendations for advancing AI integration and designing training. Takeaways from this session will provide practical

strategies and guidance to help inform the development of targeted professional development opportunities to support faculty across all disciplines in advancing their use of AI.

Activity Design in the Age of AI

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

Abstract: The rapid emergence of generative Artificial Intelligence (genAI) systems (e.g., ChatGPT) in education has elicited many concerns about academic integrity and advice on AI-proofing curriculum. Recognizing that AI-proofing curriculum is not fool-proof, this presentation shares practical ideas to engage students in activities that align with genAI affordances and specific educational goals or learning objectives. It will begin with a brief discussion on the use of an affordance analysis strategy to guide activity designs, followed by examples. Presenters will engage the audience through reflection and interactive activities. All attendees will take away practical ideas and free resources for application in practice.

Although advanced technologies have always posed controversy and challenges in education (e.g., calculators, internet, cell phones), the emergence of generative artificial intelligence (genAI) systems (e.g., ChatGPT) has heightened the challenges (GAT Labs, 2023). Academic integrity has been cited as a major concern among educators (Hamilton & Swanston, 2024) due to its increasing capability of generating sophisticated, coherent, and, seemingly, original content (Gulumbe et al., 2024). As such, recent literature emphasizes educators' pursuit to "AI-proof" their assignments (e.g., Lau & Guo, 2023; Zimotti et al., 2024) and advice on how to do so (e.g., Komáromi, 2023). The discussion around countering genAI systems or AI-proofing assignments is "complex and multifaceted" (Summation Team, 2024, n.p.) and likely difficult to attain (Wiley, 2024). Among the detriments of banning the use of GENAI altogether in education is the widening and deepening of the digital divide (Canales, 2023). The counter should be designing assignments that facilitate learning with and about genAI (Trust, 2023) with systematic consideration for learning goals and the affordances of genAI systems through an affordance analysis strategy (Bower, 2008).

In this presentation, Gibson's (1977) definition of affordance is viewed as the complementary relationship between the design and genAI systems. The relationship may be characterized as positive (there is synchronicity between the goals of the learning design and what the environment provides or furnishes) or negative (a learning design could in some way be hampered in achieving the goals because of the limitations provided by genAI systems) (Maier & Fadel, 2009).

Affordance analysis is the process of consciously assessing the complementary nature of affordances and related desirable and undesirable affordances. Bower (2008) described a non-linear framework for matching activities with technologies to construct activities scaffolded by appropriate technologies. Bower's framework includes: (a) identifying educational goals, (b) proposing general activities to meet educational goals, (c) determining affordances needed to complete an activity, (d) determining affordances of available or desired tools, and (e) matching activity affordance requirements and the affordances of available or desired tools in order to promote successful completion of an activity. Articulating activity requirements and tool requirements and their dynamic interrelationships are central to choosing the best technology(ies) to scaffold learners' ability to complete learning activities.

This practice session will share examples for engaging students in learning with and about genAI as well as how affordance analysis was used as a strategy to systematically consider activity goals/objectives and genAI

affordances. After the session, participants will be able to describe the affordances of genAI systems for a variety of educational goals (e.g., problem solving, information using, creativity, collaboration) and/or learning objectives, apply an affordance analysis strategy to systematically match goals/objectives with the affordances of genAI, and locate free technology resources to facilitate teaching.

Both presenters have extensive experience in teaching undergraduate and graduate courses in instructional design and technology in different modalities. They have facilitated professional development programs for higher education faculty and K-12 teachers using a variety of strategies and digital tools.

References

(2008). Affordance analysis - matching learning tasks with learning technologies. Educational Media International, 45(1), 3-15. doi:10.1080/09523980701847115

(2023, April 17). ChatGPT is here to stay. Testing & curriculum must adapt for students to succeed. The 74 Million. https://www.the74million.org/article/chatgpt-is-here-to-stay-testing-curriculum-must-adapt-for-students-to-succeed/

Academic integrity: How to navigate the AI challenges in education [Post]. LinkedIn. https://www.linkedin.com/pulse/academic-integrity-how-navigate-ai-zbfdc#:~:text=Maintaining%20academic%20integrity%20has%20always%20been%20a%20critical,can%20inadvertently%20encourage%20behaviors%20that%20compromise%20academic%20integrity.

J. (1977). The theory of affordances. In R. Shaw & J. Bransford (Eds.), Perceiving, acting, and knowing: Toward an ecological psychology (pp. 67-82). Erlbaum.

H., Audu, S. M., & Hashim, A. M. (2024). Balancing AI and academic integrity: What are the positions of academic publishers and universities?. AI & Society, (2024). https://doi.org/10.1007/s00146-024-01946-8

(2024, June 6). Artificial intelligence In education: Teachers' opinions on AI in the classroom. Forbes. https://www.forbes.com/advisor/education/it-and-tech/artificial-intelligence-in-school/

(2023). Designing assignments for university students in the age of AI: Examples from business finance education. Journal of Education and Practice, 18(14), 106-111. http://doi.org/ 10.7176/JEP/14-18-15

(2023). From "ban it till we understand it" to "resistance is futile": How university programming instructors plan to adapt as more students use AI code generation and explanation tools such as ChatGPT and GitHub Copilot. In K. Fisler, P. Denny, & D. Franklin (Eds.), Proceedings of the 2023 ACM conference on international computing education research (Vol. 1, pp. 106-121). Association for Computing Machinery (ACM). https://doi.org/10.1145/3568813.3600138

R. A., & Fadel, G. M. (2009). Affordance based design: A relational theory for design. Research in Engineering Design, 20, 13-27.

(2024, February). Should we AI-proof assignments? Unraveling the dilemma in education. Summations. https://www.summations.com/blog/should-we-ai-proof-assignments-unraveling-the-dilemma-in-education

(2023, August 2). Essential considerations for addressing the possibility of AI-driven cheating: Part 1. Faculty Focus. https://www.facultyfocus.com/articles/teaching-with-technology-articles/essential-considerations-for-addressing-the-possibility-of-ai-driven-cheating-part-1/

(2024, July 1). Why it might be impossible to "AI-proof" written assignments (and what we can do about it). Improved Learning. https://opencontent.org/blog/archives/author/david

(2024). The future of language education: Teachers' perceptions about the surge of large language models like ChatGPT. Technology in Language Teaching & Learning, 6(2), 1-24. https://doi.org/10.29140/tltl.v6n2.1136

An examination of faculty and students' perceptions of generative AI use for university classes

Junghwan Kim, Michelle Klopfer, Jacob Grohs, Hoda Eldardiry, James Weichert, Larry Cox, Dale Pike, *Virginia Tech*

Abstract: This study surveyed 982 students and 76 instructors at a large public university in the U.S. and presented similarities and differences in their responses to generative AI. Students and faculty do not differ significantly in their attitudes towards generative AI in higher education, except with respect to ease of use, motivation, and interest in exploring new technologies. Among students, we find significant differences in attitudes between males in STEM majors and females in non-STEM majors regarding the impact of generative AI on learning. These results suggest a more nuanced differentiation in perspectives than only STEM versus non-STEM disciplines.

References

et al. An examination of faculty and students' perceptions of generative AI use for university classes. Working Paper (Under Review).

Avoiding the Technological Chasm in Academia

Derek Eley, *Virginia Wesleyan University*

Abstract: This paper examines the unfortunate gap between bourgeoning technologies and vulnerable communities in academia. Oftentimes when the dreaded chasm is discussed in technology forums, the majority are the sole targeted audience. As America's infrastructure slowly adapts to the advent of digital technologies the necessity for high-speed internet is still unattainable in some areas. Research begins with searching for and creating suitable digital ecosystems specifically as they pertain to visual arts in academia. Pinpointed interviews and surveys with selected professors and administrative professionals garner critical data and insight on an often-ignored topic in higher education.

There is an inordinate number of reasons why portions of society face technological inadequacies. Keeping up with the blurring speed of technology updates, aging generations, and general maze are some of the usual suspects pointed to when it comes to diagnosing our current state of technological lag. In so many areas of our lives, society provides an informative backdrop for our professional lives. There is empirical data on segments of our population that suffer from the dreaded technology chasm. Economic and geographical reasons are two of the biggest identifiers for causes of a serious gap between the technological haves and have nots. The

purpose of this paper is to use the overarching data for society as an initial blueprint for investigating the technology chasm in academia as it pertains to vulnerable communities.

The methodology used to conduct research for this project originates from pinpointed interviews and surveys with selected professors and administrative professionals. The results garner critical data and insight on an often-ignored topic in higher education. In a time when most software is subscription based and hardware becomes obsolete after a few years an astounding 42% of educators and administrators feel that the gap between students with access to technology and those without it is widening. Not only does this study attempt to correlate the experiences of students with valuable data, but it also seeks to find viable solutions and models to even the field going forward. As technology is constantly evolving in private and public sectors, those of us in the ivory tower need to assure that all of our students are ready to handle innovations as they prepare to enter the workforce.

References

R., Correa, A., Perman, A. E., & Rivaldi, M. (2019). Crossing the Chasm: A Case of Scaling Adoption of Open Educational Resources to the Early Majority. In Y. Qian & G. Huang (Eds.), Technology Leadership for Innovation in Higher Education (pp. 233-267). IGI Global.

(2020). Learning Innovation and the Future of Higher Education. Johns Hopkins University Press.

Best Practices in the Construction of Multiple Choice Questions

Brian Hill*, Via College of Osteopathic Medicine*

Abstract: 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.

References

Developing evaluation instruments. In: Designing Effective instruction. New York, NY. MacMillan College Publishing, 1994. 180-213.

Assessment of student achievement. Boston, Mass: Allyn & Bacon, 1998.

A review of multiple-choice item-writing guidelines. Appl Meas Educ 2002;15:309 -333

Constructing written test questions for the basic and clinical sciences. Philadelphia, Pa: National Board of Medical Examiners, 1998

How to write good multiple-choice questions. J Paediatr Child Health 2011;47:322-5

Construct-irrelevant variance and flawed test questions: do multiple-choice item-writing principles make any difference? Acad Med 2002;77(10):S103-4

Use of a committee review process to improve the quality of course examinations. Adv Health Sci Educ 2006;11(1):61-68.

How to write good multiple-choice questions. J Paediatr Child Health 2011;47:322-5

Will a Short Training Session Improve Multiple-Choice Item-Writing Quality by Dental School Faculty? A Pilot Study. J Dental Education 2017;81(8): 948-955

The impact of item writer training on item statistics of multiple-choice items for medical student examination. Siriraj Med J 2012;64(6):178-82

Faculty development on item-writing substantially improves item quality. Adv Health Sci Educ 2012;17(3):369-76.

Book Club to Classroom: Refining Teaching Practices through Shared Reading

Lashika Rajapaksha, Katherine Bowe, *Concord University*

Abstract: Participating in a faculty book club focused Small Teaching by James M. Lang and Mathematical Association of America's Instructional Practices Guide provided valuable insights into implementing small but impactful changes in teaching practices. The book club facilitated collaborative discussions among faculty, aimed at improving student learning and engagement. Through regular meetings, we deepened our understanding of how students learn, reflected on our current teaching, and explored practical ways to apply the book's ideas to our own classrooms.

By understanding how students learn and retain information, we were able to make small but impactful adjustments to our teaching approach, enhancing both engagement and comprehension. Drawing from the principles outlined in James M. Lang's Small Teaching and the Mathematical Association of America's (MAA) Instructional Practices Guide, we focused on incorporating five powerful practices: predicting, retrieving, interleaving, belonging, and motivating.

Predicting, retrieving, and interleaving help students to remember and engage in course material in a meaningful way. To incorporate these practices, we implemented small changes such as frequent quizzes, prompting students to predict the next step or type of solution before solving a problem, highlighting connections between lessons, encouraging the students to reflect on their learning, and assigning review tasks with a mix of problems prior to each test.

Methods for fostering a sense of belonging and motivation to inspire students, as advocated by Lang, were also integrated into our teaching. Specific practices were implemented such as, providing structure by displaying instructions for activities on the board, normalizing help-seeking behavior with regular reminders and activities, providing an equitable learning environment by allowing all students to respond to questions or offer suggestions rather than just an outspoken few, and using warmer language in communication to students.

Just-in-time learning, as emphasized by the MAA, is foundational in mathematics education for preparing students to engage the current material. Given that math builds on prior mathematical knowledge, reinforcing this understanding can significantly boost student success. To support this, we have implemented small preparatory assignments before class and incorporated spiral question practice to reinforce concepts.

Implementing strategies discussed in the book club, led to noticeable improvements in student participation and understanding. Specifically, students became more engaged in class discussions and problem-solving activities. Additionally, this created a more interactive and supportive classroom environment.

As an unexpected benefit from our participation in the book club, it fostered a friendlier and more supportive departmental environment. This collaborative setting provided us with opportunities to discuss challenges and collectively enhance our teaching practices.

The success of these methods underscores the value of collaborative learning and ongoing refinement of teaching practices. Further recommendations for additional teaching books will also be provided.

References

M. (2021). Small Teaching: Everyday Lessons from the Science of Learning. Hoboken, NJ: Jossey-Bass: A Wiley Brand.

(2018). MAA Instructional Practices Guide. Washington D.C.: MAA Press.

Bridging Communication: Enhancing Productive and Receptive Language Skills in Higher Education

Sarah Skeen, Donna Fortune, *Virginia Tech School of Education*

Abstract: In the ever-evolving landscape of higher education, the ability to communicate effectively remains a cornerstone of academic and professional success for both native and

dual language students. This presentation explores innovative strategies for cultivating both productive (speaking and writing) and receptive (listening and reading) language skills for all students. Attendees will gain practical tools and strategies to enhance their teaching practices, ensuring that future educators are equipped to support diverse learners in developing strong communication skills. This presentation aims to empower educators to cultivate a generation of learners who can navigate the complexities of language with confidence and competence.

In higher education, effective communication is fundamental to academic success and professional growth. For educators preparing future teachers, fostering both productive (speaking and writing) and receptive (listening and reading) language skills is critical (Solari et.al, 2022). This proposal outlines a dynamic approach to engaging audiences in a workshop titled "Bridging Communication: Enhancing Productive and Receptive Language Skills in Higher Education." The goal is to equip participants with practical, evidence-based instructional strategies that they can implement in their classrooms to support the development of these essential skills in their students.

Understanding the Importance of Productive and Receptive Language Skills

The first step in engaging the audience is to establish a clear understanding of productive and receptive language skills. Productive skills involve the active use of language, such as speaking in a seminar or writing a research paper. Receptive skills, in contrast, involve understanding and processing language input, such as listening to a lecture or reading academic texts. Both skill sets are crucial for students to succeed in higher education, where communication demands are complex and varied.

Participants will explore real-world examples and case studies that illustrate the importance of these skills. For instance, we will examine scenarios where students struggle due to weak receptive skills, such as difficulties in understanding dense academic readings, and contrast them with scenarios where productive skills are lacking, such as challenges in presenting research findings coherently.

Interactive Workshop Activities

To engage participants and make the learning experience interactive, the workshop will include Instructional Strategy Brainstorming where participants will be invited to brainstorm and share instructional strategies that they have used or could use to enhance both productive and receptive language skills. This could include techniques such as incorporating multimedia resources to improve listening comprehension, or using peer review to develop writing skills. The ideas generated will be compiled into a collaborative resource that participants can take with them, ensuring the workshop has a lasting impact on their teaching practice. Participants will also be provided with a list of resources generated by the presenters for classroom use.

To further engage the audience, the workshop will explore the role of technology and multimodal learning in enhancing language skills. Participants will be introduced to digital tools and resources that can support both productive and receptive skills. For example, language learning apps, online discussion forums, and digital storytelling platforms can all be used to create rich, interactive learning experiences that appeal to diverse learners.

Discussion and Reflection

The workshop will conclude with a reflective discussion, where participants can share insights and takeaways. They will be encouraged to think about how they can apply what they have learned in their own teaching contexts.This workshop will provide participants with a deep understanding of productive and receptive

language skills and practical strategies for teaching these skills in higher education. The engaging format ensures that participants leave with actionable ideas and a renewed commitment to fostering effective communication in their classrooms.

References

R., Cook, L., Hayes, L., & Conner, C. (2022). Effectiveness of interventions for English learners with word reading difficulties: A research synthesis. Learning Disabilities Research & Practice, 37(3), 158-174.

Bridging Disciplines Catalyzing Change: Innovative Approaches to High Impact Learning

Mary Huffman, Julie Stanley, *East Carolina University*
Christine Picot, *University of South Florida*

Abstract: Join us for an interactive and action-packed workshop incorporating high impact learning in higher education. This session will bridge disciplines by embracing the future of learning across the curriculum. Your students will thank you for integrating these engaging activities immediately when you return to your higher ed courses. Some of these strategies include gamification and simulations using AI, writing across the curriculum using the Writing Planning Guide, and hands-on CSI investigations. Dive in and discover engagement on another level!

This workshop focuses on harnessing the potential of high-impact learning, grounded in Constructivism, and championed by Dewey, Piaget, and Vygotsky. This approach emphasizes inquiry-based, active learning where students lead their educational journey. Learners construct knowledge through social experiences and hands-on activities, tackling complex questions. Teachers become facilitators, guiding students through problem-based scenarios that foster critical thinking. This learner-driven, inquiry-focused approach creates a dynamic environment where students acquire knowledge and develop lifelong learning skills, embodying high-impact educational principles.

AI-Driven Gamification

As artificial intelligence (AI) continues to advance, educators have an exciting opportunity to leverage this technology and create dynamic, personalized learning experiences for students. This session will explore innovative ways AI can enhance interactive exercises in higher education, from gamification and simulations to collaborative storytelling. Through innovative applications, AI has the potential to transform passive learning into engaging, skills-building experiences that prepare students for the challenges of the 21st century.

Writing Planning Guide

This session integrates Writing Across the Curriculum (WAC) principles with High-Impact Practices (HIPs), emphasizing literacy across all subjects. The Writing Planning Guide (WPG) offers a structured approach to embed writing in instruction, promoting active learning and cross-disciplinary skills. It covers scaffolding techniques, assessment strategies, and differentiation methods. Participants will explore using reflective practice and AI-generated prompts to enhance student engagement and authentic assessment in various disciplines.

CSI Investigations

High-impact learning thrives on student engagement with relatable content, complex questioning, and self-directed learning. This session centers on a differentiated CSI investigation, applicable across various

disciplines, using primary and secondary source evidence. Participants will experience inquiry and problem-based learning firsthand, developing skills in critical thinking and knowledge retention. This hands-on approach equips educators to implement engaging CSI-style investigations in their own higher ed courses.

By integrating constructivist principles, AI-driven gamification, cross-disciplinary writing, and hands-on investigations, educators can create dynamic, high-impact learning environments that prepare students for 21st-century challenges in higher education.

Presentation Outline:
Introduction
* Welcome and introduction to the topic
* Briefly explain the importance of high-impact learning in higher education

Activity 1: AI-Driven Gamification
* Start with an engaging question related to inquiry-based instruction and participants share their thoughts
* Participate in gamification, simulations, and collaborative story-telling activities

Activity 2: Writing Planning Guide
* Provide a brief overview for integrating writing across disciplinary areas
* Generate writing prompts to deepen student engagement and authentically assess student learning

Activity 3: Hands-On CSI Investigation
* Participate in a differentiated CSI investigation designed to align with a variety of academic disciplines using envelopes filled with primary and secondary source evidence
* Instruct groups to discuss and plan how they could implement this strategy in their current higher ed courses, using innovation and collaboration

Activity 4: Group Sharing
* Facilitate a brief discussion on the potential benefits and challenges of each strategy while sharing their own expertise and experiences in higher ed

Activity 5: Q&A and Discussion
* Encourage discussion on the practical aspects of implementing these innovative approaches to high impact learning
* Share additional insights and resources as needed

Bringing the "Fun" to Fundamentals: Interactive Strategies for College Classrooms

Laura Waldrep, *North Carolina State University*

Abstract: In this roundtable discussion, I will introduce specific, interactive strategies for building and maintaining student engagement in college classrooms. From small group activities to forum board discussions, we can embrace the future of learning and forge meaningful connections with students to achieve course objectives. After I contribute my resources and success stories, participants will discuss activities that they have practiced so that we can collaboratively build a toolkit to implement in our classes. Together we will engage in a conversation focused on practical pedagogy that carefully considers the unique learning needs of our students, both now and in the future.

As new technologies make their way into the classroom, it becomes increasingly vital that college instructors understand the learning needs of their students. Outdated references or strategies in the classroom can cause eyerolls at best but also run the risk of causing student disengagement. News coverage and educational journals shout at us about decreased attention spans, rampant reliance on AI, and other pitfalls which can make college classrooms unstable learning environments where students fail to meet the course objectives.

The two primary goals of this session are to (1) offer practical suggestions for interactive learning strategies which can be implemented in the college classroom and (2) share a conversation with colleagues about strategies that they have used effectively, so that all participants can collaborate to build a toolkit for embracing the future of learning. After I contribute specific activities that I have successfully used, I hope to gain new insights from participants who are equally as interested in student engagement and learning.

Current college students, and indeed even students at the K-12 level, are immersed in a world of digital knowledge and access. While some instructors may unfortunately choose to ignore the evolution of learning technologies, the rest of us are learning how to adapt to and even embrace the possibilities afforded by cultural shifts outside of the college classroom. We check the Mindset List for incoming college students to contextualize the experiences and backgrounds that they may bring with them to the classroom. We curate class playlists on Spotify to help students feel comfortable, confident, and connected during the down-time before class begins. We create activities where students are taught to use ChatGPT in ethical and responsible ways. We blend the old with the new and use play-doh to have students engage in concrete, hands-on activities that can embrace concepts across the disciplines. We recognize that even while teaching fundamentals, we can invite moments of levity and fun into our classes, moments that enhance learning on multiple levels and meet students where they are.

In this session I will briefly establish the primary challenges instructors face in the college classroom before explaining specific strategies I have introduced into my classroom, along with their pedagogical purposes. For example, I have had students participate in several "Show and Tell" activities. When I introduce a new project, I'll sometimes ask students to bring in an artifact related to the course content that they can share with the class. At the same time as feeling nostalgic and lighthearted, "Show and Tell" sessions actually involve a great deal of planning and critical thinking on students' parts, and I am able to use their buy-in from an interactive strategy to build further capital in the classroom. After I share some activities and lessons that have succeeded in my classroom, I will lead participants in a discussion of their experiences and best practices. In this way, participants can work together to build a foundation for future teaching and gain insights from colleagues engaged in similar work.

Building Classroom Communities of Care

Daisy Breneman, *James Madison University*

Abstract: Classrooms can be communities of care that support everyone, but tensions exist between student and faculty well-being, particularly in this time of transactional models of education, faculty burnout, and lack of support for faculty. This session aims to dissolve the false divide between faculty and student care, emphasizing their interdependence. By fostering collaborative approaches to well-being, we can create inclusive environments where both students and faculty can thrive. Participants will share ideas for building caring communities, addressing barriers, and healing. Together we can embrace a future of learning that centers creating communities of care to benefit all.

Classrooms offer unique opportunities to build communities of care, which strive to support the needs and well-being of all members. Unfortunately, tension exists between student and faculty well-being.

An increasingly transactional and consumer-oriented model has fundamentally altered the student/faculty dynamic (McMurtrie 2004). Particularly in this age of faculty burnout (Pope-Ruark 2022), faculty can feel—and be—unsupported, as student needs are often prioritized over those of faculty. While being asked to support students, many faculty wonder who is supporting them.

This practice session seeks to break down the (false) dichotomy of faculty vs. student care and explore ways to build inclusive communities of care in the classroom. We typically talk about faculty well-being and student well-being as separate things—when, really, our well-being is interdependent. Students thrive in classrooms guided by faculty who take care of themselves (Mowreader 2024), and students whose needs are met are in better positions to learn. Moving beyond scarcity, zero sum, or competitive mindsets, we instead can choose collaborative, reciprocal, and mutually beneficial approaches to supporting the wellness of all members of the classroom community.

This session invites participants to share their own ideas for creating caring communities in the classroom, and, ideally, will be its own caring space that allows participants to identify and ask for what they need.

The session also makes space for discussing institutional and other barriers, and exploring ways to shape change within systems to create a more just future. Especially as we continue to navigate past and ongoing traumas and challenges, together we can embrace a future of learning that centers creating communities of care to benefit all.

References

(2024, August 27). Customers in the Classroom . The Chronicle of Higher Education . https://www.chronicle.com/article/customers-in-the-classroom

(2024, May 9). Training to support faculty wellness impacts student success. Inside Higher Ed. https://www.insidehighered.com/news/student-success/academic-life/2024/05/09/training-support-faculty-wellness-impacts-student#

(2022). Unraveling faculty burnout : pathways to reckoning and renewal. Johns Hopkins University Press.

Building a Kindness Curriculum for the College Classroom and Community

Jackie Brown, Cameron Harris, Gretchen Hendricks, Christine Landoll*, George Mason University*

Abstract: Cultivating kindness in the classroom and college community fosters caring, compassion, and inclusivity, all key to a successful college student experience that promotes self-identity and human connections. It also prepares students to be empathetic future leaders that value the well-being of others. This session shares a kindness curriculum framework that teaches students the value of kindness and intentional ways to practice it. As members of the Mason Chooses Kindness Steering Committee, presenters will also highlight a movement to create an infectious culture of kindness that models ways to thrive together as a campus community.

There is no better time than now to build a kindness curriculum for the classroom that can serve as a key resiliency tool and teach students how to live kind. Incorporating kindness into the college curriculum should be viewed as just as relevant as developing any other soft skill necessary for personal and professional success. Practicing this interpersonal skill affords a multitude of mental, emotional, and physical benefits and is quickly being recognized as key to individual well-being. Modeling kindness traits such as friendliness and generosity in the classroom and encouraging acts of kindness can boost student self-confidence, optimism, and create lasting bonds today and yield organizational and societal benefits for years to come.

Science-based research on the impact of exhibiting kindness to others has shown that it makes people happier. There is a strong correlation between student happiness and strong academic performance. In a 2021 study conducted by Christina Hinton ("Bringing Kindness…," 2021) of the Harvard Graduate School of Education found that happiness is positively associated with intrinsic motivation, as well as GPA, and that "happiness is predicted by students' satisfaction with school culture and [their] relationship with students and peers" (para. 7).

Recent viewpoints also assert that kindness is a necessary soft skill, one that should be taught along with other valued skills such as problem-solving and critical thinking. A University of British Columbia study (2021) explored how the inclusion of a kindness assignment in an undergraduate course impacted student perceptions of themselves, their peers, and their campus. The assignment provided insight into what promotes kindness, was well received by students, and yielded a number of well-being benefits such as stress reduction and peer acceptance.

As faculty teaching professional skills courses, integrating kindness pedagogy into the curriculum seemed natural. We understand that students who embrace kindness and well-being in college become more productive individuals and conscious future leaders. We aim to share takeaways and outcomes associated with kindness related course assignments including performing acts of kindness, development of a socially conscious social networking site, and written articles connecting well-being to the workplace published in campus periodicals.

Emphasizing kindness beyond the classroom within the college campus culture at large has had a multiplying effect. Presenters for this session serve on the Mason Chooses Kindness (MCK) Steering Committee and are piloting a kindness program within the Costello College of Business to serve as a model for other campus departments. The end goal is a permanent shift in culture to support one of Mason's core values: to be a place where everyone thrives while contributing to others' well-being.

Through workshop exercises, participants will utilize multiple perspectives and opportunities to brainstorm ways they too can create a kindness revolution through teaching and campus initiatives as presenters share their own curricular, classroom, community and research experiences as inspiration in finding the answer to: What would a kindness curriculum look like for me and my college?

References

https://medium.com/@kindness.org/bringing-kindness-to-campus-c8fcc2159a3a

https://www.sciencedaily.com/releases/2021/09/210920100912.htm

https://www.aacsb.edu/insights/articles/2024/08/introducing-the-kindness-curriculum

https://www.aacsb.edu/insights/articles/2024/04/can-business-schools-foster-a-kindness-revolution

Building high-impact, immersive practices into the curriculum

Michelle Wang, Heidi Gailor, *William Peace University*

Abstract: How do you design your courses when your university transitions to a fully immersive, four-credit-hour curriculum? In this session, we will share how we incorporated high-impact, immersive strategies at William Peace University. You will leave the session with tools, resources, and strategies for building immersive learning into your courses.

The faculty at William Peace University (WPU) transitioned from a three-credit-hour to a four-credit-hour model to support immersive learning across the curriculum. Every course in the curriculum was redesigned to ensure a theory to practice approach using high-impact practices to effectively prepare our students for the workforce and graduate programs.

What does immersive learning mean to WPU? It means that we emphasize high-impact practices in our courses. We dedicate course time to projects, case studies, field experiences, service learning, and simulations as well as other methods of engaged and active learning. Our students complete semester-long intensive course projects, build business plans, advertising campaigns, partner with nonprofits, engage in mentoring programs, enter product-design competitions, practice teamwork and collaboration, and solve global problems with creativity.

When our faculty began the journey, it was a powerful moment to assess each course and re-work our teaching approaches to model high-impact practices. We now have the time and space to dive deeper into subject matter, solve business challenges, and build professional work products. Students are developing their resume before leaving the university, and creating work samples they can present at job interviews or on graduate school applications. The new curriculum means more time inside and outside of the classroom for value-added activities and projects.

One example of how an immersive learning experience that has been implemented into the four-credit model is in our Entrepreneurial Marketing course. The additional course time has allowed students to prepare for a product design competition. The students use class time to create a project scope document, develop product prototypes and finetune pitches, allowing for real-time feedback in a low stakes and supportive environment. Our students complete the course not only with an understanding of entrepreneurial marketing but also with the experience of building and pitching products.

The purpose of this proposal is to share our experiences as Business faculty as we redesigned courses in the immersive, four-credit model, and the challenges and trials along the way. Participants across all disciplines will leave the session with ideas, tools, and resources for incorporating immersive learning into their classes.

References

(2021). What Inclusive Instructors Do. Sterling, Virginia: Stylus Publishing, LLC.

(2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. Retrieved September 26, 2023 from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/.

(March 2024). Setting Your Project Team Up for Success. Ivey Publishing ID: W36377. https://www.iveypublishing.ca/s/

(June 2020). Students as Marketing Consultants | College STAR https://ofe.ecu.edu/udlmodules/modules/students-as-marketing-consultants/

(2013). Ensuring quality and taking high-impact practices to scale. Washington, DC: Association of American Colleges and Universities.

(2020). Distracted: Why Students Can't Focus and What You Can Do About It. New York: Basic Books.

(n.d.). Retrieved September 26, 2023, from https://www.tilthighered.com/

(n.d.). Retrieved September 26, 2023, from

https://www.tilthighered.com/tiltexamplesandresources

(2018, August 31). Retrieved from

http://udlguidelines.cast.org/?utm_medium=web&utm_campagin=none&utm_source=cast-home

(March 2024). How to Write an Excellent Project Scope Document. Ivey Publishing ID: W36572. https://www.iveypublishing.ca/s/

Can Pupils Acquire Knowledge by Committing Errors and Subsequently Correcting?

Abbot Packard*, University of West Georgia*
Bryce Platt Kayanuma, Glen Holmes*, Virginia Tech*

Abstract: Many courses are being taught online now and getting larger, putting pressure on faculty to be able to teach and assess simultaneously. Research has shown that multiple-choice testing can be optimized to improve college classroom instruction and evaluation, student learning and performance, and teacher time and energy. Xu,2016. Multiple choice questions are one of the choices that faculty use to assure themselves that the students understand the delivered content. The question is whether the students can learn by making mistakes if given feedback for the mistakes they made and benefit from exposing themselves to both the correct and incorrect choices.

Over four semesters, more than 300 Master's students were allocated multiple-choice problems corresponding to each chapter in the research textbook. Regular quizzing promotes consistent studying among students (Gholami & Moghaddam, 2013).. Four distinct instructional approaches were integrated, incorporating improvements derived from prior study findings. The study investigated several instructional approaches and technical resources to offer prompt and educational responses to specific student inquiries. The latest iterations investigated were carried out for two semesters, including two separate groups of students enrolled in an introductory seminar on educational research. The decision to use a unique form of multiple-choice questions with no incorrect responses was prompted to engage students in picking and occasionally speculating on the provided options. To what degree can multiple-choice questions enhance the cultivation of critical thinking and problem-solving abilities in graduate students as opposed to alternative assessment

measures? The process involves experiments integrating learning into an online course, a mandatory requirement for most education master students. It was important to stress that there are multiple ways to research some studies. The perception of multiple-choice questions as a learning tool among graduate students' attitudes towards this instructional approach are subjects of inquiry.

To what degree do multiple-choice questions foster an environment conducive to integrative critical thinking? Four scenario multiple-choice questions were included in the semester final examination. These questions required students to discriminate four suitable answers, with one option being more robust than the others. The participants were also instructed to evaluate the questions using a numerical scale ranging from 1 to 10. A score of 1 indicated a low level of enjoyment, while a score of 10 indicated the maximum level. Furthermore, participants were asked to offer their written comments on the questions. This set of questions was designed to examine the transition from memorized factual answers to intellectually stimulating questions, which might result in a more profound comprehension of the material taught in class. What was the student's emotional response to these questions? Despite receiving positive remarks on the questions, a ranking of one scored unsatisfactory. However, the verbal feedback was more encouraging.

I found these to be quite challenging! I can discern the rationale for responses on at least two for each potential answer. Responding to these questions becomes more manageable for me when I have a companion with whom I can discuss numerous possibilities. As an introductory course to research, this course has enlightened me to the importance of deepening my knowledge of the intricacies of educational research.

Negative comments could be ranked high yet verbally imply the opposite.

"All are correct, and it is based on a person's educational understanding and experiences to pick the ultimately correct one. If they all are correct, then we (the students) should get the answers marked correctly.".

Student feedback indicates that questions of this type foster an understanding that the conveyed knowledge has a specific objective and equips individuals for real-world scenarios.

References

M. (2013). The Effect of Weekly Quizzes on Students' Final Achievement Score. International Journal of Modern Education and Computer Science, 5(1), 36-41. https://doi.org/10.5815/ijmecs.2013.01.05 Education and Computer Science, 5(1), 36-41. https://doi.org/10.5815/ijmecs.2013.01.05

(2016). Multiple-choice questions: Tips for optimizing assessment in-seat and online. Scholarship of Teaching and Learning in Psychology, 2(2), 147-158. https://doi.org/10.1037/stl0000062

Candice and Susan Ruin Neuromyths

Candice Benjes-Small, *William & Mary*
Susan Van Patten, *Radford University*

Abstract: Neuromyths are misconceptions about how we learn. When put to the science, there is little evidence to show that humans use 10% of their brains, have different learning styles, or are dominated by the left or right side of their brain (Sukel, 2021). Surveys continue to show widespread belief in these debunked theories among educators, but now the question is whether these beliefs impede teaching and learning. Test your knowledge and join us for a fun discussion about neuromyths and evidence-based teaching practices.

Many professors teach in a way that mirrors their own learning experiences. While this approach might feel natural, research suggests it often isn't the most effective. Instead of relying on personal preferences or past observations, professors should critically examine their teaching methods to ensure they're helping students learn optimally. As our knowledge of neuroscience grows, we need to consider adapting our instructional strategies to reflect evidence-based practices.

A systematic review of neuromyths in educational settings (Torrijos-Muelas, González-Villora, & Bodoque-Osma, 2021) demonstrates continuing beliefs in teaching strategies unsupported by science. The most commonly found neuromyths were learning styles, left and right brain dominance, motor skills improving literacy (e.g., Brain Gym), stimulus rich environments improving the brains of children, and children becoming less attentive after consuming sugar.

Researchers have concluded that these beliefs can be "troublesome, as these teachers in particular may implement wrong brain-based ideas in educational practice" (Dekker, Lee, Howard-Jones, & Jolles, 2012). Others have claimed wasted resources and potentially detrimental teaching strategies like dyslexia glasses. However, there is a growing body of evidence that belief in neuromyths may, in fact, be a neuromyth. Horvath and colleagues (2018) argued that if believing in neuromyths was correlated with teaching efficacy then there should be lower prevalence in award-winning teachers. They did not find a correlation. Likewise, belief in neuromyths did not correlate to academic achievement of student teachers (Krammer, Vogel, & Grabner, 2020).

This session will engage the audience through game-style discussion of neuromyths with implications for teaching at the forefront. Rather than simply identifying neuromyths as true/false, participants will be asked to determine the implications to teaching. Are these neuromyths generally harmless or detrimental? The game will include evidence-based teaching practices and strategies for incorporation.

References

C., Howard-Jones, P., & Jolles, J. (2012). Neuromyths in education: Prevalence and predictors of misconceptions among teachers. Frontiers in Psychology, 3, Article 429.

C., Donoghue, G. M., Horton, A. J., Lodge, J. M., & Hattie, J. A. C. (2018). On the irrelevance of neuromyths to teacher effectiveness: Comparing neuro-literacy levels amongst award-winning and non-award winning teachers. Frontiers in Psychology, 9, Article 1666.

E., & Grabner, R. H. (2020). Believing in neuromyths makes neither a bad nor good student-teacher: The relationship between neuromyths and academic achievement in teacher education. Mind, Brain, and Education, 15(1): 54-60.

(2021). When the myth is the message: Neuromyths and education. Dana Foundation. https://dana.org/article/when-the-myth-is-the-message-neuromyths-and-education/

R. (2021). The persistence of neuromyths in the educational settings: A systematic review. Frontiers in Psychology, 11, Article 591923.

Capturing Unconscious Thought: Using Projective Techniques to Guide Discussions

Hannah Deuyour*, Virginia Tech*

Abstract: Does your course include difficult or sensitive topics? Do you want to jump-start discussions with your students and/or increase their engagement with course material? This practice session is for you! Participants will learn and practice with three projective techniques (Which House?, Comparison Plots, and Group Collage) and learn how they can be used before or during class to help immerse students in course material and generate meaningful discussion.

Projective techniques originated in the field of psychology as a way to reveal personality and unconscious thought (Hertz, 1986; Miller, 2015). More recently, these strategies have been used in qualitative research methods (focus groups and interviews) to help participants articulate their thoughts and answer questions more thoroughly and descriptively (Fazrul, 2020).

Projective techniques fall into several categories identified by Linzey (1959) summarized below:

- Associative techniques: Say the first thing that comes to mind when presented with an image or other stimulus
- Construction techniques: Draw or create something out of other materials. The Which House? activity asks participants to describe subjects (such as HIV/AIDS) as a house.
- Completion techniques: Fill in blanks, complete a drawing, or fill in speech bubbles to explain what someone or something would think, feel, or do.
- Choice or ordering techniques: Group or order items according to certain criteria. The Comparison Plots and Group Collage activities are both examples of this category.
- Expressive techniques: Assume an assigned identity and act out a scenario or create another product (first-person diary entry, for example).

These strategies are useful for class discussions because there are dozens of projective activities, which makes them easy to incorporate into courses of any discipline. More importantly, projective techniques are "fun for respondents [and] tap feelings, perceptions, and attitudes that can be difficult to access by more direct questioning" (Catterall & Ibbotson, 2000, p. 247). Additionally, these strategies offers flexibility to instructors because some pieces of these activities can be completed individually by students prior to coming to class as preparation for a discussion or done start to finish in groups during a single class period.

Participants will work in groups to practice with the three techniques (Which House?, Comparison Plots, and Group Collage) to see how they work and discuss when, how, and why to include them in their courses.

References

(2000). Using projective techniques in education research. British Educational Research Journal, 26(2), 245-256.

(2020). Projective techniques examples in qualitative. Qualabear. Retrieved from: https://qualabear.com/projective-techniques-in-qualitative/.

(1986). Rorschachbound: A 50-year memoir. Journal of Personality Assessment, 50(3), 396-416.

(1959). On the classification of projective techniques. Psychological Bulletin, 56, 158-168.

(2015). Dredging and projecting the depths of personality: The thematic apperception test and the narratives of the unconscious. Science in Context, 28(1), 9-30.

Chemistry as a Catalyst: Promoting Inclusivity and Belonging in STEM Education

Priya Shah, *University of Connecticut*

Abstract: This study explores a poster presentation project in General Chemistry at the University of Connecticut, Hartford campus, aimed at enhancing STEM belonging among underrepresented STEM students. Recognizing that students of color often report lower levels of belonging, the initiative promotes community integration and engagement through semester-long poster projects culminating in a campus-wide presentation. By fostering connections with faculty and peers, the project seeks to improve students' perceived competence and science identity. Data collected through surveys will assess the impact on belonging and persistence, providing valuable insights into effective strategies for creating inclusive STEM environments and narrowing equity gaps.

The literature highlights the critical importance of student belonging in STEM fields, particularly for historically underrepresented groups such as Black and Latino students.1-5 Sense of belonging refers to "students' sense of being accepted, valued, included, and encouraged by others (teachers and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class".2 Research indicates that a significant number of STEM students, especially those from underrepresented minorities, leave the field early in their college careers.6,7 This attrition is attributed to various factors, including a lack of campus resources oriented towards diverse students and a diminished sense of belonging.8 Studies show that sense of belonging is positively correlated with academic performance, retention, and persistence in STEM, with students of color consistently reporting lower levels of belonging compared to their White counterparts.9,10 High-impact educational practices, such as learning communities and undergraduate research opportunities, are identified as effective strategies for enhancing belonging and persistence. Additionally, the literature suggests that STEM major-specific belonging may be more influential than general institutional belonging in promoting student persistence.3 Institutional support, fostering supportive relationships, and implementing practices that promote interpersonal connections, perceived competence, and science identity are recommended to address the belonging gap and improve outcomes for underrepresented students in STEM fields.11 By focusing on these areas, institutions can work towards creating more inclusive STEM environments that support the success of all students, potentially narrowing equity gaps in STEM degree attainment and career pursuits.

The University of Connecticut, Hartford campus is a federally designated Asian American and Native American Pacific Islander-Serving Institution (AANAPISI) with a growing Hispanic student population, boasting a diverse student body where approximately 54% of students identify as ethnic or racial minorities. General Chemistry serves as a crucial gateway course for many STEM majors,12 playing an essential role in student retention and success, particularly for underrepresented and low-income students who are more likely to persist in STEM fields when they successfully navigate these foundational courses.13,14,15 To enhance student engagement and foster a sense of belonging, UConn Hartford plans to implement a poster presentation project for General Chemistry students at the end of the Fall 2024 semester. This initiative aims to promote community integration by showcasing student work to the campus community, helping students explore the relevance of chemistry to their chosen majors or interests, and cultivating a sense of acceptance, respect, and value among peers. Throughout the semester, students will work on their posters, providing opportunities to establish connections with faculty and fellow students, build interpersonal relationships, develop perceived competence, and strengthen their science identity. These experiences contribute to a

stronger sense of belonging, which can help students remain committed to their academic goals, persist in college despite challenges, and develop effective strategies for achieving their academic and career objectives. The results and analysis of student presentations and their effect on students' sense of belonging will be presented during the conference offering valuable insights into the effectiveness of this innovative approach to STEM education.

References

(2021). A meta-analysis of university STEM summer bridge program effectiveness. CBE Life Sciences Education, 20.

(1993). Classroom belonging among early adolescent students relationships to motivation and achievement. The Journal of Early Adolescence, 13, 21-43.

E. (2022). Impact of STEM sense of belonging on career interest: The role of

Journal of Career Development, 49(6), 1215-1229.

(2011). Sense of belonging and African-American student success in STEM: Comparative

In Frierson, H.T. and Tate, W.F. (Ed.) Beyond stock stories

11),

Emerald Group Publishing Limited, Bingley, 213-226

L. (2018). College students' sense of belonging: A key to educational success for all students

Routledge.

(April, 2021). STEM jobs see uneven progress in increasing gender, racial and ethnic diversity. Retrieved December 22 from https:// www. pewre search. org/ scien ce/ 2021/ 04/ 01/ stemjobs-see- uneven- progr ess-in- incre asing- gender- racial- and- ethnic- diver sity/

(2018). Chapter 2: Higher education in science and engineering (pp.1-109). Science and Engineering Indicators 2018 (NSB-2018-1). Alexandria, VA: National ScienceFoundation. https:// www. nsf. gov/ stati stics/ 2018/ nsb20 181/ assets/ nsb20 181.

(2012). Why do women opt out? Sense of belonging and women's representation in mathematics. Journal of Personality and Social Psychology, 102(4), 700-717.

R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H. T., & Longerbeam,

D. (2007). Examining sense of belonging among first-year undergraduates from different

Journal of College Student Development, 48(5), 525-542.

R. (2012). Campus racial climate perceptions and overall sense of belonging among racially

Journal of College Student Development, 53(2), 336-346.

11] The Importance of STEM Sense of Belonging and Academic Hope in Enhancing Persistence for Low-Income,

Michele J. Hansen; Mathew J. Palakal; Le'Joy White.

Journal for STEM Education Research (2024) 7:155-180.

J. Characteristics of US Students That Pursued a STEM Major and Factors That Predicted Their Persistence in Degree Completion. Universal Journal of Educational Research 2016, 4 (6), 1495- 1500.

Understanding diverse needs and access to resources for student success in an introductory college chemistry course. Journal of Chemical Education 2022, 99, 49-55

B.; Mack, M. R.; Bryant, J.; Theobald, E. J.; Freeman, S. Reducing achievement gaps in general chemistry could lift underrepresented students into a "hyperpersistent" zone. Science Advances 2020, 6 (24)

M. Closing the achievement gap in higher education: An organizational learning perspective. New Directions in Higher Education 2005, 2005, 99–111.

Co-Creation in Education: Enhancing Learning and Engagement through Collaborative Strategies

Drian Glyde*, Virginia Weselyan University*

Abstract: This interactive session is tailored for educators seeking to explore innovative teaching strategies in higher education, focusing on co-creation and collaborative learning. Participants will delve into the principles of appreciative inquiry and discover how co-creation can increase student engagement, innovation, and critical thinking. Through a case study, group discussions, and action planning, attendees will learn practical strategies for implementing co-creative approaches in their teaching while reflecting on the benefits and challenges of balancing student autonomy with curriculum requirements. Bring your laptop and/or cell phone. Interactive Mural Workspace Link: https://bit.ly/CHEP2025Mural

Session Overview:

This interactive session is designed for educators and academic professionals interested in exploring innovative teaching strategies in higher education, specifically focusing on co-creation and collaborative learning. The session will explore how to leverage the principles of appreciative inquiry to increase engagement by using co-creation to shape their educational experiences. Participants will learn why implementing co-creative approaches increases innovation, critical thinking, engagement, and deeper learning.

Learning Objectives:

1. Explore the Concept of Co-creation in Education:

Understand co-creation principles in education and its potential to foster innovation and student engagement.

2. Explore Practical Applications:

The session will review a case of students using co-creation to create their course, increase their level of engagement, and meet their objectives.

3. Develop Implementation Strategies:
Attendees will engage in group discussions and brainstorming activities to identify opportunities for incorporating co-creative approaches into their teaching practices.
4. Benefits and Challenges of Co-Creation:
Participants will reflect on the potential benefits of co-creation for both students and educators and the challenges during implementation, such as balancing student autonomy with curriculum requirements.

Session Format:

- Introduction (5 minutes):

A brief overview of co-creation in education and its relevance today.

- Case Study (10 minutes):

Presentation of a collaborative course development experience to illustrate how co-creation engages students in cooperative learning and innovation.

- Interactive Discussion (20 minutes):

Small group discussions on participants' experiences with collaborative learning, followed by sharing key insights with the larger group.

- Action Planning (5 minutes):

Participants draft an action plan for integrating co-creative strategies into their courses.

- Q&A and Wrap-Up (5 minutes):

Final questions and discussion, with additional resources provided for further exploration.

Interactivity:
This session will emphasize participant engagement, aligning with the core principles of co-creation. By incorporating small group discussions, case studies, and action-planning activities, participants will have multiple opportunities to collaborate, reflect, and apply the concepts discussed.

Why This Approach?
This session explains how to implement co-creation and delves into why it enhances student learning. By understanding the theory and practical applications, educators will be better equipped to create dynamic, student-centered learning environments promoting innovation.

This practice session inspires educators to rethink their teaching strategies, making their classrooms more engaging and conducive to collaborative learning.

Collaborative CUREs to encourage systems thinking

Kristina Stefaniak, *Radford University*

Abstract: This presentation will showcase collaborative course-based undergraduate research experiences (CUREs). Integrating teaching and research into courses benefits the students, faculty, and community. The design of the research along with the outcomes will be discussed. This approach results in students using their knowledge as a component of a larger system to answer more complex research questions about the local environment and industries. One benefit of CUREs is to prepare science students for careers after college. The students completed the National Association of Colleges and Employers (NACE) Competency Assessment tool to gauge what skills the CURE improved.

This presentation will showcase collaborative course-based undergraduate research experiences (CUREs) between science courses including genetics, microbiology, and analytical chemistry. The design of the research along with the outcomes will be discussed. Integrating teaching and research into courses benefits the students, faculty, and community. This approach results in students using their knowledge as a component of a larger system to answer more complex research questions about the local environment and industries. This session will provide information and exercises to challenge others to think outside their fields in developing a CURE. One benefit of CUREs is to prepare science students for careers after college. The students completed the National Association of Colleges and Employers (NACE) Competency Assessment tool to gauge what skills the CURE improved.

Collaborative Efforts towards AI-Assisted Learning of R in Marketing Analytics

Lana Waschka*, Elon University*
Andre Waschka*, Mercer University*

Abstract: Based on the experience of incorporating ChatGPT as an instruction aid for programming in R in several statistics courses, a collaborative effort is put in place to introduce AI-assisted teaching of R in Marketing Analytics. We designed a course-specific set of instructional materials appropriate for students who have little or no experience in coding. ChatGPT is used to assist with coding assignments through suggestions, hints, and code debugging. The presentation will discuss the benefits and challenges of ChatGPT-assisted computer-programming instruction. This approach can be replicated in other courses.

Over the last decade dominated by big data, machine learning, and powerful statistical packages, the need to raise the level of "programming literacy" among students in order to better prepare them for the workforce has become clear. With that in mind, computer programming (primarily in R) has been introduced in a number of undergraduate courses across different fields. Use of R has in turn created problems for some students who need more help and assistance in completing their coding assignments.

This work describes a collaborative effort that builds on the experience of integrating AI-assisted R instruction in some statistics courses. We focus on developing AI-driven instructional materials for programming in R appropriate for business students who have little or no experience in coding. Our approach is to create course-specific ChatGPT-assisted assignments for marketing analytics that illustrate how ChatGPT can help students learn to code in R. In particular, we provide examples of how ChatGPT can be used to offer suggestions, hints, generate code snippets, and assist with programming challenges such as debugging a code. In addition to showing its benefits, we also expose its pitfalls by presenting examples leading to wrong or biased answers. The ultimate goal is to show students that ChatGPT should be treated as a supplementary tool that can be used for learning but cannot and should not be depended upon solely. By introducing AI-assisted instruction of computer programing in a course, students gain more confidence in coding. They also develop a better understanding of the assistance AI can provide, the potential problems it can cause, and the balanced approach required for its use.

Collaborative Instructional Design Process for Project-based Learning

Mark Sumner, Annie Ronan, Peter Ziegler*, Virginia Tech*

Abstract: A series of four one-credit courses focused on art and design in agriculture and life sciences, using a project-based learning approach were designed. Each independent course has some overlapping content with a unique project-based assignment designed for students to apply a range of art and design techniques. The courses allow instructors to collaborate teaching in person and online. Our collaborative efforts have been growing and evolving for over four years. This roundtable session discusses our collaborative approach to bring multi-disciplinary perspectives to design project-based assignments.

Our art and design one-credit courses are taught at the introductory level to offer students the opportunity to gain skills in art and design, The course material is linked across each course, 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. The types of projects include creative photography, podcasting, and developing narratives from works of art, and product design.

Course development started with a group of faculty members attending a project-based learning workshop. At the core, these courses apply the principles of art and design of agriculture and life sciences. The courses allow students the flexibility to take the courses when they fit into their planed course schedule. We desire to give faculty members the same flexibility in the design of the courses. We have built a network of content influencers across the university to build modules for the courses. This approach has allowed faculty to bring their unique style to course development. The instructor for the courses has created a network for faculty collaborators to construct the framework for each of the courses. This has allowed the course modules to be refined and enhanced after each academic year. We gather information from student perception of teaching reports and general education assessment reports to adapt student assignments.

To introduce real-world complexity into these projects, we employed a collaborative instructional design that integrates interdisciplinary teaching. This approach is particularly suitable for problem-based learning because it integrates multiple disciplines to address tangible issues. The course development process provided faculty with the opportunity to create courses that integrate foundational team-building skills and encourage collaboration. This approach allows faculty and students to explore unexpected connections within agriculture and life sciences through a creative process. Problem-solving captures the essence of agriculture and the life sciences, highlighting their intersections with the arts. The goal of this strategy is not merely to advance fundamental knowledge but to make it personally meaningful while teaching practical, multidisciplinary approaches to problem-solving.

This roundtable will provide discussion about our experimental approach. We seek to continue to build our collaborative network for these courses, but also seek partners to adapt other courses for project-based learning.

College Student Perceptions on AI-Curated OER Course Bundles

Sonya DiPalma*, University of North Carolina Asheville*

Abstract: Faculty may now collaborate with education technology companies to design digital course bundles using Open Education Resources and artificial intelligence. These digital course bundles offer low or free access for students, allow for real-time content updates, provide lifetime digital access, and reduce the student's financial burden. The goal

> is to provide high quality education resources at a low or no cost. This study will allow a better understanding of the perceived efficacy of such course bundles among students.

As textbook costs continue to increase, so does the popularity of Open Education Resources, freely accessible material such as openly licensed textbooks, videos, tests, and software. Many universities offer grants to faculty who elect to develop and implement courses using OERS, some universities consider the development of OER courses for faculty tenure and promotion, and others have elected to use OER for most or all courses thereby eliminating the campus bookstore.

Faculty may now collaborate with education technology companies to design digital course bundles using OER and artificial intelligence. These digital course bundles offer low or free access for students, allow for real-time content updates, provide lifetime digital access, and reduce the student's financial burden. The goal is to provide high quality education resources at a low or no cost. This study will allow a better understanding of the perceived efficacy of such course bundles among students.

OER course bundles lead to significant cost savings while providing the most up-to-date content. Students like the low or no cost associated with OER course bundles, but student input on the quality of the OER course bundle isn't well reported. This study surveys students' opinions and perceptions of OER implemented within two public relations courses at a small liberal arts university. One course implements only OER in the form of links and PDFs, while in the other course, students engage with digital course modules developed using OER with the aid of artificial intelligence. The study assesses student engagement with the resources, perceived benefits, challenges, and ethical concerns related to artificial intelligence employed to aggregate OER content. This research will add to the existing literature on OER and artificial intelligence related course design, and expand the understanding of student perceptions beyond the cost savings.

References

(2013). The cost and quality of online open textbooks: Perceptions of community college faculty and students. First Monday. 18. 10.5210/fm.v18i1.3972.

Open educational resources, student efficacy, and user perceptions: a synthesis of research published between 2015 and 2018. Education Tech Research Dev 68, 853-876 (2020).

S., Dastur, F. N., Le Grand, R., & Penner, K. (2018). As Good or Better than Commercial Textbooks: Students' Perceptions and Outcomes from Using Open Digital and Open Print Textbooks. Canadian Journal for the Scholarship of Teaching and Learning, 9(1), n1.

(2019). Open universities: Past, present and future. The International Review of Research in Open and Distributed Learning, 20(4).

(2015). Mainstreaming Open Textbooks: Educator Perspectives on the Impact of OpenStax College Open Textbooks. International Review of Research in Open and Distributed Learning, 16(4), 133-155.

Combating Misinformation in History Education: UDL Strategies for Critical Thinking

Christopher Ryan*, Goodwin University*

Abstract: As misinformation and conspiracy theories continue to proliferate rapidly, educators face the challenge of equipping students with critical thinking skills and the ability to discern credible information. Addressing this challenge requires a multifaceted approach that not only counters misinformation but also promotes critical thinking and media literacy skills. As such, this presentation will explore strategies for guiding students away from conspiracies and misinformation within the context of teaching Modern US history while utilizing Universal Design for Learning (UDL) techniques.

As a first-year history professor, I have observed the increasing influence of misinformation and conspiracy theories on students' understanding of historical and contemporary events. This proliferation is not isolated, and many others have noticed a growing trend towards conspiratorial beliefs (Bezalel, 2022; Hobbs, 2017). As such, this presentation will consider why a willingness to believe conspiracy theories has increased in recent years, which conspiracy-minded beliefs have manifested the most in the context of an undergraduate US history course and suggest potential inter-disciplinary strategies to increase students' critical evaluation skills.

Anecdotally, the recent COVID-19 pandemic and the upcoming US presidential election play large roles in learners' willingness to source accurate information and examine their own biases in the classroom. The challenge lies in effectively teaching modern American history while also equipping students with the skills to evaluate information critically. As discussed by Lohman (2024), Universal Design for Learning (UDL) can offer a framework for creating flexible learning environments that accommodate diverse learning needs and help students develop critical thinking skills within History.

Within a UDL framework, this presentation will do three things. First, it will highlight the importance of addressing misinformation and conspiracy theories in the history classroom, while considering which theories are most prevalent and why. Second, it will demonstrate how UDL techniques can create an inclusive and engaging learning environment that fosters critical thinking. Third, it will provide practical strategies and resources for educators to guide students toward credible sources and evidence-based historical analysis.

This presentation will showcase a variety of UDL techniques designed to enhance critical thinking and examine biases within the context of modern American history. By applying multiple means of representation, engagement, and expression, educators can address diverse learning styles and preferences, fostering a more inclusive and dynamic classroom environment. For example, by presenting historical information through diverse materials such as primary sources, multimedia resources, and interactive content educators can help students see multiple perspectives and encourage them to question the reliability and bias of each source.

Lastly, the presentation will lay out some strategies that have proven effective in nudging learners towards examining their own biases, how those impact their views and the importance of critical thinking in both History and their future careers. Strategies presented will focus on developing students' critical thinking and media literacy skills, including analyzing sources, identifying biases, and evaluating evidence. Real-world examples and success stories from classrooms where UDL techniques have been effectively implemented to combat misinformation will be included.

By embracing UDL techniques, educators can create a more inclusive and dynamic learning environment that enhances students' understanding of modern American history and empowers them to engage critically with the information they encounter. This approach not only prepares students for academic success but also equips them with the skills necessary to succeed in their future careers and navigate a world increasingly filled with unreliable information.

This presentation is designed for higher education faculty, instructional designers, and educators interested in enhancing their teaching practices and promoting critical thinking in the classroom.

References

(2022). Of Conspiracy and Controversy: A Pedagogy of Conspiracy Theories. Educational Theory, 72, 257-280.

(2017). Teach The Conspiracies. Knowledge Quest, 46(1), 16-24.

(2024) Teaching nineteenth-century American history with music: Leveraging the possibilities through technology and Universal Design for Learning, American Nineteenth Century History,1- 23.

C. (2019). Teacher empathy: A model of empathy for teaching for student success. College Teaching, 67(3), 160-168.

High-Impact Practices, Universal Design and Assessment Opportunities in Liberal Arts Seminars. ASIANetwork Exchange: A Journal for Asian Studies in the Liberal Arts, 25(2), pp.117-135.

L. (2019). Connected teaching: Relationship, power, and mattering in higher education. Stylus Publishing.

(2021). Using Design Thinking and Appreciative Inquiry to modernize curriculum and transform student learning. Journal of Health Administration Education, 38(1), 285-296.

Considerations for AI Adoption in Learning Facilitation Informed by Learning Theories

Morris Thomas, Sosanya Jones, *Howard University*

Abstract: This practice session explores the integration of AI in teaching and learning through the lens of four major learning theories: behaviorism, cognitivism, constructivism, and connectivism. Participants will engage in interactive activities demonstrating how these theories inform AI adoption in teaching and learning. We will discuss strategies for leveraging AI to enhance student outcomes while maintaining academic integrity. The session will provide practical examples of AI implementation in course design, personalized learning, and assessment. Attendees will leave with a deeper understanding of AI's potential in learning facilitation and concrete ideas for immediate adoption and application.

The rapid advancement of artificial intelligence (AI) is transforming higher education, offering new opportunities for enhancing teaching and learning (Fitria, 2021). However, to effectively integrate AI into educational practices, it is crucial to ground its adoption in established learning theories. This practice session will explore how the four major learning theories—behaviorism, cognitivism, constructivism, and connectivism—can inform and guide the implementation of AI in higher education settings.

Our session will begin by briefly introducing the four learning theories and their key principles. We will then delve into how each theory can be applied to AI adoption in education. For example, we'll discuss how behaviorist principles can inform the design of AI-powered adaptive learning systems that provide immediate feedback and reinforcement. We'll explore how cognitive load theory, rooted in cognitivism, can guide the development of AI tools that support information processing and problem-solving skills. Constructivist approaches will be examined in the context of AI-enhanced collaborative learning environments, where

students can actively construct knowledge through interaction with both human peers and AI agents. Finally, we'll consider how connectivism, with its emphasis on learning through networks, aligns with the use of AI in creating personalized learning pathways and connecting students to diverse information sources.
Throughout the session, we will engage participants in interactive activities that demonstrate these concepts in practice. For instance, attendees will participate in a simulated AI-powered adaptive learning exercise, experiencing firsthand how behaviorist and cognitivist principles can be applied through technology. We will also facilitate a small group activity where participants collaboratively design a learning experience that incorporates AI tools while adhering to constructivist principles. The session will also cover practical strategies for implementing AI in course design, assessment, and administrative tasks. We'll provide examples of how AI can be used to create more engaging and interactive course materials, automate grading for certain types of assignments, and provide personalized feedback to students. Participants will have the opportunity to brainstorm and share ideas for applying these strategies in their own institutional contexts.
To address the "why to" aspect, we will discuss the potential benefits and challenges of AI adoption in higher education. We'll explore how AI can enhance student engagement, provide personalized learning experiences, and improve learning outcomes. At the same time, we'll consider important ethical considerations, such as maintaining academic integrity and ensuring equitable access to AI-enhanced education. To ground our discussion in existing literature, we will reference key studies on learning theories and their application in technology-enhanced learning environments. We'll draw on the work of researchers such as Ertmer and Newby (2013) on comparing learning theories, and Celik and Magoulas (2016) on approaches to learning design. Throughout the session, we will encourage active participation through polls, Q&A segments, and discussion prompt. These interactive elements will not only model effective engagement strategies but also allow participants to share their own experiences and insights regarding AI adoption in their institutions.

References

D. (2016). Approaches to design for learning. In Advances in Web-Based Learning-ICWL 2016: 15th International Conference, Rome, Italy, October 26-29, 2016, Proceedings 15 (pp. 14-19). Springer International Publishing.

A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. Performance improvement quarterly, 26(2), 43-71.

N. (2021, December). Artificial intelligence (AI) in education: Using AI tools for teaching and learning process. In Prosiding Seminar Nasional & Call for Paper STIE AAS (Vol. 4, No. 1, pp. 134-147).

Coordinating AI Strategies Among Instructors, Writing Centers, and Instructional Librarians

M Ivonne Wallace Fuentes, *Roanoke College*
Tina Powell, *Concord University*
Sara Sprague, *Hollins University*

Abstract: As AI revolutionizes writing and how we teach it, this roundtable explores how to coordinate an integrated approach to undergraduate writing instruction. Featuring a history instructor, a composition instructor and writing center director, and an instructional librarian, the roundtable will focus on discussing how to best coordinate support and create cohesive strategies for student writers among the classroom, library, and

writing center. The roundtable will consider establishing collaborative goals and expectations, best practices, and individual and institutional initiatives as we and our institutions adapt to the challenges and opportunities of generative AI.

The almost magical capabilities of large language models to "write" has inaugurated a "calculator moment" for the humanities. What does it mean to "write" now that highly sophisticated LLMs are bundled into consumer word processors and instantly available? What will it mean to "read" in a world where writing skills have been fundamentally transformed? As undergraduate education begins to offer practical approaches to this rapidly evolving technology, it is clear that, in the future, what we mean by "writing" will look differently. Instruction on writing, reading, and critical thinking in the era of LLMs will need to transform.

In this roundtable discussion, we gather a history instructor, a composition instructor and writing center director, and an instructional librarian to chart out what a more integrated approach to writing instruction in the age of generative AI might look like. We recognize that students often turn to multiple resources in their writing and research process: assignments from one instructor may lead a student to seek research help from librarians and then be revised in a writing center. Given this reality, this roundtable starts from the assumption that student learning may be best supported if these three key areas of the undergraduate writing ecosystem have coordinated and aligned their assumptions, expectations, and goals about how to best support our novice writers in the age of AI.

What questions and goals should instructors, writing centers, and librarians bring to each other? What expectations can we ask of each other? Are these discussions best left to individuals or should our institutions lead the way in developing best practices and frameworks? While we do not have the answers yet to these questions, these three practitioners will lead the attendees in an open and collaborative discussion to see how we can all work together to help our students become better writers in the age of AI.

Tina Powell is an assistant professor of English and writing center director whose pedagogy focuses on highlighting the process of writing and critical thinking. She is currently exploring usages of AI in her classroom to help novice writers identify issues in their writing as they learn how to address those issues on their own. In the Writing Center, she is working on using AI to replicate tutoring sessions to improve tutor training and knowledge.

Sara Sprague is an instructional librarian who also teaches digital humanities. She works with faculty on developing assignments that incorporate AI as well as developing their own comfort with using AI tools. She is currently working on a custom GPT agent that assists students with refining research questions and search strategies.

Ivonne Wallace Fuentes is a professor of history whose pedagogy is rooted in historical research and analysis. She has explored using a "restricted AI" approach to help upper division history students with paper revisions, by developing assignment specific prompts in GPT 4, constructed around a style guide meant to replicate her pedagogical voice, that students could access for targeted feedback on higher order writing concerns.

Creating and Using an Institutional Definition of Effective Teaching

Cary Wecht, *Youngstown State University*

Abstract: YSU embarked on establishing an institutional understanding of effective teaching, and to integrate it into other policies and practices. Multiple constituents were involved, including the academic senate, administrators, deans, department chairs, faculty, student government, and union leadership. After considerable research and deliberation, a TEACH document resulted, emphasizing Transparent, Evidence-Based, Aspirational,

> Communicative, and Humane teaching principles. The TEACH standards were codified, then employed in developing (a) a new measure of student course feedback, and (b) a document outlining "reciprocal responsibilities for undergraduate students and instructors." We are now using TEACH to assist as a tool in faculty evaluation.

Participants will: Examine their own institution's understanding of effective teaching (i.e., does it exist, where, how?); Identify a process to codify effective teaching at their institution (identify important constituents and philosophical alignments); and Brainstorm about ways to implement an institutional definition of effective teaching wherever it exists, and into teaching-adjacent practices.

It is our understanding that many, if not most, higher education institutions lack a common or codified definition of "effective teaching." This session can serve as a catalyst for colleges and universities to begin a discussion about teaching standards that might be applicable and useful in a variety of contexts.

Four years ago, the Academic Senate Committee on Teaching and Learning began the process of collectively defining effective teaching. What principles of teaching would be applicable to full- and part-time faculty alike? Teaching assistants? Face to face and online environments? Different disciplines? How could resultant standards align with our institutional mission, goal, and value statements, as well as our strategic plan?

We conducted research about best practices in teaching, and developed a draft model called TEACH: Transparent, Evidence-Based, Aspirational, Communicative, and Humane. Each of these five pillars of effective teaching contains a handful of components. We spent many months getting feedback from campus groups and individuals, including the academic senate, administrators, deans, department chairs, faculty, student government, and union leadership. Ultimately, the TEACH document was endorsed by the academic senate, and is housed and maintained by our Institute for Teaching and Learning (ITL).

Since its adoption, the TEACH framework served as a guide to redesigning the new "Student Course Feedback" process and items, to be implemented Fall 2024. Student Government, the Teaching and Learning Committee, and the Academic Standards Committee also used the framework to develop a "Reciprocal Responsibilities for Undergraduate Students and Instructors" document, which establishes baseline classroom expectations for students and instructors regarding syllabi, grades, communication, and technology. Last, we also reflect on the TEACH standards to inform our Common Syllabus, also hosted and updated by ITL.

We recently used the TEACH document to (a) create forms that department chairpersons and others can use to observe and evaluate teaching in face-to-face and online classes, and (b) help faculty use TEACH to tell their stories in their teaching portfolios. We are also developing materials to assist everyone with interpreting data gathered from student course feedback.

In all, this process has been unifying and useful to our campus, and we believe others can be inspired to enact something like it that would suit their own unique organizational needs and culture. The session will challenge participants to consider how their institution understands effective teaching, how they might begin a process to codify that consensus, and how such a document might be used across campus. At YSU, Cyberlearning and IT have incorporated TEACH into their training. Entities that might also benefit could involve groups such as advising, coaching, student life, and campus rec.

References

A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). The Jossey-Bass higher and adult education series. How learning works: Seven research-based principles for smart teaching. Jossey-Bass. (ch. 5, Feedback; Appdx E)

(2000). A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. [Bloom. B. (1956). Taxonomy of educational objectives. New York: David McKay.]

; Stewart, C. ; Johnson, R. (2018). Applying the seven principles for good practice in undergraduate education to blended learning environments. Online Course Management: Concepts, Methodologies, Tools, and Applications, Vol. 3, pp.1102-1124. [Chickering, Arthur W.; Gamson, Zelda F. Seven Principles for Good Practice in Undergraduate Education. AAHE Journal (March 1987): 3-7.]

L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23), 8410-8415.

Robert Marzano (2004) Classroom Instruction That Works: Research-based Strategies for Improving Student Achievement.

Cross-Disciplinary Strategies for Teaching with AI: A Collaborative Roundtable Discussion

Alp Tural*, Interior Design*
Aparna Shah*, Neuroscience*
Sehrish Basir Nizamani*, Computer Science*
David Hicks*, History and Social Science Education*
Traci Gardner*, Technical & Scientific Communication*

Abstract: This roundtable discussion explores the transformative impact of Artificial Intelligence (AI) on higher education, emphasizing the need for educators to rethink and retool their curriculum and pedagogy. Experts from neuroscience, computer science, technical and scientific communication, history, and interior design will briefly demonstrate strategies for integrating AI into teaching practices. Following these demonstrations, presenters will engage attendees in a dynamic discussion on the pedagogical implications of AI. By highlighting innovative approaches and encouraging collaboration, this roundtable aims to contribute to the evolving conversation on AI in education and lay the groundwork for future advancements in teaching and learning.

Introduction

Artificial Intelligence (AI) is rapidly transforming higher education, offering new possibilities for enhancing teaching and learning across disciplines. José Antonio Bowen and C. Edward Watson (2024) emphasize in their Teaching with AI that educators must be ready to rethink and retool their curriculum and pedagogy to meet the challenges that AI brings to the classroom. Following their review of recent technology impacts on education, they explain, “Rapid change is again unfolding, and we can use what AI can already do to plan for a future in which our relationship with thinking will be fundamentally altered.”

This roundtable discussion highlights specific strategies for addressing the changes AI brings to the classroom by sharing cross-disciplinary strategies for integrating AI into teaching practices. The session will bring together experts from neuroscience, computer science, technical and scientific communication, history, and

interior design to share their experiences and insights on teaching with AI and discuss how AI can impact teaching now and in the future.

Roundtable Structure

The roundtable will begin with a brief introduction by the first participant, who will provide an overview of the session's goals and introduce the participants. Each of the remaining four participants will present a five-minute snapshot of their AI teaching strategy, emphasizing the innovative approaches they employ within their disciplines. Following the demonstrations, attendees will be encouraged to ask questions, share their own experiences, and engage with the presenters in a dialogue about the benefits and challenges of teaching with AI. Based on attendee interest, topics for discussion may include:

1. Ethical considerations in AI use for teaching and learning
2. Strategies for promoting AI literacy among students and faculty
3. Balancing AI assistance with traditional pedagogical approaches
4. Addressing concerns about academic integrity and AI-generated content
5. Developing cross-disciplinary collaborations for AI-enhanced education

By bringing together faculty from diverse disciplines, we aim to identify common themes and unique challenges in AI integration across different fields of study. This discussion will contribute to the ongoing dialogue on the role of AI in shaping the future of higher education and support the development of best practices for AI implementation in teaching and learning.

Conclusion

As AI continues to redefine the landscape of higher education, this roundtable offers a vital platform for educators to rethink and retool their curriculum and pedagogy, in line with the evolving challenges and opportunities AI presents. The presenters aim to create a platform for sharing innovative strategies, fostering collaboration, and advancing the scholarship of teaching and learning with AI. This conversation not only contributes to the current dialogue on AI in education but also sets the stage for future advancements and partnerships that will shape the future of learning.

References

Edward Watson. 2024. Teaching with AI: A Practical Guide to a New Era of Human Learning. Baltimore: Johns Hopkins University Press.

Cultivating Virtues and Skills for Solving Wicked Problems

Meg Konkel, Paige Tan, Heather Keith, *Radford University*

Abstract: This interactive workshop introduces the skills and dispositions needed for wicked problem-solving that are essential to engaged citizenship and careers. To help students cultivate these values, we use a community-engaged, wicked problem-driven pedagogical approach, steeped in design thinking and public policy analysis. We will show how this approach leads to career and citizenship skills, as well as the growth of core virtues that incline students toward pro-social engagement and self-transcendent goals. Participants will explore together how they might incorporate a skills and dispositions-based wicked problems pedagogy into their own courses or work in educational development.

"Wicked" problems (Rittel and Webber,1973), are those that are complex, intersectional, intractable, and defy "silver bullet" solutions, such as problems in the healthcare system, climate change, persistent poverty, gross inequality, addiction, and food insecurity. Beyond typical problem-solving skills of collaboration and analytic thinking, wicked problems require "synthetic" skills in interdisciplinarity, creativity, critical thinking, self-reflection, and systems thinking (Buchanan, 1992, p. 15). The learning experience in a wicked problems approach requires the cultivation of a problem-solving character—the virtues and values that will catalyze wicked problem-solving, such as practical wisdom, empathy, care, and active hope.

This workshop introduces the skills and dispositions needed for wicked problem-solving and shows why they are essential to engaged citizenship and meaningful careers. To help students cultivate these skills and values, we use a community-engaged, wicked problem-driven pedagogical approach, steeped in design thinking and public policy analysis. We will detail how this approach prioritizes the human experience of learning, fostering workplace and citizenship skills (including the NACE Career Readiness Competencies) and core virtues that incline students toward social engagement and self-transcendent goals.

In this hands-on, interactive workshop, we will showcase assignments and activities that are part of our wicked problems pedagogy, inviting participants to explore how they might incorporate this way of teaching into their courses or work in educational development. Small group interaction will center on specific skills and virtues, such as leading collaborative projects, cultivating active hope in students, and using activities and assessment aimed at promoting critical and systems-thinking—all in posing solutions for the problems of our time, and in embracing what we believe must be part of the future of learning.

Outline:

Brief review of wicked problems definitions and examples.

Exploration of human-centered pedagogies, including core virtues (such as practical wisdom, care, empathy, and active hope) and skills (such as NACE Career Readiness Competencies) as drivers of learning outcomes.

Exploration, using examples from our curriculum, of how a wicked problems pedagogical approach can help to cultivate these virtues and skills, and how we can assess student growth in these areas.

Small group work on how we can incorporate elements of a wicked problems approach into courses or educational development.

Small group work on how to assess wicked problem-solving skills and dispositions.

References

(1992). Wicked problems in design thinking. Design Issues, 8(2).

and Funke, J. (eds.). The Nature of Problem Solving; Using Research to Inspire 21st Century Learning (OECD Publishing, 2017).

(2018). Creating Wicked Students. Routledge.

and Johnstone, C. Active Hope (revised): How to Face the Mess We're in with Unexpected Resilience and Creative Power. New World Library.

and Webber, M. (1973). Dilemmas in a General Theory of Planning. Policy Sciences, Vol. 4, No. 2, pp. 155-169

https://www.naceweb.org/career-readiness/competencies/career-readiness-defined/

Defining Leadership and Collaboration in Post-Pandemic Teaching: An analysis of InTASC Standards and Early Career Teachers

Caroline Canning, *Chesterfield County Public Schools*
, Virginia Commonwealth University
Savanna Love, *Randolph-Macon College*

Abstract: This study explores the alignment between the Interstate Teacher Assessment and Support Consortium (InTASC) Standard 10 on Leadership and Collaboration and the leadership expectations for Early Career Teachers (ECTs) in PK-12 schools. With the evolving demands on educators, particularly in post-pandemic classroom and school communities, this research seeks to determine whether the leadership roles defined by InTASC standards match the needs of today's schools. Using a mixed methods design, the study will analyze how leadership is taught in Educator Preparation Programs (EPPs) and experienced in schools, aiming to identify gaps and guide future revisions to teacher preparation and development programs.

Educator Preparation Programs (EPPs) throughout the United States use the Interstate Teacher Assessment and Support Consortium (InTASC) standards as "initial licensing standards" (Clark & Paulsen, 2016, p. 2). In many cases, EPPs' curricular alignment with and assessment of student performance on InTASC standards are required for national or state accreditation. However, the InTASC standards were last revised in 2011, with "A Resource for Ongoing Teacher Development" released in 2013 to guide teacher education and professional development.

With so many teachers leaving the profession, even before the COVID crisis (Schmitt & deCourcy, 2022), school divisions now find themselves welcoming Early Career Teachers (ECTs) from diverse professional backgrounds into classrooms and school buildings requiring more distinctive needs than ever before. The pandemic has accelerated changes in educational settings, highlighting the importance of reconsidering how education and teacher preparation have evolved over time. Particularly in a post-pandemic era, these changes may significantly impact the leadership and collaboration dynamics within schools.

The current study focuses on whether InTASC Standard 10, Leadership and Collaboration, accurately captures the needs and expectations of PK-12 building leadership teams, especially in relation to how ECTs lead and collaborate during their first three years of teaching. This mixed-methods research aims to analyze how the InTASC standards define leadership in Standard 10 compared to how EPPs and PK-12 school systems define, teach, and experience leadership from ECTs. The study seeks to answer the question: To what extent do current teaching practices align with leadership as defined in the InTASC standards?

To begin addressing this question, we first analyzed the InTASC standards, specifically focusing on their definitions of leadership and collaboration. Our analysis revealed that leadership, as defined by the standards, involves serving in various leadership roles, advocating for learners, and generating and disseminating research to influence policy and practice. Collaboration, according to the standards, means modeling effective teaching through mentoring, providing feedback, and engaging in professional learning activities. Next, we compared these definitions to the profiles of ECTs, including their nontraditional pathways to teacher

licensure, and examined data on ECTs' expectations regarding professional performance, responsibility, and support. We found that ECTs often enter the profession with varying degrees of preparedness for leadership and collaboration, influenced by their diverse backgrounds and the rapidly changing educational landscape. These findings lay the groundwork for our ongoing research to determine if current teaching practices related to leadership and collaboration align with what we know about teachers entering classrooms post-pandemic. We plan to collect data from EPP faculty and students to investigate how leadership is incorporated into curricula and how well student understanding aligns with InTASC standards. Additionally, we will gather data from PK-12 teachers and administrators to explore current expectations and experiences surrounding teacher leadership in schools. Implications of our research may offer targeted suggestions to refine curricula, ensuring better preparation of ECTs. PK-12 schools may also adopt improved strategies for supporting ECTs in leadership roles, fostering stronger collaboration, improved school culture, and increased teacher retention.

References

K., & Paulsen, T. H. (2016). Student teacher dialogue in an electronic community of practice: cognition level related to the INTASC standards. Journal of Agricultural Education, 57(3), 1-17.

(2013, April). Interstate Teacher Assessment and Support Consortium InTASC Model Core Teaching Standards and Learning Progressions for Teachers 1.0: A Resource for Ongoing Teacher Development. Washington, DC: Author.

(2022). The Pandemic Has Exacerbated a Long-Standing National Shortage of Teachers. Economic Policy Institute.

Designing your Course: Student-Centered, Instructor-Sustainable in an Age of AI

Melanie Trexler, *Roanoke College*
Meg Steinweg, *Appalachian State*

Abstract: Instructors aim to design student-centered courses that support learning. However, sometimes, the emphasis on students' success can feel like it comes at a cost to instructor well-being and sustainability. In the last two years, many instructors felt this challenge more acutely with the rise of generative AI, feeling pressure to change their pedagogical choices in response. We'll practice strategies to address sustainable course design and imagine possibilities on how to integrate generative Artificial Intelligence into courses to lessen faculty burnout.

Instructors across higher ed report experiencing an increase in doing more for students, be it offering mental health support (Fields 2023), aligning assignments with students' career-readiness expectations (Flaherty 2023), and/or learning how to teach with generative artificial intelligence (McMurtrie 2024). Instructors want students to succeed, and thus, we aim to create classrooms where students can thrive. Unfortunately, as Rebecca Pope-Ruark argues, that often comes at a cost: burnout (2022). Instructors, like their students, have lives. Cate Denial starts to offer a solution in A Pedagogy of Kindness. To create compassionate classrooms where students thrive, we need to show kindness to ourselves first (2024). How might instructors start thinking about designing courses that are sustainable for their own lives?

With this question in mind, we launched a Course Redesign Community of Practice (CP) in Spring 2024. We aimed to help instructors redesign a course that prioritizes instructor sustainability and student success. By

sustainable we mean designing courses that enable instructors to focus on "effective, efficient, and meaningful practices that make learning richer for students (France 4, 2023)" without burning out. Our CP met multiple times over the semester with eight instructors from across disciplines. We discussed (and practiced) multiple topics, some of which included intentional calendar planning, learning objectives design, learning objective-assignment alignment, and generative Artificial Intelligence . By the end of the semester, participants left the CP with revised plans for a more sustainable course.

In this session, we do two things. First, we invite participants to engage in intentional calendar planning and prioritization. We will use a QR code linked to a google drive, inviting participants to access downloadable, editable calendars and other course planning documents. We will guide participants through an activity to consider what is happening in their personal and professional lives that need prioritization before instructors create a class. Intentional calendar planning and prioritization is an example of a boundary of kindness (Denial 2024). By engaging in this twenty-minute activity, CHEP attendees can apply this technique to their own courses and envision how to do similar activities with constituents at their home institutions.

Second, we welcome attendees to join in a jamboard activity about ways to integrate generative Artificial Intelligence (specifically ChatGPT, Perplexity, and/or Gemini) to design efficient learning activities. In addition to learning from and talking with participants about our collective knowledge, we will share specific examples of prompts and how we integrate ChatGPT in our classroom instruction to create case studies, discussion questions, etc., to save instructors time and enhance student learning.

By shifting how we prioritize our lives in relationship to our courses, and how we might incorporate gAI, we start to practice both a pedagogy of kindness and take the steps in designing instructor-sustainable courses that can lessen faculty burnout.

References

Pedagogy of Kindness: Teaching with Empathy, Engaging Students, and Thriving as an Educator. Norman: University of Oklahoma Press, 2024.

"Professors Struggle with Demands to Tend to Students' Mental Health." The Chronicle of Higher Education, May 2023. https://www.chronicle.com/article/professors-struggle-with-demands-to-tend-to-students-mental-health?sra=true. Accessed August 24, 2024.

"What College Students Want: Career Prep." Inside Higher Ed, December 20, 2023. https://www.insidehighered.com/news/student-success/life-after-college/2023/12/20/what-college-students-want-career-prep. Accessed August 24, 2024.

Making Teaching Sustainable: Six Shifts That Teachers Want and Students Need. Arlington, Virginia: ASCD, 2024.

"Teaching Newsletter." The Chronicle of Higher Education, August 1, 2024. https://www.chronicle.com/newsletter/teaching/2024-08-01. Accessed August 24, 2024.

Unraveling Faculty Burnout: Pathways to Reckoning and Renewal. Baltimore: Johns Hopkins University Press, 2022.

Developing Empathy in Medical Students Through Community In-Home Visitation

Kristofer Rau, Courtney Powell, *Virginia Tech-Carilion School of Medicine*

Abstract: This study explored the role of empathy in first- and second-year medical students at the Virginia Tech-Carilion School of Medicine. Students completed an initial self-assessment questionnaire on their views of empathy in medicine. Students then shadowed family case managers and community health nurses from the Child Health Investment Partnership of Roanoke Valley during their in-home visits. During these visits, students interacted with the children and their caretakers, and observed their surrounding environment. Subsequently they reflected upon the experience through a post-visit questionnaire. Study results support strong empathy scores for participating students that were positively impacted by the shadowing experience.

Empathy, and the cognitive and emotional components that comprise it, is a cornerstone of what many view as an essential quality for a doctor. Unfortunately, studies have highlighted a decline in empathy as medical students progress through their training (e.g. Hojat et al., 2009; Igde et al., 2017; Machado et al., 2019). Although most students enter medical school with passionate idealism, the stressful realities of a challenging medical education curriculum, limited early interaction with patients, and make-or-break board exams often result in student disillusionment and cynicism prior to their clerkship training.

To cultivate empathy in students, it has been recommended that medical education should take a more humanistic approach, by imbedding these experiences within their pre-clerkship years of training (Hojat et al., 2009; Andersen et al., 2020). One approach is to establish partnerships with local health organizations that visit community members in their own homes (Stumbar et al., 2020). At the Virginia Tech-Carilion School of Medicine (VTCSOM), we have recently engaged with our local Child Health Investment Partnership (CHIP) of Roanoke Valley. CHIP is an early childhood home visiting program that works with socioeconomically disadvantaged and under-served populations in our region, helping them access much needed medical services and providing developmental education, kindergarten preparation, and regular child assessment and monitoring.

In this study, CHIP teams consisting of one family case manager and one nurse transported individual VTCSOM students to the community home of CHIP clients. During the course of their visit, the student observed the family dynamic and living conditions of the client. Once the interprofessional team fulfilled their obligations of assessing the health and needs of the family, the students had the opportunity to ask questions to the child(ren) and parents. During transport to and from the CHIP client's home, the students also had the opportunity to discuss the experiences and perspectives of the interprofessional team related to working with CHIP families.

Prior to their home visits, participants completed a Jefferson Scale of Empathy (JSE) questionnaire that is specifically tailored to medical students (Hojat et al., 2018). This assessment includes 20 items in a Likert scale format to measure the three underlying constructs of empathy (compassionate care, perspective taking, and standing in a patient's shoes). After the home visits, students were asked to reflect on their experience and fill out a second JSE questionnaire, as well as share their experiences to question prompts.

To date, 13 medical students have gone on home visits, and of these, seven participated in the full study by completing both questionnaires. Mean JSE scores (scaled from 0-140) for VTCSOM students increased after the shadowing experience (pre-visit: 115.3±5.1; post-visit: 119.9±8.1; paired t test $p=0.016$). Study results

support strong empathy scores for participating students that were positively impacted by the shadowing experience. Furthermore, students reflected upon the importance of empathy in medicine, its role in patient health outcomes, the disparities and psychosocial factors that may play a role in the health of Roanoke's socioeconomically disadvantaged and under-served community, and the positive impact of interprofessional teams.

References

et al. Revisiting the trajectory of medical students' empathy, and impact of gender, specialty preferences and nationality: a systematic review. BMC Med Educ 20, 52 (2020).

The devil is in the third year: a longitudinal study of erosion of empathy in medical school. Acad Med. 2009 Sep;84(9):1182-91.

Changes in Empathy during Medical Education: An Example from Turkey. Pak J Med Sci. 2017 Sep-Oct;33(5):1177-1181.

Loss of Empathy in Medical Training: A Sad Behavioral Learning. On J Otolaryngol & Rhinol. 1(2): 2019.

(2020) Developing the Community Engaged Physician: Medical Students Reflect on a Household Visit Curriculum. Cureus 12(11): e11593.

Developing and Implementing Case-Based Learning Using AI

Emily Dane-Staples, *St. John Fisher University*

Abstract: Case-based learning (CBL) blends two distinct high impact teaching practices; collaborative assignments/projects and common intellectual experiences (AAC&U, 2024). In this technique, lecture is replaced by a narrative (case) that requires students to learn concepts in context and explore real-world challenges they will face in their professional lives (Hemphill et al., 2015). This session will explore how instructors can use generative AI to help create and implement CBL into their courses. First, an overview of CBL will be introduced and then participants will be guided through use of MagicSchool AI to create a CBL they can use in their own classes.

It is widely accepted that the Harvard Business School was the first to implement a case-based approach to learning in the late 1870's (Merseth, 1991). It was their foundational belief that cases provide a unique opportunity for students to access complex concepts while also creating an engaging environment for learning. Harvard has continued to use this approach and has become a world-wide leader in publishing and implementing various cases (Ethier, 2023). As such, adopting a case-based approach for some classes or modules within courses has long been established. However, with the broad availability of generative AI, instructors are afforded new methods for case design and implementation.

As an inquiry-based strategy, CBL uses stories to create an authentic learning environment for students. The Shared Inquiry model creates clear roles for both peer-peer and instructor-student interactions (Sen Akbulut & Hill, 2020). In this model, "instructors share the responsibility for teaching and learning with students by encouraging them to take active roles in the learning process" (Hemphill et al., 2015, p. 437). The four phases of this model: inquiry focus, space & time for consideration, active participation in learning, and synthesizing

key ideas & practices (Sen Akbulut & Hill, 2020) reinforces constructivist ideas. These design principles are used to help instructors create, structure, and implement successful CBL in courses.

Using this pedagogy, the case becomes the mechanism by which students learn specific concepts, theories, and processes rather than listening to a lecture. As an example, instead of delivering a lecture on different sampling techniques in research, a case could be written that depicts a scenario where three employees propose different methods for how to acquire information from season ticket holders, each using a different sampling technique (Phase 1 of the shared-inquiry model). After reading the case, students are given time and space for consideration, interpretation, and processing of the concepts using the questions crafted by the instructor (Phase 2 of the shared-inquiry model). To embark on Phase 3, the instructor organizes the student discussion groups and presents scaffolded questions or prompts that help the small groups to understand the nuances and attributes of different sampling techniques. For this reason, the learning is still very much guided by the instructor, is not completely open-ended, and uses a consistent process for completion across the learning community (Hemphill et al., 2015; Sen Akbulut & Hill, 2020).

AI tools can now be used to help instructors create and design CBL for their classes. Although existing cases may exist within discipline-specific literature, they will likely need adaptation for effective CBL use. Additionally, the prompt questions (independent and group) require careful construction to meet CBL goals and processes. This session will provide opportunities for instructors to both learn about CBL and how to use MagicSchool AI to develop, adapt, and implement this specific strategy in their courses.

References

Trending topic: High impact practices. Retrieved from https://www.aacu.org/trending-topics/high-impact

(2023, June 14). Ranking the top 50 MBA cases of the last 50 years. Retrieved from https://finance.yahoo.com/news/ranking-top-50-mba-cases-114512893.html?fr=sycsrp_catchall

A., R Richards, K. A., Gaudreault, K. L., & Templin, T. J. (2015). Pre-service teacher perspectives of case-based learning in physical education teacher education. European Physical Education Review, 21(4), 432-450. https://doi.org/10.1177/1356336X15579402

K. (1991). The early history of case-based instruction: Insights for teacher education today. Journal of Teacher Education, 42(4), 243-249.

R. (2020). Case-based pedagogy for teacher education: An instructional model. Contemporary Educational Technology, 12(2), ep287. https://doi.org/10.30935/cedtech/8937

Difficult Classroom Conversations - Upholding Equity, Inclusion and Free Speech Principles in Classroom Dialogue

Jordan Davis*, JD Speaks*
, Georgetown University

Abstract: Facilitating dialogue across cultural and ideological differences has always been essential to teaching excellence, but it is even morecritical now as classrooms become increasingly diverse. This heightened need comes at a time when political polarization, campus protests, and DEI bans are all converging on the academy. Attendees in this

workshop will gain skills in designing and facilitating classroom dialogue that is conduciveto learning and includes all students using trauma-informed teaching practices. They will also examine ways that culturally-responsivepedagogy and upholding free speech principles cultivate a classroom environment where conversation thrives.

In today's increasingly diverse and politically charged academic landscape, facilitating meaningful dialogue across cultural and ideological differences has become both more crucial and more challenging for educators. This workshop equips faculty and staff with practical skills to design and facilitate inclusive, engaging discussions in learning spaces that honor both equity and free speech principles.

Participants will engage in a series of interactive activities, beginning with envisioning their ideal classroom discussion and identifying potential obstacles. Through peer feedback and group collaboration, attendees will develop a comprehensive toolkit of "pocket strategies" to navigate challenging situations, from addressing harmful comments to rebuilding trust after missteps.

The workshop incorporates a mini-lecture on the historical context of free speech in higher education and its current implications. Participants will explore the intersection of DEI concepts and free speech principles, moving beyond partisan framings to develop a nuanced understanding of how this relationship impacts their role as facilitators.

Drawing on frameworks such as Universal Design for Learning, trauma-informed pedagogy, and culturally responsive teaching, attendees will learn to create classroom environments that foster open dialogue while prioritizing student well-being. The workshop will map facilitation techniques to pedagogical theories, emphasizing the shift from performance culture to a culture of understanding, empathy, and community among students.

By the end of the session, participants will have:
1) Designed a classroom discussion using UDL and trauma-informed principles
2) Developed a personalized list of facilitation strategies for navigating difficult situations
3) Gained a deeper understanding of the relationship between DEI and free speech in higher education

This workshop is led by Jordan H. Davis, a Pedagogy Specialist with extensive experience in learning design, higher ed instruction, and a certificate holder in Freedom of Expression, Academic Inquiry, and Campus Discourse from the University of Chicago. In addition to Jordan's expertise, additional resources that undergird the content of this workshop include frameworks for understanding applications of free speech covered in Dare to Speak by Suzanne Nossel (book), Tom Senninger's Learning Zone Model, and Kerry Patterson's definition of crucial/difficult conversations in the book Crucial Conversations: Tools for Talking When Stakes Are High.

Does Perceived Community Mindset Relate to Student's Sense of Belonging?

Taylor Sharpe, Emily Cudzilo, Deborah Richardson, Robert Bledsoe, *Augusta University*

Abstract: According to Dweck and Leggett's (1988) social-cognitive model, some individuals see intelligence as being adaptable, exhibiting a growth mindset, while others believe intelligence is an unchangeable trait, adopting a fixed mindset. The research presented here examines whether STEM students' individual mindsets and their perception of their community's mindset correlate to their academic success within STEM fields. Results indicate that STEM students' growth mindset is associated with their sense of

belonging, and their perception of growth mindset in the STEM community is associated with greater self-efficacy

The present study examines predictors of success-related perceptions among students majoring in STEM disciplines. STEM majors are more likely to switch their majors or pursue a different path than non-STEM majors, which impacts persistence to graduation and a career choice (Whitcomb & Singh, 2021).

Dweck and Leggett's (1988) social-cognitive model argues that individuals who believe intelligence cannot be changed, i.e. that it is an uncontrollable trait, endorse a fixed mindset. Others who believe intelligence is malleable and can be developed endorse a growth mindset, which is associated with academic success. A student's academic experience or success may also be influenced by their perception of the mindset of those around them, including instructors and peers. Therefore, this study considers whether a student's perception of the community's mindset, along with their own, predicts academic self-efficacy and sense of belonging. These outcomes were chosen because research has established a relationship between them and student success (Bandura, 1997; Hausmann, 2007). Self- efficacy is the individual's confidence that they can achieve goals and is associated with persistence when facing obstacles and adverse experiences (Bandura, 1997). Hausmann (2007) determined that sense of belonging, shaped by social and academic integration, is a key factor in student persistence to graduation. We hypothesized that individual student mindset and perceived community mindset would significantly predict self-efficacy and sense of belonging.

One hundred six STEM students (44.3% female) completed an online survey. Student mindset was assessed with a 4-item scale based on the Implicit Theories of Intelligence Scale - Short Version ("No matter how much intelligence/ability you have, you can always change it quite a bit"; Cook et al., 2018). Community mindset was assessed with 4 items that assessed the extent to which students perceived their major community to have a relatively fixed or growth mindset ("People in my major community believe that you can change even your basic ability…"; Revised from Cook et al., 2018). Sense of belonging was assessed with 13 items that inquired about the extent to which they felt they belonged in their major ("I feel accepted in my major"; Good et al., 2012). Self-efficacy was assessed with 6 items that assessed how confident students were about accomplishing their goals ("I am able to successfully overcome many challenges"; Chen et al., 2001).

Regression analyses revealed that student mindset was the sole significant predictor of self-efficacy ($\beta = .34$), while perceived community mindset ($\beta = .49$) significantly predicted sense of belonging. These results suggest that students who perceive that the community surrounding their major embodies a growth mindset are likely to have a relatively strong sense of belonging. Those who have a growth mindset for themselves are likely to have a stronger sense of self-efficacy. Since belongingness and self-efficacy are related to successful academic outcomes, we can anticipate that endeavors made to support and develop a growth mindset in both the individual student and in the broader community of STEM majors may improve student success.

References

(1977). Self-efficacy: toward a unifying theory of behavioral change. Psychological Review, 84, 191-215. http://dx.doi.org/10.1037/0033-295X.84.2.191.

M., & Eden, D. (2001). Validation of a new general self-efficacy scale. Organizational Research Methods, 4(1), 62-83. https://doi.org/10.1177/109442810141004

A., Gas, B. L., & Artino, A. R. (2018). Measuring mindsets and achievement goal motivation. Academic Medicine, 93(9), 1391-1399. https://doi.org/10.1097/acm.0000000000002290

S. & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. American Psychological Association, 95(2), 256-273. https://doi.org/10.1037/0033-295X.95.2.256

(2012). Why do women opt out? Sense of belonging and women's representation in mathematics. Journal of Personality and Social Sciences, 102(4), 700-717. https://doi.org/10.1037/a0026659

R. M., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and White first-year college students. Research in Higher Education, 48, 803-839. https://doi.org/10.1007/s11162-007-9052-9

M. & Singh, C. (2021). Underrepresented minority students receive lower grades and have higher rates of attrition across STEM disciplines: A sign of inequity? International Journal of Science Education, 43(7), 1054-1089. https://doi.org/10.1080/09500693

Effectiveness of Collaborative Group Projects in College Classes

Guopeng Cheng, *Virginia Tech*
Chen Xu, *Independent researcher*

Abstract: Creating opportunities for students to work collaboratively on group projects can help instructors build an engaging learning environment through peer learning and teaching. Numerous studies suggest that students learn more effectively working cooperatively in groups versus passively absorbing information from a regular lecture. The purpose of this research study was to examine student learning outcomes from collaborative group projects in a junior/senior-level Consumer Studies course. From the results, we found that group projects help students build strong connections with their peers while deepening their understanding of core course objectives.

The collaborative group project is an effective teaching pedagogy commonly used for higher-level undergraduate courses. There has been a rise in requiring students to gain experiential learning, which allows them to learn through real-world activities at higher education institutions. Furthermore, communication and collaboration skills are essential for navigating today's fast-paced job market and working effectively with a team. Students' experiential learning and cooperative capacity-building combine during collaborative group projects (Monson, 2017). A number of researchers have agreed that using collaborative student group projects has significant positive impacts on student learning outcomes and academic performance. Additionally, collaborative group projects motivate students and contribute to their development of professional and social skills (Newman et al., 2003; Monson, 2017; Guo et al., 2020). Social skills help college students become better learners and build the foundation for success in the adult world after graduation.

In this research study, we used multiple measurement tools, including surveys, presentation performance assessments, and exam questions, to examine student learning outcomes derived from collaborative group projects in a small junior/senior-level Consumer Studies class with 20 students. We randomly assigned four students each to five groups. Each group was assigned a specific research topic for their collaborative group project and required to conduct a literature review, collect and analyze data, and write results and implications.

Three weeks after submitting their completed work, the students were asked to make a 20-minute group presentation on their research project. The group presentation has rarely been evaluated in past studies on how collaborative group projects affect student learning outcomes, giving us the opportunity to fill a gap in the extant research.

From the students' feedback, we found that 96% preferred working on group projects versus individual projects because the former benefitted their problem-solving and critical-thinking skills. Also, 98% of students agreed that collaborative group projects and group presentations helped them share knowledge, make strong connections with teammates, and feel more successful than working alone. We also compared the final exam grades of the students who participated in the study to the grades of the students who took the same class a year ago, completing individual projects with the exact same requirements. We found that students who completed the collaborative group projects earned a final exam grade averaging 8.5 points higher than those in the comparison group.

This study provides insights that can help college instructors improve teaching effectiveness in their classes while benefitting students' overall learning outcomes.

References

(2014). A synthesis of the literature on research methods education. Teaching in Higher Education 19(3), 242-53. https://doi.org/10.1080/13562517.2013.860105

S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. International Journal of Educational Research, 102, Article 101586. https://doi.org/10.1016/j.ijer.2020.101586

(2017). Groups that work: Student achievement in group research projects and effects on individual learning. Teaching Sociology, 45(3), 240-251. https://doi.org/10.1177/0092055X17697772

(2003). Open ended group projects a 'tool' for more effective teaching. Proceedings of the Fifth Australasian Conference on Computing Education, 20, 95-103.

Embrace the Future of Learning: Teacher Centered versus Student Centered

Dr. Thomas Vance, Dr. Albertus Barnes, Dr. Tabitha Young, *Bluefield State Univerirsty*

Abstract: The future of teaching is rapidly evolving, with early adopters at the forefront, embracing innovative strategies that challenge traditional methods. As technology advances, instructors must adapt to new tools that enhance student engagement and learning outcomes. Effective future-ready strategies include creating dynamic, tech-integrated environments, setting a positive tone, and establishing daily routines to foster stability. Encouraging collaboration, leveraging diverse instructional methods, and implementing social-emotional learning techniques are key to maximizing participation and understanding. By embracing change, educators can ensure that their teaching remains relevant and impactful in a constantly evolving educational landscape.

As technology continues to evolve at a rapid pace, the education sector must adapt to prepare students for a future defined by constant change and unpredictability. This proposal outlines a presentation that will explore innovative teaching strategies essential for creating future-ready classrooms. The presentation will highlight

the experiences of early adopters—educators who have embraced new methodologies despite the challenges and resistance from more traditional teaching approaches.

Key strategies include setting a positive and engaging tone in both virtual and in-person classes, utilizing music, and interactive activities to foster a vibrant learning environment. The importance of establishing daily routines, encouraging collaboration through technology like breakout rooms, and diversifying instruction to accommodate different learning styles will be emphasized. The proposal also discusses the critical role of integrating advanced technological tools, such as interactive apps, virtual guest speakers, and augmented reality, to enhance the learning experience.

Attendees will gain practical insights into how these strategies can be implemented to create a dynamic teacher-centered versus student-centered learning environment. The session will also address the challenges and benefits of adopting these methods, providing educators with the tools they need to be future-ready and to prepare their students for success in an ever-changing world.

References

Active Learning: A Practical Guide for College Faculty, Magna Publications 2017

(2016). Small teaching: Everyday lessons from the science of learning. Hoboken, NJ: Wiley.

(2014). Creating Self-Regulated Learning. Sterling, VA: Stylus.

(2015). Student Engagement in Higher Education (2nd ed.). New York, NY: Routledge.

(2019). A guide to effective studying and learning: Practical strategies from the science of learning. Oxford, 2019.

Rowe, M (1986), Wait Time: Slowing Down May Be a Way of Speeding Up!, Journal of Teacher Education.

D. (2013). Structure Matters: Twenty-One Teaching Strategies to Promote Student Engagement and Cultivate Classroom Equity. CBE-Life Sciences Education, 12(3), 322-331. https://doi.org/10.1187/cbe.13-06-0115

Embracing the Future: Course Design for Distance Education

Nicola Singletary, Tamara Pandolfo, Wendy Warner, Carlos Goller, Bethanne Winzeler, Arlene Mendoza-Moran, Bevin Maultsby, *North Carolina State University*

Abstract: This roundtable discussion will feature DELTA instructional designers and faculty at NC State University who have achieved Quality Matters (QM) certification for their online courses. The session will explore the presenters' experiences in preparing courses for QM review and participating in a cohort model for course improvement. Additionally, they will share effective strategies for aligning courses with QM standards, such as course mapping and tools for student collaboration online. The discussion will address challenges and barriers to faculty participation in the QM process, offering participants a platform to exchange ideas and gather insights for enhancing online education quality.

Across the globe, the popularity of distance education continues to grow. Research indicates an increase in the number of college courses delivered online and the number of students enrolling in online offerings (Allen &

Seaman, 2017; National Center for Educational Statistics, 2022). The online learning environment can be both convenient and challenging to learners and faculty.

NC State University offers numerous online opportunities, from individual courses to entire online degree programs at both the undergraduate and graduate levels. To provide high-quality and innovative learning experiences when completing online courses, faculty at NC State University have the opportunity to participate in the Course Quality Program offered by DELTA (Digital Education and Learning Technology Applications). Through this program, faculty members can pursue "professional development, instructional consultations, resources, course and program reviews, and pathways to recognition and certification of high-quality online courses and programs" (NC State University, 2022). One specific certification is offered through Quality Matters (QM). Quality Matters is a global organization that strives to support faculty in the development and delivery of quality online education. QM has established guidelines and recommendations to encourage continual review and improvement of distance education courses and the opportunity to validate the quality of courses through participation in a rigorous peer review process (Quality Matters, 2022).

Presenters are DELTA instructional designers and faculty who have QM-certified courses across various disciplines, course levels, and course structures at North Carolina State University. This roundtable discussion will allow the presenters to share their experiences with course preparation for QM review, discuss participation in a course improvement cohort and mentorship model, provide considerations for future participants, and address potential barriers to faculty participation in the QM process. They will discuss the beneficial strategies integrated into their courses to align with the QM expectations and recognize challenges. Some of these strategies include the development of a course map, structure of assignments and discussion forums, and tools for student collaboration in an online environment. Participants in the discussion will have the opportunity to offer additional ideas that have been utilized in their courses and also collect ideas from the presenters.

References

E., & Seaman, J. (2017). Digital learning compass: Distance education enrollment report 2017. https://onlinelearningconsortium.org/read/digital-learning-compass-distance-education-enrollment-report-2017/

(2022). Undergraduate Enrollment. Condition of Education. U.S. Department of Education, Institute of Education Sciences. Retrieved May 31, 2022, from https://nces.ed.gov/programs/coe/indicator/cha.

(2022). Course quality program. https://wordpress-projects.

wolfware.ncsu.edu/course-quality-program/

(2022). About. https://www.qualitymatters.org/index.php/about

Empowering (Instructors) Writing Across the Curriculum to Promote Deep Change

Seth Hudson, Thomas Polk, Leslie La Croix, Joan Hwang, *George Mason University*

Abstract: University-wide curricular change typically combines the systematic roll out of the new initiative with an intentional positioning of unit level faculty liaisons to support the enactment of the new instructional outcomes. Stepping up to assist one's peers in local

> or cross-curricular enhancements work presents unique challenges. Serving as the point person in a process that some faculty colleagues may see as a bureaucratic hurdle demands an expertise many faculty are not trained to develop (Glotfelter et al., 2022). This roundtable invites discussion examining how faculty in service or liaison roles work across divisions and roles to lead curricular change efforts.

This roundtable creates space for faculty who operate in service or committee roles, as well as the administrators and educational developers who collaborate with and them—to reconsider curricular enhancement and assessment as opportunities for lasting positive change.

Context/Challenge: The facilitators all serve on George Mason University's Faculty Senate committee on writing across the curriculum (WAC). As members of this committee who hold diverse faculty appointments (term, administrative, and tenured/tenure-track) across disciplines, they have been involved in a multi-year enhancements process focused on writing-intensive (WI) courses.

WI courses were first implemented at Mason in the 1990s with the central goals of using writing as a form of active learning and helping students learn to write in their disciplines. In 2021, the WAC committee began articulating a new vision for the WI course, developing new learning outcomes to forward this vision. The committee subsequently created an enhancements process to help familiarize faculty with the new outcomes and prompt units to reimagine the role of their WI courses. As committee members, this roundtable's facilitators were integral to all stages of this process: outreach to colleagues, support for colleagues, review of materials, and planning for continuous improvement.

Structure: With the diversity of roles and strategies each facilitator took, the proposed roundtable will be organized around the approaches/methods employed in the WI enhancement process. After brief presentations to provide context to efforts/progress thus far, facilitators will lead three to four separate breakout conversations built on the topics below in hopes of learning from the experiences of attendees from a range of institutional roles.

Sensemaking—revisiting old ideas in new ways to challenge underlying assumptions and attitudes—is required for enacting 'deep change' at an institution (Kezar, 2018). The central WAC team sought to facilitate an enhancement process that involved reflection for faculty that served as a self-assessment of their WI curriculum's alignment with the outcomes and empowering the faculty to re-examine their instructional practice with writing. How can we:

- Create space for increased, sustained, dynamic and consistent conversation within/across LAUs?
- Approach assessment thoughtfully to shed light on the cross-disciplinary needs for faculty support?

Self-study methodologies offer faculty another pathway for realizing curricular initiatives (Samaras, 2011). Accordingly, four faculty in the College of Education and Human Development embarked on a self-study to document their experiences enacting the modified courses. Sustained conversation led to changes in our own instructional writing practices to align, emphasize, and realize the writing intensive course outcome initiatives. How do we:

- Organize colleagues for Self-study?
- Collect and analyze artifacts necessary?

Faculty learning communities' (FLC) capability for instructional and curricular development is well established (Engin et al, 2015). Rather than a required training to revise single courses, an FLC approach was adopted in the College of Visual and Performing Arts (CVPA), designed for participants to access tacit knowledge exploring their experiences as learners while introducing them to the threshold concepts behind

the WI learning outcomes. How do we:

- Help colleagues overcome expertise blindness?
- Achieve buy-in from colleagues for taking on additional work?

References

(2015). Faculty learning communities: a model for supporting curriculum changes in higher education. International Journal of Teaching and Learning in Higher Education, 27(2), 164-174. https://eric.ed.gov/?id=EJ1082846

(Eds.) (2022). Changing conceptions, changing Practices: Innovating teaching across disciplines. Utah State University Press. https://doi.org/10.7330/9781646423040

(2018). How colleges change: Understanding, leading, and enacting change (2nd ed.). Routledge. https://doi.org/10.4324/9781315121178

P. (2011). Self-study teacher research: Improving your practice through collaborative inquiry. Sage.

Empowering Autonomy: Guiding College Students to Master Independent Learning

Jennifer Rainville, Rachel Diana*, Virginia Tech*

Abstract: Explore the science of independent learning in higher education during this interactive session designed to help instructors enhance student self-reliance and confidence. Learn about our empirical research, interactive workshops, and the ongoing evolution of our educational strategies developed in the School of Neuroscience and Psychology Department to improve student outcomes. Participate in sample activities and engage in discussions to discover options for incorporating these themes into courses across multiple disciplines.

The transition from secondary to higher education presents a significant challenge for students, particularly in independent learning. At Virginia Tech (VT), we have identified a substantial gap in student preparedness for autonomous learning within our Psychology and Neuroscience majors. This proposal outlines our session aimed at addressing these challenges through the implementation of empirically supported learning strategies.

Our session, "Empowering Autonomy: Guiding College Students to Master Independent Learning," will delve into the intricacies of fostering self-directed learning among college students. We will discuss the findings of a comprehensive survey conducted at VT, which highlighted the disparity between student perceptions of their learning capabilities and the actual skills required for independent study. The survey results underscore the necessity for interventions that bolster student confidence and competence in their learning methodologies.

In response to these findings, we have developed a series of workshops introduced in a First Year Experience (FYE) course in Fall 2023, that are being continued throughout the Fall 2024 semester. These interventions are designed to impart practical skills and learning techniques that encourage students to take ownership of their educational journey. Our approach emphasizes the development of study habits that support lifelong learning and adaptability in various academic disciplines.

During the session, participants will have the opportunity to engage in sample activities from our workshop series. These activities are crafted to demonstrate the practical application of learning strategies that students

can employ to become self-reliant learners. Furthermore, we will facilitate discussions on how these strategies can be integrated and adapted to best suit courses across multiple disciplines, thereby enhancing the overall educational framework.

Our ongoing efforts also include feedback sessions and additional follow-up surveys to continually refine our program. The immediate goal is to expand our efforts to reach more students across a broader range of academic majors, thereby fostering a culture of independent learning across the university, and our long-term goal is to provide these tools to educators at other institutions.

We believe our session will provide valuable insights into promoting autonomous learning among college students. By sharing our experiences and the outcomes of our interventions, we aim to contribute to the advancement of pedagogical practices in higher education. We look forward to presenting our work at the Conference on Higher Education Pedagogy and collaborating with fellow educators to enhance student learning outcomes.

References

& Cabeza, R. Surprise!—Clarifying the link between insight and prediction error. Psychon Bull Rev 31, 2714-2723 (2024).

Bjork. “Making Things Hard on Yourself, but in a Good Way: Creating Desirable Difficulties to Enhance Learning.” Psychology and the Real World, vol. 2, 2011, pp. 55-64.

“Self-Regulated Learning: Beliefs, Techniques, and Illusions.” Annual Review of Psychology, vol. 64, 2013, pp. 417-444.

H., and Rebecca Wylie. “The ICAP Framework: Linking Active Learning to Cognitive Engagement.” Educational Psychologist, vol. 49, no. 4, 2014, pp. 219-243.

“Improving Students’ Learning with Effective Learning Techniques: Promising Directions from Cognitive and Educational Psychology.” Psychological Science in the Public Interest, vol. 14, no. 1, 2013, pp. 4-58.

Mora, and Susan Tkacz. “Student-Generated Questions: Enhancing Learning in the Classroom.” Teaching of Psychology, vol. 21, no. 1, 1994, pp. 44-48.

“Habits, Rituals, and the Evaluative Brain.” Annual Review of Neuroscience, vol. 31, 2008, pp. 359-387.

“Dopamine, Smartphones, and the Battle for Your Time.” Harvard SITN, Harvard University, 1 May 2018. Figures by Rebecca Clements, https://sites.harvard.edu/sitn/2018/05/01/dopamine-smartphones-battle-time/.

& Frankland, P. Finding the engram. Nat Rev Neurosci 16, 521-534 (2015).

Blunt. “Retrieval Practice Produces More Learning than Elaborative Studying with Concept Mapping.” Science, vol. 331, no. 6018, 2011, pp. 772-775.

“A Common Neurobiology for Pain and Pleasure.” Nature Reviews Neuroscience, vol. 9, no. 4, 2008, pp. 314-320.

"Are High School Graduates Ready for College?" Forbes, 28 May 2024, https://www.forbes.com/sites/brunomanno/2024/05/28/are-high-school-graduates-ready-for-college/.

Cohen. "An Integrative Theory of Prefrontal Cortex Function." Annual Review of Neuroscience, vol. 24, 2001, pp. 167-202.

(2021). A Synaptic Framework for the Persistence of Memory Engrams. Frontiers in Synaptic Neuroscience. 13. 10.3389/fnsyn.2021.661476. Roediger, Henry L., and Jeffrey D. Karpicke. "Test-Enhanced Learning: Taking Memory Tests Improves Long-Term Retention." Psychological Science, vol. 17, no. 3, 2006, pp. 249-255.

"Recent Research on Human Learning Challenges Conventional Instructional Strategies." Educational Researcher, vol. 39, no. 5, 2010, pp. 406-412.

Catching the engram: strategies to examine the memory trace. Mol Brain 5, 32 (2012).Schultz, Wolfram. "Dopamine Reward Prediction Error Coding." Biological Psychiatry, vol. 81, no. 6, 2016, pp. 495-503.

(2021). Dopamine: The Neuromodulator of Long-Term Synaptic Plasticity, Reward and Movement Control. Cells, 10(4), 735.Weinstein, Yana, Megan A. Smith, and Oliver Caviglioli. Understanding How We Learn: A Visual Guide. Routledge, 2016.

"Becoming a Self-Regulated Learner: An Overview." Theory into Practice, vol. 41, no. 2, 2002, pp. 64-70.

Empowering Learners, Shaping the Future: Cultivating Metaliteracy Across the Curriculum

Vivian Bynoe, Lauren McMillan, Jessica Swaringen*, Georgia Southern University*

Abstract: Metaliteracy is a pedagogical model that helps students understand that learning is not just about acquiring information but about personal growth, practical application, and continuous self-improvement through reflection and adaptation. Librarians at Georgia Southern University are leveraging their expertise as information professionals to integrate metaliteracy concepts into the curriculum through collaborative partnerships with faculty.In this session, librarians will explain how they have integrated metaliteracy into the curriculum at their institution. Participants will explore instructional strategies for fostering a mindset of lifelong learning to promote personal growth, practical application, and self-reflection in their courses through a facilitated discussion.

The rapid evolution of the information landscape requires students to be adaptable to a complex information environment. Students are not just information users but also informants and creators who act based on their social identities and social power (Oliphant, 2021). As educators, part of our responsibility involves empowering students to take ownership of the learning process, not only in the classroom but in ways that transfer to their everyday lives. Students who enter the college classroom may or may not be equipped with important 21st century skills such as those identified by the P21 framework for 21st century learning (Soulé, H & Warrick, 2015). "The framework highlights a blend of content knowledge, specific skills, expertise, and literacies, and it provides an expansive definition of college and career readiness" (Soulé, H & Warrick, 2015, p. 180). The pedagogical model of metaliteracy can facilitate the process of equipping students with tools that encourage them to actively engage with information, fostering reflection, critical thinking, and collaboration in creating and consuming content. These skills are applicable to all subject areas. Academic librarians at

Georgia Southern University are leveraging their expertise as information professionals to integrate metaliteracy concepts into the curriculum through collaborative partnerships with faculty in all disciplines.

Metaliteracy is a framework created by Thomas Mackey and Trudi Jacobson (2011). It includes a comprehensive focus on metaliterate learning, metaliterate learner roles, and metaliterate learner characteristics" (Mackey & Jacobson, 2021, para. 5). Metaliteracy focuses on four domains of behavioral, cognitive, affective, and metacognitive learning and helps students understand that learning is not just about acquiring information but about personal growth, practical application, and continuous self-improvement through reflection and adaptation.

In this session, librarians will explain how they have integrated metaliteracy into the curriculum at their institution in courses across the university and in the metaliteracy credit-bearing course taught by librarians. Participants will develop an understanding of the metaliteracy framework and its key components and explore instructional strategies for fostering a mindset of lifelong learning to promote personal growth, practical application, and self-reflection in their courses. A facilitated discussion will allow participants to share their insights on how they are already incorporating metaliteracy, fostering an exchange of ideas in this practice session. Participants will leave the session with new ideas for encouraging students to ownership of their role in acquiring and utilizing information for learning.

References

P., & Jacobson , T. E. (2021). About metaliteracy. Metaliteracy Blog. https://metaliteracy.org/about/

P., & Jacobson, T. E. (2011). Reframing information literacy as a metaliteracy. College & Research Libraries, 72(1), 62-78.

(2021). Emerging (information) realities and epistemic injustice. Journal of the Association for Information Science & Technology, 72(8), 951-962. https://doi.org/10.1002/asi.24461

(2015). Defining 21st century readiness for all students: What we know and how to get there. Psychology of Aesthetics, Creativity, and the Arts, 9(2), 178-186. https://doi.org/10.1037/aca0000017

Empowering Students to Tackle Controversial Issues with Confidence and Civility

Rose Jeter, *Virginia Tech*

Abstract: In a time when public discourse related to politics and controversial topics is "dangerously incendiary" (Fisher, 2022), it is increasingly important for students to develop communication and problem-solving skills that build consensus. Participants in this session will learn how the presenter uses the Farm Bureau Discussion Meet format to help students engage in discussing solutions for controversial issues facing their industry, thereby building student confidence and promoting civility.

The presenter will lead a discussion and demonstrate examples of classroom activities and assessments designed to help build students' ability and confidence in forming and articulating their views on controversial issues in agriculture. The assessments culminate in the Discussion Meet, which prepares students for the real-world application of discussing possible solutions to an issue in a way that builds consensus.

The American Farm Bureau organization developed this format as part of their leadership development program for young adults. It is a competitive event that simulates a committee-style meeting. The assessment used in class mirrors the scoresheet and promotes problem analysis, problem-solving, cooperative attitudes, and effective delivery.

Our society is experiencing what Fisher calls "a cultural shift toward a world in which people are polarized not by beliefs based on facts, but by misinformation, outrage, and fear" (Fisher, 2022). Students must develop the skills and comfort level necessary to engage in productive discussions that help solve issues and increase productive civil dialogue. According to Stitzlein, "civic reasoning is best facilitated through discussion and deliberation that engages inquiry, facts, knowledge, logic, reasonableness, values, emotion, and critical thinking. It relies on skills of openness and dissent" (2021). Using a structure like the Discussion Meet can help students have robust classroom discussions that promote civic reasoning. This format helps students build the necessary skills, which include "listening to others, showing empathy for others, considering multiple points of view, and showing respect for others even when one disagrees" (Lee et. Al., 2021).

Participants in this session will have the opportunity to:
•Understand the goals and criteria of the Discussion Meet format.
•Describe ways to incorporate components of the Discussion Meet format in issue-related class discussions.
•Discuss how they encourage students to develop their views on industry issues and engage in productive discussions involving controversial topics.

References

(2022). The Chaos Machine: The inside story of how social media rewired our minds and our world. New York: Little, Brown and Company.

(2021). Chapter 1 Civic Reasoning and Discourse Perspectives from Learning and Human Development Research Defining and Implementing Civic Reasoning and Discourse: Philosophical and Moral Foundations for Research and Practice. In Lee, C. D., White, G., & Dong, D. (Eds.), Educating for Civic Reasoning and Discourse. (pp.23-10752). National Academy of Education.

(2021). Chapter 2 Civic Reasoning and Discourse Perspectives from Learning and Human Development Research. In Lee, C. D., White, G., & Dong, D. (Eds.), Educating for Civic Reasoning and Discourse. (pp.53-107). National Academy of Education.

Engaging and Supporting Adult Working Learners in Online Learning

Jennifer Williams, Stacy Weiss, *East Carolina University*

Abstract: With many adult working learners (AWLs) pursuing online learning, an emphasis needs to be placed on how to engage and support these learners to be successful in higher education learning environments. This session presents tips and strategies implemented within a teacher residency program to reinforce three pillars of support: (1) inclusive learning practices with varied materials and flexible assignment options, (2) quality interactions between learners, instruction and content, and (3) practical application and transfer (Kaiser et al., 2023). We invite you to share ideas from your instruction to reduce barriers and increase engagement of AWLs within your online courses.

An adult working learner (AWL) is any adult "simultaneously pursuing paid employment and educational advancement" (Stevens et al., 2022, p. 18), and typically seeking educational advancement through online learning. Teachers in the Residency in Special Education (RISE) program at East Carolina University have a bachelor's degree and work full time in a school district but need to seek licensure by completing 18 hours of coursework, affiliate with an educator preparation program, and pass licensure exams.

Many challenges face teachers and their preparation programs. Residency teachers have diverse backgrounds and experiences from fields outside of education. Some have school experience, but many are new to teaching. Learning on the job skills and taking courses requires bandwidth to apply new information. Teachers need to balance outside school and work responsibilities, fulfill roles in after school activities, and attend professional development all with high caseloads.

Addressing challenges for AWLs, we integrate three pillars of support (1) inclusive learning practices with varied materials and flexible assignment options, (2) quality interactions between learners, instruction and content, and (3) practical application and transfer (Kaiser et al., 2023). Inclusive learning practices helps us reach this diverse population of teachers with varied life and work experiences resulting in transfer of course content to individual settings. Inclusive courses have varied materials and activities. We embed more interactive activities versus quizzes such as H5P integrations in Canvas. Proficiency activities allow learning in a lower-stakes situation than a quiz. For assessment and assignment flexibility, choose your own adventure instructional formats let teachers deep dive into selected content with a larger application assignment designed to reflect daily practices. Additionally, we use a pedagogy of kindness (Denial, 2024) in our syllabi; an approach involving believing students when they need more time for an assignment because illness or unavoidable work conflicts.

Accessibility and online learning remove geographical boundaries and saves commute time, transportation costs, and childcare expenses. Providing a time range to complete course modules allows teachers to juggle their schedule and additional work responsibilities. Our courses are organized with clear due dates and navigation support including page numbers, modules, and links. Information is presented in various ways from infographics, closed captioned videos no more than 10-12 minutes, readings, and instructor-made text. Instructor feedback is varied through use of Canvas Studio, rubrics, and written notes.

AWLs need quality interactions to engage in coursework including learner to learner, learner to instruction, and learner to content. We use asynchronous instruction for flexibility but found optional opportunities for synchronous interactions reduces online learning isolation. Synchronous meetings include course orientations, webinars, and drop-in student support hours on evenings and weekends. Importantly, we include pedagogy of kindness to apply compassion when interacting with adult learners (Denial, 2024).

For practical application and learning transfer, we scaffold authentic application-oriented assignments in each course and provide opportunities for reflection in their setting. When learners make a connection between their backgrounds, experiences, or identities to what they are learning they feel supported and have an increased motivation to learn (Devlin & McKay, 2016).

References

J. (2024). A Pedagogy of Kindness. Norman: University of Oklahoma Press.

(2016). Teaching students using technology: Facilitating success for students from low socioeconomic status backgrounds in Australian universities. Australasian Journal of Educational Technology, 32(1), 92-106. https://doi.org/10.14742/ajet.2053

(2023). Strategies for supporting adult working learners in the online learning environment. New Directions for Adult and Continuing Education, 2023, 53-65. https://doi.org/10.1002/ace.20502

L., Alston, G. D., Cini, M., Gallagher, S., Horwitz, I., Kazin, C., McCann, P. C., Pardos, Z., Roumell, E. A., Sheffer, H., Zanville, H., & Settersten, R. (2022). An applied science to support working learners: A report to the National Science Foundation re award #2128165. Stanford Graduate School of Education. https://workinglearners.stanford.edu/

Engaging undergraduates in a 6-week summer Signals and Systems course

Mary Lanzerotti, Scott Dunning, Michael Buehrer, Ahmad Safaai-Jazi, Nektaria Tryfona, Jianqiang Zhang, Luke Lester, Creed Jones*, Virginia Tech*
Kenneth Reid*, University of Indianapolis*
Muhammed Dawood*, New Mexico State University*

Abstract: Each semester since Spring 2021 during COVID, we have been introducing learner-centered teaching techniques to increase engagement in a sophomore-level Signals and Systems course in the Virginia Tech Bradley Department of Electrical and Computer Engineering. This presentation presents the design and implementation of a Signals and Systems course adapted for a 6-week summer term and presents a comparison of results of our empirical research on engagement and student perception of learning with offerings in 15-week semester terms.

This research session aims to present results of our empirical research on engagement and student perception of learning for one section of a base course in the Bradley Department of Electrical and Computer Engineering (ECE) [1]-[3]. A base course is a required course for all students majoring in electrical engineering and computer engineering, and eight base courses are required to be passed with a grade of C or higher. This research session discusses the Signals and Systems base course (ECE2714), which is a sophomore-level course and is typically taken in the sophomore and junior years. Empirical results of eight most recent offerings (each semester since Spring 2021 in COVID) will be discussed with a quantitative and qualitative comparison of the results with results obtained in a 6-week summer term (Summer 2024). The 6-week summer term is taught each day of the week (Monday through Friday, excluding federal holidays) and has the same number of assignments (Active Reading Worksheets, Engagement Questions, Quizzes, Laboratories, Exams) as the 15-week terms.

To increase engagement, this section includes activities to appeal to Virginia Tech students enrolled in the course. Assignment problems (quizzes, exams) are mapped to the institution course learning objectives. In-class activities remove obstacles to learning and encourage student camaraderie. Weekly out-of-class quizzes encourage students to create original technical podcasts. The instructor sends email to students who miss class to demonstrate the care of the course success team. A meme competition and a song competition are fun activities. The instructor brings breakfast bars to each class. The instructor brings to each class a roller bag

"office-in-a-suitcase" with various items (small plastic white boards, pointers, laptop, iPad, white board markers, tent cards for student names, Prize day prizes and stickers, Group numbers, magnets, prism, laser pointer, et cetera).

Changes introduced in the 6-week Summer term to increase engagement included instructor office hours before class (0.25 hours per day), daily instructor recitation sessions immediately after class (2 hours per day), daily instructor office hours immediately after recitation sessions (1.75 hours per day), and daily evening undergraduate teaching assistant office hours (1 hour on Mondays, Wednesdays, and Friday evenings; 2 hours on Tuesdays and Thursday evenings). In total, students were offered 5 extra hours of help on Mondays, Wednesdays, and 6 extra hours of help on Tuesdays and Thursdays. This was a total of 27 extra hours of help per week.

Results of student perception of learning in the 15-week terms and 6-week summer term will be discussed using the SPOT survey quantitative results and qualitative results. Quantitative results are measured by two ECE department metrics, the Concurrence score and the Mean Opinion Score (MOS). Qualitative results are the student comments that are provided optionally when students submit the SPOT survey.

Through this empirical research we aim to continue to improve the offerings of the Signals and Systems course.

References

Michael Buehrer, Ahmad Safaai-Jazi, Nektaria Tryfona, Jianqiang Zhang, Luke Lester, Max Mikel-Stites, Kenneth Reid, "Strategies to Develop an Online/Hybrid Signals and Systems Course," 2023 American Society of Engineering Education, Baltimore, MD. June 25-28, 2023. Paper ID# 36694.

Michael Buehrer, Ahmad Safaai-Jazi, Nektaria Tryfona, Jianqiang Zhang, Luke Lester, Kenneth Reid, Muhammed Dawood, "Further strategies to Develop an Online/Hybrid Signals and Systems Course," 2024 American Society of Engineering Education, Portland, OR. June 23-26, 2024. Paper ID# 41151.

Michael Buehrer, Ahmad Safaai-Jazi, Nektaria Tryfona, Jianqiang Zhang, Luke Lester, Kenneth Reid, Muhammed Dawood, "Interactions with Undergraduate Academic and Career Advisors in a Signals and Systems Course," 2024 American Society of Engineering Education, Portland, OR. June 23-26, 2024. Paper ID# 41152.

Enhance Your Course: Applying PDSA for Effective Course Improvement and Skill Development

Eric Kaufman, Donna Westfall-Rudd*, Virginia Tech*

Abstract: This interactive practice session's objectives are to improve postsecondary courses by (1) providing a simple, effective improvement process tool— Plan, Do, Study, Act (PDSA) model; (2) reviewing PDSA examples that integrate employability skills; and (3) implementing the PDSA model. Participants can apply the PDSA process with their own courses. Interactive activities include (1) reviewing examples done by other educators, (2) sharing ideas on how to blend employability skills into existing courses, and (3) beginning a draft of the first steps of an actual PDSA plan.

A recent text, Higher Education in a Changing World, examines the historical, present-day, and projected challenges facing higher education; authors and editors challenge leaders to enact significant changes in

institutions to meet contemporary social needs and expectations, including support for diverse student populations and preparation for contemporary careers (2023). Regarding career preparation, Auger (2019) made an important observation: "Some skills are more lasting. Skills like leadership, collaboration, communication" (para 4). These employability skills are of critical importance to the American workforce (Crawford & Fink, 2020), and research suggests they are "more difficult to train for" (D2L, 2019, p. 4). Educators must find ways to incorporate employability skills into classes so that teaching and learning can meet the needs of all students seeking opportunities for career success.

To support the efforts of educators to embrace the future of learning through purposeful improvements to college courses, our practice session introduces the Plan, Do, Study, Act (PDSA) model for improvement (Langley et al., 2009). It is a strategy to pilot, evaluate, and implement course changes. PDSA provides a cyclical process based on the scientific method to support data-driven continuous quality improvement. It also provides a strategy for post-secondary teachers to improve the scholarship of teaching and learning. This session plan is one of the outcomes of a collaboration between a four-year program, a two-year technical program, and a group of community colleges.

The practice session objectives are to improve postsecondary courses by (1) providing a simple, effective improvement process tool—PDSA, (2) reviewing PDSA examples that integrate employability skills, and (3) implementing the PDSA model. Participants can apply the PDSA process to their courses. Interactive activities include (1) reviewing examples done by other educators, (2) sharing ideas on how to blend employability skills into existing courses, and (3) beginning a draft of the first steps of an actual PDSA plan.

References

(2019, May 6). Soft skills — not technical ones — should be the focus of upskilling initiatives. Training Industry. https://trainingindustry.com/blog/workforce- development/soft-skills-not-technical-ones-should-be-the-focus-of-upskilling-initiatives/

(2020). Employability skills and Students' critical growth areas. NACTA Journal, 64, 132-141.

(2019). The future of skills: In the age of the 4th industrial revolution. https://www.d2l.com/future-of-work/

J., Moen, R. D., Nolan, K. M., Nolan, T. W., Norman, C. L., & Provost, L. P. (2009). The improvement guide: A practical approach to enhancing organizational performance (2nd ed.). Jossey-Bass.

(Eds.). (2023). Higher Education in a Changing World. Fielding Graduate University.

Enhancing College Classroom Instruction through Science of Reading Principles

J. Michael King*, University of Pikeville*
, Patton College of Education

Abstract: This session aims to explore the integration of Science of Reading principles into college classroom instruction to improve reading comprehension and overall student learning outcomes. Drawing upon the growing body of research on effective reading instruction, this presentation will provide an overview of key science of reading principles and their application in higher education settings. Attendees will gain valuable insights into evidence-based strategies that promote deep reading comprehension, enhance critical thinking skills, and foster academic success among college students.

This presentation explores how integrating Science of Reading (SoR) principles into college-level instruction can enhance reading comprehension and overall student learning outcomes. By focusing on the application of research-backed strategies in higher education, participants will gain practical tools and insights for fostering academic success among their students.

We will begin by delving into the fundamental principles of the Science of Reading, emphasizing their relevance in the college classroom. As we unpack these principles, the discussion will naturally lead to the sharing of evidence-based strategies that instructors across various disciplines can implement. These strategies are not only designed to improve reading comprehension but also to enhance critical thinking skills, offering a well-rounded approach to student development.

As we progress, we will examine the potential benefits and challenges that come with incorporating SoR principles into higher education settings. While these principles hold great promise for improving student engagement and academic performance, they also present certain challenges. For instance, resistance to change, time constraints, and the need for ongoing professional development are real considerations that educators must navigate. By acknowledging these challenges, we can better equip ourselves to overcome them.

Throughout the session, the emphasis will be on interaction and collaboration. Rather than a traditional lecture format, this session will foster a dialogue among participants. Guided discussions and short group activities will create opportunities for attendees to share their own experiences, ask questions, and offer insights. This approach not only enriches the learning experience but also facilitates the practical application of the SoR principles discussed.

As we wrap up, participants will leave with several key takeaways. They will be encouraged to continue exploring and collaborating on the integration of Science of Reading principles in higher education. Moreover, they will feel empowered with the knowledge and tools necessary to enhance their reading instruction practices, ultimately improving student outcomes. Attendees will also gain access to a range of resources and strategies to help students develop strong reading skills, improve comprehension, and achieve success across various academic disciplines.

This presentation aims to provide a comprehensive foundation for educators who are either beginning or deepening their exploration of the Science of Reading. By the end of our time together, participants will be well-equipped to apply these principles effectively, leading to more impactful teaching and learning experiences in their college classrooms.

Enhancing Undergraduates' Skills in Writing and Interpreting Results Using ChatGPT

Eman Amer, *Viginia Tech*

Abstract: Communicating and interpreting the results of a research study is essential among research communities. However, college students often need help in writing, interpreting, and communicating findings effectively. Traditional teaching methods, which require reading research methods books/journals and reflecting on these readings, are insufficient for equipping students with the skills needed to develop research skills proficiency. This study explores the effects of GenAI tools on college students in a research methods course, mainly writing and interpreting findings in a research study.

To explore the effects of GenAI tools on college students' skills in a research methods course, I will pose these research questions:

How effective is ChatGPT in improving undergraduate students' skills in writing statistical tests (e.g., Paired t-test)?
How does ChatGPT enhance undergraduate students' skills in interpreting the findings of a statistical test (e.g., Paired t-test) in a research study?

The study will recruit approximately 200 undergraduate students from a public university. I will administer pre-and post-tests to measure students' skills in writing and interpreting results before and after using ChatGPT using a rubric designed by the researcher. The study will run through a semester, and the students will learn various statistical tests such as Pearson, t-tests, and regression.
This research hopefully will provide empirical evidence of GenAI's effectiveness in helping students learn to write and interpret statistical tests. It will broaden our understanding of how GenAI can be applied in educational settings, offer valuable insights for educators, researchers, and policymakers, and inform future educational practices.
In this roundtable discussion, I will demonstrate how to incorporate ChatGPT into the research course and help college students write and interpret a research study's results/findings section. I will present a few research results scenarios and invite the attendees to write and interpret them. Then, we will repeat the process with ChatGPT. Also, we will discuss the effectiveness of this tool and how we can apply it in the classroom.

Enhancing employability through SDT-inspired internships: Fostering autonomy, competence, and connectedness in undergraduate psychology students

Oindrila Dutta*, University of Greenwich*

Abstract: This research addresses the disconnect between psychology education and post-graduation employability through a curriculum-integrated internship programme. Despite the growing number of psychology graduates, only about 6% become registered psychologists, and many struggle to find careers aligned with their academic background. This study explores the potential of internships, guided by Self-Determination Theory (SDT), to address this issue. Employing qualitative interviews with undergraduate psychology students before and after internship participation, data collection is currently ongoing and expected to be completed by February 2025. Preliminary findings suggest that well-structured internships can improve employability and align educational outcomes with career prospects.

INTRODUCTION

The mismatch between psychology education and post-graduate employability is evident from the fact that less than 6% of psychology graduates become registered psychologists, with many struggling to find jobs that align with their academic training, despite rising enrolment in psychology programmes [1]. This research aims to enhance undergraduate education by qualitatively exploring the usefulness of an employability-focused internship programme, grounded in Self-Determination Theory (SDT), on the career readiness of psychology students.

Underemployment among psychology graduates is well-documented. Only 27% of psychology graduates with bachelor's degrees secure jobs related to their field [2]. Graduates often feel underutilised in roles that do not leverage their educational background [3]. This disconnect between students' career aspirations and actual job

outcomes is evidenced by the fact that while 91% of psychology undergraduates aspire to work in mental health, only a fraction achieve this goal [1].

In the United Kingdom, undergraduate programmes accredited by the British Psychological Society (BPS) meet rigorous academic standards, however, they are focused on preparing students for postgraduate study rather than direct entry into the workforce [4,5]. This emphasis on further education leaves graduates who enter the workforce directly after their undergraduate studies at a disadvantage, lacking the practical skills and confidence necessary for a smooth transition into employment.

Self-Determination Theory (SDT) offers a framework for understanding student motivation and engagement, which are critical for successful learning and career preparation [6-8]. Specifically, SDT emphasises the importance of fulfilling three basic psychological needs: autonomy, competence, and relatedness; and in higher education, fostering these needs can enhance intrinsic motivation, academic performance, and career readiness. SDT-informed internship programmes can bridge the gap between theoretical knowledge and practical skills by offering real-world experience, thereby enhancing employability through the development of career-essential skills like teamwork, communication, and problem-solving [9].

METHODOLOGY

This qualitative research employs semi-structured interviews to explore psychology students' experiences with a newly designed internship programme. Approval was obtained from the university's ethics committee. Data collection involves pre- and post-internship interviews with students to capture their perceptions, experiences during the internship, and reflections on career readiness. Data collection and analysis are expected to be completed by February 2025.

The internship programme includes mentorship sessions, faculty interactions, and opportunities for students to engage with the community, such as presenting to visiting school students. The qualitative data will be transcribed verbatim and analysed thematically to identify recurring themes related to autonomy, competence, and relatedness [10].

OUTCOMES AND IMPLICATIONS

The research will provide insights into how well-structured internship programmes can enhance employability among psychology graduates. By focusing on the psychological needs of students, the study aims to show how internships can bridge the gap between academic training and professional practice. The findings are expected to advance the development of more effective educational strategies in psychology programs by highlighting the significance of experiential learning and employability skills. These outcomes are expected to inform evidence-based practices in psychology education, fostering a more inclusive and practical approach to preparing students for a variety of career paths.

References

Palmer W, Schlepper L, Hemmings N, Crellin N. The right track. Participation and progression in psychology career paths Nuffield Trust. 2021; 2021-2007.

American Psychological Association (APA). CWS Data Tool. In: Careers in Psychology [Internet]. 2024 [cited 15 Aug 2024]. Available: https://www.apa.org/workforce/data-tools/careers-psychology

Landrum RE, Harrold R. What employers want from psychology graduates. Teaching of Psychology. 2003;30: 131-133. Available: https://www.researchgate.net/profile/L-Epting/publication/285705167_Student_and_faculty_perceptions_of_effective_teaching_A_successful_replication/links/56b22f1308ae5ec4ed4b2c88/Student-and-faculty-perceptions-of-effective-teaching-A-successful-replication.pdf

Sanderson V, Harkry L, Pfeifer G. Why graduate outcome measures in psychology don't add up. In: The British Psychological Society (BPS) [Internet]. The British Psychological Society; 8 Sep 2022 [cited 15 Aug 2024]. Available: https://www.bps.org.uk/psychologist/why-graduate-outcome-measures-psychology-dont-add

The British Psychological Society (BPS). What is accreditation? 2024 [cited 15 Aug 2024]. Available: https://www.bps.org.uk/accreditation

Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist. 2000;55: 68-78. doi:10.1037/0003-066X.55.1.68

Ryan R, Deci EL. Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. Contemp Educ Psychol. 2020;61: 101860. doi:10.1016/j.cedpsych.2020.101860

Niemiec CP, Ryan RM. Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. Educ Res Eval. 2009;7: 133-144. doi:10.1177/1477878509104318

Gault J, Leach E, Duey M. Effects of business internships on job marketability: the employers' perspective. Education+ Training. 2010;52: 76-88. Available: https://www.emerald.com/insight/content/doi/10.1108/00400911011017690/full/

Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3: 77-101. doi:10.1191/1478088706qp063oa

Enjoying the Future of Learning: The Practice of Pedagogy and Laughter

Terry Lindvall, *Virginia Wesleyan University*
Cary Joseph, Caroline Joseph, *Old Donation School*

Abstract: Beginning with a brief history of education and laughter, modeled after Horace's teaching strategy of utile and dolce, we propose in this session to briefly survey current research on laughter in the classroom. Then, we will introduce several interactive activities to help develop habits of humor to enhance a culture of happiness in the solemn classroom.

In 1511, Desiderius Erasmus of Rotterdam scribbled out In Praise of Folly, a lively satire on illiterate, bored, and lazy monks, who appear today as Middle School students. The Dutch polymath wanted to teach everyone, "the farmer, the tailor, the mason, the prostitute, the pimp, the traveler, and the Turk". His mouthpiece, Dame Folly, ascends a lectern dressed in motley with a fool's cap and addresses her class, "If you ask me why I appear before you in this strange costume be pleased to lend me your ears, and I'll tell you. But don't bring those ears that you carry to church, but give me the ones you use to attend to jugglers, fools, and buffoons".

Erasmus makes the personal pedagogical. He brings laughter into his classroom to awaken and quicken his students from sloth and stupidity. He did not let teachers escape his wit, warning that if you bring a philosopher to a party (or if you give a mouse a cookie), he will "either sit in gloomy silence or confound the company by turning the occasion into a doctor's oral examination. Ask him to a dance, and you'll get an idea of how a camel waltzes". Erasmus showers the students of folly not only with wisdom, but also with laughter. Beginning with a brief history of education and laughter, modeled after Horace's teaching strategy of utile and dolce, we propose in this session to briefly survey current research on laughter in the classroom. Then, we will introduce several interactive activities to help develop habits of humor to enhance a culture of happiness in the solemn classroom.

Colleague John Morreall demonstrated that humor in the classroom "can foster analytic, critical, and divergent thinking; catch and hold students' attention, increase retention of learned material, relieve stress, build rapport between teacher and students, build team spirit among classmates, smooth potentially rough interactions, promote risk taking, and get shy and slow students involved in activities." Laughter can also help with romantic attraction and with digestive challenges, but those issues require other sessions.

Over four decades of humor research points to the value of creating a culture of playfulness in educational settings. One old University professor and two young Middle School English teachers explored how scholarship might contribute to actual practice in inculcating students with the delight of learning. The three echo the lessons of educators from Erasmus to C. S. Lewis to praise folly in the pursuit of wisdom, seeking to energize and equip their charges to learn and become life-long learners who enjoy this calling.

Teachers do not need to be funny (Lord, help us), but rather, be open to the creative opportunities for the enjoyment of education. What this session aims to do is bring together resources for learning about laughter, activities that provoke laughter, and shared experiences on how to help each other in walking through the valleys of the shadows of drudgery and fatigue to find those moments of true refreshment, for our students and ourselves.

Enriching University Classrooms with Social and Emotional Support

Brittany Anderson, Shelia Sargent-Martin, Terene Stiltner, Darrell Thompson, *Bluefield State University*

Abstract: Social-emotional learning (SEL) is essential for holistic student development, fostering emotional intelligence, empathy, and effective communication. Research shows that SEL enhances academic performance, with students experiencing an increase of 11 percentile points in achievement from SEL interventions. This presentation explores the significance of SEL in higher education, emphasizing its benefits for both students and faculty. By integrating SEL into teaching practices, professors can create supportive environments that acknowledge diverse backgrounds and emotional challenges. Through interactive activities, participants will learn strategies to promote empathy and enhance student well-being, ultimately transforming the classroom experience and improving academic outcomes.

Social-emotional learning (SEL) is a critical component of holistic student development, promoting emotional intelligence, empathy, and effective communication. Research indicates that SEL significantly enhances academic performance, leading to improved outcomes (Collaborative for Academic, Social, and Emotional Learning, 2024).

A study by Durlak, Weissberg, Dymnicki, Taylor, and Schellinger (2011) found that students who participated in SEL interventions experienced an increase of 11 percentile points in academic achievement. Beyond

enhancing mental health and creating a positive campus climate, SEL also has lasting effects. Even years later, students involved in SEL demonstrated an average boost of 13 percentile points in achievement (Taylor, Oberle, Durlak, & Weissberg, 2017).

This presentation will explore the significance of SEL in higher education classrooms, highlighting its benefits for both students and faculty. Incorporating social and emotional support within an academic setting is essential. Many college students enter the classroom grappling with challenges that often remain unspoken (Pedrelli, Nyer, Yeung, Zulauf, & Wilens, 2015). Therefore, it is vital for professors to integrate social-emotional learning into their teaching practices. This approach cultivates a supportive environment and empowers students to navigate their emotional landscapes effectively.

A crucial first step in fostering a safe and inclusive atmosphere is acknowledging the diverse backgrounds and emotional challenges that students bring with them (Jagers, Rivas-Drake, & Borowski, 2018). By modeling social-emotional skills and demonstrating genuine empathy, professors can enhance their understanding of students' struggles and offer the necessary support for them to thrive.

Through an interactive activity, we aim to provide professors with strategies to recognize the significance of empathizing with diverse perspectives, ensuring that each student's social and emotional well-being is supported and nurtured. Incorporating SEL into the academic setting helps create a supportive environment where students can effectively manage their emotional landscapes and achieve their full potential. This session will delve into how integrating SEL into teaching practices can transform the classroom experience, enhance student well-being, and improve academic outcomes. Recent studies confirm that SEL enhances student learning. In the past few years, various SEL strategies have proven successful in fostering a more inclusive and supportive learning environment. During this presentation, we will cover a range of these strategies and discuss how they can be integrated into teaching practices to benefit students and faculty.

Throughout the session, we encourage active participation. We invite participants to share their experiences, discuss challenges, and explore strategies collaboratively. This approach will provide valuable insights into how SEL can be effectively implemented in classrooms. By embracing SEL, we can create more empathetic, supportive, and effective learning environments that empower all students to succeed.

References

(2024). What does the research say? https://casel.org/fundamentals-of-sel/what-does-the-research-say/

A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. Child development, 82(1), 405-432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting social and emotional learning in schools: A meta-analysis of school-based universal interventions. Child Development, 88(4), 1156-1171. https://doi.org/10.1111/cdev.12864

J., Rivas-Drake, D., & Borowski, T. (2018). Equity & social and emotional learning: A cultural analysis. Collaborative for Academic, Social, and Emotional Learning (CASEL). Retrieved from https://drc.casel.org/uploads/sites/3/2019/02/Equity-Social-and-Emotional-Learning-A-Cultural-Analysis.pdf

D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting Positive Youth Development Through School-Based Social and Emotional Learning Interventions: A Meta-Analysis of Follow-Up Effects. Child development, 88(4), 1156-1171. https://doi.org/10.1111/cdev.12864

(2015). College Students: Mental Health Problems and Treatment Considerations. Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry, 39(5), 503-511. https://doi.org/10.1007/s40596-014-0205-9

Ethical Advocacy Against Classroom Surveillance: ACLU and the ACM Code

Lonnie Bowe*, Concord University*

Abstract: The installation of surveillance cameras in college classrooms is often justified by the need for safety, monitoring, and accountability. Modern cameras feature facial recognition and audio processing along with standard video capabilities. This poster explores the ethical implications of classroom surveillance through the lens of the ACLU and ACM Code of Ethics. By integrating ethical guidelines with evidence-based research, this poster discusses how surveillance can create a restrictive and uncomfortable environment for students that infringes on academic freedom, privacy, and trust. The poster also discusses ethical and practical considerations and offers suggestions for advocating against such practices.

The installation of surveillance cameras in college classrooms is often justified by the need for safety, monitoring, and accountability. However, this practice may have unintended consequences that undermine the core values of higher education.

While some institutions view surveillance systems as beneficial for security and productivity (Recososa, 2021), concerns arise regarding privacy and power dynamics. The concept of "dataveillance" highlights how educational technologies can enhance institutional disciplinary power (Banville & Sugg, 2021). Studies in Iran show that students perceive differences between camera-equipped and non-equipped classrooms (Shokri et al., 2023).

When campuses were closed or doing remote learning during COVID, many faculty had difficulty convincing students to turn on their cameras. Aside from anecdotal evidence, research has found that in online synchronous classes, students often exhibit camera shyness, influenced by social factors, curriculum characteristics, and personal factors (Sun et al., 2023). This reluctance to use cameras can lead to nervousness, worry, and distraction. It is not a stretch to believe students would have similar feelings about cameras in the classroom.

The implementation of surveillance technologies in educational settings raises questions about transparency, accountability, and the normalization of monitoring practices (Banville & Sugg, 2021). These findings underscore the complex relationship between technology, privacy, and education in modern classrooms. According to the ACLU (ACLU, 2023), surveillance can create an environment of distrust, inhibit open discussion, and compromise the privacy of both students and faculty. Moreover, it may lead to self-censorship, where students and educators feel constrained in their ability to explore controversial or innovative ideas.

Recently, my campus proposed installing surveillance cameras in all campus classrooms. As a computer scientist and member of the Association of Computing Machinery (ACM), I am bound to follow the ACM Code of Ethics. The Code of Ethics requires that members “give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks” as well as “foster public awareness

and understanding of computing, related technologies, and their consequences". This poster will include my experiences utilizing the ethical framework from the Code of Ethics and a research report from the ACLU to successfully advocate against surveillance cameras.
The poster will discuss faculty and student concerns, administrative arguments, and suggestions on policies that could be put into place to reduce the harms associated with surveillance cameras. The idea is to give faculty tools for discussing this issue with their administrations through an ethical lens.

References

https://www.acm.org/code-of-ethics

https://www.aclu.org/publications/digital-dystopia-the-danger-in-buying-what-the-edtech-surveillance-industry-is-selling

"Development and Usability Assessment of Classroom Surveillance System for Campus Security and Productivity." Psychology and Education Journal (2021): n. Pag.

and Jason Sugg. ""Dataveillance" in the Classroom: Advocating for Transparency and Accountability in College Classrooms." Proceedings of the 39th ACM International Conference on Design of Communication (2021): n. Pag.

"MONITORING, VIDEO AND AUDIO RECORDING CLASSROOMS BY CCTV CAMERAS: IRANIAN EFL STUDENTS' PERCEPTIONS." (2023).

"Surveillance or Safekeeping? How School Security Officer and Camera Presence Influence Students' Perceptions of Safety, Equity, and Support." The Journal of adolescent health : official publication of the Society for Adolescent Medicine 63 6 (2018): 732-738 .

"The Influence of the Presentation of Camera Surveillance on Cheating and Pro-Social Behavior." Frontiers in Psychology 9 (2018)

Ethics in Education: Perspectives, Practices, and Priorities

Kylee Shiekh, Qin Zhu, *Virginia Tech*

Abstract: Students learn many technical skills in school, but what about their moral values? How will they handle ethical challenges in the workplace? Join our roundtable on ethics education to discuss this crucial topic. While much research has explored ethics education goals, little focuses on instructors' perspectives or the alignment of teaching materials with those goals. There is no consensus on which ethical goals should be prioritized. This discussion aims to bridge the gap between ethics education researchers and instructors, aligning their goals and practices to better prepare students for ethical decision-making in their careers.

Throughout their degrees, instructors instill a variety of technical and professional skills in students. Many instructors are also trying to teach students the professional and social responsibilities they'll have post-graduation (Martin & Conlin, 2023). Ethics education studies the decisions, policies, and values that are morally desirable in technical practice and research and how to develop morally desirable professionals. There

are a variety of ways that instructors may go about ethics education, but they do so with little guidance. This leads to one of the main challenges they experience, limited research guiding the design and use of ethics education teaching materials (Martin et al., 2021). There is currently no consensus on which of various strategies are most effective towards the goals of ethics education. Which goals should even be prioritized is also unclear (Hess and Fore 2018).

While trying to assess whether students are ready for the professional world, their ethics education must also be assessed. An instructor's teaching approach affects assessment, and "given the variations in teaching applied ethics, one must be clear about the goals of teaching, and the real opportunities for assessment."(Goldin et al., 2015, p. 790).

To make progress on aligning goals and practices, first we aim to understand the goals of faculty members. While engineering ethics education scholars have compiled a set of 12 major goals, it is yet unclear how prevalent each learning goal is in the classroom and whether the goals of scholars align with faculty (Martin et al., 2021). We aim to open discussion to faculty at Virginia Tech to better understand the perspectives of faculty. Our discussion starts with the definition question: What ethics education content areas are important to faculty? We review major content areas discussed in ethics education literature and invite participants to share their own conceptions of ethics education and how it relates to student preparation.

Our next question is pedagogy: How can we best design the teaching and learning of ethics education to suit these content areas? There is a gap in the literature here, and the discussion from participants will be helpful to direct future engagement in this topic. Given the direction from participants, we aim to further study how these pedagogical methods can be applied and their effectiveness regarding the goals faculty indicate are most important to them. We invite participants to continue engaging with ethics education after the roundtable, and work with the organizers to further implement ethics education in their classrooms.

From the round table, participants will gain a greater understanding of ethics education, what aspects they value most, and how to bring ethics education to their classrooms or improve already implemented ethics interventions. In the long term, participants are invited to continue working with the roundtable organizers to further study ethics education and its impact on their classrooms.

References

M., Pinkus, R. L., & Ashley, K. (2015). Validity and Reliability of an Instrument for Assessing Case Analyses in Bioengineering Ethics Education. Science and Engineering Ethics, 21(3), 789-807. https://doi.org/10.1007/s11948-015-9644-2

L., & Fore, G. (2018). A Systematic Literature Review of US Engineering Ethics Interventions. Science and Engineering Ethics, 24(2), 551-583. https://doi.org/10.1007/s11948-017-9910-6

A., & Conlon, E. (2023). What Is Engineering Ethics Education? Exploring How the Education of Ethics Is Defined by Engineering Instructors. In A. Fritzsche & A. Santa-María (Eds.), Rethinking Technology and Engineering: Dialogues Across Disciplines and Geographies (pp. 263-282). Springer International Publishing. https://doi.org/10.1007/978-3-031-25233-4_20

A., Conlon, E., & Bowe, B. (2021). A Multi-level Review of Engineering Ethics Education: Towards a Socio-technical Orientation of Engineering Education for Ethics. Science and Engineering Ethics, 27(5), 60. https://doi.org/10.1007/s11948-021-00333-6

Evaluating Faculty Engineering Arts Student Teams (FEAST)

John Granzow, Deb Mexicotte, *University of Michigan*

Abstract: FEAST is a credit-bearing interdisciplinary research program for student teams at the University of Michigan. This initiative advances faculty projects and offers cutting-edge research experiences for students. In this roundtable discussion will address findings from a recent program evaluation and seek insights from participants' experiences with similar initiatives, including overcoming curricular inertia and finding creative solutions to disciplinary silos.

Intensive curriculums often leave little room for students to explore perspectives from outside their primary field of study. Consequently, they may struggle to eventually engage with complex, interdisciplinary problems of the kind they will likely encounter in their future careers (Creso, 2008; Pohl, 2011; Porter 2021; Ramachandran, 2022; Snow, 2001).

The compartmentalization of knowledge into disciplinary silos is known to be misaligned with the interdisciplinary demands of contemporary global challenges. There have been longstanding appeals for greater collaboration across different schools and colleges within research universities. The acknowledgement of this need for interdisciplinary work can be traced back to the post-war era, with early support from organizations such as the National Science Foundation and the Carnegie Foundation. Many universities have since instituted programs that encourage collaboration across disciplines to address complex problems and foster innovative research and creative practices.

ArtsEngine at the University of Michigan is an organization whose mandate is to foster such collaborative efforts. A notable initiative under ArtsEngine is the Faculty Engineering/Arts Student Teams (FEAST) which offers a two-semester research experience where students collaborate with faculty on projects necessitating expertise from multiple disciplines. Faculty leverage the diverse expertise of students across schools, while students engage in cutting-edge research with faculty and peers beyond their usual coursework. This interaction enriches their applied research experience and equips them to solve interdisciplinary problems—a skill increasingly vital for their career trajectories. By providing credit for participation, FEAST aims to create mutually beneficial opportunities for students and faculty. The ongoing participation of both students and faculty in FEAST underscores a sustained demand for interdisciplinary research teams.

In this roundtable discussion we will discuss our experience spearheading FEAST, and general strategies for integrating interdisciplinary work into the research university. We will share insights into the successes and challenges of incorporating FEAST into the curricula of our sponsoring schools. Additionally, we seek participants' expertise and feedback on the results of our recent program evaluation. The evaluation study involved roundtable discussions with participating faculty and students, resulting in several core recommendations:

- Space Allocation: Identifying and securing spaces for team collaboration and creation.
- Professional Development: Providing resources and information on team management skills.
- Faculty Recognition: Exploring options like course releases or other recognitions for faculty leading

FEAST teams.

- Administrative Support: Sustaining and expanding support for FEAST administrators.
- Recruitment and Outreach: Enhancing promotional efforts and using success stories in recruitment materials.
- Cascading Recruitment: Encouraging faculty and peer referrals to attract new participants.

References

(2011). What is progress in transdisciplinary research?. Futures. 43. 618-626.

D. (2021). Postformal learning for postnormal times. In R. Barnacle, & D. Cuthbert (Eds.), The PhD at the end of the world: Provocations for the doctorate and a future contested (pp. 67-81). Springer International Publishing.

(2022). Transdisciplinary and interdisciplinary programmes for collaborative graduate research training. Educational Review, 1-18.

(2008). Interdisciplinary Strategies in American Research Universities. Higher Education. 55. 537-552.

P. (2012). The two cultures. Cambridge University Press. (Original work published 1959)

Exploring Africana Pedagogies for the Future of Education

Anthony Kwame Harrison, P. Polanah, *Virginia Tech*

Abstract: Africana Studies contains a rich history of research and exploration of epistemologies and ontologies of Africa and Diasporas. This focus on the Africana experiences has fostered the development of pedagogical practices and themes rooted in experiential ranges, knowledge claims, and ways of organizing reality that diverge from the dominant paradigms in Western academia. As such, Africana methodologies for teaching and learning remain underrepresented in Western institutions of education. In this practice session, we showcase specific Africana didactic approaches to contend they have the potential to make significant contributions to future curricula and pedagogies in the humanities and social sciences.

During the late 1960s and early 1970s, Africana Studies programs emerged as a critical response to the pervasive dominance of Western European paradigms in higher education, with the aim of integrating knowledge systems that reflect the experiences and perspectives of people of African descent (Marable, 2000). Initially, these programs sought to challenge the Eurocentric ideas and images prevalent in academic curricula by offering alternative narratives that showcased Black excellence in disciplines within the humanities and social sciences. Over time, Africana Studies expanded its focus to address the structural and systemic causes of social inequalities, including the need for a more representative, thus richer, pedagogical landscape within academia. However, a crucial yet often overlooked aspect of Africana Studies scholarship and pedagogy, which predates the formal establishment of these programs in the post-Civil Rights Era, is its critique of the foundational knowledge systems of Western education itself. This critical perspective questions the epistemological assumptions and biases inherent in Western intellectual traditions, advocating for a more inclusive and diverse understanding of knowledge, but also learning and teaching, that transcends traditional academic boundaries (Robinson, 1983; Collins, 1990).

In this practice session, two faculty members in Africana Studies present their pedagogical visions, and share specific classroom learning and teaching approaches that are inspired by the search for empowering pedagogies within the field of Africana Studies (Kershaw, 2007; McClendon and Okello, 2021). The exercises and themes within these approaches are designed to enhance student engagement and learning by emphasizing principles and practices unique to the discipline. While concepts such as experiential learning, hands-on learning, and embodied understanding are increasingly recognized in higher education (Dewey, 1997; Kolb, 2014; Kosmas and Zaphiris, 2018), Africana Studies has long been dedicated to elevating and integrating knowledges central to Africana global experiences. Many such Africana-centered knowledges and knowledge claims have been subjected historically to consequential forms of disqualification, marginalization, criminalization, demonization, and outright banishment in favor of knowledge cannons carrying the authorizing signature of Westernity (Andrews and Khalema, 2023; Carroll, 2014). This Africana commitment to recovering and centering the experiences and perspectives of African-descended communities, we argue, offers a rich foundation for pedagogical practices that challenge and expand traditional academic frameworks. In his presentation, Dr. Harrison introduces several generative principles that he advocates for in his Black Aesthetics classes, including proverbial precepts (Appiah, Appiah, and Ageyman-Duah, 2000), antiphonal dialectics (Jones, 1963), sensorial relationalities (Miles, 2023), and raciolinguistic justice (Cushing, 2023). For his presentation, Dr. Polanah shares cultural themes relegated to the status of mythology, myth, legend, folklore, and therefore radically excluded from the boundaries of legitimate knowledges within Western academic centers, but which remain central to the histories of Africana epistemologies, ontologies, and cosmologies.

References

Decolonizing African Studies Pedagogies: Knowledge Production, Epistemic Imperialism and Black Agency. Cham, CH: Palgrave Macmillan.

(2000). Bu Me Be: Akan Proverbs. Accra, GH: The Center for Intellectual Renewal.

Teaching and Pedagogy in Africana Studies: Implications of an African Worldview. New York: CUNY Academic Works.

Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment. London: Routledge.

(2023). "Challenging Anti-Black Linguistic Racism in Schools Amidst the 'What Works' Agenda." Race Ethnicity and Education 26, no. 3: 257-276.

(1997). Experience and Education. New York: Free Press.

(1963). Blues People: The Negro Experience in White America and the Music That Developed from It. New York: Morrow Quill.

Aldridge and E. Lincoln James. Pullman, WA: Washington State University Press.

(2014). Experiential learning: Experience as the Source of Learning and Development. Upper Saddle River, NJ: FT Press.

(2018). “Embodied Cognition and its Implications in Education: An Overview of Recent Literature.” International Journal of Educational and Pedagogical Sciences 12, no. 7: 970-976.

(2000). “Black Studies and the Racial Mountain.” Souls: Critical Journal of Black Politics & Culture 2, no. 3: 17-36.

(2021). ""“This Ain’t Hypothetical”: Engaging Black Aesthetics from an Ethic of Care." Journal of Curriculum Theorizing 36, no. 2: 56-70.

2023. Vibe: The Sound and Feeling of Black Life in the American South. Jackson, MS: University Press of Mississippi.

(1983). Black Marxism: The Making of the Black Radical Tradition. London: Zed Press.

Exploring Instructors' Perceptions of Artificial Intelligence in Higher Education Teaching

Kailea Q. Manning, Katelyn R. Nelson, David T. Marshall*, Auburn University*

Abstract: Artificial Intelligence (AI) has revolutionized the future of learning in higher education, yet research on instructors’ perceptions of AI remains limited. This phenomenological study explores instructor attitudes towards AI in teaching at a large, public university, in the southeastern United States. Semi-structured interviews were analyzed using an a priori thematic analysis to understand how existing themes from the literature manifest in the current study’s qualitative results. Findings show cautious optimism for AI in teaching, echoing existing concerns about student dishonesty and over-reliance on AI. These insights aim to inform policy and improve strategies for effective AI integration in education.

Artificial Intelligence (AI) is not a new concept, but recent advancements in capability and accessibility have created a surge in popularity, transforming AI into an innovative disruption across various fields, including higher education. AI's integration into education, whether through student use for tutoring or brainstorming, or faculty use for lecture preparation and administrative tasks, underscores its pivotal role in shaping the future of learning. There is an emerging literature focused on faculty perceptions of using AI in research endeavors (e.g., Marshall & Naff, in press). Yet, despite an increased concerned about the role of AI in teaching, there is limited research on its implications. Instead, some studies focus on AI's impact in educational research settings rather than on teaching itself.

Existing research primarily focuses on faculty perceptions of AI through ethical considerations such as cheating, plagiarism, and privacy (Amani et al., 2023). Studies also highlight faculty concerns about how AI aligns with pedagogical frameworks (Popenici & Kerr, 2017; Zawacki-Richter et al., 2019). Additionally, the policies guiding AI use in educational institutions are often unclear and vary significantly across leadership positions, colleges, and even departments, leading to inconsistent use among instructors. Without a foundational understanding of AI, instructors' attitudes towards AI can vary dramatically, with some embracing it and others remaining uncertain. Given these polarized views, it is crucial to better understand higher education instructors’ comfort with and perceptions of AI.

The current study employed a qualitative design using a phenomenological framework to explore the influences on instructors’ attitudes toward implementing AI in teaching. Phenomenology is well-suited for

this research as it allows for an in-depth exploration of the personal meanings that instructors associate with AI integration (Bhattacharya, 2017). The study aims to understand how existing themes regarding faculty perceptions of AI manifest in this study's qualitative results.

A convenience sample of instructors from the College of Education at a large public university in the southeastern United States was obtained. Semi-structured interviews allowed participants to share their experiences with using AI in teaching. The transcribed interviews were analyzed thematically, using a set of a priori themes from the literature to identify evidence of these themes in the data. All analyses were conducted using ATLAS.ti version 24; AI coding was not used for this project.

Findings reveal cautious optimism for the use of AI in teaching, while also echoing existing research findings as faculty discuss ethical concerns related to student dishonesty and over-reliance on AI. This study represents a first step in a line of work aimed at understanding how these emerging tools are being used and perceived by faculty. At a foundational level, this exploratory study may offer valuable insights on instructor's experiences with AI in their teaching, which could inform future research. Implications for training programs and policy initiatives to assist faculty in effectively integrating AI tools into their teaching practices are shared.

References

K. J., Brumbelow, D. K., & Watson, D. K. L. (2023). Generative AI perceptions: A survey to measure the perceptions of faculty, staff, and students on generative AI tools in academia. arXiv:2304.14415. https://doi.org/10.48550/arXiv.2304.14415

(2017). Fundamentals of qualitative research: A practical guide (1st ed.). Routledge. https://doi.org/10.4324/9781315231747

T., & Naff, D. B. (in press). The ethics of using artificial intelligence in qualitative research. Journal of Empirical Research on Human Research Ethics. https://doi.org/10.1177/15562646241262659

A., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. Research and practice in technology enhanced learning, 12(1), 22.

https://doi.org/10.1186/s41039-017-0062-8

I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education-where are the educators?. International Journal of Educational Technology in Higher Education, 16(1), 1-27.

https://doi.org/10.1186/s41239-019-0171-0

Exploring Student Perceptions of the Use of Podcasting as a Reflective Medium in an Online, Asynchronous Leadership Studies Capstone Course

Austin Council, Carolyn McGraw*, Agricultural*

Abstract: One area often overlooked in education is assessment, particularly in capstone courses or projects. While many capstone approaches exist for in-person learners, gaps exist among online contexts. Beyond e-portfolios, there appears to be a lack of diverse ways

students can meaningfully reflect on their coursework and bridge those experiences to post-college life. The pandemic saw podcasting rise in popularity as a creative medium for expression, however, scare information exists about how its effectiveness in a capstone context. The current project seeks to address this gap by showcasing data from a mixed-methods study in an online, asynchronous leadership capstone course.

As the field of leadership education continues to evolve in a post-COVID and increasingly online world, educators must pivot from more traditional, “tried and true” pedagogical techniques and build bridges to explore uncharted territory with newer, digitally connected generations. Within this shift, one area of leadership education that needs attention is assessment, particularly in summative projects such as capstone experiences, which are listed as "High Impact Practices" by the American Association of Colleges and Universities (n.d.). In recent years, an increase in the number of online academic programs has caused many colleges and universities to re-think their existing in-person capstone courses and experiences (Arthur & Calvert, 2015), which raises the question of what the effective facilitation of an authentic online capstone experience looks like (Devine et al., 2020).

While e-portfolios have gained traction among leadership education circles (Goertzen et al., 2016), opportunities remain to explore diverse ways for students to reflect on their academic experiences and bridge those with future career goals. In their book Podcasting: The Audio Media Revolution authors Spinelli and Dann (2019) conclude that podcasting as a creative medium has exploded in recent memory "moving out" of its obscure subculture "into an international cultural mainstream” (p. 1). While some research exists regarding the curricular benefits of podcasting in leadership education (Bletscher & Council, 2022; Guthrie, 2009; Norsworthy & Herndon, 2020) there appears to be scarce knowledge of how this form of creative expression translates into capstone experiences, particularly in online environments.

The current research project seeks to bridge this gap by presenting early data and analysis from three semesters (spring 2023, fall 2023 & spring 2024) of an online, asynchronous capstone course where podcasting was used as the primary medium for assessment. A survey containing both quantitative and qualitative items was sent to undergraduate students (n=63) enrolled in the course who were in their final semester as an extra credit assignment . A convenient sample size of n=43 students (68% response rate) responded to the survey.

A convergent parallel mixed-methods design was used to analyze the data. Each quantitative item in the survey had a space for students to explain their answers and both strands of data were analyzed independently. Quantitative data were reported via frequency counts, whereas emergent qualitative themes were reported based on the in vivo coding technique. The quantitative analysis revealed that a majority of students perceived podcasting as a beneficial tool for reflecting on their collegiate leadership experiences compared to more traditional forms of reflection. Additionally, qualitative thematic analysis indicated that students perceive podcasting to (1) assist with their ability to verbally process learning outcomes, (2) serve as a form of authentic self-expression, and (3) exist as a unique and enjoyable form of assignment submission and assessment.

As such, educators are encouraged to explore implementing podcasting as a reflective aspect of their capstone course. Key practitioner recommendations include (1) being intentional with podcasting prompts, (2) providing students with adequate structure and scaffolding, (3) giving students a variety of recording and hosting options, and (4) promoting student collaboration.

References

& Newton-Calvert, Z. (2015). Onliine community-based learning as the practice of freedom: the online capstone experience at Portland State University. Metropolitan Universities Journal, 26 (3), 135-158.

and Council, A. (2022), "THE POWER OF THE MICROPHONE: Podcasting as an effective instructional tool for leadership education", Journal of Leadership Education, Vol. 21 No. 4, pp. 1-23. https://doi.org/10.12806/V21/I4/A1

L., Bourgault, K. S., & Schwartz, R. N. (2020). Using the online capstone experience to support authentic learning. TechTrends, 64, 606-615. https://doi.org/10.1007/s11528-020-00516-1

(2009), "Situated Technology as Student Tool for Leadership Instruction", Journal of Leadership Education, Vol. 8 No. 1, pp. 130-136. https://doi.org/10.12806/V8/I1/AB3

and Klaus, K. (2016), "Electronic Portfolios as Capstone Experiences in a Graduate Program in Organizational Leadership", Journal of Leadership Education, Vol. 15 No. 3, pp. 42-52. https://doi.org/10.12806/V15/I3/A5

and Herndon, K. (2020), "LEADING BY EAR: Podcasting as an Educational Leadership Tool", Journal of Leadership Education, Vol. 19 No. 3, pp. 61-68. https://doi.org/10.12806/V19/I3/A1

(2019). Podcasting: The audio media revolution. Bloomsbury Publishing USA.

Exploring the Impact of Personal Finance Education on Undergraduate Students

Oscar Solis, *West Texas A&M University*
Guopeng Cheng, *Virginia Tech*

Abstract: Personal finance instructors have the opportunity to design innovative methods to teach undergraduate students the principles of financial knowledge which increase financial awareness and ability among students and meet the growing demand for such courses. The purpose of this study is to explore and evaluate students' financial and budgeting behavior. The expected findings will help financial educators and researchers to design more effective workshops, trainings, and courses which can increase financial literacy among students.

Undergraduate college students in America routinely exhibit a lack of financial knowledge, particularly about the long-term implications of the educational loan debt and credit card debt that they are increasingly carrying. Given the trends toward accumulating more debt, the financial behaviors of students at American colleges and universities are a topic of increasing importance for the financial well-being of not just the individual American household but also the American economy.

The purpose of this study is to evaluate the budgeting and financial behaviors of undergraduate students enrolled in personal finance courses and to evaluate the influence of interactive budgeting assignments on students' financial behavior. This study will collect data from undergraduate students in semester-long personal finance courses at a Midwestern and Mid-Atlantic public university. Students are asked to fill out a pre-test and post-test survey on the budgeting behavior scale, financial knowledge scale, and financial behavior questions. In addition, students will complete two personal budget assignments. The first budget assignment asks them to fill in their projected income and expenses for the month of October on a given Excel worksheet. The second budget assignment asks them to fill in their actual income and expenses on the same

worksheet at the end of October.

Findings of this study including the results of statistical analysis will be shared at the conference. With the findings of this study, the researcher can partner with other entities on campus to design workshops, trainings, and interventions that can increase financial literacy among college students to help reduce overall student debt. Second, students that complete this study will become more aware of their own levels of financial literacy and their own financial behaviors. Third, the research community will benefit because the work will extend prior research studies by investigating budgeting behaviors and financial behaviors in the post-COVID-19 environment.

Extending Learning Potential with XR: Putting Theory into Practice

Henry Aberle*, Virginia Tech*
, Carnegie Mellon University

Abstract: While extended reality (XR) technology has become a hot topic amongst educators, scholarly work that frames the technology within the context of existing learning theory and offers guidelines for implementing the technology in the classroom is scarce. In the first half of this practice session, participants will learn how XR technology engages sociocognitive processes and see how students in an intermediate level Japanese course improved their fluency in a VR setting. In the second half, participants will have the opportunity to either step into the virtual landscape and engage in role-play activities or workshop their own XR ideas.

This proposed practice session will tackle the wild west of extended reality technology in the classroom. With the release of Apple Vision Pro and the recent announcement by Meta of a forthcoming educational initiative to get Quest headsets into classrooms, extended reality (XR) technology has become a hot topic amongst educators. Although the technology shows promise for extending the classroom beyond its four walls and the confines of textbooks, there is a need for scholarly work that frames XR within the context of existing learning theory, and develops new theories of learning and pedagogical guidelines.

In the first half of this practice session, the presenter will (1) briefly synthesize findings from XR research in the field of applied linguistics and second language acquisition, (2) explain how XR engages sociocognitive processes that promote "deep" learning. and (3) share insights from a pilot study conducted with undergraduate students in an intermediate level Japanese course. This study investigated differences in students' oral proficiency based on environment and provides preliminary evidence that topic-relevant virtual spaces improve word recall and increase fluency. The presenter will end the first half of the session by sharing practical recommendations for implementing XR in the classroom.

In the second half, participants will have the opportunity to either visit the worlds discussed in the first half of the talk and engage in role-play activities or workshop their own XR ideas in small groups. Those who choose not to use immersive VR will be able to view what other participants are doing in the virtual world via the main screen and can access the virtual world in a less immersive manner by using their laptops. The presenter will move around the room to speak with participants to hear their ideas and address questions.

References

V. (2012). Sensescapes: or a Paradigm Shift from Words and Images to All Human Senses in Creating Feelings of Home in Landscapes. Proceedings of the Latvia University of Agriculture: Landscape Architecture & Art, 1(1).

M., Karimi, H., & Sañosa, D. J. (2022). Traveling by Headset: Immersive VR for Language Learning. CALICO Journal, 39(2).

& Lin, L. A Systematic Review of Research on High-Immersion Virtual Reality for Language Learning. TechTrends 66, 810-824 (2022). https://doi.org/10.1007/s11528-022-00717-w

J. (2022). Understanding the interaction between technology and the learner: The case of DLL. Bilingualism: Language and Cognition, 25(3), 402-405.

(in review). Immersive technologies in language program administration: Considerations, applications, and implications.

(2009). Doing being a foreign language learner in a classroom: Embodiment of cognitive states as social events. International Review of Applied Linguistics in Language Teaching, 47(1), 65-94.

(2015). The Development of Second Language Critical Thinking in a Virtual Language Learning Environment: A Process-Oriented Mixed-Method Study. CALICO Journal, 32(3), 528-553.

(2023). Sensescapes and what it means for language education. In Linguistic Landscapes in Language and Teacher Education: Multilingual Teaching and Learning Inside and Beyond the Classroom (pp. 243-258). Cham: Springer International Publishing.

W. (2019). Virtual landscapes. The Handbook of Informal Language Learning, 85-100.

(2022). The Impact of Virtual Reality on L2 French Learners' Language Anxiety and Oral Comprehensibility: An Exploratory Study. CALICO Journal, 39, 219-238. https://doi.org/10.1558/cj.42198

Finding the sweet spot: Exploring the connection between self-regulated learning and cognitive load theory

Ashley Bentley, Lana Becker, *East Tennessee State University*

Abstract: Self-regulated learning and cognitive load theory have individually provided the foundation for a number of studies. These theories are now being reexamined to explore potential connections. The possibility exists for a 'sweet spot' at the intersection of the theories when novice learners who often lack self-monitoring skills face complex content. Grounded in the literature related to cognitive load and self-regulated learning, this session will discuss the potential overlap between the concepts and provide practical ways in which faculty can modify their instruction to mitigate cognitive load while simultaneously providing students with diagnostic cues needed for more accurate self-monitoring of learning.

In the fields of educational and cognitive psychology, efforts continue to further understand how learning occurs. Various theories have emerged over the years, including self-regulated learning where the

responsibility of the learner in the learning process is emphasized. The ability to self-monitor or assess one's progress in meeting a learning goal is a critical component of self-regulated learning as this assessment drives future learning behaviors which impact academic performance (Zimmerman 1990). In contrast, cognitive load theory focuses on the role of the instructor who should consider cognitive load implications when designing classroom instruction. Cognitive load theory indicates instructors have the capability to help reduce the mental effort involved in complex tasks and thus minimizing the cognitive burden.

However, it has become evident that learning depends on both the efficacy of the instruction provided, as well as the learner's ability to self-monitor. The vast amount of research related to cognitive load theory and self-regulated learning has led to the exploration of whether connections exist between the two educational constructs. Although the search for connections between the theories is only in the exploratory phase, a possible intersection of the two theories seems to emerge when novice learners who lack adequate self-monitoring skills are confronted with difficult, complex material. Novice learners generally do not have the ability to recognize the complexity of content, overestimate what they have learned, and are unaware of their own incompetency (Caplan, Mortenson, and Lester 2018; Dunlosky and Rawson 2012). Given that self-regulated learning focuses on what the learner does to monitor and control their learning and cognitive load theory provides guidance on how instruction should be designed to mitigate cognitive load, the possibility exists to design instruction that contributes to the objectives of both theories: (1) learners become more accurate in self-monitoring and (2) learners' cognitive processing capability is not overloaded to allow for schema building and meaningful learning.

In this session, presenters will discuss the potential overlap between the concepts. Is there a 'sweet spot' at the interface of these two theories whereby both objectives can be met? Can good instructional design that uses an isolated elements approach to effectively limit intrinsic cognitive load also provide diagnostic cues that learners need to effectively monitor and control their learning? Using specific examples, the presenters will provide practical ways in which faculty can modify their instruction to mitigate cognitive load while simultaneously providing students with the tools needed for more accurate self-monitoring of learning. Although examples from the business discipline with be used to explain the concepts, participants will be engaged in activities which will allow them to relate the principles to their own classrooms and specific disciplines.

References

1990. Objectives of Education for Accountants: Position Statement No. 1. Sarasota, FL: American Accounting Association.

R. 2008. Cognitive load theory and the role of learner experience: An abbreviated review for educational practitioners. AACE Journal 16 (4): 425-439.

P. 1968. Educational Psychology: A Cognitive Way. New York, NY: Holt, Rinehart, and Winston.

Wijnia, A. de Bruin, F. Paas. 2020. The Relation Between Students' Effort and Monitoring Judgments During Learning: A Meta-analysis. Educ Psychol Rev 32, 979-1002.

1993. Perceived self-efficacy in cognitive development and functioning. Educational Psychologist 28: 117-148.

2002. Managing cognitive load: Recent trends in cognitive load theory.

Learning and Instruction 12(1): 139-146.

2013. Self-Regulated Learning Interventions in the Introductory Accounting Course: An Empirical Study. Issues in Accounting Education 28(3): 435-460.

Kalyuga, and J. Sweller. 2010. Interactions between the isolated-interactive elements effect and levels of learner expertise: Experimental evidence from an accountancy class. Instructional Science 38(3): 277-287.

Kalyuga, and J. Sweller. 2015. Using Cognitive Load Theory to Tailor Instruction to Levels of Accounting Students' Expertise. Educational Technology & Society 18 (4): 199-210.

F. and G. P. Schneider. 2018. Minimizing cognitive load in representing processes in a business process diagram: Capturing the process and making inferences about it. Issues in Accounting Education 33(10): 75-88.

G. Mortenson, and M. Lester. 2018. Can incentives mitigate student overconfidence at grade forecasts? Accounting Education 27(1): 27-47.

E., T. J. Fogarty, and W.A. Wallace. 2002. The association between the directional accuracy of self-efficacy and accounting course performance. Issues in Accounting Education 17(1): 1-26.

B. H., J. Roelle, S. K. Carpenter, and M. Baars. 2020. Synthesizing cognitive load and self-regulation theory: A theoretical framework and research agenda. Educational Psychology Review 32(4): 903-915.

B. and J. J. van Merriënboer. 2017. Bridging cognitive load and self-regulated learning research: A complementary approach to contemporary issues in educational research. Learning and Instruction 51: 1-9.

Badali, M. L. Rivers, and K.A. Rawson. 2020. The role of effort in understanding educational achievement: Objective effort as an explanatory construct versus effort as a student perception. Educational Psychology Review 32: 1163-1175.

and J. Metcalfe. 2009. Metacognition. Sage Publications, Inc.

and K. A. Rawson. 2012. Overconfidence produces underachievement: Inaccurate self evaluations undermine students' learning and retention. Learning and Instruction 22(4): 271-280.

L. Johnson, J. Ehrlinger, and J. Kruger. 2003. Why people fail to recognize their own incompetence. Current Directions in Psychological Science 12: 83-87.

1979. Metacognition and cognitive monitoring: A new area of cognitive developmental inquiry. American Psychologist 34: 906-911.

K. 2006. Applying an instructional learning efficiency model to determine the most efficient feedback for teaching introductory accounting. Global Perspectives on Accounting Education 3(1): 93-113.

K., J. E. Tuovinen, and A. A. Farley. 2005. Empirical Evidence on the Relative Efficiency of Worked Examples versus Problem-Solving Exercises in Accounting Principles Instruction. Issues in Accounting Education 20(1): 21-32.

and Heath D. 2007. Made to stick: Why some ideas survive and others die (1st ed.). New York, NY: Random House.

2016. Do accounting students believe in self-assessment? Accounting Education 25(4): 291-305.

P. and T. M. Loraas. 2021. A Potential Unintended Consequence of 'Big Data': Does Information Structure Lead to Suboptimal Auditor Judgment and Decision-Making? Accounting Horizons 35(3): 161-186.

and L. Fiorella. 2024. Metacognitive effects of instructional visuals: the role of cue use and judgment type. Metacognition Learning 19: 249-291

G. and E. Slayter. 2012. Impact of structure of early practice on student performance in transaction analysis. Issues in Accounting Education 27(1): 101-112.

2007. Expertise reversal effect and its implications for learner-tailored instruction. Educational Psychology Review 19: 509-539.

Ayres, P. Chandler, and J. Sweller. 2003. The expertise reversal effect. Educational Psychologis 38: 23-31.

1997. Monitoring one's own knowledge during study: A cue-utilization approach to judgments of learning. Journal of Experimental Psychology: General 126(4): 349-370.

and R. A. Bjork. 2005. Illusions of competence in monitoring one's knowledge during study. Journal of Experimental Psychology: Learning, Memory & Cognition 31: 187-94

and D. Dunning. 1999. Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. Journal of Personality and Social Psychology 77(6): 1121-1134.

Y. 1998. Teaching self-monitoring skills in statistics. In Self-regulated learning: From teaching to self-reflective practice, edited by D. H. Schunk and B. J. Zimmerman, 86-105. New York, NY: The Guilford Press.

Wang, W. He, Y. Chen. and Q. Wang. 2024. The effect of students' effort-reward imbalance on learning engagement: the mediating role of learned helplessness and the moderating role of social support. Frontier Psychology 15:1329664.

C. and J. B. Greenhouse. 2000. Applying Cognitive Theory to Statistics Instruction. The American Statistician 54(3): 196-206.

L. and C. E. Bolt-Lee. 2022. A neuroeducation and cognitive learning-based strategy to develop active learning pedagogies for accounting education. The Accounting Educators' Journal 32: 1-35.

1998. Cognitive optimism: self-deception or memory-based processing heuristics? Personality and Social Psychology Review 2(2): 100-110.

A. 1956. The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review 63(2): 81-97.

R. 2012. Cognitive load theory: What it is, why it's important for accounting instruction and research. Issues in Accounting Education 27(1): 227-245.

Bay, and S. Felton. 2013. The Impact of a Flexible Assessment System on Students' Motivation, Performance and Attitude. Accounting Education 22(2): 147-167.

2017. Are you making learning too easy? Effects of grouping accounting problems on students' learning. Issues in Accounting Education 32 (3): 81-93.

Alford, S. Guina. 2012. Illustrations in financial accounting textbooks: Function and placement interact to affect student learning. Issues in Accounting Education 27(4): 999-1017.

Y. and L. Heiser. 2011. A Field Experiment Examining the Effects of Accounting Equation Emphasis and Transaction Scope on Students Learning to Journalize. Issues in Accounting Education 26: 681-699.

Chandler, and J. Sweller. 2002. Assimilating complex information. Learning and Instruction 12: 61-86.

2022. The teaching hand in remote accounting education: Bringing mirror neurons into the debate. Accounting Education 31(5): 482-501.

P., T. R. Waymire, and T. D. West. 2012. Accounting Students' Metacognition: The Association of Performance, Calibration Error, and Mindset. Issues in Accounting Education 27(3): 707-732.

L. F. and R. B. Dull. 2009. Metacognition and Performance in the Accounting Classroom. Issues in Accounting Education 24(3): 339-367

2018. The interplay between self-regulation in learning and cognitive load. Educational Research Review 24: 116-129.

T. M., P. Chandler, I. Abeysekera, & F. Paas. 2017. Benefits of guided self-management of attention on learning accounting. Journal of Educational Psychology 109(2): 220-232.

A. 2001. Understanding self-regulated learning and its implications for accounting educators and researchers. Issues in Accounting Education 16(4): 663-700.

J. 2000. Exploring the relationship between calibration and self-regulated learning. Educational Psychology Review 12(4): 437-475.

2016. Working memory, long-term memory, and instructional design. Journal of Applied Research in Memory and Cognition 5: 360-367.

Ayres, and S. Kalyuga. 2011. Cognitive load theory. New York: Springer.

and P. Chandler. 1994. Why some material is difficult to learn. Cognition and Instruction 12 (3): 185-233.

and F. Paas. 2017. Should self-regulated learning be integrated with cognitive load theory? A commentary. Learning and Instruction 51: 85-89.

J. G van Merrienboer, and F. Paas. 1998. Cognitive Architecture and Instructional Design. Educational Psychology Review 10(3): 251-296.

J. G. and A. B. H. de Bruin. 2019. Cue-based facilitation of self-regulated learning: A discussion of multidisciplinary innovations and technologies. Computers in Human Behavior 100: 384-391.

J. G., P. A. Kirschner, and L. Kester. 2003. Taking the load off a learner's mind: Instructional design for complex learning. Educational psychologist 38 (1): 5-13.

J. G., and J. Sweller. 2005. Cognitive load theory and complex learning: Recent developments and future directions. Educational Psychology Review 17 (2): 147-177.

A., R. De Villiers, and N. van der Mewre. 2023. The impact of self-efficacy beliefs on first-year accounting students' performance: A South African perspective. Accounting Education 32(6): 646-669.

S. 1978. Mind in Society: The Development of Higher Psychological Processes. Cambridge, MA: Harvard University Press

and S. P. Lajoie. 2023. How does cognitive load interact with self-regulated learning? A dynamic and integrative model. Educational Psychology Review 35: 69.

2018. Visualising accounting concepts: Insights from cognitive load theory for English as a second language students. Accounting Education 27(6): 590-612.

J. 1986. Becoming a self-regulated learner: Which are the key subprocesses? Contemporary Educational Psychology 11: 307-313.

J. 1989. Models of self-regulated learning and academic achievement. In Self-Regulated Learning and Academic Achievement: Theory, Research, and Practice, edited by B. J. Zimmerman and D. H. Schunk, 1-28. New York, NY: Springer-Verlag.

J. 1990. Self-regulated learning and academic achievement: An overview. Educational Psychologist 25(10): 3-17.

J. 2000. Attaining self-regulation: A social cognitive perspective. In Handbook of self-regulation, edited by M. Boekaerts, P. R. Pintrich, and M. Zeidner, 13-39. San Diego, CA: Academic Press.

J. and M. Martinez-Pons. 1986. Development of a structured interview for assessing student use of self-regulated learning strategies. American Educational Research Journal 23: 614-628.

J. and A. S. Paulsen. 1995. Self-monitoring during collegiate studying: An invaluable tool for academic self-regulation. In Understanding self-regulated learning, edited by P.R. Pintrich, 13-28. San Francisco, CA: Jossey-Bass

Focusing Student Learning During Anatomy Laboratory Sessions: Five Big Takeaways

John McNamara, Michael Nolan, *Virginia Tech Carilion School of Medicine*

Abstract: In an environment characterized by limited time for teaching anatomy, in which cadaver dissection is retained, questions such as what content can be eliminated without ill effect on subsequent learning and how best to emphasize the importance of retained course material must be answered. We describe here an effort to highlight specific content to be considered during each laboratory session because of its clinical importance and as a framework and foundation for future learning. This method, referred to as the Five Big Takeaways, is presented to the class as a whole during the first five minutes of each laboratory session.

Introduction

Human anatomy is one of the foundational disciplines upon which the practice of medicine is founded. For over 150 years, students have been aided in their efforts to learn anatomy by means of dissection activities with human cadaveric material. A primary cognitive objective of cadaveric dissection has been to provide the student with an authentic, three-dimensional, visual and tactile experience of the human body. Additional benefits include an appreciation of anatomical variation in its many forms.

Over the past several decades curricular time dedicated to the basic medical sciences has been steadily decreasing. For anatomy, this reduction has come largely at the expense of dissection time, in part because of the time-consuming nature of this teaching approach and also the greatly reduced number of faculty competently trained and available to teach anatomy using cadaveric material. Questions such as what content areas and topics can be reduced in scope or eliminated and how best to increase efficiency in dissection tasks, are being asked and need to be addressed in a way that ensure student success at later points in the curriculum when knowledge of anatomy becomes critical.

In an effort to provide additional focus and emphasis on structures and relationships being dissected during each laboratory session, we developed a series of brief presentations referred to as the Five Big Takeaways, delivered at the beginning of each laboratory dissection session. Each takeaway focuses on a particular anatomical structure or relationship considered during that laboratory session that will be important at a later time when performing or interpreting findings elicited on the physical examination or in performing fundamental interventional procedures (e.g., aspirating fluid). The takeaways are intended to emphasize the sometimes, critical importance of anatomy in medical practice.

The Five Big Takeaways are presented during the first 5-6 minutes of each laboratory dissection session. They are not re-iterations of content scheduled for consideration during that particular laboratory session, but rather brief 1-2 minute explanations of the importance of particular anatomical structures and relationships in the evaluation and management of patient problems. Also, since they are not directly related to specific course objectives, they are not strictly tested on course examinations. Rather, they are intended to provide an anchor for durable learning and understanding of course objectives.

Results and Observations

Student comments elicited on the end of course evaluation are overall favorable. Students appreciated faculty efforts to make clear the importance of anatomy in the practice of medicine. Interactions occurring at the dissection table were often driven by student interest in further discussion of the takeaway material, and while these questions were typically raised by those in the group not directly involved in the dissection tasks (i.e., the reader and the researcher), all students in the group benefited by the discussions among the students and the

faculty. We are gratified by the student response to this new addition to our laboratory dissection sessions that adds clinical relevance to our preclinical anatomy course and intend to further develop this valuable learning activity.

Fostering Curiosity and Advancing Equity in the Higher Education Classroom

Lindsay Wheeler, Juliana Dawdy, *University of Virginia*

Abstract: This session will explore how fostering an equitable and curiosity-driven classroom can enhance student engagement and deepen learning. Drawing from a course blending chemistry, culture, and cooking, the session showcases strategies for creating an equitable environment that values diverse perspectives and encourages student-led learning. Attendees will engage in activities and discussions to apply these practices in their own teaching. The session emphasizes the "why" behind equity and curiosity, grounded in pedagogical literature and student experiences. Participants will leave with practical strategies for integrating curiosity and equity into their teaching.

This session is grounded in the principle that all students, regardless of their background, should have an equitable opportunity to succeed. Equity-minded teaching involves designing courses that emphasize relevance, rigor, transparency, belonging, and structure, while actively addressing historical inequities (Artze-Vega et al., 2023). Such an approach ensures that classrooms do not perpetuate existing disparities but instead foster equal access and opportunity for success. Central to this approach is the cultivation of a curiosity-driven learning atmosphere, which provides various pathways for students from diverse backgrounds to engage meaningfully with course concepts.

This session will draw on my design and implementation of Chemistry, Cooking, and Culture, which employed a variety of equity-focused, evidence-based strategies. These strategies included specifications grading, transparent assignment descriptions, students choice in engaging with materials (e.g., podcasts, readings, videos, and experiments), scaffolded collaborative learning, and inclusive and caring classroom environment. Additionally, students had flexibility in how they demonstrated their learning, with options for final project modalities that best aligned with their strengths and interests. Curiosity and relevance were central to the course, particularly through hands-on food exploration projects and culinary experiments that linked chemistry to cultural practices.

For example, Food Exploration Assignments were designed to foster curiosity by allowing students to explore a wide range of food-related topics. They were also grounded in equity-minded teaching as each assignment included a purpose, task, and criteria, and provided flexibility in how students engaged with and demonstrated their learning. For example, in "Pickle Parables", students investigated the chemistry of vinegar-based pickling while exploring the cultural contexts of pickling across various regions. This assignment allowed students to choose a pickled product that interested them, and they were encouraged to create a narrative that touched on both the chemistry and culture of their pickled product. One student wrote a story about "Gretchen the Immortal Gherkin Pickle Princess" that integrated the historical and geographical origins of pickles along with the chemistry of pickling in a creative and informative way.

The session will draw from course activities to engage participants and demonstrate how curiosity can be a foundation for equitable teaching. Participants will also participate in small-group discussions around food culture, modeling inclusive practices that embrace diverse experiences. I will also map key characteristics of equity-minded teaching (Artze-Vega et al., 2023) to specific strategies implemented in my course and provide participants time to reflect on their own courses and consider revisions that could bring in aspects of

curiosity-driven and equity-minded teaching. Participants will have leave with concrete strategies and plans for integrating curiosity and equity into their own teaching practices.

References

(2023). The Norton guide to equity-minded teaching. WW Norton.

From Pixels to Polyglots: Translanguaging meets Gamification

Saadia Ali, *Virginia Polytechnic Institute and State University*

Abstract: Let's explore how pixels transform into polyglots, and games become bridges to inclusive learning. In this research-based proposal, I embark on a journey that merges the art of play with the science of language education. The focus will be on Inclusive Translanguaging Teaching Strategies infused with gamification, get ready to level up your toolkit and empower your teaching practice.As pixels dissolve into polyglots, let's rewrite the narrative of language education. Together, we'll empower educators, celebrate diversity, and create spaces where learning thrives. Join us on this epic voyage—a fusion of serious play, translanguaging, and the promise of empowered teaching.

Introduction:

In this dynamic session, I will dive into the heart of Inclusive Translanguaging Teaching Strategies, infusing it with the magic of gamification. Our goal? To not only educate but also expand minds and equip attendees with practical tools for their professional toolkit. Let's celebrate authenticity, learn from real experiences, and explore the unique journey that awaits.

Session Highlights

1. Translanguaging Quests
• The Power of Multilingual Play: How translanguaging bridges gaps.
• Code-Switching Challenges: Turning language shifts into game mechanics.
• Unlocking Linguistic Repertoires: Valuing students' authentic voices.
2. Gamifying Language Learning
• Level Up: Applying game elements to language acquisition.
• Quest Design: Crafting engaging language tasks.
• Leaderboards and Rewards: Motivating learners through playful competition.
3. Stories of Triumph and Trials
• My Odyssey: Navigating the seas of translanguaging.
• Deck of Cards: A treasure trove for designing language activities.
• Collaborative Puzzles: Overcoming obstacles in open textbook projects. OTB

Empowering Attendees

• Playful Pedagogy: How games enhance language classrooms.
• Embracing Failure: Learning from setbacks.
• Building Bridges: Connecting learners through shared experiences.

Conclusion

Join me on this epic adventure—a fusion of serious play, translanguaging, and gamification. Let's empower educators to wield games as tools for transformation. As I navigate uncharted waters, I will emerge with practical strategies and hearts ablaze with passion for inclusive learning.

References

https://www.cuny-nysieb.org/wp-content/uploads/2016/04/Translanguaging-Guide-March-2013.pdf

Future Directions in Teaching Professional Ethics

Kim Becnel, Robin Moeller, *Appalachian State University*

Abstract: When a study we conducted to determine whether our library science students had mastered the profession's code of ethics revealed unexpected results, we started thinking deeply about what it means to learn a code of ethics as well as how best to teach it. At this session, we'll talk briefly about the study and the research and rethinking it inspired, but the focus will be on describing our new, multi-layered professional ethics project, which incorporates skits, student-led discussions, and the creation of multimodal personal ethics statements, and engaging the audience in a modified version of the activity followed by discussion.

Practice session outline:

1. Presentation of recent study/inspiration for a new assignment (5 minutes)
2. Presentation of pedagogical research into teaching ethics (5 minutes)
3. Presentation of new professional ethics project and student feedback (5 minutes)
4. Activity--Higher education scenarios handed out and groups create skits and a couple of discussion questions. (15 minutes)
5. Discussion--Have two or three groups perform their skits and ask a couple of questions. (15 minutes)

The bulk of this session will involve conference attendees engaging in a modified version of the professional ethics project. To put it into context, we will first present some context and research.

Library science faculty at Appalachian State University conducted a study over multiple years to determine whether students were learning and adopting the profession's code of ethics, specifically looking at issues of intellectual freedom. In this session, we will quickly highlight the main results of the study, in press now in the Journal of Education in Library and Information Science, illustrating unexpected and conflicting results.

In response, faculty crafted a new approach to teaching the code of ethics by drawing on research, which we will briefly summarize. Budd (2018) offers a helpful discussion of ethics in the field of library science through the lens of moral realism, highlighting the tensions at play in some of the profession's deepest held values Budd argues that professionals must create a shared moral reality by relying on objectivity, reflection and discussion to achieve "cogent moral and ethical decison-making and action" (65). Relying on similar theoretical frameworks, scholars from other fields have examined techniques for transitioning from simply teaching the content of a professional code to teaching students how they might draw on its precepts to think through a problem. This research demonstrates beneficial results associated with the incorporation of case-studies (Adams, Dollahite, & Gilbert, 2001), lessons in critical thinking (Hugman, 2005), role-play (Doorn N, Kroesen JO, 2013; Taplin, Singh, Kerr, & Lee, 2018), small and large group discussion, and the production of personal ethics statements (Driver & Hoffman 2022).

Next, we will present the new assignment, in which teams of students select a scenario and produce: a 2-4 minute skit dramatizing a critical moment in the chosen scenario; a presentation that identifies core ethical issues, examines the problem from multiple stakeholder perspectives, and presents and evaluates multiple

possible solutions; and finally, a set of questions for class discussion. After all of the groups have presented (over a period of weeks), students are asked to craft a multimodal statement of professional ethics, creatively expressing their personal understanding of and relationship with the profession's guiding principles. We will provide a brief account of student feedback on the activity.

Finally, we will divide the audience into teams and hand out higher education-based scenarios so that conference participants can see what it is like to develop a skit and guiding questions for discussion. Two or three groups will have the chance to share their skits and ask a couple of the questions they created to the whole group.

References

A., Dollahite, D. C., & Gilbert, K. R. (2001). The development and teaching of ethical principles and guidelines for family scientists. Family Relations, 50(1), 41-48. https://doi-org.proxy006.nclive.org/10.1111/j.1741-3729.2001.00041.x

M. (2018). Teaching Ethics: A Framework for Thought and Action. Journal of Education for Library & Information Science, 59(3), 53-66.

A., & O'Leary, C. (2015). Improving Ethical Attitudes or Simply Teaching Ethical Codes? The Reality of Accounting Ethics Education. Accounting Education, 24(4), 275-290. https://doi-org.proxy006.nclive.org/10.1080/09639284.2015.1036893

(2013). Using and developing role plays in teaching aimed at preparing for social responsibility. Sci Eng Ethics. 2013 Dec;19(4):1513-27. doi: 10.1007/s11948-011-9335-6.

J. (2022). Teaching Innovations in Principle-Based Ethics Education. Teaching Ethics, 22(2), 193-200. https://doi-org.proxy006.nclive.org/10.5840/tej202322122

(2005). Exploring the Paradox of Teaching Ethics for Social Work Practice. Social Work Education, 24(5), 535-545. https://doi-org.proxy006.nclive.org/10.1080/02615470500132772

(2018). The use of short role-plays for an ethics intervention in university auditing courses. Accounting Education, 27(4), 383-402. https://doi.org/10.1080/09639284.2018.1475244

Global Classrooms, Global Futures: Developing Faculty Intercultural Competencies for the Next Era of Higher Education

Candido Mukuni, Kamla Al Amri, Alicia Johnson, *Virginia Tech*

Abstract: As higher education embraces the future of learning, faculty will want to explore the development of intercultural competencies to navigate increasingly diverse and globalized classrooms. This practice session explores how emerging trends like (COIL) and cross-cultural research are reshaping intercultural dynamics in academia. Participants will engage in interactive activities to collectively build a list of strategies to enhance instructor's and TA's ability to teach diverse student populations and also prepare them for global professional interactions.

In the context of higher education's rapidly evolving landscape, intercultural competencies have become essential for faculty to effectively engage with diverse student populations and foster inclusive learning environments. This practice session addresses the conference theme "Embracing the Future of Learning" by focusing on how faculty can prepare for and shape the intercultural classrooms of tomorrow.

The session will explore key future trends in global education that impact intercultural competencies, with a particular focus on Collaborative Online International Learning (COIL) courses and cross-cultural research collaborations. These trends represent significant shifts in international education and intercultural learning, encouraging faculty to develop specific competencies in areas such as virtual collaboration, diverse research methodologies, and culturally sensitive use of emerging technologies.

Throughout the 45-minute session presenters will engage participants in discussions about current practices and future practices designed to enhance their intercultural knowledge from the experiences of others and prepare them for future educational challenges. The session will begin with a brief overview of how global trends and technology are reshaping intercultural dynamics in higher education. Participants will then explore key intercultural competencies essential for effective teaching in future higher education settings. This exploration will include discussions on:

- intercultural communication practices
- integrating intercultural competence development within the curriculum
- skills needed by faculty to enhance their intercultural competencies
- ways to enhance student intercultural competencies

The session will emphasize the importance of these skills in preparing students for global citizenship and addressing complex global challenges.

The perspective offered from presenters are from faculty and student perspectives.

The session will conclude with a reflection and future-ready action planning segment, where participants will create personalized development plans for enhancing their intercultural competencies. This will include strategies for embedding intercultural learning in various disciplines, considering emerging fields and technologies.

By participating in this session, faculty will gain valuable insights and practical skills for creating inclusive, adaptive learning environments that reflect our increasingly connected world. They will be better prepared to lead COIL courses, engage in cross-cultural research, and implement culturally sensitive technological advancements in their teaching practices.

This practice session aims to equip faculty with the intercultural competencies necessary to embrace the future of learning, ensuring they can effectively prepare students for diverse, globalized professional settings and contribute to the ongoing internationalization of higher education.

References

(2022). Knowing, being, relating and expressing through third space global south-north coil: digital inclusion and equity in international higher education. Journal of Studies in International Education, 26(2), 279-

https://doi.org/10.1177/10283153221094085

(2020). Internationalization of medical education—A scoping review of the current status in the United States. Medical Science Educator, 30(4), 1693-1705. https://doi.org/10.1007/s40670-020-01034-8

(2017). Your cost to study abroad.
https://international.pamplin.vt.edu/content/international_pamplin_vt_edu/en/go- abroad/funding-opportunities/_jcr_content/rightcol-content/download_2024342011/file.res/Study%20Abroad%20vs%20Campus%20study% 20comparision.pdf

G. (2017). Preparing college students for world citizens through international networked courses. Chengdu, Sichuan, China. Nov. 17-19, 2017. The 2017 3rd International Conference on Education Science and Human Development & The 4th Annual International Conference on Social Science 2017.

M. G. (2018). Expanding access to international education through technology-enhanced collaborative online international learning (COIL) courses.

International Journal of Technology in Teaching and Learning, 14(1), 1-11.

Graduate Students' Views on Artificial Intelligence in Education

Lloyd Rieber, *The University of Georgia*

Abstract: The purpose of this project was to explore the viewpoints of graduate students enrolled in an educational research methodology course on the role, use, and implications of artificial intelligence (AI) in education. Using Q methodology as the research approach, students sorted a total of 31 statements about AI in education based on their agreement with each. Results revealed three distinct viewpoints about AI in education: 1) There is little value of AI in education; 2) AI can assist teachers; and 3) Cautious optimism about using AI in education.

The purpose of this project was to explore the viewpoints of graduate students enrolled in a master's level research methodology course on the role, use and implications of AI in education. Q methodology, a research methodology specifically formulated by William Stephenson (1953) to study human subjectivity, was used (Brown, 1993; Rieber, 2020).

The following research question guided this research:

The context for this research study was an online introductory graduate course on research methods. The course was conducted during a shortened summer semester. A total of 23 students participated in the course and of these 18 agreed to participate in the research study.

Results of the Q sort revealed three distinct viewpoints held by members of the class about the use of AI in education.

Group 1: We see little value of AI in education

Group 1 felt very strongly that the possibility of plagiarism is a serious obstacle to using AI tools in education. This group was also very concerned about students developing dependency on AI, thereby reducing a student's ability to think critically and solve problems independently. This group did not believe that AI could replicate the unique insights, creativity, and intuition of human teachers nor could fully comprehend the nuances of human emotion, empathy, and social interaction.

Group 2: AI can assist teachers do what they do best

Group 2 believed that AI could automate administrative tasks, freeing up teachers' time to focus on instruction and student engagement. They also agreed that AI can be used to help teachers develop ideas for lesson plans and assignments and could be used to simplify something complex, which may aid student comprehension.

Group 3: Cautiously optimistic about narrow uses of AI in education

This group thought that AI could help in writing assessments for students, such as generating questions, ideas, and rewording of documents. They agreed that AI could be used to help students learn new and different ways to approach a process or solve a problem as well as had the potential to bridge educational gaps by providing equal access to quality education for all students.

Consensus Among All Three Groups

All three groups strongly believed that AI cannot replicate the unique insights, creativity, and intuition that human teachers bring to the learning process. All three groups also felt that AI technologies are not poised to reduce educational inequalities because they are not accessible to all educational institutions. All groups were also concerned by the ethical implications of AI in education, such as data privacy, algorithm transparency, and accountability. Interestingly, all three groups were ambivalent on the possibility of AI unlocking new methods of instruction and learning, paving the way for innovative teaching approaches.

References

R. (1993). A Primer on Q Methodology. Operant Subjectivity, 16(3/4), 91-138. doi:https://doi.org/10.22488/okstate.93.100504

P. (2020). Q Methodology in Learning, Design, and Technology: An Introduction. Educational Technology Research & Development, 68, 2529-2549. doi:10.1007/s11423-020-09777-2 Author (2020).

(1953). The study of behavior: Q-technique and its methodology. Chicago: University of Chicago Press.

Growth-Based Grading: Exploring and Applying an Approach to Non-Traditional Grading

Hannah Sunderman, Kate McCain*, Virginia Tech*

Abstract: In this workshop, we will discuss growth-based grading, a form of non-traditional grading, that has been implemented in higher education (e.g., public speaking and interpersonal skills courses). We will consider how grading might be considered as foundational aspect of pedagogy, interrogating if and how assessment structures align with course content and learning objectives. Specifically, participants will engage in experiential activities to consider their perspectives on grading and analyze syllabi. Facilitated by two faculty members who have implemented forms of non-traditional grading over the past four years, the session will offer practical lessons learned and provide access to our grading materials.

The primary goals of higher education include the development of critical thinking, application, and empowerment among students. However, there can be a gap between this focus and traditional grading structures. Kohn (2006), a thought leader on grades, shared that there are three consistent outcomes when students are graded: they (a) think less deeply, (b) avoid taking risks, and (c) "lose interest in the learning itself"

(p. 12). Therefore, the current workshop will present and discuss one form of non-traditional grading, growth-based grading, that has been implemented and assessed in higher education courses. In response to research on the negative effects of traditional grading and personal misgivings with traditional grading, one facilitator of the current workshop developed growth-based grading in consultation with experts in other fields (Blum, 2020) and previous students. Growth-based grading draws from the theoretical frameworks of constructivist learning (Bright et al., 2016), transformative learning (Mezirow, 1978), and adaptive leadership (Heifetz, 1994) and relies on complete/incomplete assignments, midterm and final portfolio documents and conferences, and a self-assessed grading rubric. Students' perceptions of growth-based grading were examined in comparison to their perceptions of traditional grading over three semesters, revealing statistically significant and favorable results for growth-based grading on all questions ([Author], 2023).

Our goal is that participants leave the workshop understanding the process of implementing one form of non-traditional grading and critically reflecting on their own grading structures, analyzing if and how their grading structures align with their course content and pedagogical beliefs. Therefore, the current session will utilize interactive approaches continuously. To begin, participants will be asked to share why they elected to attend a session on non-traditional grading so we, the facilitators, understand the perspectives of participants. Then, as we do when we implement growth-based grading with students, participants will be asked to write the words that come to mind when we say "grades" on a sticky note, which they will categorize as positive, negative, or neutral around the room. Participants will share their thoughts to frame the conversation, and the facilitators will share why we became interested in non-traditional grading. Next, we will differentiate traditional grading and non-traditional grading before participants analyze two syllabi: one that utilized traditional grading and one that was modified to use growth-based grading. Participants will analyze explicit aspects of the grading structure, the benefits and challenges of the grading structure, and alignment, or lack of alignment, between the grading structure, learning objectives, and course content. Building upon the syllabi participants reviewed, facilitators will share a brief overview of growth-based grading, answer remaining questions, and share resources to support non-traditional grading and, specifically, growth-based grading.

References

D. (2020a). Ungrading: Why rating students undermines learning (and what to do instead). West Virginia University Press.

S., Caza, A., Turesky, E. F., Putzel, R., Nelson, E., & Luechtefeld, R. (2016). Constructivist meta-practices: When students design activities, lead others, and assess peers. Journal of Leadership Education, 15(4). https://doi.org/10.12806/V15/I4/R6

A. (1994). Leadership without easy answers (Vol. 465). Harvard University Press.

(2006). The trouble with rubrics. English Journal, 95(4), 12-15.

(1978). Perspective transformation. Adult Education, 28(2), 100-110. https://doi.org/10.1177/074171367802800202

Guarding JEDI principles in content creation: Let's JEDI our materials by using AI Tools

Kamla Al Amri, *Virginia Tech*

Abstract: This roundtable discussion highlights the utilization of some AI applications to guard the use of the JEDI (Justice, Equity, Diversity, & Inclusion) framework in higher education settings. The presenter will review some of the free commonly used AI tools that can detect bias, foster accessibility and enhance diversity and inclusivity. The presenter will also ensure that the audience is engaged in this scholarly discussion about protecting the JEDI framework values. Hopefully, modern instructional designers and online educators will benefit from this discussion and will apply some of the reviewed tools in their content creation and design process.

Today, with the spread of AI tools and applications, ensuring that instructional materials sustain justice, equity, diversity, and inclusion (JEDI) principles is essential. This roundtable session explores the role of some Artificial Intelligence (AI) tools in assisting instructional designers in creating content that not only meets educational objectives but also embodies JEDI framework values. AI tools, with their ability to process vast amounts of data and detect patterns, offer unique support to detect biases, promote inclusivity, and enhance accessibility to instructional resources. Furthermore, AI can assist in creating personalized learning experiences, making certain that diverse learners receive fair opportunities to succeed. The purpose of this presentation is to engage the audience- instructional designers, online content creators, and educators in a scholarly discussion about the integration of some AI tools such as Gender Decoder, Sapling, HateSonar, and Fairness Indicators by Google, among many others in the instructional design process. The findings suggest that when used effectively, AI applications can be a powerful tool and component added to the toolkit of modern instructional designers and online education professionals.

Keywords:
AI tools, JEDI framework, principles, justice, equity, diversity, inclusion, designers & assistance

References

References will be made available on the day of the conference.

HI | AI: A Case Study in Advanced Architectural Education

Margarita McGrath, Collin Caywood*, Virginia Tech*

Abstract: Could AI empower students to push the boundaries of learning rather than limit it? This study examines a Spring 2024 course that integrated AI into advanced architectural education for 25 students. Moving beyond traditional curricula, the course cultivated 21st-century skills (Human Intelligences) and propelled students through Bloom's taxonomy via AI-enhanced problem-based learning. Students critically discussed their AI experiences while analyzing, evaluating, and creating. This method enhanced learning and inspired students to become technological early adopters in future careers. The study shows AI's potential in professional education and provides a reproducible multidisciplinary model for creative higher education pedagogy.

Introduction

In Spring 2024, a professional practice course at Virginia Tech was reimagined to integrate artificial intelligence (AI) and transform learning for 25 advanced architecture students. As the profession evolves with AI advancements, preparing students for a future where both human and artificial intelligences are essential is crucial. This paper presents a case study that addresses this challenge and offers an inspiring, forward-looking model for integrating AI into higher education across disciplines.

Background and Context

Traditional professional practice courses in architecture are often content-heavy, focusing on business and legal aspects. However, research on student learning suggests this method doesn't align with how students learn and may leave them unprepared for the adaptive skills needed in the AI-driven Future of Work. This course shifted focus from content delivery to cultivating 21st-century skills—like critical thinking, communication, and empathy—essential for today's architects.

Course Redesign and Theoretical Framework

The redesign drew on contemporary learning theories emphasizing active learning, focused objectives, and contextualized experiences. The goal was to create a 'safe environment' where students could critically engage with AI tools outside the typical design studio. Using Bloom's taxonomy as an index of desired learning outcomes, the course advanced students from understanding and applying knowledge to analyzing, evaluating, and creating through AI-enhanced problem-based learning. By integrating Human and Artificial Intelligences, the course provided a forward-looking educational experience, preparing students for the future and inspiring them to explore AI's role in architecture.

Course Structure and Implementation

The course was structured into two phases:

Phase One: Students interviewed stakeholders and local architecture firms to develop a Request for Proposal (RFP) for a new College of Architecture, Arts, and Design (AAD) building. This phase emphasized human skills like communication and empathy while providing practical experience in real-world architectural processes.

Phase Two: Students used AI tools like ChatGPT and Midjourney to augment small local firms' capabilities, creating competitive proposals in response to their AAD RFP. This phase pushed students to explore AI's potential in architectural practice by applying and testing these tools in a problem-based learning scenario.

Outcomes and Assessment

The course's innovative approach led to significant outcomes. Students enhanced their critical thinking and gained a deeper understanding of architectural work through prompt engineering, positioning them as evaluators, curators, and editors. By progressing through Bloom's taxonomy, they advanced from foundational knowledge to higher-order thinking, all while developing a future-focused mindset, preparing them for leadership roles in an AI-driven architectural landscape.

Broader Implications and Conclusion

The study's findings suggest that AI can be effectively integrated into higher education to enhance learning and prepare students for an AI-driven future. Reimagining the Professional Practice course offers a model for other disciplines, bridging the gap between traditional education and future workforce demands. This proposal highlights AI's transformative potential in professional education and invites further exploration of interdisciplinary applications, contributing to the broader conversation about the future of higher education.

References

Bibliography

AIA Compensation & Benefits Report. November 29, 2023.

Reinventing Undergraduate Education: A Blueprint for America's Research Universities. Stony Brook, N.Y: State University of New York at Stony Brook for the Carnegie Foundation for the Advancement of Teaching, 1998.

"Situated Cognition and the Culture of Learning." Educational Researcher 18, no. 1 (1989): 32-42.

Assessment and Teaching of 21st Century Skills: Educational Assessment in an Information Age. Dordrecht: Springer, 2015. https://doi.org/10.1007/978-94-017-9395-7_2.

E., McKnight, K., and Arfstrom, K. A. Whitepaper: Flipped Learning. Flipped Learning Network, 2013. Retrieved from www.flippedlearning.org/review.

Pellegrino, eds. Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century. National Academies Press, 2013.

Rethinking University Teaching: A Conversational Framework for the Effective Use of Learning Technologies. 2nd edition. Oxford: Routledge, 2002.

"Key Skills for the 21st Century: An Evidence-Based Review." Center for International Research on Education, State of New South Wales (Department of Education), 2017. https://vuir.vu.edu.au/35865/1/Key-Skills-for-the-21st-Century-Analytical-Report.pdf.

"Ai in the Architecture Industry Statistics." Ginux, 2023. https://gitnux.org/ai-in-the-architecture-industry/.

"A New Wave of Educators Are Updating How Professional Practice Courses Are Delivered in Architecture Schools. What Are They Teaching?" The Architect's Newspaper, July 7, 2023. https://www.archpaper.com/2023/07/new-wave-educators-updating-how-professional-practice-courses-delivered-architecture-schools-what-they-teaching/.

Measuring 21st-Century Competencies: Guidance for Educators, 2013.

High-Impact Practices in Teacher Education: Linking Practices with Engagement

Katya Koubek, *James Madison University*
Raymond Rodriguez, *Independent Scholar*

Abstract: This presentation reports the results from a mixed methods study exploring the extent to which prior findings on the relationship between high-impact practices (HIPs) and student engagement could be confirmed with a different sample of students and faculty in a teacher preparation program. By employing modified version of the National Survey of Student Engagement survey and faculty and student focus groups, the study sought to understand the extent to which faculty members' design of activities related to HIPs engaged students in the manner they intended.

High-Impact Practices (HIPs), adopted by the American Association of Colleges and Universities (AAC&U), are teaching and learning practices in higher education that promote student engagement and learning as measured on the National Survey of Student Engagement (NSSE). Much of the research on the relationship between engagement and student learning has taken place at the institutional level (Black, 2018; Brownell &

Swaner, 2009; Coker, Heiser, Taylor, & Book, 2016; Finley & McNair, 2013; Grabowsky et al., 2017; Hu & McCormick, 2012; Kilgo, Sheets, & Pascarella, 2015; Kuh et al., 2015; Sandeen, 2012; Zilvinskis & Dumford, 2018). However, there is a further need to establish the relationship between student engagement and specific activities embedded in these practices in college courses (Hatch, 2012).

The conceptual framework used in our study is based on the work set forth by Kuh and his associates and adopted by the AAC&U (Kuh et al., 2013). The research on the impact of HIPs on student engagement and learning suggests that when HIPs are employed in college courses, and, more specifically, when key features of HIPs are present during instruction, students will be more engaged (Kuh et al., 2013). While this research has yielded a solid basis to support the use of HIPs to promote learning and student engagement among college students, this study builds on the existing core of evidence, as it relates to student engagement and learning in teacher preparation programs.

Previously, Authors (2019) explored the role these practices play in promoting student engagement in a teacher preparation program at a mid-sized, master's comprehensive university in the southeastern United States, recently reclassified as research 2 institution. The current study further extends the previous research by examining the extent to which students' levels of reported engagement seemed to correspond with the way in which faculty expected that course activities and practices would engage their students. The objective of this study, therefore, was to address the following two questions:

1. In what ways, if any, do the results of the current study examining the relationship between HIPs and student engagement in a teacher preparation program yield similar findings from those obtained with an independent sample of students in a previous study?
2. In what ways, if any, does the faculty's design of course activities associated with HIPs seem to result in student engagement and learning in accordance with those activities based on students' responses to a modified version of the NSSE survey and interviews?

This mixed methods study with 6 faculty and 134 students, employing a modified version of the NSSE survey and faculty and student focus groups, confirmed earlier findings on ways that HIPs promote student engagement and learning outcomes as reported by students. While some discrepancies between faculty's design of activities and their reported effects on engagement were noted, most of the activities employed by faculty promoted engagement as intended.

References

(2019).

(2023).

E., & Swaner, L. E. (2009). High-impact practices: Applying the learning outcomes literature to the development of successful campus programs. Peer Review, 11(2), 26-30.

(2013). Assessing underserved students' engagement in high-impact practices with an assessing equity in high-impact practices toolkit. Washington, D.C. Association of American Colleges and Universities.

L., Hargis, J., Davidson, J., Paynter, A., Suh, J., & Wright, C. (2017). Coral

reefs, convicts, cadavers, coffee shops and couture: Customizing experiential learning to

Journal of University Teaching & Learning Practice, 14(3), 1-11.

K. (2012). Unpacking the black box of student engagement: The need for programmatic investigation of high impact practices. Community College Journal of Research and Practice, 36(11), 903-915.

C. (2012). An engagement-based typology and its relationship to

Research in Higher Education, 53(7), 738-754.

A., Sheets, J. K., & Pascarella, E. T. (2015). The link between high-impact practices

Higher Education, 69, 509-525.

doi:10.1007/s10734-014-9788-z

D., Ikenberry, S. O., Jankowski, N. A., Cain, T. R., Ewell, P. T., Hutchings, P., & Kinzie, J. (2015). Using evidence of student learning to improve higher education. New York, NY: John Wiley & Sons.

D., O'Donnell, K., & Reed, S. (2013). Ensuring quality and taking high-impact practices to scale. Washington, DC: Association of American Colleges and Universities.

(2004). Student engagement: Pathways to collegiate success. Bloomington, IN: Indiana University Center for Postsecondary Research.

(2012). High-impact educational practices: What we can learn from the traditional undergraduate setting. Continuing Higher Education Review, 76, 81-89.

D. (2018). The relationship between transfer student status, student

Community College Review, 46(4),

366-387.

Homework Software Access Code Replacements and Strategies

Anita Walz, Jacob Grohs, James Lord, Heath Hart, John "Morgan" Russell*, Virginia Tech*

Abstract: Homework software systems save time for instructors, particularly in large-enrollment courses. However, student-paid access codes have limited functionality and are expensive--between $50-150 per course per semester for the 30% of courses which require them. Functionality affects learning and costs disproportionally affect historically underserved students and student academic performance. Virginia Tech's Open Education Initiative is working to establish a variety of options for instructors. Join this Roundtable to discuss with instructors from STEM and non-STEM disciplines who use university approved, no-fee-to-students alternatives including: WeBWorK, PressbooksResults, peer-reviewed test banks for LMS import, and problem set environment for engineering.

Assessment, in particular grading student work, has long been a challenge, especially within large-enrollment courses. Fifty six percent of instructors have reported use of some type of homework software (Seaman, 2023), with around 32% of courses using fee-based homework software systems (Senack, 2016). Externally-hosted,

fee-based homework systems save significant instructor time, provide basic correct/incorrect results, and integrate with an LMS gradebook. In problem-oriented courses common in STEM disciplines, fee-based homework software rentals have become an essential part of required course materials due to grading workloads outstripping instructor capacity. However, fee-based homework systems have some limitations: there are limits on editing publisher-generated questions. Homework software access codes are expensive with rental costs ranging from $50-150. And there are significant student data privacy and surveillance concerns. From the student side, there are equity, autonomy, and financial concerns which generate a negative students view of fee-based homework systems: Students cannot be graded without paying for access and may have more than one homework software access code to pay for each semester. The added expense is a barrier for historically underserved and lower-income students (Clinton, 2024) who have to choose between essentials, and students generally dislike having to pay to have homework graded when they have already paid tuition (Virginia Tech Student Government Association, 2015).

Use of fee-based homework software systems has been cited by professional associations such as the Open Education Network as a barrier to adoption of zero-cost, open educational resources (OER) (2019). The OEN is an international network of member institutions which works collaboratively to make open the default in higher education, and thus empower faculty, remove barriers to education, and enhance student success. Finding suitable replacements for fee-based homework systems is a strategic approach to overcome resistance to adoption of Open Educational Resources, to further return curricular control to faculty, and to reduce student financial barriers to learning. The Open Education Initiative located at the author's institution notes that instructors in mathematics, engineering, economics, and statistics courses frequently cite lack of suitable homework software alternatives as a key reason they cannot further explore use or creation of OER, even when suitable open course material already exists.

The Open Education Initiative at Virginia Tech is a collaborative partner with faculty in piloting and development of various university-supported homework systems offered with no additional cost to students. In this presentation and round table discussion, you will hear from the program director and a range of her collaborating faculty who have been involved in:
Development, peer-review, and publication of custom test banks for use with open textbooks adopted and/or created at Virginia Tech. These may include
-Faculty "sprint" developed test banks, student-assignment generated test banks, and test banks developed using AI with human review;
-Using PressbooksResults, LMS gradebook-integrated assessments embedded in open textbooks hosted on Pressbooks;
-Using and authoring mathematics-intensive assessments from the Open Problem Library in WeBWorK for STEM topics, and the
-Pilot NSF and VIVA-funded prototype engineering homework system currently in use for a second-year level, large-enrollment, required engineering course.

References

E., & Seaman, J. (2023) Digitally established: Educational Resources in U.S. Higher Education. Bayview Analytics. https://www.bayviewanalytics.com/reports/digitallyestablished-2023.pdf

& Kelly, A. E. (2024). The Cost of Doing Homework: Online Homework Systems with Access Codes from a Social Justice Perspective. International Journal of Technology in Education and Science (IJTES), 8(2), 296-310. https://doi.org/10.46328/ijtes.547

https://docs.google.com/document/d/1nf40TXlbfaaVe97AcT44sRgj84aD1OEDf7kKVgtVC6g/edit#

Open Education Network (2024) "Guiding Principles" https://open.umn.edu/oen/guiding-principles

(2016). Access Denied: The New Face of the Textbook Monopoly. Student PIRGs. https://studentpirgs.org/assets/uploads/archive/sites/student/files/reports/Access%20Denied%20-%20Final%20Report.pdf

Student-hosted panel on student course material experiences. Open Education Week 2015 at Virginia Tech.

Impact of College-Level Math Education on Pre-Service Elementary Teachers' Self-Perceptions for Problem-Solving Instruction

Sara Lenhart, *Christopher Newport University*

Abstract: This study investigates the effects of a master's level math education course on elementary pre-service teachers' perceptions of their confidence and preparedness to teach mathematics through problem-solving. Problem-solving is recognized as a crucial aspect of effective math instruction, fostering critical thinking and deeper understanding among students. However, many pre-service teachers enter their training with limited experience or confidence in this approach. This study aims to assess the changes in their self-perceptions before and after completing the course.

This study investigates the effects of a college-level math education course on elementary pre-service teachers' perceptions of their confidence and preparedness to teach mathematics through problem-solving. Problem-solving is recognized as a crucial aspect of effective math instruction, fostering critical thinking and deeper understanding among students. However, many pre-service teachers enter their training with limited experience or confidence in this approach. This study aims to assess the changes in their self-perceptions before and after completing a dedicated math education course. Understanding the impact of targeted math education courses on pre-service teachers' readiness to implement problem-solving strategies is vital for curriculum development. The findings will inform teacher education programs, helping to design courses that better prepare future teachers for the challenges of modern math instruction. This proposal is designed to engage conference attendees with both the data and the practical implications of the study, encouraging dialogue and knowledge sharing.

Implementation of First-year biochemistry CURE for research skill development

Stephanie Lewis, *Honors College*
, Truitt Elliott, Tamar Ballard, Anne Brown, *Virginia Tech*
, Office of Undergraduate Research
, Department of Sociology
, University Libraries
, Department of Biochemistry

Abstract: Course-based undergraduate research experiences (CURE) increase opportunities for undergraduates to participate in research by removing barriers to entry. However, the structure of such courses can exclude first year students from engaging with and benefiting from this high-impact experience. We present a summary of implementation strategies and case study results from implementation of the "Introduction to Biochemical Research Skills" CURE at Virginia Tech. The course includes inquiry-focused group projects, computational biochemistry skill development, and scaffolded learning using modules and real-world examples. Students found the course helpful to them as biochemistry majors and aspiring researchers.

Undergraduate research experiences are essential for developing workforce skills for STEM students in higher education environments. However, many institutions, particularly primarily undergraduate institutions (PUIs), do not have graduate students or extensive research funding for traditional apprenticeship undergraduate research (Gin et al., 2021; Krim et al., 2019). Course-based undergraduate research experiences (CURE) increase opportunities for undergraduates to participate in research at PUI and research universities (Auchincloss et al., 2014; Buchanan & Fisher, 2022) often by removing barriers to entry for students. CUREs provide a structured, cohesive environment for students to learn specific methodologies through practical application and fundamental research skills (e.g., scientific communication and research ethics) (Brownell et al., 2017; Buchanan & Fisher, 2022; Linn et al., 2015). Studies suggest first-year university students see greater skill retention and academic success from participating in CUREs compared to those who do not participate in this type of class (Ing et al., 2020; LaForge, 2022; LaForge & Martin, 2022). CUREs have been highly successful in biochemistry and molecular biology education (Bell et al., 2017; Kemp et al., 2020; Provost, 2022; Provost et al., 2019). However, published and evaluated curricula for first-year biochemistry CUREs is lacking partially due to the many challenges associated with creating a sustainable CURE (Govindan et al., 2020). Many courses require domain knowledge prior to participation in a CURE (Buchanan & Fisher, 2022; Irby et al., 2018), limit novel inquiry (Cooper et al., 2019), and can cause confusion and frustration for students because they do not present pre-defined outcomes customary of traditional labs (Provost, 2022).

This presentation will summarize implementation of "Introduction to Biochemical Research Skills", which is a semester-long CURE for first-year undergraduate biochemistry students developed, in part, to address barriers reported in the literature. Student perceptions of learning gains were measured using portions of the Entering Research Learning Assessment (Butz & Branchaw, 2020), the American Association of Colleges & Universities Problem Solving VALUE Rubric (AAC&U, 2009), and course reflections. In the course, students learn computational modeling methods through iterative inquiry practices to perform a computational biochemistry experiment. Students who completed the course indicated learning gains with practical research skills (e.g., analyze data) and scientific communication skills (e.g., asking clarifying questions) that successfully mapped to the course learning objectives. For instance, students indicated the highest gains for capabilities like research project comprehension (96%) and designing a research project (97%). Students also indicated they practiced a variety of problem-solving techniques throughout the semester that were relevant to their ability to engage with research, such as identifying factors that influence requirements for a solution (84%). Reflection responses from the students indicate they found the course and skills taught in the course helpful to them as students majoring in biochemistry and as useful aspiring researchers. Additional results from the study will be presented with recommendations and considerations for implementing a similar course at other institutions. Future studies will include an assessment of long-term impact on students' academic achievement and engagement with undergraduate research.

References

(2009). Problem Solving VALUE rubric. In: American Association of Colleges & Universities.

C., Laursen, S. L., Branchaw, J. L., Eagan, K., Graham, M., Hanauer, D. I., Lawrie, G., McLinn, C. M., Pelaez, N., Rowland, S., Towns, M., Trautmann, N. M., Varma-Nelson, P., Weston, T. J., & Dolan, E. L. (2014). Assessment of Course-Based Undergraduate Research Experiences: A Meeting Report. CBE—Life Sciences Education, 13(1), 29-40. https://doi.org/10.1187/cbe.14-01-0004

K., Eckdahl, T. T., Hecht, D. A., Killion, P. J., Latzer, J., Mans, T. L., Provost, J. J., Rakus, J. F., Siebrasse, E. A., & Bell, J. E. (2017). CUREs in biochemistry—where we are and where we should go. Biochemistry and Molecular Biology Education, 45(1), 7-12. https://doi.org/https://doi.org/10.1002%2Fbmb.20989

E., Hekmat-Scafe, D. S., Singla, V., Seawell, P. C., Conklin Iman, J. F., Eddy, S. L., Stearns, T., & Cyert, M. S. (2017). A High-Enrollment Course-Based Undergraduate Research Experience Improves Student Conceptions of Scientific Thinking and Ability to Interpret Data. CBE - Life Science Education, 14(2), ar21. https://doi.org/https://doi.org/10.1187/cbe.14-05-0092

J., & Fisher, G. R. (2022). Current Status and Implementation of Science Practices in Course-Based Undergraduate Research Experiences (CUREs): A Systematic Literature Review. CBE - Life Science Education, 21(4), ar83. https://doi.org/https://doi.org/10.1187/cbe.22-04-0069

R., & Branchaw, J. L. (2020). Entering Research Learning Assessment (ERLA): Validity Evidence for an Instrument to Measure Undergraduate and Graduate Research Trainee Development. CBE - Life Science Education, 19(2). https://doi.org/https://doi.org/10.1187/cbe.19-07-0146

M., Blattman, J. N., Hendrix, T., & Brownell, S. E. (2019). The Impact of Broadly Relevant Novel Discoveries on Student Project Ownership in a Traditional Lab Course Turned CURE. CBE - Life Science Education, 18(4), ar57. https://doi.org/https://doi.org/10.1187/cbe.19-06-0113

E., Clark, C. E., Elliott, D. B., Roderick, T. B., Scott, R. A., Arellano, D., Ramirez, D., Vargas, C., Velarde, K., Aeschliman, A., Avalle, S. T., Berkheimer, J., Campos, R., Gerbasi, M., Hughes, S., Roberts, J. A., White, Q. M., Wittekind, E., Zheng, Y., . . . Brownell, S. E. (2021). An Exploration across Institution Types of Undergraduate Life Sciences Student Decisions to Stay in or Leave an Academic-Year Research Experience. CBE - Life Science Education, 20(3), ar47. https://doi.org/https://doi.org/10.1187/cbe.21-04-0108

(2020). Fear of the CURE: A Beginner's Guide to Overcoming Barriers in Creating a Course-Based Undergraduate Research Experience. Journal of Microbiology & Biology Education, 21(2). https://doi.org/https://doi.org/10.1128/jmbe.v21i2.2109

M., Azzam, T., & Wessler, S. R. (2020). Participation in a Course-Based Undergraduate Research Experience Results in Higher Grades in the Companion Lecture Course. Educational Researcher, 50(4), 205-214. https://doi.org/https://doi.org/10.3102/0013189X20968097

M., Pelaez, N. J., & Anderson, T. R. (2018). How to Identify the Research Abilities That Instructors Anticipate Students Will Develop in a Biochemistry Course-Based Undergraduate Research Experience (CURE). CBE - Life Science Education, 17(2), es4. https://doi.org/https://doi.org/10.1187/cbe.17-12-0250

L. (2020). Hands-on Curriculum in Optics of Microscopy. The Biophysicist, 1(1). https://doi.org/https://www.doi.org/10.35459/tbp.2019.000114

S., Cote, L. E., Schwartz, R. S., Stone, E. M., Cleeves, J. J., Barry, K. J., Burgess, W., Buxner, S., Gerton, J. M., Horvath, L., Keller, J. M., Lee, S. C., Locke, S. M., & Rebar, B. M. (2019). Models and Impacts of Science Research Experiences: A Review of the Literaure of CUREs, UREs, and TREs. CBE - Life Science Education, 18(4), ar65. https://doi.org/https://doi.org/10.1187/cbe.19-03-0069

J. (2022). Course-Based Undergraduate Research Experiences Improve Grades and Increases Enjoyment in Freshman-Level Biology Majors' Laboratories (Publication Number 29259555) Emporia State University]. Proquest Dissertations & Theses Global.

J., & Martin, E. C. (2022). Impact of Authentic Course-Based Undergraduate Research Experiences (CUREs) on Student Understanding in Introductory Biology Laboratory Courses. The American Biology Teacher, 84(3), 137-142. https://doi.org/https://doi.org/10.1525/abt.2022.84.3.137

C., Palmer, E., Baranger, A., Gerard, E., & Stone, E. (2015). Undergraduate research experiences: Impacts and opportunities. Science, 347. https://doi.org/http://dx.doi.org/10.1126/science.1261757

J. (2022). Increasing access for biochemistry research in undergraduate education: The malate dehydrogenase CURE community. Journal of Biological Chemistry, 298(9), 102298. https://doi.org/https://doi.org/10.1016/j.jbc.2022.102298

J., Bell, J. K., & Bell, J. E. (2019). Development and Use of CUREs in Biochemistry. In Biochemistry Education: From Theory to Practice (pp. 143-171). https://doi.org/10.1021/bk-2019-1337.ch007

Improving Teamwork Assessment in Engineering Classes

Adam Barnes*, University of Virginia*

Abstract: The ability to work well in teams is consistently one of the most sought-after skills by employers, and so deserves serious attention in higher education courses. To evaluate the effectiveness of any program or module designed to teach teamwork requires a valid assessment tool. This is particularly important in engineering disciplines which must assess teamwork as part of their ABET accreditation. Because teamwork assessment is often subjective, it can be difficult to evaluate rigorously. This roundtable discussion looks to explore best practices for measuring teamwork outcomes.

Teamwork assessment is often done with a survey of team members, ideally at multiple points during the project, although often it is only performed at the end. This is especially true of large classes, when the instructor cannot spend large amounts of time with each team, and for classes where teamwork occurs but is not the primary thrust of the class, as is the case in many engineering classes. The survey is relatively easy to implement, and there are a number of survey tools that streamline the process and make it applicable for a wide range of class sizes and subjects. However, the accuracy of the survey assessment by the students

themselves can be problematic. First, many students don't know what good teamwork really looks like; either they have not worked on a good team in the past or their team was not challenged to the point that the quality of the teamwork came into play. Second, students' assessment of their peers may be too lenient, because they don't want to hurt their teammates' grade or feelings. Conversely it may be too harsh if the team members had a serious falling out or if one of the team members is prejudiced. But how often does this happen, and how much does it skew results? What is a reasonable threshold for success based on a team survey?

Fall semester 2024 I am teaching the Capstone Senior design course for the ECE department at UVA. Part of the project process is for each team to meet with the instructor on a weekly basis. This affords me the opportunity to regularly interact with each team which will allow me to assess teamwork directly. I will be conducting teamwork surveys as well, which will allow a comparison of the results and relative merits of each assessment method. I would like to use my results from the Capstone class at the roundtable as a starting point for a discussion on best practices and tools for teamwork assessment, as well as the advantages and limitations of different teamwork assessment tools and techniques.

Incentivizing Pre-Class Student Preparation

William Putt, Vince Shaw, *West Point*

Abstract: We are attempting to compare quantitative returns, as measured by student performance on major graded events, between two different curriculum interventions designed to incentivize student self-preparation prior to class. Specifically, we will apply linear regression to determine if there are statistically significant differences in performance between cohorts assigned graded pre-class homework and those given graded in-class quizzes. Student performance will be assessed based on major graded events, focusing on how changes in pre-class preparedness incentives impact outcomes, rather than comparing performance on the intervention techniques themselves.

Data to be finalized during fall semester 2025.

Instruction at the United States Military Academy (USMA) is based on the Thayer Method of instruction. This method "expects cadets to be self-directed for their informational learning, in part by coming to class daily, prepared to engage. . . Developing the cadets' capacity to take the initiative to prepare to learn before each lesson" (The West Point Leader Development System, 2018). Cadets at USMA face significant time constraints, often leading them to seek shortcuts in their busy schedules. Therefore, non-graded course preparation, especially in core Academy-wide courses, is frequently compromised. In the core economics course, Principles of Economics, cadet preparation for lessons has traditionally been incentivized through small homework assignments (PCAs) in conjunction with the required reading. These assignments are provided by the textbook publisher and intended to only take a small amount of time once the reading is completed. However, PCAs are routinely assessed within student end-of-course feedback as the worst part of the course. To measure the efficacy of the PCAs in incentivizing pre-lesson preparation, we are conducting an experiment during the fall semester, 2025.

Our experiment will compare student outcomes on the course final examination between the 2024 academic year and the fall 2025 semester. Starting this fall, we will replace the PCAs in all sections of the core economics course with in-class reading comprehension quizzes. The goal of both interventions is to encourage pre-lesson preparedness, which is nested within the goal of achieving mastery of concepts in the course. Outcomes of the policy change will be measured both quantitatively and qualitatively. Qualitatively, we will

collect survey responses from instructors who have taught the course with and without PCAs to see if there is any perceived change to cadet preparedness and learning with the change. Quantitative outcomes will be measured by performance on the course final examination, which remains consistent across semesters. Consequently, variations in final exam scores can validate the impact of changes to course structure on academic performance and student learning. The results will provide an unbiased comparison between the two methods of incentivizing preparedness and their alignment with the Thayer Method.

We will then weigh the trade-off of cadet time consumption through the PCAs against their measured benefit of increased cadet preparedness and learning. This is the first phase of our larger research into the most effective ways to get optimal academic outcomes. Future studies will consider removing incentives for pre-lesson preparedness to quantify the impact of the Thayer Method.

Incorporation of Dissection Task-specific Questions in a Medical Anatomy Course

Michael Nolan, John McNamara, *Virginia Tech Carilion School of Medicine*

Abstract: In recent years scheduled time for anatomy instruction at Virginia Tech Carilion School of Medicine has been reduced to allow for the inclusion of newer topics and the use of alternative teaching approaches. Changes in the anatomy curriculum designed to address these time restrictions have included the elimination of live lectures, of specific course objectives and a deletion of cadaver laboratory dissection-related objectives and tasks. We describe here a successful effort to address challenges associated with a reduction in scheduled curricular time for the teaching of human anatomy in our medical education curriculum.

Introduction

Among the challenges associated with a reduction in scheduled class time is the loss of time for direct faculty-student interaction. In an effort to maintain the value limited laboratory dissection time, we developed a series of short answer questions attached to individual dissection tasks described in our VTCSOM Anatomy Guide & Workbook that students are expected to answer as they progress through each laboratory dissection session. Questions focus on the importance the dissected structures in the performance and interpretation of the general physical examination.

The responsibility for presenting these questions to the dissection team, and for finding the answers for each question, rests with the "reader" and "researcher" members of the team. Print and electronic resources are available in the laboratory to aid in finding answers to the questions. Gentle reminders to answer the questions are provided by the anatomy faculty circulating among dissection stations during the laboratory session. Approximately 60% of the individual dissection steps listed in the VTCSOM Anatomy Guide & Workbook are associated with a question.

Our goals in using the open-ended question format were to 1) facilitate a student-led activity in which two members of the dissection team (i.e., reader and researcher) are responsible for searching available resource material for answers or explanations for questions linked to the anatomical structures being identified in the cadaver by the dissectors for that day; 2) to focus attention, not simply on identifying a particular structure or relationship, but more importantly, on the clinical relevance of the dissected structures and relationships; 3) to provide an opportunity for peer teaching within the dissection team; and 4) to encourage the demonstration of knowledge in a format that will be required during the clerkship and elective years, namely, responding to open-ended questions rather that to questions styled in the multiple-choice format.

Results/Observations

Several positive outcomes were achieved as a result of the addition of task-specific focused self-assessment questions. First, students appreciated the guidance provided by the questions in focusing their time and study efforts on anatomical content, not immediately obvious to learners in their first course in human anatomy, but nonetheless important for future coursework as well as examination preparation. Of comparable value was the establishment of a defined role for the reader and researcher. Typically, those students actually performing the dissection tasks are actively working during the scheduled laboratory session, with the other group members sometimes feeling less involved in the class activity. By assigning a specific activity with a specific objective to the reader and researcher, those individuals now become integral members of the dissection team. Serving as peer teachers, their efforts often bring information specific to the needs of the group at the time. Involving students in the group as peer teachers also facilitates progress through the dissection activities when faculty may be involved with other groups. Though we do not have objective evidence in support of the use of these questions in terms of examination performance, we are gratified by the positive student comments regarding their perceived value.

Increasing Universal Accessibility in Undergraduate Biochemistry Laboratory Courses

Erin Drolet, Anne Brown*, Virginia Tech Department of Biochemistry*
Skylar Mayfield*, Virginia Tech Department of Computer Science*
, Virginia Tech University Libraries

Abstract: Universities increasingly emphasize students engaging in hands-on, experiential STEM learning. While laboratory courses represent a great venue to engage students in this experience, they also present a distinct challenge, especially for students with disabilities. This research utilizes the principles of Universal Design for Learning to develop evidence-based recommendations for assisting all students, including those with disabilities, by addressing various barriers specific to the biochemical laboratory environment. In this session, the presenter will define the barriers that students faced in the laboratory course and discuss low resource suggestions for minimizing barriers to create an inclusive environment for students pursuing STEM careers.

Disability accommodations (DAs) are traditionally developed for students with the traditional classroom setting in mind. The two most common learning DAs provided to students in postsecondary education are increased time on assessments, such as quizzes and exams, and extended deadlines for assignments.(1) Accommodations for students with physical disabilities can vary widely, depending on the specific challenges posed to students. While current DAs are relevant and helpful for students in the traditional classroom setting, the STEM laboratory environment poses a unique set of challenges for students. Indeed, most DAs are not applicable to learning in a laboratory environment. More DAs need to be developed to allow students with disabilities to participate and succeed in STEM laboratory courses and undergraduate research. However, there is a substantial lack of research in this domain. To date, only a handful of papers discuss the challenges faced by STEM students in chemistry lab courses and in summer internships.(2,3) As universities further emphasize the importance of hands-on, experiential learning in STEM education, additional research is needed to understand what specific challenges students face in laboratory settings, which will allow for the development of novel DAs and accessibility recommendations. These DAs are essential to assist students when they are learning in and physically navigating the laboratory environment.

The Universal Design for Learning (UDL) framework has been extensively studied and applied in postsecondary education to enhance access to learning, address barriers and biases, and increase learner's agency.(4) However, its application in biochemical laboratory settings is limited and requires tailored adaptation.

This work seeks to utilize UDL principles in the development of evidence-based recommendations for assisting all students, including those with disabilities, by addressing learning and navigation difficulties specific to the biochemical laboratory environment. Pre-, mid-, and post-surveys were used to assess student learning outcomes in an undergraduate biochemistry laboratory course. An additional post-survey assessed students' perceptions of course accessibility and experiences. This research was conducted in Spring 2023 (N=84), Fall 2023 (N=32), and Spring 2024 (N=90). In Spring 2023, many students described confusion with written experiment directions. In Fall 2023 and Spring 2024, the laboratory manual was updated to address this feedback. Experimental protocols were reformatted as stepwise instructions. Directions for preparing for laboratory experiments were placed before experimental protocols. Directions for completing analyses and written reports were placed after experimental protocols. These changes align with recommendations in text-signaling and UDL Guidelines: Language and Symbols, which has been shown to improve reader comprehension and memory.(5) After updating the manual, students spent less time preparing for laboratory experiments and felt less stressed when turning in written reports. Student learning outcomes remained consistently high across these three semesters, highlighting the quality and consistency of our instructors.

In this session, the presenter will define the barriers that students faced in the laboratory course and discuss suggestions for minimizing barriers to create an inclusive environment for students pursuing STEM careers. We hope to encourage attendees to evaluate their own laboratory courses and implement the UDL guidelines to improve universal accessibility and inclusive pedagogy.

References

M. W., Starr. (2016) The Use of Extended Time by College Students with Disabilities, Journal of Postsecondary Education and Disability 29, 141-150.

K., and Lang, P. L. (2016) Using the Universal Design for Learning Approach in Science Laboratories To Minimize Student Stress, Journal of Chemical Education 93, 1823-1828.

(2009) Differences in perceived benefits of internships for subgroups of students with disabilities, Journal of Vocational Rehabilitation 31, 155-165.

Universal Design for Learning Guidelines version 3.0. Retrieved from https://udlguidelines.cast.org

F., Eyrolle, H., and Virbel, J. (2008) SARA: A Text-Based and Reader-Based Theory of Signaling, Educational Psychologist 43, 27-48.

Innovative Teaching with AI: Practical Applications and Creative Solutions

Katelyn Nelson, Asim Ali, *Auburn University*

Abstract: Technological innovations like artificial intelligence (AI) have reshaped higher education, necessitating fundamental adaptations. AI presents challenges and opportunities, compelling institutions to integrate effectively. All academic stakeholders must understand

> AI, its ethical use, and its applications. The session will start with a foundational overview of AI, its principles, and its educational uses. Participants will then explore AI applications in designing dynamic, personalized content like adaptive quizzes and tutoring systems. Presenters will share classroom experiences, benefits, and challenges. The hands-on segment will allow practice with AI tools, offering real-time support and practical resources.

Technological innovations like the internet and artificial intelligence (AI) have continuously reshaped higher education, compelling institutions to adapt. AI, the latest disruption, presents both challenges and opportunities, requiring higher education to evolve and integrate AI effectively.

To navigate this transformation, all academic stakeholders—faculty, staff, administrators, and students—must be well-informed about AI (Pedro et al., 2019). This includes understanding AI, its ethical use, and its potential applications in both administrative and classroom settings (Kurtz et al., 2022). The Auburn University Biggio Center addresses this need through two comprehensive training programs: one for higher education professionals, offering tools to integrate AI into their practices, and another for students, equipping them to use AI responsibly in their studies.

Integrating AI in higher education necessitates a fundamental shift in educational practices. Assignments and assessments should foster creative thinking and encourage AI use. Instead of prohibiting AI, educators should guide students on leveraging AI tools to enhance learning and problem-solving skills (Casal-Otero et al., 2023). This approach prepares students for a future where AI is integral to various fields.

The Teaching with AI course developed by the Biggio Center aims to inspire educators to think innovatively about incorporating AI into the classroom. This training encourages moving beyond traditional methods and exploring new ways to integrate AI into educational practices. A key objective is to promote a forward-thinking mindset, where participants are introduced to AI tools and applications that enhance the learning experience, such as personalized learning platforms and automated grading systems. By familiarizing themselves with these technologies, educators can better meet diverse student needs and create more engaging learning environments.

The training also emphasizes fostering student creativity with AI. Educators are encouraged to design assignments and projects that allow students to use AI tools creatively, promoting technical skills, critical thinking, and problem-solving abilities. For instance, students might use AI to analyze large datasets, develop AI-based applications, or create multimedia presentations enhanced by AI-generated content.

The session will begin with an introduction to AI, covering its core principles and educational applications. Participants will understand various AI types and develop a responsible approach to using AI in education. The session will then explore practical applications of AI in designing assignments and educational materials, with presenters demonstrating how AI can create dynamic content tailored to diverse learning styles, such as personalized learning paths and adaptive quizzes.

Presenters will share their experiences integrating AI into classrooms, providing examples highlighting AI's benefits while discussing challenges and solutions. The final part of the session will be hands-on, allowing participants to practice using AI tools. Presenters will guide attendees in exploring AI applications for automating tasks and enhancing personalized learning.

Throughout the hands-on segment, participants will receive real-time support, gaining confidence in using AI tools effectively. By the end of the session, attendees will have practical experience and a toolkit of AI

resources to implement in their educational settings, empowering them to harness AI to enhance teaching and enrich student learning experiences.

References

(2023). AI literacy in K-12: a systematic literature review. International Journal of STEM Education, 10(1), 29.

L., Jayasuriya, S., Swisher, K., Mativo, J., Pidaparti, R., & Robinson, D. (2022). Mapping in-service teachers' thinking about artificial intelligence before and after professional development.

(2019). Artificial intelligence in education: Challenges and opportunities for sustainable development.

Innovative Teaching: Small Changes, Big Impact on Student Learning

Wendy Bratina*, HACC*

Abstract: This session introduces educators to practical ideas that can be incorporated into their courses to enhance student success. These evidence-based practices can be used across course modalities and at varying times in the semester, and have a positive impact on students' learning and motivation. Participants will be offered a chart of practices handout that will enable them to see the specific impact that each practice can have on student learning. They will leave with ideas for implementing small practices in their own courses with a set of tools that support student engagement.

Since the future of learning no longer equals the "sage on the stage," today's educators must focus on using pedagogy that shows evidence of effectiveness. In the 2023-2024 academic year, this educator completed coursework taken through the Association of College and University Educators (ACUE) in "Effective Online Teaching Practices." In the proposed presentation, this educator will offer ideas gleaned from that coursework and her own experiences with over 20+ years in the classroom. These ideas can be incorporated effortlessly into courses to enhance student success. Utilizing a framework of addressing a variety of student needs, topics will include how to: a) Motivate and excite students, 2) Support students by offering structure, and 3) Differentiate instruction to address variance among students, 4) Be transparent with activities and their link to learning and career skills, 5) Create equity, and 6) Enhance student success through intentional practices. Concrete examples will be shared with participants on how they can make small changes that will impact student learning. Participants will be offered a chart of practices handout that will enable them to see the specific impact that each practice can have on student learning. Additionally, participants will be asked to brainstorm small changes that can be made in their courses, what they hope to achieve by doing so, potential challenges, and the impact their practices will have on students.

Learning Objectives
Participants will:
1) learn about evidence-based practices that enhance student success.
2) gain an understanding of how to support students, even before they enter your course.
3) attain knowledge of how to adjust course delivery in real time to meet the needs of students.
4) be provided an opportunity to brainstorm small changes that can be made in their own courses, and commit to implementing one or more practices.

References

Trending Topic: High-Impact Practices. https://www.aacu.org/trending-topics/high-impact

ACUE Toolkits: Resources for Faculty, Staff, and Administrators https://acue.org/toolkits/

(2020). ATD teaching and learning toolkit: A research-based guide to building a culture of teaching and learning excellence. Silver Spring, MD: Achieving the Dream. https://achievingthedream.org/teaching-learning-toolkit/

Integrating Service-Learning in Digital Marketing Education: Bridging Theory and Practice for Future-Ready Students

Tiffanie Turner-Henderson, *Unknown*
PhD, *Wingate University*

Abstract: The research explores digital marketing education through service-learning, highlighting its benefits for students and non-profits. Emphasizing experiential learning, it shows how students gain real-world skills and non-profits receive advanced marketing strategies. Using case studies and empirical data, it examines service-learning's impact on student employability, non-profit effectiveness, and the practical application of theory. The findings reveal that service-learning fosters community engagement, social responsibility, and improved academic performance, offering a transformative educational model. This research demonstrates how bridging theory and practice equips students with essential skills for success in digital marketing.

This proposal aligns with the CHEP conference theme of embracing the future of learning by showcasing how innovative pedagogical approaches like service-learning can enhance educational outcomes. It provides a blueprint for integrating experiential learning into digital marketing education, preparing students to meet the demands of a rapidly changing industry.

References

(2023). Simulations or Client Projects? Aligning Social Media

Journal of Marketing Education, 0(0). https://doi.org/10.1177/02734753231152156

(Eds.). (2018). Developing evaluative judgement in

Routledge.

(2014). Reflecting on experiential learning in marketing education. The Marketing

Review, 14(1), 97-108.

(2021). Bridging the Gap between Service and Learning within

Journal of Service-Learning in Higher Education, 13, 71-88.

(Ed.). (2000). Civic responsibility and higher education. Greenwood Publishing

Group.

A. (2014). Experiential learning: Experience as the source of learning and

FT press.

D. (2008). High-impact educational practices. Peer Review, 10(4), 30-31.

S., & McKay, M. (2019). To be or not to be: service-learning in a higher education

Bordón: Revista de pedagogía, 71(3), 205-220.

Interdisciplinary and Multi-Course Project-Based Learning - Coordinating Complex Cross-Course Projects

Steve Matuszak, Carolyn Kogan*, Virginia Tech*

Abstract: Project-based learning provides students with valuable experience applying classroom learning. The challenge, however, involves creating meaningful value for students and partner recipients. Cross-course project-based learning offers project partners substantive value through leveraging students who specialize in multiple relevant areas of strategic support. This Roundtable centers on current project-based learning for business clients crossing 3-5 Pamplin Marketing courses: 1) Marketing Communications; 2) Marketing Research; 3) Media & Content Marketing; and (soon) 4) Professional Sales; and 5) Sales Management. Author(s) will share best practices while participants will discuss and learn how they can design cross-course projects to serve their students and communities.

While I have enjoyed success converting my Pamplin courses to project-based learning, and my students have accomplished partner project goals, the challenge lies in the breadth and depth of typical marketplace partner needs. Most organizational needs are complex and, as a result, require complex solutions. Similarly, when I encounter partners that need Marketing or other business function support (which often spans the continuum from specialized to general assistance), it often crosses functional areas. For instance, some businesses need help with a specific identified target market (i.e., "Can you help us investigate the viability of expanding to Indonesia"), while some seek generalized support (i.e., "Can you help us understand the Marketing function as none of us have that background?"). Either of these requests, however, involves more than just the foundations of Marketing. They also require cross-disciplinary knowledge, integrations, and solutions like Digital, Research, Strategy, Communications, and more.

This is why most organizations internally leverage cross-functional teams. As a result, to better serve our project partners and model marketplace realities for our students, I'm offering a more complete set of student teams across multiple courses, each specializing in distinct aspects of the project deliverables. For instance, while my MKTG 4304 Marketing Communications course acts as the strategic hub for the project, student teams from other courses contribute specialized solutions within the larger strategic "Go-To-Market" framework. This includes MKTG 4154 Marketing Research teams providing U.S. and international-based market research along with custom-designed research tools for partners to conduct their own primary research. In addition, MKTG 4164 Social-Media and Content Marketing teams provide a detailed Digital & Social Media Marketing strategy as a subset of the larger Marketing Communications strategy.

By Feb 2025 (CHEP Conference), my colleagues and I will have completed our first full semester (Fall 2024) of this cross-course approach to project-based learning with client partners, including several large VA-

based businesses funded through the Virginia Economic Development Program (VEDP) and Virginia International Trade Alliance (VITAL). With these more challenging clients come more challenging environments in which cross-course student teams can collaborate to identify and plan more complex solutions.

For Roundtable Discussion - we will share and discuss:

- Best practices and pitfalls.
  - o What worked and needs improvement from Fall 2024
- Logistical insights.
  - o Building partner agreements and contracts, individual and student team commitments, charters, and more.
  - o Communicating and coordinating across course student teams and TAs.
  - o Establishing multi-team relationships with partner organizations and scheduling common and separate meetings.
- Pedagogical insights
  - o Scaling and iterating assignments.
  - o Dividing assignment, presentation, and final report deliverables within and between course teams.
- Identifying cross-course collaborators and administrative support.
- Identifying external funding and partner sources.

Our key Roundtable goals are to:

1) Ignite participants' passion for cross-course project-based learning.
2) Equip participants to build and sustain effective cross-course projects that meaningfully impact student learning.
3) Connect collaborative cross-course project instructors within and across universities, colleges, and departments.
4) Exchange best practices to enhance cross-course-project outcomes.

Introduction to Interior Design in K-12 Education Through Computational Thinking

Alp Tural, *Virginia Tech*

Abstract: This project introduced a STEM course module integrating interior design with computational thinking for K-12 education, addressing performance gaps in spatial and computational thinking while fostering creativity and problem-solving skills. Students learned to read 2D building plans and applied coding principles through color coding and robotics. The program was implemented in three visits to a fourth-grade STEM class in Montgomery County. While no empirical student data was collected, the hands-on experience provided valuable insights into the feasibility and engagement potential of this interdisciplinary approach, paving the way for future refinements and broader implementation across various school systems.

Initiatives to improve K-12 education in science, mathematics, engineering and other technology-related subjects in the US grew significantly in the last 15 years. Still, data on science and engineering indicators presented by the National Science Foundation show "persistent performance gaps" and reveal opportunities of improvement in a wide range of areas. The data on science and engineering indicators revealed that 'computational thinking' is one of the STEM fields where US students scored lower than international

averages. Research findings on STEM and STEAM practices and pedagogical approaches have identified several challenges, ranging from limited parent and community involvement to insufficient teacher preparation. This study specifically focused on two key issues: the limited curricular integration due to differences in teaching methods and the overemphasis on engineering, while also acknowledging design thinking only as part of engineering, which may overshadow other disciplines.

The main goal of this community outreach project was to create an interior design-centered elementary school STEM course fostering three-dimensional design thinking.

Key objectives were:

- Teach elementary students read and interpret two-dimensional building drawings, using school schematic plans as relatable examples.
- Develop students' understanding of basic architectural symbols used in plan views.
- Introduce the concept of egress and safety planning by visualizing emergency exit routes on schematic plans.
- Supporting computational thinking using color coding and mini bots:
  a. Program robots to navigate between spaces
  b. Map emergency evacuation routes on the school plan
  c. Develop problem-solving skills by programming alternate routes

This module aligns with the Interior Design Educators Council's mission to educate youth about interior design, clarify industry misconceptions, and promote diversity in the field. Long-term goals include increasing diversity, equity, and inclusion in STEM education and promoting digital literacy from an early age.

To address differences in learning styles, the following activities were designed and implemented through three visits to a fourth-grade STEM class in a Montgomery County elementary school. Fifty-four 4th grade students were exposed to:

- Interactive presentations introducing interior design, building drawings and basic symbols.
- Hands-on activities using smart boards, 3D renders, and small-scale school plan prints.
- Kinesthetic exercises focusing on wayfinding and route mapping.
- 3D printed models to enhance spatial visualization.
- Computational thinking activities using Ozobots for color-coded navigation on floor plans.

The initial implementation of the module yielded promising results and valuable insights. Fourth-grade students demonstrated active engagement with interior design concepts and computational thinking, indicating the module's effectiveness in capturing their interest and facilitating learning. The STEM teacher provided positive feedback, confirming the module's appropriateness for the grade level and its alignment with curricular goals. This implementation also highlighted areas for potential improvement, particularly the need to incorporate more analytical thinking activities to further enhance the STEM learning experience. Additionally, practical challenges emerged during the coding activities, especially when using Ozobots. These challenges, such as the importance of line thickness, drawing quality, and environmental lighting for accurate bot performance, provided crucial insights for refining future iterations of the module. These outcomes collectively offer a strong foundation for further development and expansion of the program.

References

(2023). K-12 Interior design education task force. https://idec.org/idec-call-for-k-12-interior-design-education-task-force/

(2023). Teaching Approaches for STEM Integration in Pre-and Primary School: a Systematic Qualitative Literature Review. International Journal of Science and Mathematics Education, 21(Suppl 1), 11-39.

(2021). International comparisons of computer science performance ICILS study. https://ncses.nsf.gov/pubs/nsb20211/student-learning-in-mathematics-and-science#international-comparisons-of-computer-science-performance

F., Herro, D., King, E., & Plank, H. (2020). STEAM designed and enacted: Understanding the process of design and implementation of STEAM curriculum in an elementary school. Journal of Science Education and Technology, 29(4), 499-518.

(n.d.). K-12 Standards and education, computer science standards of learning. https://www.doe.virginia.gov/teaching-learning-assessment/instruction/computer-science

(1995). Sensory experience, abstraction and teaching. In L. P. Steffe & J. Gale (Eds.), Constructivism in education (pp. 369-383). New Jersey: Lawrence Erlbaum Associates, Inc.

Learning to Teach Digital Literacy: Faculty as Learners

Nicole Derenne*, University of North Dakota*

Abstract: This roundtable identifies practical and effective instructional strategies for assisting faculty across disciplines and ranks to integrate digital literacy into their teaching practices and engage in learning transformation. It examines the impact of collaborative discussions, AI tool instruction, and co-curricular partnerships with academic librarians on faculty learning. A key discussion element will be revisions to an institutionally-supported workshop to promote faculty learning transformation and digital literacy instruction.

What does being digitally literate mean in an era of artificial intelligence? More crucially, how do faculty learn how to teach the digital literacy skills students need to navigate dynamic digital spaces? As digital technologies like artificial intelligence become integral to many professions, higher education institutions must equip faculty to effectively teach digital literacy to advance student success and promote digital equity (Chetty et al., 2018). Incorporating digital literacy instruction into undergraduate programs creates a unique challenge: faculty are tasked with teaching digital literacy skills without having direct, prior pedagogical experiences attentive to digital literacy. This roundtable dives into the heart of this challenge by exploring how faculty participants in a librarian-led workshop learned to teach digital literacy.

Digital literacy spans basic computer proficiency to navigating complex social and ethical issues in dynamic digital spaces (Eshet-Alkalai, 2004; Falloon, 2020). This roundtable discusses findings from a qualitative study on an original co-curricular initiative at the University of North Dakota (UND) and offers insights applicable to institutions nationwide. Following a state directive to include digital literacy in the general education curriculum (State Board of Higher Education, 2023), UND added digital information literacy to its general education program and provided a workshop run by academic librarians to prepare faculty to incorporate

digital literacy learning objectives in their courses. Faculty from across disciplines and institutional ranks who did not have prior, direct pedagogical practices attentive to digital literacy attended the workshop.

The roundtable discussion will center on findings from a qualitative phenomenological study grounded in transformative learning theory. It explores faculty experiences of learning to teach digital literacy, how librarians and administrators perceived their roles, and the instructional strategies and co-curricular initiatives that promoted learning transformation. Findings reveal that while faculty valued instruction on AI tools, transformative learning occurred primarily through small and large group discussion exercises. Learning transformation occurred most profoundly when faculty and academic librarians collaborated as instructional partners. Revisions to the workshop agenda and insights into the pros and cons of engaging faculty in transformative learning experiences will be discussed.

References

(2018). Bridging the digital divide: Measuring digital literacy. Economics, 12(23), 1-21. https://doi.org/10.5018/economics-ejournal.ja.2018-23

(2004). Digital literacy: A conceptual framework for survival skills in the digital era. Journal of Educational Multimedia and Hypermedia, 13(1), 93-.

(2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. Educational Technology Research and Development, 68(5), 2449-2472. https://doi.org/10.1007/s11423-020-09767-4

(2023, June 27). SBHE Policy 461 digital literacy. SBHE Policy 461 Digital Literacy.

Lesson Study as a Tool to Cope with Instructional Challenges

Monday Moju, *Virginia Tech*
Oluwasegun Fashakin, *Lagos State Ministry of Education*

Abstract: Educators encounter many obstacles in effectively planning and delivering instruction. One of the most significant challenges is the constraints of curriculum standards, which can hinder teachers from customizing lesson plans to meet the needs and situations of chemistry students. Lesson study, a collaborative professional development, has been reported to be a potential means to address these instructional challenges. Two chemistry teachers will participate in this study to understand how lesson study might help them cope with instructional design and implementation challenges in chemistry.

This study investigates the impact of lesson study, a collaborative professional development approach, on chemistry teachers' abilities to navigate lesson planning and teaching challenges in Nigerian schools. Traditional educational practices often neglect students' prior knowledge and perspectives, leading to less engaging and effective learning experiences. Constructivist theory underscores the importance of building on students' prior knowledge to make learning meaningful, but it remains unclear how teachers can effectively incorporate this into lesson design. This study seeks to explore how lesson study, guided by the 5E instructional model, can assist chemistry teachers in addressing these challenges.

The literature reveals a disconnect between traditional curriculum-driven lesson planning and the need to consider students' prior knowledge (Arthurs, 2019). Research indicates that understanding students' prior experiences can lead to more meaningful and engaging lessons (Jones, 2009). Lesson study, a professional development approach that originated in Japan, is recognized for its effectiveness in fostering student-centered instruction (Fujii, 2016). Although widely studied in mathematics education, there is a gap in understanding its application in chemistry, particularly within the Nigerian educational context (Collet & Nakawa, 2022).

This qualitative study will examine the experiences of two chemistry teachers from public secondary schools in Lagos, Nigeria, who will participate in a lesson study intervention. The teachers, pseudonymously named "Titi" and "Funmi," each have at least five years of teaching experience and were selected based on their willingness to engage in professional development aimed at improving their lesson planning and instructional delivery skills.

The study will focus on four stages of the lesson study—goal setting, lesson planning, implementation, and reflection—to understand how these stages help teachers address the challenges of teaching complex chemistry topics. Two primary research questions will guide the study: (1) What challenges do chemistry teachers face in planning and teaching chemistry lessons? (2) How does the lesson study process help chemistry teachers cope with these challenges?

Data collection will involve interviews, collaborative weekly virtual meetings, and reflective writing. Initial interviews, conducted via WhatsApp, will explore the challenges teachers encounter in lesson planning and teaching. Weekly virtual meetings will facilitate collaborative lesson planning using the 5E model, and teachers will engage in reflective writing after each stage of the lesson study. The data will be analyzed using an inductive coding process as outlined by Jason and Glenwick (2016), which includes immersion in the data, generation of initial codes, identification of themes, review of themes, and definition and naming of themes. The themes will align with the research questions, focusing on the challenges of lesson planning and instructional delivery and how these challenges are addressed through the lesson study process.

The study is expected to demonstrate that lesson study provides a supportive framework for chemistry teachers to collaboratively tackle the challenges of lesson planning and teaching.

References

A. (2019). Using student conceptions about groundwater as resources for teaching about aquifers. Journal of Geoscience Education, 67(2), 161-173. https://doi.org/10.1080/10899995.2018.1561111

S., & Nakawa, N. (2022). Lesson study on two continents: Contextual differences reflected in teachers' pedagogy, affect and processes. International Journal for Lesson & Learning Studies, 11(4), 260-274. https://doi.org/10.1108/IJLLS-03-2022-0043

(2016). Designing and adapting tasks in lesson planning: A critical process of lesson study. ZDM, 48(4), 411-423. https://doi.org/10.1007/s11858-016-0770-3

(2016). Handbook of methodological approaches to community-based research: Qualitative, quantitative, and mixed methods. Oxford University Press.

D. (2009). Motivating students to engage in learning: The music model of academic motivation. International Journal of Teaching and Learning in Higher Education, 21(2), 272-285.

Leveraging ChatGPT and Large Language Models for Enhanced Accounting Education

Min Cao, *University of Northern Colorado*

Abstract: In the rapidly evolving education landscape, the infusion of Artificial Intelligence (AI) and Large Language Models (LLMs) has emerged as a transformative force, reshaping traditional pedagogical approaches across diverse disciplines. Within the domain of accounting education, where the acquisition of analytical skills and adaptability to technological advancements are paramount, integrating these cutting-edge technologies presents an unprecedented opportunity. This Educational and Teaching Note seeks to explore the potential of integrating ChatGPT, along with the broader AI and LLM frameworks, to enhance the educational experience in accounting disciplines.

This study uses concrete and practical examples to discuss how to utilize large language models (LLMs) and their impact, specifically in the realm of accounting education. LLMs can be integrated into accounting education in many ways to enhance student learning experiences and assist educators with pedagogical tools. LLMs are powerful educational tools. However, they still make many mistakes, particularly with math at this stage. Wood et al. (2023) found that ChatGPT correctly answered 56.5% of 28,085 accounting questions. We illustrated some types of mistakes ChatGPT can make using examples.

This study focuses on ChatGPT because of its popularity. More specifically, we chose ChatGPT 3.5, considering that students will most likely use this version because it is free.

In the subsequent sections, we will introduce the usage of prompts and present concrete and practical examples to illustrate the advantages and limitations of integrating LLMs in accounting education.

Prompts are instructions or queries given to the LLM interface to get responses. They are channels for users to interact with LLMs. Expressed in natural language, the prompt controls the output generated by LLMs. It can contain contextual information, questions, desired types of outputs, etc. Similarly to natural languages, the more detailed and precise the prompts are, the better the outputs from LLMs are.

It is an important skill to learn to ask the right questions. Similarly, it is essential to learn to enter the correct prompts. Prompt engineering is a technique used in AI to reach this goal. It involves writing high-quality prompts that help AI models generate high-quality outputs. Some components of prompts include 1) the roles of the user, 2) task description, 3) input data explanation, 4) output content request, 5) output data format request, 6) output data explanation, 7) examples, etc.

One important prompting skill is iterative prompting. Iterative prompting is to enter follow-up prompts after the outputs from previous prompts. LLMs remember the previous discussion and can hold long conversations with the users like humans. LLMs and users can have an ongoing exchange where the users refine queries to get more accurate, relevant, or in-depth information. In many cases, a sequential prompt following outputs is particularly helpful in the education realm for more extensive and personalized learning.

We start the discussion with a simple example.

Example 1
Prompt: I am a first-year college student majoring in Accounting. I am learning the discount term for

merchandise companies. On April 6, Year 1, Home Furnishings purchased $25,200 of merchandise from Una Imports, terms 2/10 n/45. On April 8, Home Furnishings returned $2,400 of the merchandise to Una Imports for credit. What would Home Furnishings pay if they made a payment on April 16? Can you give me detailed step-by-step instructions?

The usage of ChatGPT with this example and follow-up examples will be demonstrated in real-time at the Roundtable Discussion.

References

A., M. P. Achhpilia, M. T. Adams, S. Aghazadeh, K. Akinyele, M. Akpan, K. D. Allee, A. M. Allen, E. D. Almer, and D. Ames, et al. (2023). The ChatGPT artificial intelligence chatbot: How well does it answer accounting assessment questions? Issues in Accounting Education 38 (4): 81-108. https://doi.org/10.2308/ISSUES-2023-013

Leveraging Generative AI: Enhancing Course Design and Learning Experiences

Amanda Banks, *East Tennessee State University*

Abstract: This roundtable explores the pilot use of Generative AI—AI systems that create content from existing data—to design and implement a foundational course in an educator preparation program. Generative AI is utilized to address the diverse cultural backgrounds of students and varying levels of prior knowledge. The session will focus on how Generative AI supports the development of inclusive course materials and adaptive assessments. Participants will discuss practical applications, benefits, and challenges, and provide feedback on the pilot study. The discussion aims to share insights and foster collaborative opportunities for integrating Generative AI into pedagogy.

Overview: Generative AI offers transformative potential for enhancing higher education pedagogy by supporting inclusive teaching practices. This roundtable will focus on a pilot study where Generative AI is employed to design and enhance a foundational course in an educator preparation program. As the sole presenter, I will share insights from this pilot, which aims to address the diverse cultural backgrounds of students and varying levels of prior knowledge.

Pedagogical Topic: The discussion will focus on the following key areas:

1. Developing Inclusive Course Materials: Examine how Generative AI can assist in creating course content that is culturally inclusive, ensuring that all students have access to relevant and engaging materials.
2. Designing Adaptive Assessments: Discuss the use of Generative AI to develop assessments that adjust to different levels of student prior knowledge, offering a more accurate measurement of student progress and understanding.
3. Enhancing Student Engagement: Explore how AI-generated content can create personalized and engaging learning experiences that cater to diverse learning styles and needs.

Discussion Points:

1. Pilot Study Overview: Introduce the pilot study, including the context of the educator preparation program, the specific AI tools used, and the study's objectives.
2. Practical Applications: Share examples of how Generative AI has been applied in course design and assessment, highlighting successes and challenges encountered during implementation.
3. Benefits and Challenges: Facilitate a discussion on the potential benefits of Generative AI, such as

improved inclusivity and personalized learning, and address challenges including technical limitations and faculty adoption concerns.

4. Collaborative Insights: Engage participants in sharing their own experiences and strategies related to integrating Generative AI into their teaching practices. Solicit feedback on the pilot study and discuss potential improvements and strategies for broader implementation.

Expected Contributions: Participants will gain insights into the use of Generative AI for developing inclusive course materials and adaptive assessments. The roundtable will provide a platform for presenting early findings from the pilot study, receiving feedback, and exploring strategies for effective AI integration. I hope to refine my approach based on peer input and identify opportunities for future collaboration.

Expected Outcomes: The session aims to equip educators with actionable strategies for leveraging Generative AI to enhance pedagogy. Attendees will gain a deeper understanding of AI's applications in course design and assessment and benefit from collaborative discussions addressing practical challenges and potential solutions. The roundtable will foster networking and collaborative exploration of innovative educational practices.

References

(2024). Exploring the factors affecting the adoption of AI techniques in higher education: Insights from teachers' perspectives on ChatGPT. Journal of Research in Innovative Teaching & Learning.

(2023). Learning to work with the black box: Pedagogy for a world with artificial intelligence. British Journal of Educational Technology, 54(5), 1160-1173.

S., & Radzilowicz, J. (2024, June). Responsible adoption of generative AI in higher education: Developing a "points to consider" approach based on faculty perspectives. In The 2024 ACM Conference on Fairness, Accountability, and Transparency (pp. 2033-2046).

(2024). Leveraging artificial intelligence (AI) as a critical friend: The affordances and limitations. Studying Teacher Education, 1-24.

(2024). An AI workshop for the overwhelmed and uninterested. Teaching and Generative AI.

Making Connections: Organically-driven Approaches to Celebrating Faculty Success

Denise WIlkinson, Phil Guilfoyle, *Co-Chair of INTEL Committee*
Kathy Stolley, *Future Chair of INTEL Committee*

Abstract: Fostering a culture of faculty appreciation and recognition by college and university administrations is a key facet in enhancing workplace satisfaction and retention, and in building supportive institutional strategies. This poster focuses on three faculty-initiated and faculty-led initiatives at Virginia Wesleyan University, coordinated via the university's committee on Innovative Teaching and Engaged Learned (INTEL), that celebrate faculty success. These selected initiatives - a newsletter, a campus-wide social gathering, and a speaker spotlight - are each designed for a specific audience, rooted in best practices, and can be easily instituted even if limited resources are a concern.

Making Connections: Organically-driven Approaches to Celebrating Faculty Success

Denise Wilkinson (Mathematics), Philip Guilfoyle (Art), and Kathy Stolley (Sociology)

Faculty that feel appreciated and recognized by their college and university administrations are more likely to be faculty who are satisfied with their workplace and perhaps more likely to retain (e.g., Sahl, 2017). As one study of higher education institutions across seven countries concludes, "faculty recognition should be a key component of the institutional strategy, possibly one of the investments with the most impactful, positive return" (Benito and Scott-Milligan, 2018: 7). Explorations of best practices recognize the importance of fostering a culture of faculty appreciation that recognizes and rewards success in ways large and small, formal and informal, coming not only from upper administration but also from bottom-up faculty initiatives (e.g., Benito and Scott-Milligan, 2018; Canale, Herdklotz, and Wild, 2014; Provost's Task Force, 2012; Sahl, 2017).

This poster focuses on three "bottom-up" facets of Virginia Wesleyan University's larger faculty recognition structure, each of which has grown organically via the institution's committee on Innovative Teaching and Engaged Learned (INTEL). These selected initiatives are each faculty-initiated and faculty-led efforts, designed for a specific audience and rooted in best practices (e.g., Canale, Herdklotz, and Wild, 2014; Provost's Task Force, 2012).

The Pharos: monthly newsletter, the title drawn from the classical verbiage for a lighthouse.

The Pharos highlights self-submitted faculty accomplishments in their respective fields through publications, presentations, service/community engagement, and more. These newsletters are available online and featured in a regular emailing widely distributed beyond campus, to include trustees, funders, community partners, and others.

Feathers in Your Cap: annual campus-wide social gathering displaying faculty accomplishments from the past year.

This event recognizes faculty for their professional endeavors throughout the year, to include publications, professional presentations, garnering grants and awards, tenure and promotion, and designing community engagement activities and events. It also provides an opportunity for networking and community-building.

Focus on Faculty: in-house faculty speaker series.

Faculty are encouraged and supported in presenting their work to faculty colleagues in venues that intentionally promote a cross-disciplinary community of scholars across the campus. Faculty are able to enhance their teaching, learn about their colleagues' research, and share best practices, among other benefits. Additionally, INTEL has provided transportation and funding toward housing for faculty who attend the Conference on Higher Education Pedagogy at Virginia Tech, a faculty instituted initiative that becomes a feature of each's spring "Focus on Faculty" showcase.

References

2018. "Hearing the Voice of Faculty: Global Recommendations for Faculty Recognition in Higher Education Institutions." Higher Learning Research Communications. 8 (2/December): 1-8.

2014, Spring. "Inspiring a Culture of Appreciation @ RIT." Faculty Career Development Services, The Wallace Center, Rochester Institute of Technology.

2012, 26 March. "Report of the Task Force on Celebrating Faculty Success." Florida Atlantic University.

2017. "The Importance of Faculty Appreciation and Recognition: A Case Study of One Institution." Humboldt Journal of Social Relations. 1 (39): 246-259.

Maximizing Meaning and Motivation: The Utility Value Intervention

Eric Magrum, *James Madison University*
Mika Manninen, *Dublin City University*

Abstract: This session was developed as a brief workshop on how (and why) to infuse utility value interventions into classrooms. Within the session pertinent literature will be covered, common strategies will be outlined, and time will be dedicated toward creating schemes to enhance the student experience. Participants will then be challenged and provided time to devise their own utility value intervention and share their work within small groups and with the larger group.

Helping students find meaning in course material is certainly something I struggle with, and I imagine other educators struggle with as well. Therefore, constructing creative outlets that help students create their own meaning has considerable merit and inspires student motivation. The utility value intervention is a simple, classroom-based intervention designed to engage students and improve their motivation.

Introduction

The session will start with my story and discovery of utility value interventions. This includes why this work has been impactful to my students as well as how I've adapted it over the years.

Grounding the material in research

After sharing my story, I will highlight the theoretical underpinnings of why utility value interventions may be effective. Specifically, expectancy value theory and utility value interventions will be covered (briefly).

Expectancy value theory

- Students' motivation to engage in a particular behavior is based on two factors: 1) their expectancy for success and 2) their value for the outcome. (Eccles & Wigfield, 2003)

Highlight common strategies used in the research

I will then highlight the most common intervention strategies used within the research, highlight ways in which each could be used within a classroom and prompt participants to visualize how they could utilize each style. My hope is to provide participants with a metaphorical menu of interventions that will allow them to "choose" an intervention style that suits their needs.

- Direct utility value intervention
- Self-generated interventions
- Self-focused vs. other focused
- Proximal (present) vs. distal (future) interventions
- Peer Quotations
- Letters
- Prosocial interventions

Think-Pair-Share

Building on the previous sections, participants will be asked to pair themselves into groups of between three and four. They will then be prompted to think about which intervention style is most feasible for them and how they might implement it in their classroom. After ample time has been provided, each group member will be asked to share their thoughts with their small group. I will facilitate these discussions as I walk around the room. After each group has been able to discuss, we will then move to discuss these ideas as a larger group.

The goal is to engage the audience in a brainstorming session illuminating the various styles/ways in which participants may employ this strategy for their own classroom/discipline.

Summary & Conclusion

To conclude the session, I will provide a brief overview of the covered material, engage the audience in a thumb indicator activity and leave time for questions/general discussion.

References

(2018). Improving Performance and Retention in Introductory Biology with a Utility-Value Intervention. Journal of Educational Psychology, 110(6):834-849. doi: 10.1037/edu0000244

S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. Annual Review of Psychology, 53, 109-132. http://dx.doi.org/10.1146/annurev.psych.53.100901.135153

(2022). Beyond utility value interventions: The why, when, and how for next steps in expectancy-value intervention research. Educational Psychologist 57(1), 11-30.

(2021). Prompts to promote success: Evaluating utility value and growth mindset interventions on general chemistry student's attitude and academic performance. Journal of Chemistry Education 98, 1476-1488.

Measuring the Motivational Climate in Graduate Courses Using the MUSIC Model Inventory and Strategies

MING LI, *Shanghai University of Engineering Science*
Brett D. Jones, *Virginia Tech*

Abstract: Research indicates that the MUSIC Model of Motivation strategies can be used to engage students by fostering a positive motivational climate in college courses. We used some of the MUSIC strategies to redesign a graduate course in order to examine the change throughout part of a semester. The results indicated that the MUSIC strategies were effective in increasing students' motivation and effort, and that students rated the teacher higher. We will discuss how the MUSIC Inventory can be used as a practical measure of the motivational climate to help instructors choose engaging strategies in their courses.

1. Introduction

Graduate English Teaching has always been an important part of China's higher education system, and the syllabus emphasizes the active interaction in class and the scientific teaching evaluation. However, most of these instructors seldom understand the theories and practice of motivation research in educational psychology. Therefore, we decided to implement strategies based on the MUSIC Model of Motivation (Jones, 2009, 2018) to determine if they can be used to improve students' motivation and effort by fostering a positive interactive environment throughout half of a semester.

2. Theoretical Framework

The MUSIC Model of Motivation theory (Jones, 2009, 2018) includes five categories of motivational teaching strategies: eMpowerment, Usefulness, Success, Interest, and Caring. MUSIC is an acronym for these five categories, and this model and associated inventory help instructors identify motivational climate weaknesses in the course and then redesign their instruction to motivate their students in their learning (Jones et al., 2020).

3. Methods

3.1 Participants and Course

Participants were 47 graduate students at a public university in the eastern China enrolled in an English course. The course included reading and listening sections, which is common in English language courses. The researchers redesigned the course by borrowing several activities from the book entitled "Motivating Students by Design" (Jones, 2018), such as pair work, group presentation, and gallery activities. Students were surveyed at five different times throughout the course.

3.2 Measures

This survey included one scale, the MUSIC Model of Academic Motivation Inventory (Jones, 2012/2021) and several other individual items to measure motivation, effort, and teaching ratings. All items in the questionnaire were rated on the same six-point Likert scale. A mean score was computed for each scale by averaging all the items in each scale.

4. Results and Discussion

4.1 Students' Course Perceptions

The results show that students' course perceptions increased gradually both in the reading section and the listening section of the course, except that caring and success did not increase in the reading section. These results indicate that the MUSIC model strategies were effective for graduate English teachers to use as they redesigned their classes and then created a positive motivational climate.

4.2 Students' Motivation, Effort, and Teaching Ratings

The results also indicated that students' motivation was always higher than their effort in class, except for Time 3 in the reading section. The results also indicate that students' motivation, effort, and teaching ratings increased over time in the course, both in the reading and the listening section.

5. Conclusions

We identified two major findings. First, the MUSIC model of motivation strategies are ideal and practical means for reforming graduate English courses. The application of the MUSIC strategies can enhance students' MUSIC course perceptions, motivation, effort and ratings of teaching. Secondly, the MUSIC inventory can reliably measure changes in the motivational climate in a graduate class, empowering teachers to become better class managers and effective instructional designers. We believe that the process we used to evaluate the motivational climate can be used by instructors in other courses.

References

D. (2009). Motivating students to engage in learning: The MUSIC Model of Academic Motivation. International Journal of Teaching and Learning in Higher Education, 21(2), 272-285. https://www.isetl.org/ijtlhe/ijtlhe-article-view.php?mid=774

D. (2018). Motivating students by design: Practical strategies for professors (2nd ed.). CreateSpace. https://vtechworks.lib.vt.edu/handle/10919/102728

D., Biscotte, S., & Harrington Becker, T. (2020). Using a motivation model and student data to redesign general education courses: An examination of a faculty development approach. Journal of General Education, 69(3-4), 235-250. https://doi.org/10.5325/jgeneeduc.69.3-4.0235

(2016). College student academic motivation and engagement in the college English course. Theory and Practice in Language Studies, 6(9), 1767.

D., Williams, T. O., & Guo, Y. (2022). Chinese students' perceptions of the motivational climate in college English courses: Relationships between course perceptions, engagement, and achievement. Frontiers in Psychology, 13, 853221.

(2017). An intervention to increase students' engagement and achievement in College English classes in China using the MUSIC model of motivation. August 2nd, 2024, Retrieved from https://vtechworks.lib.vt.edu/server/api/core/bitstreams/9a39804a-a631-40c5-bc6a-28d5d08facf0/content

Measuring the effectiveness of Faculty Learning Communities

Shawn Bielicki, Alexandra Barnett, *Liberty University*

Abstract: This research inquiry measured the effectiveness of Faculty Learning Communities (FLC) by analyzing participation in a recent academic interdisciplinary faculty book study. Faculty members who opted to participate in a monthly interdisciplinary book study were quantitatively queried shortly after the study's conclusion using a 6-point Likert scale via a Qualtrics survey. Findings indicate that faculty found merit and value by participating, noting positive impacts on their sense of belonging, constructive impact on their teaching practices, increased levels of self-reflection as practitioners and an enhanced sense of community. Qualitatively faculty recognized the benefit of collaborating and sharing with colleagues across disciplines.

Faculty Learning Communities (FLCs) are beneficial for interdisciplinary faculty development, fostering collaboration, innovation, and a sense of belonging among educators. One particularly effective form of FLC is the faculty book study, where educators from diverse disciplines come together to explore texts that challenge their thinking and inspire new teaching practices. According to Stowell et al. (2020), interdisciplinary FLCs encourage faculty members to engage in meaningful dialogue, share teaching strategies, and develop innovative approaches to curriculum design. The integration of interdisciplinary perspectives within faculty book studies allows faculty members to break down traditional academic silos, creating a more cohesive and dynamic learning community that benefits both educators and students alike.

In addition to promoting interdisciplinary collaboration, FLCs centered around book studies contribute to faculty members' sense of belonging and professional identity. Dancy et al. (2019) highlight that participation in FLCs allows faculty to reflect on their teaching practices, receive constructive feedback, and build supportive relationships with colleagues across disciplines. The shared experience of reading and discussing a common text within a book study fosters a sense of community and shared purpose, positively affecting faculty well-being. As faculty engage in these interdisciplinary book studies, they are empowered to grow personally and professionally, ultimately enhancing their contributions to their institutions and the broader academic community (Vescio et al., 2008).

This small-scale research study measured the effectiveness of Faculty Learning Communities (FLC) by analyzing participation in a recent academic interdisciplinary faculty book study. Interested faculty were each provided a complimentary copy of an academic book and met inside the Center for Teaching Excellence monthly for a semester. They read a couple of chapters ahead of each session. While meeting they shared their thoughts about the chapter, as well as how the content can be applied to their discipline and teaching practices. Members were quantitatively queried shortly after the study's conclusion using a 6-point Likert agreement scale via a Qualtrics survey.

Findings indicate that faculty found merit and value by participating, noting positive impacts on their sense of belonging (5.6/6), constructive impact on their teaching practices (5.2/6), increased levels of self-reflection as practitioners (5.2/6), and an enhanced sense of community (5.8/6). Qualitatively faculty recognized the benefit of collaborating and sharing with colleagues across disciplines. One participant noted, "Please keep hosting these studies! I think it is so important at such a large institution to foster a sense of community amongst faculty from different disciplines." Another commented, "This has been very beneficial to think through ideas with colleagues."

Findings led Center for Teaching Excellence to continue offering these interdisciplinary book studies, as well as expand Faculty Learning Communities.

Objectives:
Upon completion, participants will be able to:

- Define Faculty Learning Communities.
- Identify value in participating in interdisciplinary faculty book studies.
- Explain research findings for faculty book studies in the areas of sense of belonging, impact on teaching practices, self-reflection, and sense of community.

References

C., Rundquist, A., & Henderson, C. (2019). Faculty online learning communities: A model for sustained teaching transformation. Physical Review Physics Education Research, 15(2), 020147. https://doi.org/10.1103/PhysRevPhysEducRes.15.020147

F., Gunn, A. A., Ambush, H., Mbatu, R. S., Crampsie, C., Moore, L., Wadlinger, N., & Rote, W. (2020). Implementing a cross-discipline early career faculty learning community: A case study. Journal of Faculty Development, 34(2), 45-53.

(2008). A review of research on the impact of professional learning communities on teaching practice and student learning. Teaching and Teacher Education, 24(1), 80-91. https://doi.org/10.1016/j.tate.2007.01.004

Navigating Career Readiness in a Changing Educational Landscape

Joe Wirgau, Lee Svete, Cora Burt, Jennifer McDonel*, Radford University*

Abstract: The value of higher education in the United States is under increased scrutiny from rising skepticism about the worth of a college degree. In response, colleges are focusing on workforce readiness, utilizing tools like the NACE career readiness competencies. Our presentation compares an in-house assessment system with a commercial software to evaluate student skills. The results demonstrate alignment between student and faculty assessments, contrasting with national studies. Additionally, the Center for Career and Talent Development has implemented a 10-step career readiness checklist, fostering skill development through targeted tasks. Details of these tools and their impact will be presented.

The value of higher education in the United States is facing heightened scrutiny due to growing skepticism about the worth of a college degree (Cengage Group, 2022; Strada Education Network, 2021). This scrutiny is intensified by declining enrollment rates, the lasting impact of the global pandemic, influential social

movements, and the increasing politicization of education (Smalley 2021). In response, colleges and universities are focusing more on the skills and workforce readiness of their graduates (National Association of Colleges and Employers [NACE], 2024). One tool being implemented to frame students' workforce readiness in higher education is the National Association of Colleges and Employers (NACE) career readiness competencies. NACE has identified eight competencies needed for medium- and long-term success in the workforce: career and self-development, communication, critical thinking, equity and inclusion, leadership, professionalism, teamwork, and proficiency with technology. With the adoption of these competencies, there is a growing need to assess and measure them. Last summer, NACE announced a partnership with Suitable to launch the NACE Readiness Assessment software system. Our institution recently adopted the Career Readiness Report, a similar software package that offers a 360-degree review of students and is administered by the Center for Career and Talent Development (CCTD). The previous year, an in-house system was piloted on a first-year research experience cohort.

Our presentation will compare the positives and negatives of using a self-built system versus a commercially available system, as well as student perspectives on receiving a 360-degree evaluation of their career readiness competencies or skills. Students in the first-year research experience and their faculty mentors previously provided similar assessments. Students were more confident in their abilities to demonstrate career and self-development, critical thinking, leadership, and teamwork. Faculty ranked students higher in their ability to navigate technology; both students and faculty ranked communication, equity and inclusion, and professionalism identically. Interestingly, when the assessment was parsed further to individual behaviors, students and faculty also ranked skills nearly identically. This is in contrast with national surveys of students and employers, where students evaluated themselves higher in all career readiness categories (Association of American Colleges and Universities [AAC&U], 2018; National Association of Colleges and Employers [NACE], 2020).

To support student development of these skills, the CCTD has implemented a 10-step career readiness checklist that helps students develop their competencies through tasks based on the NACE model. CCTD Career Coaches introduce the checklist during one-on-one advising sessions and group workshops. Students then track their development with tasks that are critical to identifying career pathways, writing their first college résumé, preparing for interviews, creating professional media, applying for internships, and much more. Our presentation will discuss the implementation of this new checklist and its initial impact on our students.

References

(2018). Fulfilling the American dream: Liberal education and the future of work. Washington, DC: Author.

(2022). 2022 graduate employability report. https://info.cengage.com/employability-report_rept_1761959

(2020). Job outlook 2020. Bethlehem, PA: Author.

(2024). 2024 NACE job outlook. https://www.naceweb.org/docs/default-source/default-document-library/2023/publication/research-report/2024-nace-job-outlook.pdf?sfvrsn=57be133e_5

(2021). Higher education and the pandemic: Supporting student success and access. Education Commission of the States. https://doi.org/10.1002/ets2.12275

(2021). 2021 Strada outcomes survey: Student outcomes beyond completion. https://cci.stradaeducation.org/pv-release-oct-27-2021/

Navigating and Integrating Inclusive Concepts and Paradigms in Health Sciences

Alisha Farris, Ayron Walker, Danielle Nunnery, Heather Schier, *Appalachian State University*

Abstract: As higher education evolves, integrating inclusive concepts and cultural competence into education and practice remains both a challenge and an opportunity. This roundtable discussion aims to address the complexities of incorporating diverse perspectives, including eating disorders/weight bias, gender diversity, race/ethnicity, and physical and intellectual disabilities, into health science curricula and practice. Presenters will introduce preliminary data and share their own techniques being integrated in the classroom. We seek to explore best practices through guided discussion questions that will identify barriers and facilitators from others' practices and experiences. We anticipate this session will foster skill sharing, resources, and guide future collaborations.

As the field of higher education evolves, integrating inclusive concepts and cultural competence into education and practice remains both a challenge and an opportunity. The integration of inclusive paradigms in health sciences is essential for preparing future professionals to serve diverse populations effectively. However, the process is fraught with challenges, including resistance to change, lack of resources, and limited understanding of how to address various dimensions of diversity. This discussion will focus on creating a more inclusive educational framework that recognizes and respects the complexities of identity and experience.

Objectives:
To explore the current state of inclusivity in higher education, including how well it addresses eating disorders, weight bias, gender diversity, race/ethnicity, and disabilities.
To present preliminary data on the current educational practices and identify gaps.
To engage participants in a dialogue about best practices for integrating inclusive concepts and cultural competence into health science curricula.
To discuss actionable strategies for improving inclusivity and addressing identified challenges.
Produce a resource library for participants.

Format: The roundtable will begin with a brief presentation of preliminary data gathered from recent surveys with educators and students across health sciences. This will be followed by a moderated discussion involving all participants. The discussion will investigate other strategies participants are integrating into their practices in higher education or research.

Key topics will include:
Eating Disorders and Weight Bias: Exploring how higher education professionals instruct about weight and provide current strategies in addressing the connections between eating disorders and weight through awareness and evidence-based practices.
Gender Diversity: Exploring how gender diversity is represented in curricula and how educators can create an environment that respects and acknowledges all gender identities.
Race/Ethnicity: Discussing strategies for incorporating diverse cultural perspectives and practices into higher education.

Physical and Intellectual Disabilities: Building empathy and awareness through novel methods to train future healthcare clinicians to provide more inclusive care.

Participant Engagement: Participants will be encouraged to share their experiences, challenges, and successes in integrating inclusive practices into their own educational settings. The discussion will be facilitated to ensure all voices are heard, and strategies for overcoming barriers will be collaboratively developed.

Conclusion: Integrating inclusive concepts and cultural competence into higher education is crucial for advancing the field and providing equitable care. This roundtable will serve as a platform for sharing knowledge, fostering collaboration, and developing actionable strategies to enhance the inclusivity of higher education and practice.

Navigating the Unseen Paths of EdTech Innovation: A Journey Through Interdisciplinary Collaboration and Authentic Learning

Bryce Kyanuma, Karen Messer-Bourgoin, Alicia Johnson*, Virginia Tech*

Abstract: This practice session explores the hidden curriculum of educational technology innovation through the lens of a two-year Jupyter Notebook integration project. We'll discuss how navigating institutional challenges, interdepartmental collaborations, and unexpected pivots provide rich learning experiences for graduate assistants. Participants will engage in interactive activities demonstrating the complexities of EdTech projects and the invaluable skills developed beyond traditional coursework.

This session addresses the critical need for authentic learning experiences in graduate education, particularly in instructional design and educational technology. By examining a real-world project, participants will gain insights into the complexities of EdTech implementation, and the invaluable skills developed through such experiences. The interactive elements will allow participants to reflect on how they can create similar opportunities in their programs, fostering graduates who are better prepared for the realities of the field.

Session Objectives

Participants will:

- Explore the hidden curriculum in complex EdTech projects
- Crowdsource strategies for successful interdepartmental collaboration
- Learn techniques for adaptive project management in academic settings
- Discuss ways to integrate authentic learning experiences into graduate programs

Session Outline

1. Introduction
   - Overview of the Jupyter Notebook integration project
   - Introduction to the concept of "hidden curriculum" in EdTech projects
2. The Realities of EdTech Innovation
   - Timeline breakdown: Challenges and unexpected turns
   - Interactive element: Audience shares similar experiences
3. Interdisciplinary Collaboration and Problem-Solving
   - Role of graduate assistants as subject matter experts

- Activity: "Project Dependency and Pivot Mapping" exercise
- Group discussion on creative problem-solving strategies

4. The Hidden Curriculum: Beyond Technical Skills (10 minutes)
- Identifying unexpected learning outcomes
- Bridging theory and practice in graduate education

5. Q&A and Closing Thoughts
- Open floor for questions and shared experiences
- Key takeaways for implementing similar projects and recognizing hidden learning opportunities

Engagement Methods

Participants will engage through:
- Sharing personal experiences with EdTech projects
- Participating in a "Project Dependency and Pivot Mapping" exercise
- Group discussions on problem-solving strategies and hidden curriculum elements
- Q&A session for personalized insights and advice

Online Education in Case Presentation and Teleconsultation for Veterinary Students

Posukonis Megan, Laura Van Vertloo, McQuinn Erin, Jergens Al, Melissa Tropf*, Iowa State University*

Abstract: An online training program in veterinary clinical case presentation and teleconsultation delivered to pre-clinical DVM students has yielded preliminary data. Early voluntary participation has been low, though participants express strongly positive feelings toward the program. Training success was evaluated with case-based assignments scored via rubric. Post-program scores were significantly higher than pre-program scores in specifying the client complaint/goals, obtaining and communicating pertinent physical exam findings, consolidating diagnostic results, and specifying answerable questions for the consultant. Future work aims to evaluate a larger and more varied cohort of participants within this training program.

Despite the growing demand for specialty services in small animal veterinary medicine, veterinary students do not consistently receive formal training in their curricula dedicated to consultation with a veterinary specialist [1, 2]. The case presentation and clinical reasoning framework required for effective teleconsultation is employed in clinical-year training, though explicit education is lacking, and this is often a skill within the "hidden curriculum" [1, 2]. We have developed an online training program for pre-clinical veterinary students to provide and practice a framework for efficient case consolidation that facilitates verbal case presentation and teleconsultation, clinical reasoning, and professional communication. Efficacy of the training program was assessed with two case-based assignments to mimic teleconsultation in small animal internal medicine, one given before the training program and one given after, with students randomized to each case. A scoring rubric modified from the Assessment of Reasoning Tool published by the Society to Improve Diagnosis in Medicine was used to evaluate each submission. Upon completion of the training program and case-based assignments students were asked to provide feedback on the program.

The training program was offered on a voluntary extracurricular basis with a $15 incentive for any students completing the program to 3rd year pre-clinical veterinary students. Of 147 eligible students, elective participation was low with just 8 students having completed the entirety of the training program. Pre-training self-assessment scores in clinical reasoning and case presentation scores were high. Further, students' expected

scores based on self-assessment were frequently lower than grader scores on the case-based assignments administered before the training program. Students' self-perceived competency may have been a barrier to voluntary extracurricular participation.

The total clinical reasoning score was significantly higher ($p = 0.001$) in the post-training program submissions compared to pre-training submissions (mean 21.5 vs 13.3 points). Assessment categories including soliciting and specifying the client complaint/goals, obtaining and communicating pertinent physical exam findings, consolidating diagnostic results, and specifying answerable questions for the consultant showed significant improvement in post-program submissions compared to pre-program submissions. Though students' ability to outline a problem list and differential diagnoses did show improvement, this difference was not statistically significant in this cohort ($p= 0.13$). Students frequently failed to outline differential diagnoses in both pre- and post-program submissions despite this being a critical component outlined in the training program, highlighting that developing differential diagnoses remains one of the greatest challenges in clinical reasoning facing practitioners in training.

Of the 6 students that provided post-program feedback, all indicated that this training program was minimally stressful to their education, provided valuable education, and should be a required part of the 3rd (pre-clinical) year DVM curriculum, though this likely represents a significantly biased population.

Our online training program has demonstrated early efficacy in improving clinical reasoning and case presentation skills in pre-clinical veterinary students. Future work aims to implement this program as a mandatory assignment within the DVM curriculum to evaluate the efficacy and utility of this training content and modality amongst a larger and more varied cohort of participants.

References

A survey of knowledge and use of telehealth among veterinarians. BMC Vet Res. 2019 Dec 30;15(1):474. doi: 10.1186/s12917-019-2219-8. PMID: 31888632; PMCID: PMC6937652.

Reinhard AR, Hains KD, Hains BJ, Strand EB. Are They Ready? Trials, Tribulations, and Professional Skills Vital for New Veterinary Graduate Success. Front Vet Sci. 2021 Dec 23;8:785844. doi: 10.3389/fvets.2021.785844. PMID: 35004927; PMCID: PMC8732754.

Open Educational Resources: Tailor Your Textbook, Not Your Course Design

Laura Neser, Anita Walz, Kindred Grey, *virginia tech*

Abstract: Instructors often design course content around commercial textbooks, which dictate the sequence of topics and impose financial burdens on students. This poster presentation explores an alternative: using existing open educational resources (OER) to create custom textbooks that align with your course structure. By adapting OER, instructors can organize topics in the order that best suits their teaching, providing students with free, accessible materials. Additionally, many institutions offer grants and technical assistance to support the development of these tailored resources, offering a flexible, cost-effective solution that prioritizes course objectives over predesigned textbooks.

In higher education, the traditional textbook regularly serves as the cornerstone of course design, yet the widespread reliance on commercial textbooks has long been a point of contention. These textbooks often dictate the sequence and depth of topics covered in a course, forcing educators to adapt their course design to

the textbook rather than designing a course that best matches the instructor's pedagogical approach. Additionally, the high cost of these textbooks places a financial strain on students, sometimes hindering their academic success.

However, there is an alternative approach: adapting existing open educational resources (OER) to develop textbooks or other course materials tailored to the instructor's pedagogical approach and course objectives. OER are freely available, openly-licensed educational materials that can be reused, revised, and redistributed. They are most commonly released under a Creative Commons license which allows adaptation with attribution to the original author. These licenses enable educators to legally modify and share educational content, which is essential for freely creating customized textbooks that meet specific course needs.

Adapting existing OER to generate customized textbooks represents a significant advancement in higher education pedagogy. Educators can break free from the constraints of commercial textbooks by adopting and adapting OER, allowing them to customize content, reduce student costs, and enhance pedagogical flexibility.

This presentation draws on the examples of co-author Dr. Laura Neser's adapted open textbooks, Introduction to Earth Science (2022) and Introduction to Earth Science, second edition (2025). Since its publication, Dr. Neser's textbook has been downloaded over 170,000 times, not including additional views of the HTML version of the book at https://pressbooks.lib.vt.edu/introearthscience/. Moreover, at least 54 colleges and universities worldwide have adopted all or part of the textbook, which has been viewed in 100 countries.

The poster presentation aims to equip educators with the knowledge and tools needed to identify, adapt, and integrate OER into their courses. This process includes: (1) identifying suitable OER materials that align with course objectives; (2) adapting these materials to fit the desired course structure and sequence; and (3) utilizing grants and institutional resources to support the development of OER-based textbooks. The grants presented on this poster are specific to Virginia Tech faculty; however, similar resources may be available at your own institution to support the adaptation of OER materials in your courses. By adapting OER, instructors can create customized textbooks that are free, flexible, and aligned with their pedagogical goals. This strategy offers a practical solution to the limitations of commercial textbooks, fostering a more student-centered and flexible approach to course design.

Optimizing Student Wellness: emWave2 Biofeedback in Education

Andrea Randolph-Krisova*, Pennsylvania State University- Brandywine*
Karen Stylianides*, Pennsylvania State University- Hazleton*

Abstract: Amid growing concerns over college students' mental health, innovative stress management strategies are critical. Our research explores using the EmWave 2 biofeedback device, which monitors heart rate variability to provide real-time feedback on stress levels. By teaching students to recognize their physiological responses using emWave2, we aim to equip them with practical de-stressing tools that they can utilize during their college careers and future life. This presentation offers cognitive and affective learning outcomes related to engagement with the course content and integration of biofeedback into the curriculum as well as on empowering students to better manage their stress.

Our presentation will share the data from the pilot study that evaluated cognitive and affective student learning outcomes related to their engagement with course content and activities connected to use of EmWave2 biofeedback device, a tool used for the stress reduction.

This device was incorporated into the course curriculum. After the study consent was given to several classes, one class was utilized as a control group where students learned about and tried the device during the class time. In other classes, students used the device for a week and documented their experience through several assignments, allowing for a comprehensive assessment of its impact.

Biofeedback has shown promise as a potential stress intervention. This device is used to measure the physiological signs of stress, such as increased heartbeat, which enables the user to continuously monitor their stress levels.

Numerous studies document the increase in anxiety among U.S. college students. In the Student Mental Health Study (Active Minds, 2020), 95% of students reported that they have experienced mental health symptoms as a result of the pandemic and half (48%) reporting that these symptoms have impacted their academic performance.
Given these circumstances, it has become imperative that pre-professional college programs equip students with strategies for managing negative emotions, such as stress and anxiety. The goal is not only to increase their own wellbeing but also to strengthen their ability to integrate such strategies into their professional practice. Many universities now provide general courses, or course modules, focused on stress management techniques for students, but these are often provided by instructors who are not trained to provide interventions that may require additional training or equipment.

The monitoring process enables individuals to identify activities that lower (or raise) their stress levels, which, in turn, enables them to use the power of their minds to regulate their stress levels effectively. The efficacy of biofeedback practices was the subject of early critique, but the premise has been strengthened by subsequent medical studies, which have identified the approach as a demonstrably efficacious intervention for stress and anxiety reduction.

For these reasons, biofeedback is frequently taught in courses related to stress management, but often from a theoretical, rather than a practical, perspective. Similarly, a number of studies have focused on using biofeedback with college students to reduce their stress, but the majority of these have been conducted as psychology or counseling research. Only a handful of studies have examined how the biofeedback approach can be effectively and efficiently integrated into classroom instruction. The present study seeks to address this gap with the intention of fostering a college student that is proficient in a wide range of stress reduction strategies.

We will share the findings based on the data that was collected across two Penn State campuses with students enrolled in the general health and wellness courses. We will focus on advantages, disadvantages of the biofeedback use, its usefulness in the course curriculum, and on perceived personal benefits of using a biofeedback.

References

(2013). Examining the efficacy of a brief mindfulness-based stress reduction (brief MBSR) program on psychological health. Journal of American College Health, 61(6), 348-360.

(2017). Brief biofeedback intervention on anxious freshman university students. Applied Psychophysiology and Biofeedback, 42, 163-168.

(2022). The mental health of university students during the COVID-19 pandemic: An online survey in the UK. PloS one, 17(1), e0262562.

C., Khramtsova, I., & Pearce, A. (2020). Stress and anxiety reduction in college students through biofeedback. College Student Journal, 54(2), 258-268.

(2011). Exploring the effectiveness of a computer-based heart rate variability biofeedback program in reducing anxiety in college students. Applied psychophysiology and biofeedback, 36, 101-112.

W., Seibert, G. S., Sanchez-Gonzalez, M. A., & Fincham, F. D. (2019). Self-regulatory biofeedback training: an intervention to reduce school burnout and improve cardiac functioning in college students. Stress, 22(1), 1-8.

2021. Risk factors associated with stress, anxiety, and depression among University Undergraduate Students." AIMS Public Health 8 (1): 36-65. https://doi-org.ezaccess.libraries.psu.edu/10.3934/publichealth.2021004

N. G., Tucci, A. M., & de Barros Viana, M. (2022). The use of biofeedback on students: a systematic review. Trends in Psychology, 30(2), 345-366.

Hegde, A. Smith, X. Wang, and F. Sasangohar. 2020. Effects of COVID-19 on college students' mental health in the United States: Interview survey study." Journal of Medical Internet Research 22 (9): e21279. https://doi-org.ezaccess.libraries.psu.edu/10.2196/21279

S., & Dince, W. M. (1981). Biofeedback efficacy studies: A critique of critiques. Biofeedback and Self-regulation, 6, 275-288.

Overcoming Barriers to a Dialogic Mindset: The Ladder of Inference

Rob Branch, *University of Georgia*

Abstract: Students learning to develop systematic strategies of inquiry and other forms of objective research procedures are encouraged to enter these processes with a dialogic mindset. This poster illustrates the way in which the ladder of inference introduced by organizational psychologist Chris Argyris and used by Senge (1990) can be used as a conceptual framework for overcoming the barriers to a dialogic mindset. The discussion will focus on successful strategies for moving up and down the ladder of inference while crafting studies of educational research.

Students learning to develop systematic strategies of inquiry and other forms of objective research procedures are encouraged to enter these processes with a dialogic mindset. The concept of a dialogic mindset is adapted from the notion of a new model of leadership (Bushe, & Marshak, 2016). A dialogic mindset in higher education is recognized by the individual who adopts a mental model that states:

1. I have an attitude of openness.
2. I am willing to challenge my own assumptions.
3. I'm interested in learning about your perspective.
4. I'm hope to create a shared understanding.

However, students new to research often face barriers to a dialogic mindset, such as:

1. My position is right and your position is wrong; and I can prove it.
2. There are objective facts (mine); and there are mistaken beliefs, perceptions, and ideas (yours).
3. Conceding a position is a sign of weakness.
4. Research is a win-lose proposition (and I'm here to win).
5. Your disagreement with me means you are:

a. Ignorant
b. Not in possession of all the facts
c. Mistaken
d. Gullible

This poster illustrates the way in which the ladder of inference introduced by organizational psychologist Chris Argyris and used by Senge (1990) can be used as a conceptual framework for overcoming the barriers to a dialogic mindset (Figure 1). The ladder of inference is a framework for understanding the way people make decisions and can be used to promote another way of thinking about research. For example, acknowledging that the concepts of right and wrong are influenced by our core values, beliefs and worldviews. Further, we construct our own reality before gathering data.

Figure 1. Ladder of Inference

The ladder of inference sets in a pool of shared data and the rungs of the ladder of inference are: observe, select, meanings, assumptions, conclusions, beliefs, and actions (Figure 2). Going up the ladder is advocacy; coming down the ladder is inquiry (Figure 3). The discussion will focus on successful strategies for moving up and down the ladder of inference while crafting studies of educational research.

Figure 2: Up and Down the Ladder

Figure 3. Advocacy versus Inquiry

References

M. (1990). The fifth discipline: The art & practice of the learning organization. Doubleday/Currency.

G., & Marshak, R. J. (2016). The dialogic mindset: Leading emergent change in a complex world. Organization Development Journal l Spring 2016 38 Vol 34, Issue 1.

PERCEPTIONS OF RECENT HIGH SCHOOL GRADUATES ON WORKPLACE READINESS SKILLS

Tabitha Young, Natalie Ferand, *Virginia Tech*

Abstract: Employability skills change over time, and the workforce provides the transparency needed for the success of business employment. Workplace readiness skills and human capital theory configure the backbone for organizational success and sustainability.

Employability skills change over time, and the workforce provides the transparency needed for the success of business employment. Workplace readiness skills and human capital theory configure the backbone for organizational success and sustainability. This study explored recent high school graduates' perceptions of workplace readiness skills as graduates within the last three years. The perceptions explored were how recent

high school graduates viewed their level of preparedness as they entered the workplace. The graduates who participated were previous Career and Technical students in the [REGION] of [STATE]. The [State] Workplace Readiness Skills have impacted employers and prepared students for the workplace. The results indicated that the workplace readiness skills mentioned in the literature align with the required workplace readiness skills taught in all CTE courses in [State].

References

A., & Raju, V. (2019). The employability skills of higher education graduates: A review of literature. argument, 6(3). https://doi.org/10.17148/IARJSET.2019.6315

(2018). The case for employee engagement in the NHS.

S. (2009). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago press.

W., & Poth, C. N. (2016). Qualitative inquiry and research design: Choosing among five approaches. Sage publications.

E., Ashleigh, M. J., & Baruch, Y. (2018). Students' perceptions of education and employability: Facilitating career transition from higher education into the labor market. Career development international. https://doi.org/10.1108/CDI-09-2017-0171

J. (2021). Shifting Back to CTE: A Qualitative Evaluation of Current Practices in Career and Technical Education (Doctoral dissertation, Aurora University).

J., & Kautz, T. (2012). Hard evidence on soft skills. Labour economics, 19(4), 451-464.

S., Unzueta, M. M., Knowles, E. D., & Goff, P. A. (2006). Concern for the in-group and opposition to affirmative action. Journal of personality and social psychology, 90(6), 961.

M., & Muyia, M. A. (2014). Emotional intelligence and its critical role in developing human resources. Handbook of human resource development, 623-639.

W. (1972). Human capital: Policy issues and research opportunities. In Economic Research: Retrospect and Prospect, Volume 6, Human Resources (pp. 1-84). NBER.

(2014). Emotional intelligence understanding among real estate professionals. Global Journal of Business Research, 8(5), 9-16.

(2019). Soft skills and their application in the workplace. World Journal of Advanced Research and Reviews, 3(2), 066-072. https://doi.org/10.30574/wjarr.2019.3.2.0057

Pedagogical Challenge: A Medical Student Teaching An Undergraduate Anatomy Course

Alexander In, John McNamara, *Virginia Tech Carilion School of Medicine*

Abstract: A local Virginia university contacted the Virginia Tech Carilion School of Medicine for potential references for a faculty instructor to teach a human anatomy course.

Upon discussion and reflection, a third-year medical student was suggested as an option. The university and the medical student agreed that there was a good fit. The medical student accepted the adjunct faculty invitation and was given complete freedom to develop the course. This is a reflection of the challenges of a third-year medical student in developing an implementing an undergraduate anatomy course as adjunct faculty at a local university.

Introduction

Human gross anatomy has been a foundational course for many health-related professions, with knowledge of the human body being essential for a conceptual understanding of normal and pathological human structures and function. There have been efforts to develop effective pedagogical methods for teaching anatomy at the medical school level in order to ensure competent physicians and surgeons. But at the undergraduate level, there seems to be less innovative focus and emphasis on both the excitement and application of learning about the human body.

As a third-year medical student at the Virginia Tech Carilion School of Medicine, the offer of this unique opportunity to be an adjunct faculty at Hollins University for the Fall 2024 semester teaching human anatomy presented itself with many challenges. Given complete freedom of curricular development, both the lecture and the laboratory, including student assessments, has created an opportunity to not only record the journey of creating an undergraduate human anatomy course from prospective of a third-year medical student, but also reflect on the challenges of course creating, meeting the class as a faculty member, implementing sound pedagogy, creating reliable assessments and developing a grading criteria for expectations of undergraduate students.

Methods

This is a course being developed and implemented for the Fall of 2024. A diary of challenges and efforts is being collected as the course begins in September. Upon completion in December 2024, there will be a personal reflection on data from the diary.

Discussion and Conclusion

Reflection on the pedagogical challenges as a third-year medical student becoming adjunct faculty for an undergraduate anatomy course at a local university will be discussed and summarized. We hope to describe this experience for others who might have a unique teaching opportunity presented to them and then face similar challenges at such an early time in their career.

References

Traue, and Tobias M. Böckers. “The Gross Anatomy Course: An Analysis of Its Importance.” Anatomical Sciences Education 3, no. 1 (2010): 3-11.

“Best Teaching Practices in Anatomy Education: A Critical Review.” Annals of Anatomy = Anatomischer Anzeiger: Official Organ of the Anatomische Gesellschaft 208 (November 2016): 151-57.

“Optimizing the Use of Cadavers by Integrating Pathology during Anatomy Dissection.” Anatomical Sciences Education 9, no. 6 (November 2016): 575-82.

Zhang, B. Liu, and W. Yang. “What Is Anatomy for? Considerations on the Body as a Whole and Whole Anatomy.” Okajimas Folia Anatomica Japonica 75, no. 4 (October 1998): 173-84.

Pedagogical Partnerships: A Case Study

Heidi Williams, Gianna Doering, *Virginia Tech*

Abstract: Pedagogical partnerships pair an undergraduate student with a professor to collaborate on pedagogical approaches and student success. Partnerships immerse the student in their faculty partner's teaching and learning process. During Spring 2024, we piloted a partnership in a senior-level criminology course with 39 students. Using field notes and feedback session data, we show that providing students an active voice in course design bolstered autonomy and built community. Student-driven course modifications reshaped the course in ways that addressed student needs, promoted success, and increased participation. Students benefitted from the partnership because it provided them an advocate and disrupted conventional teaching methods.

Pedagogical partnerships intentionally pair an undergraduate student with a professor to reciprocally collaborate on course design, pedagogical approaches, implementation, and student success (Cook-Sather et al. 2014). Partners engage in ongoing, dynamic pedagogical reflection, which immerses the student in their faculty partner's teaching and learning process. Pedagogical partnerships are designed to apply to any discipline. As long as a professor is open to continuous dialogue with their student partner about their teaching—and is curious about the student perspective of their teaching—they can implement pedagogical partnerships. Partnerships are intended for professors who have a strong commitment to teaching and an interest in becoming more connected with their students.

The student partner's roles include 1) capturing the professor's course management and engagement with students through observation and data collection, and 2) meeting weekly with the professor to reflect on class sessions and brainstorm ideas for adjustments to create a more inclusive classroom. The student partner must be willing to share with the professor an accurate assessment of the professor's teaching style and classroom climate; whereas the professor must become a "radical listener"—meaning the professor openly receives their student partner's feedback to enhance—not critique—their teaching. Research shows that "it is only through both partners opening up to constructive critique that the full potential of a pedagogical partnership can be realized" (Pelletier and Perillán 2022: 6). Consequently, the power dynamic between the student partner and professor is disrupted. Teaching transforms from a solitary to a collaborative activity, creating a unique teaching apprenticeship for the student partner—which could (re)shape their career trajectory. The student partner acquires a level of agency that transcends the role of student as consumer to that of an agent of education (Felten et al. 2019). As a result, the student takes ownership of their knowledge and engages with authority, boosting the student's confidence.

During Spring 2024, we piloted a pedagogical partnership in a senior-level criminology course with 39 students. Using qualitative classroom field notes and data from three feedback sessions, we show that providing students an active voice in course design bolstered student autonomy and built a communal classroom. Importantly, students requested changes that were reasonable and easily implemented—most of which were enacted by the next class session. The speed at which change was enacted garnered praise from students, some of whom suggested we taught with an "ethic of care." Student input revealed that some of the professor's course policies and expectations were contradictory; therefore, offering real-time course assessments addressed student needs, promoted student success, and increased student participation. Students felt the student partner served as their advocate, a conduit between themselves and the professor—which decreased student alienation. Further, students suggested that the student partner attenuated the age gap

between enrolled students and the professor, which led to improved understanding and communication during class discussions. Overall, students in this study felt heard. They agreed that faculty should broadly implement partnerships at R1 institutions—especially in classes with high enrollments—because the partnership disrupts and unsettles the R1 classroom climate that undergraduate students traditionally experience.

References

2014. Engaging students as partners in learning and teaching: A guide for faculty. San Francisco, CA: Jossey-Bass.

2022. "Co-creating Dynamic Pedagogical Reflection: Building a Transformational Partnership through STEPP." Teaching and Learning Together in Higher Education 36(3): 1-9.

2019. "Reimagining the place of students in academic development." International Journal for Academic Development 24(2): 192-203.

Pedagogy of/with emotional Intelligence

Candace Skibba, *carnegie mellon university*

Abstract: This roundtable seeks to harness the collective intellect and emotion of the participants to share experiences around emotional intelligence in higher education. Together we will: 1) discuss survey mechanisms from the institution, department, and from instructors ourselves and their efficacy in assessing affective pedagogy, 2) examine interventions that foster emotional intelligence, and 3) analyze student assessments that reference emotionality.

Traditional educational models often perpetuate systemic inequalities and limit critical engagement. Radical pedagogy, drawing from the works of Paulo Freire, bell hooks, and Henry Giroux, seeks to dismantle these barriers by promoting participatory, student-centered learning experiences. Within these inclusive learning environments, emotional intelligence should be prioritized and carried out in symphony between instructor(s) and student(s). The Radical Pedagogy Lab (RadLab) is a research lab dedicated to advancing the theory and practice of radical pedagogy, with a focus on empirical research, curriculum development, and community engagement. The RadLab explores methods that are being carried out in higher ed classrooms with the goal of being inclusive. Preliminary research suggests that there is very little in the way of student voices regarding how they feel the classroom (documentation, space, instructor, assignments, assessments, rubrics, feedback, etc.) contributes or does not contribute to their feeling of safety and belonging.

This roundtable seeks to share my experiences creating and running the RadLab while, more importantly, harnessing the collective intellect and emotion of the participants to share experiences around emotional intelligence in higher education.

Together we will: 1) discuss survey mechanisms from the institution, department, and from instructors ourselves and their efficacy in assessing affective pedagogy, 2) examine interventions that foster emotional intelligence, and 3) analyze student assessments that reference emotionality.

Pedandragogy: Creating a Learning Environment that Fosters Self-engaged Learning

Timothy Cedor, *Unknown*
Ed.D., *Dallas College*

Abstract: Pedagogy and andragogy have long been debated as the best way to educate students based on their age. Pedandragogy is a model that promotes and encourages the development of effective learning environments where self-engaged learning by individuals of all ages can be fostered. This session will introduce participants to pedandragogy and how it can be utilized to create a learning environment that fosters self-engaged learning.

This session stems from my research for my dissertation in 2020-2023. I researched the perceptions of teachers teaching dual credit students in both high schools and on college campuses. My studies found a disparity between the teaching methods high school teachers use and teaching methods college professors use. High school teachers tend to use pedagogical methods they were taught while gaining their teaching license. College professors tend to use no pedagogical strategy (because they were never taught how to be a teacher) or andragogy because the average college student tends to be 18 years of age or older. Dual credit students fall in the middle of this disparity. They are kids (high schoolers) but also adults (college students). My research led me to discover pedandragogy which is a bridge to connect the teaching methodology pedagogy and the teaching methodology andragogy in the college classroom. Pedandragogy was developed in 2013, and although it does not simply mix pedagogy and andragogy together, it does merge the inclusive methodologies of both teaching strategies and allow the teacher to select the most fitting educational strategy for the situation. Pedandragogy relies on the existence of a student to self-direct, but it calls for the development of learning tools to promote student self-engagement. This session will overview the nine components of pedandragogy and how they can be combined to better reach students and help them become more engaged in their education. Not only will the session overview pedandragogy, it will allow participants time to discuss what they are learning and how they can use it or tweak it and then use it in their classrooms.

References

Ryan Glaman

He can answer any questions you may have about my methodology and this presentation since he was my guide through the entire process.

glaman@tarleton.edu

254-968-1775

Jess Kelly

Dean of Online Education at Lone Star College

We worked on various projects at Dallas College

jess.kelly@lonestar.edu

254-292-9918

Andrew Tolle

Dallas College English Department Chair

Immediate supervisor (2015-2018; 2024-present)

AndrewTolle@DallasCollege.edu

940-300-6114

Angie Cook

Director of College Readiness at UNT-Dallas

Former immediate supervisor at Dallas College (2022-2024)

Angelica.Cook@untdallas.edu

325-665-2647

Perceptions of Dual Credit Students in Entry Level College English Courses: A Qualitative Investigation

Timothy Cedor, *Dallas College*
Ryan Glaman, III, Don Beach, *Tarleton State University*
J. Russell Higham, *Unknown*

Abstract: This study focused on the issue of the conflicting opinions between high school dual credit teachers and college dual credit professors regarding the capabilities of dual credit students in entry-level English courses and professional development opportunities for teachers to better address those capabilities. The study concluded there are conflicting opinions between high school dual credit teachers and college dual credit professors regarding the capabilities of dual credit students, mainly stemming from the area of student maturity, and both groups are in search of professional development to help them better teach this population.

I'm honestly not sure if this fits better under inclusive pedagogy or instructional strategies. I could not select both. This is a paper I wrote after completing my dissertation on this topic and the listed author's were my dissertation committee. The paper was recently submitted to New Directions for Higher Education and is currently under review for possible publication in that journal. Based on their submission criteria, I can read the paper at your conference.

My dissertation, and this paper, focus on the pedagogical issues arising for high school teachers who teach dual credit courses and college professors who teach dual credit courses. My study consisted of four high school dual credit teachers and four college professors at independent school districts and a community college that had educational partnership agreements. The results of this study suggested high school dual credit teachers and college professors share similar goals and expectations of dual credit students, but dual credit high school teachers viewed dual credit students through different lenses in regard to academic readiness and maturity compared to college professors. These differences create issues in how these teachers pedagogically approach

their students, and these differences have an impact on the success of dual credit students. and the ongoing perceptions of these students by community college professors.

While the majority of dual credit students attend community colleges, there is a growing number of American universities that offer dual credit programs. I believe my research is applicable to four year schools as well as community colleges. The issues my participants identified as obstacles to the perceptions of dual credit students do not change regardless of whether the student is attending a two year or a four year college. While I have not conducted a study of four year professors, I firmly believe what I found at the community college level would highly likely be replicated on a four year campus. This not only makes my research applicable to community college staff and faculty attending this conference, but it becomes applicable to four year college staff and faculty as well.

References

Ryan Glaman, Ph.D.

Associate Professor

He was the chair of my dissertation committee

Tarleton State University

glaman@tarleton.edu

Russell Higham, III Ph.D.

Retired Professor

He served on my dissertation committee

Tarleton State University

jrusshigh@gmail.com

Beach, Ph.D.

Tarleton State University

Beach passed away in April of 2023. He was a valuable contributor to my doctoral dissertation from which this article stems. I would like him to be listed posthumously as an author if possible. Thank you.

Jess Kelly

Dean of Online Education at Lone Star College

We worked on various projects at Dallas College

jess.kelly@lonestar.edu

254-292-9918

Angie Cook

Director of College Readiness at UNT-Dallas

Former immediate supervisor at Dallas College (2022-2024)

Angelica.Cook@untdallas.edu

325-665-2647

Practical Strategies for Integrating AI in the College Classroom: To Enhance, not Replace, Learning

Grace Onodipe, Ali Kooti, Jason Delaney*, Georgia Gwinnett College*
Kathleen Burke*, SUNY - Cortland*

Abstract: This session delves into practical strategies for integrating generative AI tools, such as ChatGPT, into college classrooms to enhance, rather than replace, learning. Drawing on our experiences in teaching Business Statistics and Economics, we will share how AI was used as an interactive tutor as well as a study aid to personalize teaching and boost student engagement. Attendees will learn effective methods for incorporating AI into classroom activities. The session emphasizes the benefits of AI in higher education and offers practical and clear takeaways for educators aiming to help students develop the critical AI literacy skills essential for today's workforce.

This session will explore strategies for integrating generative artificial intelligence (AI) tools, like ChatGPT, into college classrooms to enhance student learning. We will focus on how AI can be used to personalize teaching, improve student engagement, and support a more effective learning environment.

Drawing on our experience teaching Business Statistics and Economics courses in both asynchronous online and face-to-face formats, we will share how AI tools were employed as interactive tutors and as personalized study aids. For example, we introduced several AI assignments that guided students through different modes of AI interaction—ranging from structured tutoring sessions to generating their own prompts for learning.

One of the key strategies involved using a prompt designed to transform the AI into an upbeat, encouraging tutor that guides students through their learning process. The AI tutor begins by introducing itself and asking students about their learning goals and current knowledge of the concept they seek to learn. It then provides tailored explanations, examples, and analogies while encouraging students to think critically. This interactive and supportive approach helps students deepen their understanding of concepts and builds their confidence.

AI was also used to create individualized review materials for exams. We developed review assignments where students used AI to generate personalized practice problems and data for exam preparation to further enhance their understanding and engagement with the material.

A discussion thread was created for students to share how they have used AI for non-academic tasks. This activity encouraged creativity, demonstrated AI's versatility, helped to demystify AI, and fostered a positive mindset toward its use in everyday life. Conference participants will gain insights into how these strategies made learning more engaging and personalized.

We will discuss how we implemented these strategies, including how initial, mid-semester, and end-of-semester surveys were used to assess student attitudes towards AI. This session will model effective ways to

integrate AI into classroom activities and emphasize the underlying reasons and benefits of using AI in teaching and learning.

Attendees to this session will have the opportunity to engage in interactive discussions and share their experiences and ideas on AI integration across various disciplines. This session aims to provide practical and clear takeaways for educators looking to adopt AI tools in their own classrooms as they help students develop the critical AI literacy skills essential for today's workforce, as AI becomes increasingly integrated into various industries.

Pride and Bias: Helping Students Find Intellectual Humility

Andrew Marx, Jeffrey Murray, *Virginia Commonwealth University*

Abstract: Do your students think they know better than the experts? Are their minds made up before inquiry even begins? This session will explore the concept of intellectual humility as a habit of mind and unifying theme for critical thinking coursework. Standing opposed to intellectual humility is intellectual pride, which has roots in cognitive biases. This session will explore these connections and describe a course unit that addresses them. Session participants can share experiences with this problem. In breakout groups, they can discuss situations where intellectual pride obstructs learning goals and brainstorm approaches to assignments and activities to cultivate intellectual humility.

Instructors in inquiry-based general education courses face a difficult problem. Many students are inclined to approach projects of interest to them with their minds already made up about challenging questions. Such self-assurance leads them to judge evidence and arguments in ways that only support their prior judgments. In short, many students are susceptible to confirmation bias and motivated reasoning. Further, many students tend to overestimate their grasp of new subject matter. This phenomenon is known as the Dunning-Kruger effect. Students under the sway of these factors exhibit what we call "intellectual pride." It hinders curiosity, creativity, and problem solving.

The Focused Inquiry program at Virginia Commonwealth University comprises foundational gen-ed courses for first year students. The program's shared curriculum heavily emphasizes critical thinking skills. In recent years, a small cohort of faculty have piloted different variations of "Habits of Mind" curricula to complement the standard skills-based approach. This session will showcase an effort to build a rich critical thinking course unit around the concept of "intellectual humility." As a habit of mind, intellectual humility can be understood as a persistent awareness of one's own fallibility (Leary 2021). That habit can manifest as a tendency to moderate one's decision making in light of uncertainty, and as a tendency to qualify one's own judgment. It represents the very opposite of intellectual pride.

This course unit explores major cognitive biases as sources of both human fallibility and a general inability to recognize that fallibility.Central to this approach is a course unit on cognitive bias that focuses on confirmation bias, motivated reasoning, and the Dunning-Kruger effect as drivers of unwarranted certainty. Beginning with a research project that prompts active learning about the nature and causes of cognitive biases, students go on to research and evaluate strategies for overcoming them. A major group presentation project allows students to share evidence to support different strategies, and discuss practical techniques for implementing them. They reflect on how they can incorporate those strategies into their own lives to develop better habits of inquiry.

Before, during, and after the project, students are prompted to reflect on intellectual pride and humility in online discussion forums. Their reflections, supported by their progress in research and writing, reinforce awareness of how biases have affected their own judgments and habits of inquiry. They also raise awareness of how these problems manifest in wider society, and how their newfound strategies for mitigating bias can help them in future inquiry.

Session participants will be able to discuss their own experiences with this problem. In small breakout groups, they will describe activities and assignments where intellectual pride stands as an obstacle to their learning goals. We will brainstorm approaches to revising or restructuring assignments and activities to make opportunities to cultivate intellectual humility.

References

(2016). Confirmation Bias. The Skeptic's Dictionary. Retrieved from http://skepdic.com/confirmbias.html

(1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. Journal of Personality and Social Psychology, 77(6), 1121-1134. https://doi.org/10.1037//0022-3514.77.6.1121

(2021, November 3). What does intellectual humility look like?. Greater Good. Retrieved from https://greatergood.berkeley.edu/article/item/what_does_intellectual_humility_look_like

Critical Thinking Activities and the Enhancement of Ethical Awareness: An Application of a 'Rhetoric of Disruption' to the Undergraduate General Education Classroom. Open Review of Educational Research 2, 1 (2015): 240-258. http://dx.doi.org/10.1080/23265507.2015.1084478

(2023). Developing a Habits of Mind-based Curriculum for the First-Year Seminar: The Design and Implementation of a Pilot Project. Journal on Excellence in College Teaching, 34(1).

(2023). Try a Touch of Intellectual Humility. Nature (London), 622(7981), 203-205. https://doi.org/10.1038/d41586-023-03063-w

Promoting Equity in Higher Education Through No-Code AI

Annus Azhar, *Arizona State University*

Abstract: This session is designed for higher education professionals who want to enhance their teaching with no-code AI tools. Participants will learn to integrate these tools into their courses to foster innovation and improve student engagement. Using research methods as a case study, the session will demonstrate the practical applications of AI in course design and delivery. Attendees will gain hands-on experience with no-code platforms like MindStudio.com and leave with strategies to implement AI tools in their respective disciplines, aligning with the conference theme, "Embracing the Future of Learning."

Introduction:

The increasing integration of AI in various sectors presents higher education professionals with opportunities and challenges. One significant challenge is making AI accessible to all students, particularly those without technical backgrounds. This session empowers educators by introducing them to no-code platforms like

MindStudio.com, which allow the creation of AI applications without requiring programming skills. Educators can enhance student learning, promote equity, and prepare students for a technology-driven future by integrating these tools into their courses. This session will focus on using AI in teaching research methods, providing a model that can be adapted to other disciplines (Anderson & Rainie, 2018; Luckin & Cukurova, 2019).

Theoretical Framework:

The session is rooted in constructivist and experiential learning theories, emphasizing the role of active, hands-on learning in constructing knowledge (Kolb, 1984; Vygotsky, 1978). By incorporating no-code AI tools into their teaching, educators can create interactive learning environments where students engage directly with content and concepts, deepening their understanding through practical application. This approach is particularly effective in research methods courses, where students must grasp complex analytical tools and methodologies (Bruner, 1960; Dewey, 1938).

Practical Application: Building AI Tools for Research Methods

The session will use research methods as a case study to demonstrate how no-code platforms can be integrated into course design. Participants will explore creating AI tools that streamline various research processes, such as automating data coding, generating hypotheses, or conducting preliminary data analysis. For instance, educators can guide students in developing an AI tool that helps them identify patterns in large datasets by automating the initial sorting and categorization of quantitative data. This hands-on approach allows students to interact with real-world data, apply research methodologies, and develop practical AI skills that enhance their understanding of complex research concepts (Binns, 2018).

Ethical and Pedagogical Considerations:

Educators must consider the ethical implications of using AI in teaching, including issues of data privacy and algorithmic bias. This session will discuss strategies for designing AI applications that uphold ethical standards and promote inclusivity.

Interactive Components:

Participants will engage in a hands-on activity using MindStudio.com to build a simple AI tool relevant to teaching research methods. This interactive session will allow educators to experience firsthand how no-code platforms can be used to create educational tools that enhance student learning. Participants will leave with a prototype AI tool they can adapt and implement in their courses and a deeper understanding of the pedagogical benefits of AI integration (Isaacs, 2023).

Conclusion:

The session will conclude with discussing best practices for integrating no-code AI tools into higher education curricula. Participants will be equipped with strategies for applying these tools in their respective disciplines, aligning with the broader mission of fostering innovative, inclusive, and future-ready learning environments (Stanford HAI, 2024).

References

(2018). Fairness in Machine Learning: Lessons from Political Philosophy. Proceedings of the 2018 Conference on Fairness, Accountability, and Transparency, 149-159.

(2023). How AI tools both help and hinder equity in higher education. Inside Higher Ed.

A. (1984). Experiential Learning: Experience as the Source of Learning and Development. Prentice-Hall.

(2019). Designing Educational Technologies in the Age of AI: A Learning Sciences-Driven Approach. British Journal of Educational Technology, 50(6), 2824-2838.

(2024). AI Will Transform Teaching and Learning. Let's Get it Right. Stanford HAI.

S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.

Realizing Inclusive Student Excellence through Faculty Development and Student Engagement

Merrie Winfrey, Susan Schoppelrey*, Radford University*

Abstract: The Realizing Inclusive Student Excellence (RISE) program, Radford University's Quality Enhancement Plan, aims to increase successful course completion rates, decrease equity gaps, and improve sense of academic belonging for our students. We are reaching this goal through a faculty institute and community action teams. The faculty institute, a year-long professional development program, teaches inclusive pedagogy topics such as recognizing and combating microaggressions and implicit biases, trauma-informed and culturally relevant pedagogies, UDL and backwards course design. College-level community action teams provide support for students through inclusive events and initiatives. RISE program design and preliminary results will be presented.

The Realizing Inclusive Student Excellence (RISE) program, Radford University's Quality Enhancement Plan, aims to increase successful course completion rates, decrease equity gaps, and improve sense of academic belonging for our students. Grade outcomes disaggregated by race indicate systemic inequities in successful course completion (earning A, B, C, or P) and disadvantages our Black students specifically. We are tackling this problem through faculty professional development in inclusive pedagogy and college-level action teams that support students to improve belongingness.

The faculty institute, a year-long professional development program, teaches inclusive pedagogy topics such as recognizing and combating microaggressions and implicit biases, trauma-informed and culturally relevant pedagogies, UDL, and backwards course design. The faculty redesign a course during the Backwards Course Design class and then implement the course the following academic year. During implementation, faculty continue their engagement through a Community of Practice in the form of journal club or teaching squares. Faculty participation is incentivized through course release time and a summer stipend. Fourteen faculty completed the first iteration of the program, and we will present evidence of change.

College-level community action teams support students through inclusive events and initiatives designed based on data from equity reports. The flagship program, Food For Thought, provides free breakfast items as well as an opportunity for students to build connections with their faculty members. Other events and initiatives include college-level communal office hours, sponsoring Black History 101 mobile museum and other culturally relevant events, and hosting de-stress events such as tie-dye or painting.

Continual assessment and reflection are key to the success and progression of the RISE program. Challenges and opportunities, key findings, and action steps based on our first year of the RISE program will be presented.

References

(2005). Closing the achievement gap in higher education: An organizational learning perspective. New Directions for Higher Education, 2005(131), 99-111.

(2022, June 15). Inclusive and active pedagogies reduce academic outcome gaps and improve long-term performance. PLOS One.

(2007). Sense of belonging in college freshmen at the classroom and campus levels. The Journal of Experimental Education, 75(3), 203-220.

(2020). From equity talk to equity walk: Expanding practitioner knowledge for racial justice in higher education. Jossey-Bass.

Reflecting on Classroom Space to set Active Learning Expectations

Anne-Lise Velez, Anne Patrick, Rachael Budowle, Kevin Jones, Enric Ruiz-Geli, *Virginia Tech Honors College*
Bradley Stephens, *Virginia Tech School of Public and International Affairs*

Abstract: Studies of classroom design on learning largely focus on children's classrooms or schools. Less, however, is understood about effects of classroom design university students. We ask: What qualities of classroom spaces do students initially note? and What learning expectations or opportunities do those qualities signal to students? Survey data and discussion artifacts from approximately 90 university students in eight seminars and studios show that in active learning classrooms, reflection and discussion about the physical space can help students realize and set expectations rather than having expectations communicated to them unilaterally by instructors.

Studies of classroom design effects on learning have largely focused on children's classroom environments or schools. For example, combinations of artificial and natural light and balanced visual diversity with some bright colors are associated with positive outcomes . These outcomes are particularly salient for younger children who spend most of their time in one space (Barrett et al., 2015). The qualities of learning spaces can, however, affect learners of all ages, including college students, both in signaling values and learning expectations in the environment and through direct effects of spatial features on learning outcomes. We do know some effects of classrooms on college students. For example, Lee et al. (2012) show temperature, air quality, and visual environment relate to university students' self-reported learning outcomes in calculating, understanding, reading, and typing. Additionally sound is a primary factor impacting their performance. Pedagogical research finds that less traditional classroom designs increase student success (Al-Samarraie et al., 2019; Feng et al,. 2024; Yang et al., 2013), especially in active learning classrooms (ACLs) (Park & Choi, 2014). Beichner and Saul (2003) show Student Centered Active Learning large university classrooms spaces with laptop connectivity, large round tables, computer projection screens, and extensive whiteboards improved various learning outcomes, in part, because they increased student-teacher interactions. Similar technology-enabled active learning classrooms have positive outcomes including lowering failure rates (Dori & Belcher 2004).

Despite these findings, room remains to further understand how classroom environments affect university students (Barrett et al. 2015). As such, we ask: What qualities of classroom spaces do students initially note? and What expectations or opportunities do those qualities signal to students? To address these questions, we surveyed approximately 90 university students in eight seminars and studios in two large, flexible, ALCs. We asked whether and how the space differs from their usual university classrooms and how the space affects their expectations for the course. We administered surveys as non-credit icebreaker activities, which formed the basis for discussions during the first week of courses, before course expectations were communicated to

students.

Preliminary findings show that most students reported not having taken classes in the spaces previously, and that they were different than the spaces in which they typically have classes. They noticed the openness and natural light in the spaces and indicated that the grouped, moveable tables with seating and overall layouts indicated to them that they would be expected to engage in collaborative group work rather than lectures. Open floor plans suggested that they would likely be engaging in hands-on activities, movement, and interaction. These reflections largely align with instructors' pre-established course objectives and learning outcomes, suggesting that students realized expectations without instructors having to unilaterally communicate them. We conclude that in ALCs, drawing student attention to the space through reflection and discussion can be a useful pedagogical tool to have them think intentionally about the space and its purposive layout, in an emergent way that helps students set and realize learning expectations.

References

I. (2020). A flipped classroom model in higher education: a review of the evidence across disciplines. Educational Technology Research and Development, 68(3), 1017-1051.

(2012). The impact of school buildings on student health and performance. A Call for Research.

(2015). The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis. Building and environment, 89, 118-133.

J., & Saul, J. M. (2003). Introduction to the SCALE-UP (student-centered activities for large enrollment undergraduate programs) project. Proceedings of the International School of Physics, (July), 1-17.

J., & Belcher, J. (2004, April). Improving students' understanding of electromagnetism through visualizations-A large scale study. In Paper submitted to the 2004 NARST Annual Meeting-the National Association for Research in Science Teaching Conference, Vancouver. Online at< http://web. mit. edu/jbelcher/www/TEALref/dori. pdf.

http://www.ncsu.edu/per/Articles/Varenna_

C., & Lan, H. (2024). Understanding university students' perceptions of classroom environment: A synergistic approach integrating grounded theory (GT) and analytic hierarchy process (AHP). Journal of Building Engineering, 83, 108446.

C., Mui, K. W., Wong, L. T., Chan, W. Y., Lee, E. W. M., & Cheung, C. T. (2012). Student learning performance and indoor environmental quality (IEQ) in air-conditioned university teaching rooms. Building and Environment, 49, 238-244.

L., & Choi, B. K. (2014). Transformation of classroom spaces: Traditional versus active learning classroom in colleges. Higher Education, 68, 749-771.

M., Kpamma, Z. E., & Agyefi-Mensah, S. (2020). Impact of indoor environmental quality on job satisfaction and self-reported productivity of university employees in a tropical African climate. Building and Environment, 181, 107102.

O. (2012). Indoor environmental quality in Finnish elementary schools and its effects on students' health and learning (Master's thesis, Itä-Suomen yliopisto).
https://erepo.uef.fi/bitstream/handle/123456789/11037/urn_nbn_fi_uef-20120654.pdf?sequence=1&isAllowed=y

(2013). A study on student perceptions of higher education classrooms: Impact of classroom attributes on student satisfaction and performance. Building and environment, 70, 171-188.

Refocusing and Remotivating Students on Their Education

Timothy Cedor, *Dallas College*

Abstract: As information flies at students faster than ever before and they try multitasking and filtering information to keep up, educators are sounding the alarm that a student lack of focus is now a major problem in education. This session will explore ways to refocus and remotivate students who have lost their ability to focus in and out of the classroom on their education.

This session is a result of my research into widespread college faculty comments regarding students no longer being able to focus in class and lacking the motivation to complete their education courses. Research shows that there are a wide variety of reasons students are losing focus and lacking motivation. This session will begin by talking about some of these reasons and how to identify them instead of speculating about them. Participants will then be given some strategies that some professors and institutions are finding valuable in refocusing and remotivating their students to be successful in their higher education endeavors. The session will conclude by giving participants time to discuss what they are seeing on their campus in a small group with other session participants and how what they heard in the first part of the session may be able to help them address these issues. If time permits, we will move away from the small group discussion into a larger Q&A session where participants can ask me, and the larger group, questions that clarify things we have discussed or things that guide us to a path we did not explore in the session but will help participants at their individual campus.

While researching this topic, I have taught English courses at Dallas College where I have maintained a 76% student success rate average across all of my courses since January 2021. I believe what I have learned in my research, and what I have applied from this to my courses, plays a significant role in a well above average student success rate.

References

Jess Kelly

Dean of Online Education at Lone Star College

We worked on various projects at Dallas College

jess.kelly@lonestar.edu

254-292-9918

Angie Cook

Director of College Readiness at UNT-Dallas

Former immediate supervisor at Dallas College (2022-2024)

Angelica.Cook@untdallas.edu

325-665-2647

Ryan Glaman

Was my dissertation chair at Tarleton State University

glaman@tarleton.edu

254-968-1775

Reimagining Assessment: The Impact of Oral Exams on Student Engagement

Sarah Donnelly, Aubrianne Rote*, UNC Asheville*

Abstract: This presentation explores the efficacy and pedagogical implications of oral examinations as an assessment tool in higher education. The session will address the methodological considerations for implementing oral exams, including reliability, validity, & inter-rater consistency. Additionally, we will discuss the comparative advantages of oral exams over traditional written assessments in promoting deeper learning & student engagement. Attendees will gain insights into best practices for designing and conducting oral exams, alongside strategies for overcoming potential challenges, such as examiner bias and logistical constraints. This presentation aims to contribute to the ongoing discourse on innovative assessment methods that foster comprehensive student evaluation & academic excellence.

This presentation explores the efficacy and pedagogical implications of oral examinations as an assessment tool in higher education. Oral exams, though less commonly employed than written assessments, offer unique advantages in evaluating student learning outcomes. By synthesizing findings from recent empirical studies and theoretical frameworks, we will examine how oral exams can enhance cognitive development, critical thinking, and communication skills among students (Fry, Ketteridge, & Marshall, 2009).

Oral examinations require students to articulate their understanding and engage in real-time dialogue, promoting a higher level of cognitive processing compared to traditional written exams. This dynamic form of assessment aligns with constructivist learning theories, which posit that knowledge is actively constructed through interaction and discourse (Vygotsky, 1978). Oral exams can be designed to assess not only the retention of factual knowledge but also the application, analysis, and synthesis of information. This comprehensive approach to assessment supports the development of higher-order thinking skills essential for academic and professional success (Anderson & Krathwohl, 2001).

The presentation will delve into the practical aspects of implementing oral exams, starting with the construction of a robust and fair assessment rubric. Ensuring reliability and validity in oral exams is paramount, as these factors underpin the credibility of any assessment method (Brown, 2004). We will discuss strategies for developing clear, objective criteria that can be consistently applied across different examiners

and sessions. The use of standardized questions and scenarios can help mitigate potential biases and ensure a level playing field for all students (Brookhart, 2013).

Inter-rater reliability is another critical consideration in oral exams. Training programs for examiners that focus on calibration exercises and norming sessions can align examiners' expectations and scoring practices, enhancing consistency and fairness (Moskal & Leydens, 2000). We will also discuss the role of technology in facilitating oral exams, such as using digital recording tools for subsequent review and moderation (Cassady, 2010).

However, implementing oral exams also presents challenges. Logistical constraints, such as scheduling and the need for a larger pool of examiners, can pose significant hurdles. We will explore practical solutions to these challenges, including the use of small-group assessments and the integration of oral components into existing exam structures (Race, 2001). Additionally, the potential for examiner bias—whether conscious or unconscious—must be addressed through rigorous training and the use of diverse, inclusive assessment panels (Boud & Falchikov, 2007).

Ultimately, oral examinations represent a valuable tool in the educator's arsenal, offering a means to assess not just what students know, but how they think, communicate, and apply their knowledge. This presentation invites educators, administrators, and policymakers to reimagine assessment in higher education, embracing oral exams as a pathway to more holistic and meaningful student evaluation (Black & Wiliam, 1998).

References

W., & Krathwohl, D. R. (2001). A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Longman.

(2011). Teaching for Quality Learning at University. Open University Press.

(1998). Inside the Black Box: Raising Standards Through Classroom Assessment. King's College London School of Education.

(2007). Rethinking Assessment in Higher Education: Learning for the Longer Term. Routledge.

M. (2013). How to Create and Use Rubrics for Formative Assessment and Grading. ASCD.

(2004). Assessment for Learning. Learning and Teaching in Higher Education, 1(1), 81-89.

C. (2010). Anxiety in Schools: The Causes, Consequences, and Solutions for Academic Anxieties. Peter Lang.

M., Dison, M. A., & Button, D. M. (1998). The Effects of Formative and Summative Assessment on Test Anxiety and Performance. Educational Psychology, 18(3), 219-233.

(2009). A Handbook for Teaching and Learning in Higher Education: Enhancing Academic Practice. Routledge.

M., & Leydens, J. A. (2000). Scoring Rubric Development: Validity and Reliability. Practical Assessment, Research, and Evaluation, 7(10), 1-6.

(2003). In Other (People's) Words: Plagiarism by University Students—Literature and Lessons. Assessment & Evaluation in Higher Education, 28(5), 471-488.

(2001). The Lecturer's Toolkit: A Practical Guide to Learning, Teaching, and Assessment. Routledge.

S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.

Relationships Between Motivation Constructs and Key Student Outcomes: A Meta-Analysis

Zeynep Ambarkutuk, Brett Jones, *Virginia Tech*

Abstract: The MUSIC Model of Motivation specifies that instructors should design their instruction with consideration for students' MUSIC (i.e., eMpowerment, Usefulness, Success, Interest, and Caring) perceptions. We conducted several meta-analyses using 38 research studies to determine the extent to which components of the MUSIC model were related to important student outcomes. We determined that the correlations between the MUSIC components and engagement, identification, teaching evaluations, and achievement were all positive. We will provide the results of these meta-analyses by showing the magnitude of the correlations and discussing which aspects of the MUSIC model are most important for instructors to consider.

Since the MUSIC Model of Motivation was proposed 15 years ago (Jones, 2009), many studies have examined the model in different ways to provide validity and reliability evidence for the model. Some of these studies have focused on relationships between the five components of the MUSIC model—eMpowerment, Usefulness, Success, Interest, and Caring—and important student outcomes, such as engagement and achievement. For example, Jones and Carter (2019) examined the relationships between students' MUSIC perceptions and their behavioral and cognitive engagement in a university course.

The intent of the MUSIC model is to specify the five components of the MUSIC model so that instructors can design their instruction with those components in mind (Jones, 2018). That is, instructors need to provide students with choices (empowerment), ensure students understand the usefulness of the activities and content (usefulness), help students believe that they can succeed in course activities (success), interest students in course activities (interest), and foster a caring relationship in the course (caring).

In an attempt to summarize MUSIC model studies that correlated MUSIC with important student outcomes, we searched studies published between 2009 and 2022 to find studies that (a) were published as a journal article or dissertation, (b) included all five MUSIC components, (c) correlated the five MUSIC components with another construct, and (d) were published in English. We identified 38 research studies that met these criteria by conducting a systematic search of Education Research Complete from EBSCOhost, ERIC from EBSCOhost, PsycInfo from EBSCOhost, Web of Science, ProQuest Dissertations and Theses Global, Google Scholar, and the MUSIC model website (www.theMUSICmodel.com). We selected four of the more common student outcomes in these studies—engagement, domain identification, teaching evaluations, and achievement—because they were correlated with all five of the MUSIC components in over two-thirds (68.4%) of the studies. We conducted meta-analyses to summarize the correlations.

Researchers correlated the MUSIC constructs with self-reported effort in 14 studies (37 analyses, some of which included more than one sample or analyses) with undergraduate students, and with cognitive engagement in five studies (eight analyses) at the undergraduate level. The correlations between MUSIC and

effort indicated small to medium effect sizes (pooled r ranged from 0.22 to 0.44). The correlations between MUSIC and cognitive engagement indicated medium effect sizes ranging from 0.24 to 0.49.

The meta-analyses for the correlations between the MUSIC components and domain identification (3 analyses) showed medium effect sizes (pooled r ranged from 0.31 to 0.44). Teaching evaluations had large effect sizes (pooled r ranged from 0.49 to 0.70 for course ratings [14 analyses] and 0.38 to 0.66 for instructor ratings [14 analyses]). For achievement (6 analyses), the correlations were smaller, with pooled r ranging from 0.04 to 0.26, which is consistent with the anticipated indirect relationship between motivational constructs and achievement outcomes.

Our findings indicate that the MUSIC constructs are significantly related to important outcomes such as student engagement and achievement. Therefore, instructors should consider how to design their instruction in ways that are consistent with the MUSIC model principles.

References

D. (2009). Motivating students to engage in learning: The MUSIC Model of Academic Motivation. International Journal of Teaching and Learning in Higher Education, 21(2), 272-285. https://www.isetl.org/ijtlhe/ijtlhe-article-view.php?mid=774

D. (2018). Motivating students by design: Practical strategies for professors (2nd ed.). CreateSpace. https://vtechworks.lib.vt.edu/handle/10919/102728

D., & Carter, D. (2019). Relationships between students' course perceptions, engagement, and learning. Social Psychology of Education: An International Journal, 22, 819-839. https://doi.org/10.1007/s11218-019-09500-x

Research to Praxis: Transdisciplinary Skill Development in Graduate Education

Demikia Taylor, Tiffany Drape, Amy Pruden, Leigh-Anne Krometis, Todd Schenk, Liqing Zhang, *Virginia Tech*

Abstract: The purpose of this research study was to explore the integration of interdisciplinary skills within a graduate education program, focused on the convergence of antimicrobial resistance. Bringing together the interface of policy, data science, environmental science, and engineering required the research to investigate how the students participating experienced the program and how it affected their graduate training program. The program fosters critical thinking, problem-solving, and communication across disciplines through interdisciplinary coursework, collaborative workshops, and project-based learning. Findings highlight the importance of training to enhance students' abilities to integrate knowledge, address global issues, and communicate effectively with multiple stakeholders.

As the global workforce continues to evolve, there is a growing need for graduates who can tackle complex societal challenges. A graduate education program, focused on the convergence of antimicrobial resistance brought together the interface of policy, data science, environmental science, and engineering, aimed to train students for the complex job market they will enter. Using an interdisciplinary initiative designed to establish skills in critical thinking, problem-solving, and communication across disciplines, the program focused on a global challenge: combating antimicrobial resistance. The purpose of this case study research was to explore the integration of interdisciplinary skills in a graduate education and training program.

This study focused on two major components: different instructional strategies followed by purposeful and consistent reflection. We examined the instructional strategies employed in the program, including interdisciplinary coursework, collaborative workshops, and project-based learning. These strategies were significant to the program's goal of preparing students to become adaptive leaders capable of addressing global issues. This research demonstrates how interdisciplinary instructional practices can enhance the quality and effectiveness of graduate education. By fostering the ability to integrate knowledge across diverse fields, the program aims to equip students to communicate effectively with a wide range of stakeholders and to navigate the complexities of various professional environments.

Student written and audio reflections submitted by students using Canvas as the Learning Management System (LMS) were the main data source. Students were prompted with reflection questions following workshops and activities offered by the program by the project team. These reflections provided insights into their experiences and skill development. The data was analyzed using thematic analysis, starting with open coding to break down the data into distinct parts, followed by the identification of themes and subthemes. Axial coding was then used to examine the relationships between these themes. Through this process, seven main themes emerged: 1) Student Learning and Engagement, 2) Self-Awareness, 3) Connecting and Collaborating with Peers, 4) Working Across Disciplines, 5) Effective Communication, and 6) Navigating Policy and Regulatory Challenges, 7) Mentorship and Professional Development. These themes underscore the significance of interdisciplinary training in enhancing students' abilities to integrate knowledge across diverse fields, address complex global issues, and communicate effectively within varied professional settings. Recommendations for the program include following up with students' post-graduation to gauge how their training program affected their professional aspirations and seeking out more global experts in the field of antibiotic resistance for students to collaborate with. Future research should concentrate on evaluating the role of interdisciplinary skill development in shaping students' professional trajectories and fostering collaborative networks across various disciplines. This research should explore the retention and practical application of interdisciplinary skills acquired through programs like CIP-CAR. Comparative studies could offer valuable insights into how well students maintain and utilize these skills over time and across different professional fields.

References

& Bhutta, S.M. (2023). Research cafe: an informal learning space to promote research learning experiences of graduate students in a private university of Pakistan. Studies in Graduate and Postdoctoral Education, 14(3). doi: 10.1108/SGPE-01- 2023-0011.

(2010). Integrating Communication Skills in Interdisciplinary Education. Education Press.

K. (2010). Student socialization in interdisciplinary doctoral education. Higher Education, 62. 741-755. DOI 10.1007/s10734-011-9415-1

(2007). Targeted Assessment of Students' Interdisciplinary Work: An Empirically Grounded Framework Proposal. Journal of Higher Education, 78(2), 215-237.

and Beile, P. (2005). Scholars before researchers: on the centrality of the dissertation literature review in research preparation. Educational Researcher, 34(6).3-15.

(2010). Constructive alignment and student engagement in interdisciplinary education: A case study. Innovative Higher Education, 35(2), 85-97.

& Cutler S. (2010). Constructive alignment of interdisciplinary graduate curriculum in engineering and science: an analysis of successful IGERT proposals. Journal of Engineering Education, 99(4). 355-369

K. (2010). Definitions of interdisciplinary research: Toward graduate-level interdisciplinary learning outcomes. Review of Higher Education, 34(1), 61- 84. http://dx.doi.org/10.1353/rhe.2010.0006

(2011). Focus on the problem: Reconceptualizing interdisciplinary research and education. Jossey-Bass.

(2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. https://files.eric.ed.gov/fulltext/ED519465.pdf

and Castello, M. (2023). Doctoral student perceptions of supervisory and research community support: their relationships with doctoral conditions and experiences, Journal of Further and Higher Education,47(4). 481-491

(2018). The prospective shift away from academic career aspirations. Higher Education, 77(2). 343-358. http://doi.org/10.1007/s10734-018-0278-6

C. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350-383.

A. (2011). Critical Thinking: What It Is and Why It Counts. Insight Assessment.

M., & Brent, R. (2016). Teaching and learning STEM: A practical guide. John Wiley & Sons.

(2011). Cross-cultural communication and international students: Theory, practice, and perspectives. International Journal of Intercultural Relations, 35(1), 45-52.

R. (2002). Leading Teams: Setting the Stage for Great Performances. Harvard Business Press.

A. (2013). Interdisciplinary strategies as transformative change in higher education. Innovative Higher Education, 38(4), 65-77.

& Primeau, R.. (2002). Interdisciplinary Learning: Process and Outcomes. Innovative Higher Education, 27. 95-111. DOI: 10.1023/A:1021105309984.

M. (2011). Situated engineering learning: Bridging engineering education research and the learning sciences. Journal of Engineering Education, 100(1), 151-185

H., Strobel, J., & Lee, C. B. (2006). Everyday problem solving in engineering: Lessons for engineering educators. Journal of Engineering Education, 95(2), 139-151.

(2010). Interdisciplinary Approach—Advantages, Disadvantages, and the Future Benefits of Interdisciplinary Studies. Creative Commons, 14-17.

R., & Smith, D. K. (1993). The Wisdom of Teams: Creating the High-Performance Organization. Harvard Business Review Press.

(2003). Trust, individualism and job characteristics as predictors of employee preference for teamwork. International Journal for Human Resource Management, 14(1). 93-116

(1990). Interdisciplinarity: history, theory, and practice. Wayne State University Press, Detroit, MI.

T, & Newell, W. H. (1997). Advancing interdisciplinary studies. In J. G. Gaff, J. L. Ratcliff, and Associates (Eds.), Handbook of the undergraduate curriculum: A comprehensive guide to purposes, structures, practices, and change (pp. 393-415). San Francisco, CA: Jossey-Bass.

and Olsen, D. (2012), Transformative graduate education programs: an analysis of impact on STEM and non-STEM Ph. D. completion. Higher Education, 63(4). 473-495.

(2012). The Importance of Interdisciplinary Communication in Education. Academic Press.

(2017). Supporting the Development of Engineers' Interdisciplinary Competence. Journal of Engineering Education, 106(1), 71-97. DOI 10.1002/jee.20155

(2007). Learning spaces and communities of practice. Journal of Educational Research, 15(3), 39-52.

(2007). Thinking about conceptual frameworks in a research community of practice: a case of a doctoral programme. Innovations in Education and Teaching International, 44(3), 287-299.

& Duraising, E. (2007). Targeted Assessment of Students' Interdisciplinary Work: An Empirically Grounded Framework Proposed. The Journal of Higher Education, 78(2), 215-238.

D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000). Leadership skills for a changing world: Solving complex social problems. The Leadership Quarterly, 11(1), 11-35.

(2004). The Engineer of 2020: Visions of Engineering in the New Century. National Academies Press.

(2004). Facilitating Interdisciplinary Research. National Academies Press.

(2013). Interdisciplinary Research: Process and Outcomes. National Academies Press.

(2017). SEH doctorates in the workforce, 1993-2013. www.nsf. gov/nsb/sei/infographic2/#main

(2012). Education for life and work: Developing transferable knowledge and skills in the 21st century. J. W. Pellegrino & M. L. Hilton (Eds.). Washington, DC: National Academies Press.

(2022). Survey of graduate students and postdoctorates in science and engineering (GSS). National Center for Science and Engineering Statistics 24, 319.

(2004). The PhD in the US: criticisms, facts, and remedies. Higher Education Policy, 17(2). 183-199.

H. (1992). Academic disciplines and undergraduate interdisciplinary education: Lessons from the School of Interdisciplinary Studies at Miami University, Ohio. European Journal of Education, 211-221. http://dx.doi.org/10.2307/1503450

and Batty, C. (2020). Student reflections on doctoral learning: challenges and breakthrough. Studies in Graduate and Postdoctoral Education, 11(1). 107-122

2010. 21st Century Skills for Students and Teachers. Honolulu: Kamehameha Schools, Research & Evaluation Division.

Transforming doctoral education: preparing multidimensional and adaptive scholars. Studies in Graduate and Postdoctoral Education, 11(1). 17-34. https://doi.org/10.1108/SGPE-03-2019-0029

(2008). The Miniature Guide to Critical Thinking Concepts and Tools. Foundation for Critical Thinking Press.

(2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. Journal of Engineering Education, 95(2), 123-138.

& Lonka, K. (2009). Developing scholarly communities as learning environments for doctoral students. International Journal for Academic Development, 14(3), pp. 221-232.

(2009). Developing an understanding of new theories through community engagement. Studies in Higher Education, 34(1), 45-61.

F. (2012). Interdisciplinary Research: Process and Theory. SAGE Publications.

F., & Szostak, R. (2017). Interdisciplinary Research: Process and Theory. SAGE Publications.

(2007). Women in Interdisciplinary Science: Exploring Preferences and Consequences. Research Policy, 36(1), 56-75.

and Sauermann, H. (2010). A taste for science? PhD scientists' academic orientation and self-selection into research careers in industry. Research Policy, 39(3). 422-434.

R. (2012). The Art of Thinking: A Guide to Critical and Creative Thought. Pearson Higher Ed.

R. (1991). Interdisciplinary education and critical thinking: Preparing for the 21st century. The Journal of General Education, 42(2), 120-126.

(2013). Interdisciplinary Education: A Reflection of the Real World. Journal of Systemics, Cybernetics and Informatics, 11(9), 47-52.

Department of Education. (2006). A Test of Leadership: Charting the Future of U.S. Higher Education. U.S. Department of Education.

T., & Vacca, J. A. (2005). Content area reading: Literacy and learning across the curriculum (8th ed.). Boston: MA. Allyn and Bacon.

(2017). Teacher communities as a context for professional development: A systematic review. Teaching and Teacher Education, 61(1), 47-59.

(2009). Impact of transformative interdisciplinary research and graduate education on academic institutions. National Science Foundation, Arlington, VA

C., Twale, D. J., & Stein, E. L. (2001). Socialization of graduate and professional students in higher education: A perilous passage? (Vol. 28). San Francisco: Jossey-Bass

& Kent, J. (2012), Pathways through Graduate School and into Careers, Educational Testing Service, Princeton, NJ.

(1998). Communities of practice: learning as a social system, Systems Thinker, Vol. 9 No. 5, pp. 2-3

and Snyder, W.M. (2000). Communities of practice: the organizational frontier. Harvard Business Review, 78(1). 139-146.

C. (1992). Interdisciplinary education in K-12 and college: A foundation for tomorrow's workers. Journal of Educational Technology Systems, 20(2), 111-119.

(1992). Fostering intellectual development of students in professional schools through interdisciplinary coursework. Innovative Higher Education, 16, 251-261. http://dx.doi.org/10.1007/BF00917811

Roundtable discussion: Maximizing student impact from sustained experiential learning activities.

Alan Michaels, Brad Davis*, Virginia Tech National Security Institute*

Abstract: In helping students build hands-on research and job skills, the VTNSI has leveraged the international Vertically Integrated Projects (VIP) model to engage students across multiple years. The VIP model supports creation of thematic research and workforce development pipelines that align with a professor's interest area as well as niche sponsor base, leading to a win-win for all involved. Remaining challenges exist for curricular approvals and widespread adoption given the inherently multi-disciplinary nature of these projects.

As a round table discussion, the goal of this session will include seeking input from other stakeholders on campus as to how to get more faculty and students involved in VIP projects as well as the broader research base at VTNSI. Moreover, as NSI grows beyond the current ~1000 students involved in our projects/seminars, we would like to engage more faculty and curriculum committees on the academic side to build stronger relationships as well as increased opportunities for the students.

References

https://www.vip-consortium.org/

Scaffolding Case-Based Learning Environments for Systems Thinking

Matthew Norris, Jacob Grohs*, Virginia Tech*

Abstract: Students need to be able to solve complex problems in novel situations, while paying attention to systems of varying scale and complexity. This requires repeated and explicit instruction in the technical context in which they are expected to perform. Cases & CBL offer an excellent opportunity for students to practice these problem solving processes. This allows students to receive detailed feedback on how problems with different technical features may function similarly behind the scenes. This session offers guidance on framing existing class content in a way that highlights the underlying systems principles driving problem behavior.

Students need to be able to engage with diverse sets of stakeholders and solve complex, socially situated problems across a wide range of potential professional environments (ACED, 2019; National Academy of Engineering, 2005). They must do so while paying attention to systems of varying scale and complexity. However, students need more than just theoretical knowledge to thrive in their careers; they need practical problem-solving skills. Students require repeated, explicit instruction in open-ended problems in order to strengthen their recall of important concepts and improve their ability to solve similar problems in the future (Norris et al., 2022; Schwartz et al., 2005). Traditional instructional methods tend to emphasize declarative knowledge (i.e., facts) and process memorization over deeper mastery of content knowledge. Cases, and case-based learning (CBL), offer one of the most promising approaches for preparing students to solve novel, complex problems across a range of possible professional contexts (Jonassen, 2010). This allows students to receive detailed feedback on how problems with different technical features may function similarly behind the scenes. For example, how a soccer team and engineering firm similarly operate through social dynamics and power structures, even though their goals of winning a game or designing an engine are wildly different.

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 (Loewenstein et al., 1999). 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). This process of tying systems thinking into course content is difficult, but a multitude of approaches exist across various disciplines (Scherer et al., 2017).

The primary purpose of the session is to enable instructors to customize existing content within their classes to provide targeted instruction in systems thinking. We will provide tools and resources geared toward helping students transfer relevant knowledge and experiences from their educational contexts to professional practice. This session will be relevant to instructors looking for concrete methods problem-oriented instruction. After engaging in this session, participants will be able to 1) identify what systems thinking processes they wish for their students to practice, and 2) reframe existing educational activities as cases for clearer, deeper learning.

This practice session builds on existing literature and emerging research on problem solving, systems thinking, and instructional strategies. Facilitators experienced with various systems thinking frameworks and teaching contexts are co-presenters of this session. Anchoring on these examples, group discussions will be held to focus on identifying and scaffolding the development of cases for the inclusion of systems thinking into participants' own existing instructional contexts. Participants will leave with practical tools, strategies, and confidence to implement CBL in their teaching, ultimately enhancing their students' problem-solving skills and preparing them for real-world challenges.

References

(2019). Engineering futures 2035: A scoping study (pp. 1-87). Australian Council of Engineering Deans.

H. (2010). Learning to Solve Problems: A Handbook for Designing Problem-Solving Learning Environments. Taylor & Francis.

R., Knight, D. B., Ro, H. K., & Novoselich, B. J. (2017). Supporting the Development of Engineers' Interdisciplinary Competence. Journal of Engineering Education, 106(1), 71-97. https://doi.org/10.1002/jee.20155

(1999). Analogical encoding facilitates knowledge transfer in negotiation. Psychonomic Bulletin & Review, 6(4), 586-597. https://doi.org/10.3758/BF03212967

(2005). Educating the Engineer of 2020: Adapting Engineering Education to the New Century (p. 11338). National Academies Press. https://doi.org/10.17226/11338

B., Grohs, J. R., & Knight, D. B. (2022). Investigating student approaches to scenario-based assessments of systems thinking. Frontiers in Education, 7, 17. https://doi.org/10.3389/feduc.2022.1055403

T., McKenna, A. F., Harper, B. J., & Merson, D. (2011). Design in Context: Where do the Engineers of 2020 Learn this Skill? 2011 ASEE Annual Conference & Exposition, 22-43.

H., Holder, L., & Herbert, B. (2017). Student Learning of Complex Earth Systems: Conceptual Frameworks of Earth Systems and Instructional Design. Journal of Geoscience Education, 65(4), 473-489. https://doi.org/10.5408/16-208.1

L., Bransford, J. D., & Sears, D. (2005). Efficiency and Innovation in Transfer. In Transfer of Learning from a Modern Multidisciplinary Perspective (pp. 1-51). Information Age Publishing.

Simulation training for student vaccinators at VCOM during COVID-19

Katherine P. Jamison, PharmD, Theresa J. McCann, PhD, *Unknown*
BCP, *Associate Dean for Pre-Clinical Medical Education*
MPH, *Professor Emeritus*

Abstract: Simulation based medical education (SBME) is currently used in many clinical settings. To enhance the number of vaccinators and quality of skills in the New River Health District, numerous medical students received further training during the COVID-19 pandemic. This study provided a voluntary, short refresher simulation session on intramuscular (IM) injections at the Edward Via College of Osteopathic Medicine's (VCOM) simulation lab with task trainers and skills sessions. We assessed students' proficiency in preparation for vaccinating at locations in the community, and later evaluated all students about their vaccination experience with a brief voluntary email survey.

Simulation-based learning in medical (SBML) education addresses a range of interpersonal and technical skills. Research with SBML has demonstrated that repetition is important since students learn at different paces. Feedback is critical to effective learning using simulation and guided by individual learning styles. Simulation allows for training in a controlled environment, with opportunities for deliberate practice and assessment.

This study provided a brief refresher simulation session on intramuscular (IM) injections in VCOM's simulation lab with task trainers and skills sessions to further enhance confidence and competence in intramuscular vaccine administration by medical students. VCOM faculty and staff facilitated each sim lab vaccination session.

During the first Block of medical school, VCOM provides a brief hands-on, checklist-based intramuscular injection training. We built on that training with a short refresher simulation practice session. The refresher simulation session was voluntary and was completed in addition to online Virginia Department of Health (VDH) modules about vaccination knowledge and standards. All participants were first- and second-year medical students enrolled at VCOM that demonstrated interest in COVID-19 vaccination efforts in the community. All were approved by Medical Reserve Corp (MRC), completed the VDH vaccinator modules and VCOM's mandatory training.

All participants provided informed consent prior to enrollment in the study. There were no expected bodily harms or ethical concerns relating to this study beyond minimal risk. The simulation session was conducted with a prosthetic skin injection trainer and water; thus, contact with bodily fluids or hazardous materials did not occur during the simulation. Students were individually observed in simulation practice and provided with helpful tips on vaccination in community settings. At the initial vaccination event in the community, faculty mentors vaccinated sitting next to the student, observing technique and comfort levels. At every vaccination setting, a VCOM faculty was continuously onsite to answer questions and support students interacting with VDH vaccinators.

A follow-up survey was sent by email to all student vaccinators to evaluate their experience, regardless of refresher. Questions addressed competence and confidence in vaccinating, but also addressed knowledge and safety. Most survey questions consisted of statements comprising a Likert scale, where responses were categorized on an ordinal scale from 1 - 5. Unfortunately, circumstances led to a lapse in time before the survey was emailed to student vaccinators who were by then, in the final year of medical school. The delay likely resulted in a low response, limiting the validity of these findings. The sample size was 35, but these findings reflect only six students who completed the survey. Of them, one had attended the refresher, while others relied on previous experience, or the Block 1 session and VDH modules. Students varied in experience prior to medical school, but all reported choosing to volunteer through VDH/MRC as a vaccinator for the patient experience and community involvement. Overall, it was a goal to increase the number of trained vaccinators to administer COVID-19 vaccines, which was a current need within the community during the pandemic.

References

World Health Organization (WHO). 27 April 2020. Retrieved 21 Jan 2020.

The COVID-19 vaccine development landscape. Nat Rev Drug Discov. 2020 May;19(5):305-306. doi: 10.1038/d41573-020-00073-5.

The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Pfizer-BioNTech COVID-19 Vaccine - United States, December 2020. MMWR Morb Mortal Wkly Rep. 2020 Dec 18;69(50):1922-1924. doi: 10.15585/mmwr.mm6950e2.

The Advisory Committee on Immunization Practices' Interim Recommendation for Use of Moderna COVID-19 Vaccine - United States, December 2020. MMWR Morb Mortal Wkly Rep. 2021 Jan 1;69(5152):1653-1656. doi: 10.15585/mmwr.mm695152e1.

U.S. Food and Drug Administration (FDA). 19 March 2021. Retrieved 21 Jan 2022.

Effectiveness of simulation in teaching immunization in nursing: a randomized clinical trial. Rev. Latino-Am. Enfermagem. 2020;28:e3305. [Access 7 Mar 2022]; DOI: http://dx.doi.org/10.1590/1518-8345.3147.3305.

2005. Features and uses of high-fidelity medical simulations that lead to effective learning: a BEME systematic review. Medical Teacher, 27;1:10-28.

Indiana University medical students volunteer to administer COVID-19 vaccines. 14 Dec 2020. Indiana University School of Medicine Blog.

Small Things Can Make A Difference: Creating a First-Generation Friendly Learning Space

Kendria Mason, *Virginia Tech Office of First-Year Experiences*
Tamara Cherry-Clarke, *Office of First-Generation Student Success*

Abstract: Supporting the learning experience of first-generation students does not have to be a major or complex. Rather you have fifty minutes or five minutes, it is the small adjustments that an instructor can make that will enhance the classroom experience of first-generation students. In this session, Virginia Tech's Office of First Year Experiences and Office of First-Generation Student Success will share how they created an online course that will help instructors support the academic experience of first-generation students. Developing a space of belonging and safety will not only benefit the overall success of first-gen students, but all students.

Though First-Generation students make-up around 54% of the national population of student pursuing a higher education, it is an invisible and marginalized identity on college campuses. In partnership with the Office of First-Generation Student Success, the Office of First-Year Experiences (FYE) developed a first-generation support course for instructors. The course is an online asynchronous course housed on Canvas.

The course provides an overview of the national and university first-gen statistics and information. The course also provides instructors with practical strategies, techniques, activities, and downloadable resources that can be used in the classroom. This course was launched in May 2024 and began being piloted with a small group of first-year experience instructors during the fall semester. In this session, the presenters will introduce the overall course and the sections that it comprises. There will be at least two FYE courses represented and those instructors will share how they implemented the strategies and takeaways into their course. The presenters and instructors will share qualitative and quantitative data from the pilot course. The presenters will also share how the implementation has impacted the first-generation student experience and the overall course design.

The presenters will engage the audience by doing example quick activities that correlate with sections of the course that include sense of belonging, use of peer educators, and methods of communication that prompts academic success and belonging. In the second half of the session, there will be time for attendees to share their strategies and techniques that they have used to support first-generation students. The overall goal of this session is for attendees to leave with applicable takeaways that they can use in their work with first-generation students. Even if they do not work directly with first-generation students, the practices and strategies can be shared with all students.

References

For access to the Supporting the First-Generation Student Experience course, contact Kendria Mason (kendriam@vt.edu)

Starting a Community of Practice to Support Better Teaching

Laura Vernon, *Radford University*

Abstract: This informative and interactive session will focus on how to start a community of practice that supports better teaching and learning. Research shows that communities of practice foster learning, encourage collaboration, offer opportunities for creative problem solving and innovation, pool resources, improve practice, and accelerate change. During the session, the presenter will define a community of practice and share the steps for forming a community of practice as well as the best practices for maintaining a productive community over time. Attendees will work in small groups to discuss possible communities of practice they can start to enhance their teaching practice.

This practice session will focus on the concept of a "community of practice" to support better teaching and learning for any reason, at any college or university, and in any discipline or classroom. A community of practice is a group of people who have an interest, passion, or concern and come together to learn more about it (Wenger-Trayner, Wenger-Trayner, Reid, & Bruderlein, 2023). Participants collaborate and communicate regularly, sharing knowledge as a community and working toward a shared goal of improving their practice (Wenger & Snyder, 2000). A community of practice is based on the situated-learning theory that a community can act as a living curriculum (Lave & Wenger, 1991).

Research shows that a community of practice fosters learning, encourages collaboration and networking, offers opportunities for creative problem solving and innovation, pools resources, improves practice, boosts productivity, fulfills a professional development need, accelerates change, and provides vital support that participants need to respond to organizational challenges (Goncalves, 2024; Power & Ha, 2023; Wenger-Trayner, Wenger-Trayner, Reid, & Bruderlein, 2023; Hennein et al., 2022; Jakovljevic & Da Veiga, 2020; Social Change Agency, n.d.).

A community of practice has only two requirements but several best practices. First, because a community of practice prioritizes knowledge sharing, participants need to be practitioners in their disciplines and active contributors in the community (Wenger-Trayner, Wenger-Trayner, Reid, & Bruderlein, 2023). Second, participants decide what is important and what they give to and take from the community; therefore, participants self-select to join a community of practice, their interests and needs drive the community's decisions, and the community lasts as long as there is interest in maintaining the group (Wenger & Snyder, 2000). The best practices include the following: a domain of interest, a purpose statement and goals, clear expectations, a leader to keep the group focused and organized, communication practices and regular opportunities to interact, a platform for sharing resources, and a continuous improvement plan (Goncalves, 2024; Wenger-Trayner, Wenger-Trayner, Reid, & Bruderlein, 2023; Burton, 2022; Halvorson, n.d.; Social Change Agency, n.d.).

The presenter will share her recent experience forming and leading a faculty-based AI Community of Practice at her university. As a professional development effort, this AI Community of Practice supports more than 50 faculty engaged in a variety of teaching, research, and service endeavors that use artificial intelligence in some

way. This community of practice began as many of them do: (1) in response to rapid changes that impact teaching and learning and (2) the need to create a safe space where faculty can connect, learn, problem solve, and support one another as they navigate transformational pedagogical challenges.

This presentation will be highly informative and interactive. In addition to explaining why a teaching community of practice is beneficial, the presenter will share the steps for forming a community of practice as well as the best practices for maintaining a productive community over time. Attendees will work in small groups to discuss possible communities of practice they can start to enhance their own teaching practice.

References

How to build a community of practice (with examples). Thinkific. https://www.thinkific.com/blog/build-a-community-of-practice/

(2024, January 13). 5 steps of building communities of practice. Adapt Methodology. https://adaptmethodology.com/blog/building-communities-of-practice/

(n.d.). How to build your community of practice. Braintraffic. https://www.braintraffic.com/blog/how-to-build-your-community-of-practice

M., Turimumahoro, P., Ochom, E., Gupta, A. J., Katamba, A., Armstrong-Hough, M., & Davis, J. L. (2022). Core components of a community of practice to improve community health worker performance: A qualitative study. Implementation Science Communications, 3(1), 1-14. https://doi.org/10.1186/s43058-022-00279-1

(2020). An integrated academic community of practice model (ACoPM). Innovations in Education and Teaching International, 57(3), 339-351. https://doi.org/10.1080/14703297.2019.1623061

(1991). Situated learning: Legitimate peripheral participation. Cambridge University Press.

(2023). A multi-sectoral community of practice amongst librarians. Partnership, 18(1), 1-21. https://doi.org/10.21083/partnership.v18i1.7042

(n.d.). How to create and manage a community of practice or peer network. https://thesocialchangeagency.org/blog/how-to-create-and-manage-a-community-of-practice-or-peer-network/

(2023). Communities of practice within and across organizations: A guidebook (2nd ed.). Social Learning Lab.

C., & Snyder, W. M. (2000, January-February). Communities of practice: The organization frontier. Harvard Business Review. https://hbr.org/2000/01/communities-of-practice-the-organizational-frontier

Stress Mindset: Associations with College Student Well-Being

Sara Whipple*, Virginia Military Institute*

Abstract: Stress mindset is one's belief that stress is either enhancing or debilitating (Crum et al., 2013). This poster addresses the concept of stress mindset and its associations with various aspects of college student well being using longitudinal survey data from college

freshmen. Multiple regression results indicate that stress mindset at mid-year predicts end-of-year well-being, even after controlling for prior levels of stress-mindset. Specifically, those endorsing attitudes that stress is enhancing experienced higher levels of well-being. Associations between stress mindset, anxiety, and severity of recent life hassles are discussed in addition to implications for intervention.

While many educators are familiar with the concept of growth mindset (Dweck, 2006), the term stress mindset may be lesser known. Stress mindset refers to one's evaluation of stress as either enhancing or debilitating (Crum et al., 2013). For example, one with a stress-enhancing mindset would tend to agree with the idea that experiencing stress facilitates learning and growth. This seems particularly relevant considering that the American College Health Association reports anxiety has risen over 130% in college students since 2010 (ACHA-NCHA, 2024). Research finds that those with a stress-enhancing mindset report higher levels of perceived health, life satisfaction, positive affect, and cognitive flexibility; exhibit more adaptive physiological responses; and show more approach-oriented behaviors in the presence of stress (Crum et al., 2013; Crum et al., 2017).

The purpose of this study was to investigate the impact of stress mindset on the well-being of college freshmen attending a rigorous military college. I hypothesized that those with a stress-enhancing mindset would experience greater self-reported well-being than their peers. Furthermore, I hypothesized that stress mindset would buffer the impact of stressful events on well-being; specifically, among students with greater levels of stress in their lives, those with a stress-enhancing attitude would experience significantly higher levels of well-being compared to their peers with a stress-debilitating mindset.

Members of the Virginia Military Institute Class of 2027 (currently sophomores) were surveyed at three time points over their freshmen year. In total 146 cadets responded to at least one wave of surveys, though longitudinal analyses included between 48 and 68 respondents (depending on analysis). Stress mindset was assessed with the Stress Mindset Measure (Crum et al., 2013), an 8-item survey with response options ranging from 0 (strongly disagree) to 4 (strongly agree). Well-being was assessed with the 23-question PERMA Profiler (Butler & Kern, 2016) which uses an 11- point response scale ranging from "not at all" to completely". Current stressful experiences were assessed using an adapted 19-question version of the Inventory of College Student Recent Life Experiences (CSRLE) (Kohn et al., 1990) which asks participants to rate the severity (1 to 4 scale) of various life hassles experienced over the past month.

Data were analyzed in SPSS using multiple regression. Controlling for concurrent levels of well-being (wave 2), stress mindset (wave 2) positively predicted subsequent levels of well-being (wave 3), $B = 1.14$, $p < .05$. The model explained 61% of the differences in well-being. The buffering effect of stress mindset on the relationship between stressful experiences and well-being was not statistically significant ($p > .05$), though individuals with stress-enhancing attitudes reported fewer stressful experiences overall. In addition, stress mindset was significantly correlated with self-reported anxiety (r values across waves ranged from -0.28 to -0.46).

Since stress mindset is a belief about the nature of stress in general rather than the specific demands of a situation, implications for intervention are promising and will be addressed.

References

American College Health Association-National College Health Assessment III: Reference Group Executive Summary. Silver Spring, MD: American College Health Association.

L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. International Journal of Wellbeing, 6(3), 1-48.

J., Akinola, M., Martin, A., & Fath, S. (2017). The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. Anxiety, Stress, & Coping, 30(4), 379-395.

J., Salovey, P., & Achor, S. (2013). Rethinking stress: The role of mindsets in determining the stress response. Journal of Personality and Social Psychology, 104(4), 716.

S. (2006). Mindset: The new psychology of success. Random House.

M., Lafreniere, K., & Gurevich, M. (1990). The Inventory of College Student's Recent Life Experiences: A decontaminated hassles scale for a special population. Journal of Behavioral Medicine, 13(6), 619-630.

Student-centered learning activities for supporting systems thinking

Hannah Scherer, Bolanle Adebayo, Samson Adeoye, Paige Harrigan, Olamide Olowoyo, Israel Oyedare,
Virginia Tech

Abstract: Systems thinking is a foundational set of "habits of mind" that leads to better understanding of complex systems by improving mental models of the system, including its elements, interconnections, and behaviors. Teaching in higher education can support student development of systems thinking abilities through student-centered learning environments. In this small group discussion-based session, we share student-centered learning activities that can be adapted to support systems thinking in undergraduate and graduate courses in any disciplinary context. Each activity supports understanding and practicing with a different systems thinking framework. Lesson plans for activities are available electronically.

Many pressing problems that today's students will face, such as climate change and social injustice, are complex systems problems that cross disciplinary boundaries. Teaching in higher education can (and should) equip students to engage with these problems using systems thinking (e.g., Gosselin et al., 2019; Teasdale et al., 2018). In her seminal work Thinking in Systems, Donella Meadows (2008) defines a system as "a set of elements that is coherently organized and interconnected in a pattern or structure that produces a characteristic set of behaviors" (p. 188). Systems thinking is a foundational set of "habits of mind" that leads to better understanding of complex systems by improving mental models of the system (Cabrera & Cabrera, 2015; Meadows, 2008).

Student-centered learning environments (SCLEs) can be used to develop systems thinkers. Land et al. (2012) identified core values and assumptions of SCLEs including "centrality of the learner in defining meaning," "importance of prior and everyday experiences in meaning construction," and "access to multiple perspectives, resources, and representations" (p. 8). Research has shown that students can improve in systems thinking when explicitly taught using real-world systems and learning is scaffolded (Gilbert et al., 2017, 2019). Importantly, students bring their own mental models and worldviews to the learning experience; these are shaped by their culturally- and socially- mediated experiences of the world (Bang & Marin, 2015; Lave, 1988; Vygotsky, 1978).

In our practice, we have found that implementing a SCLE is a powerful way to not only promote systems thinking, but help students build confidence in themselves as systems thinkers. These skills transcend the classroom and prepare students for the contemporary challenges of society, helping them gain a deeper awareness and understanding of the interconnectedness of issues, develop the ability to analyze complex problems from multiple perspectives, be prepared to navigate complex situations, apply systems thinking for problem solving within their preferred context, and ask challenging and objective questions with open-mindedness. The SCLE increases engagement through group activities, promotes motivation and love for learning by giving students more control over their learning process, and develops collaboration, communication, curiosity, and self-directed learning.

In this session, we will share several student-centered learning activities that can be adapted to support systems thinking in undergraduate and graduate courses in any disciplinary context. Each activity supports understanding and practicing with a different systems thinking framework: reasoning about complex socio-ecological systems (Learning in Places Collaborative, 2022), DSRP (distinctions, systems, relationships, and perspectives rules; Cabrera & Cabrera, 2015), system dynamics (Meadows, 2008), and critical systems heuristics (Ulrich & Reynolds, 2010). Our session builds on previous CHEP Practice Sessions on systems thinking strategies (Scherer & Seman-Varner, 2016) and instructional design decisions (Scherer et al., 2022) by presenting specific activities that the lead presenter developed for a graduate level course entitled Systems Thinking Pedagogy and Praxis. Co-presenters are students from the Fall 2022 offering of this course. The session will include an overview of each activity and student-led small-group discussions about using the activities in practice. Lesson plans for activities are available electronically.

References

(2015). Nature-culture constructs in science learning: Human/non-human agency and intentionality. Journal of Research in Science Teaching, 52(4), 530-544. https://doi.org/10.1002/tea.21204

(2015). Systems thinking made simple: New hope for solving wicked problems. Odyssean Press.

A., Gross, D. S., & Kreutz, K. J. (2019). Developing undergraduate students' systems thinking skills with an InTeGrate module. Journal of Geoscience Education, 67(1), 34-49. https://doi.org/10.1080/10899995.2018.1529469

A., Iverson, E., Kastens, K., Awad, A., McCauley, E. Q., Caulkins, J., Steer, D. N., Czajka, C. D., Mcconnell, D. A., & Manduca, C. A. (2017). Explicit focus on systems thinking in InTeGrate materials yields improved student performance. Geological Society of America Abstracts with Programs, 49(6). https://doi.org/10.1130/abs/2017AM-304783

C., Egger, A. E., & Taber, J. J. (Eds.). (2019). Interdisciplinary Teaching About Earth and the Environment for a Sustainable Future. AESS Interdisciplinary Environmental Studies and Sciences Series. doi:10.1007/978-3-030-03273-9

(Eds.). (2012). Theoretical foundations of learning environments. Routledge.

(2012). Student-centered learning environments. In S. Land & D. Jonassen (Eds.), Theoretical foundations of learning environments (Second ed., pp. 3-25). Routledge.

(1988). Cognition in practice: Mind, mathematics, and culture in everyday life. Cambridge University Press.

(2022). Framework: Complex Socio-Ecological Systems. Learning in Places.

H. (2008). Thinking in systems: A primer (D. Wright Ed.). Chelsea Green Publishing.

(2016). Strategies for Developing Systems Thinking. 8th Annual Conference on Higher Education Pedagogy, Blacksburg, VA.

H., Alfonso, C., McGraw, C., Norris, M., Otieno, D., & Owen, K. (2022, February). Developing Systems Thinkers: Strategies for Effective Instructional Design. Conference on Higher Education Pedagogy, Blacksburg, VA.

(2018). Research on teaching about Earth in the context of societal problems". In St. John, K (Ed.), Community Framework for Geoscience Education Research. National Association of Geoscience Teachers. https://doi.org/10.25885/ger_framework/5

(2010). Critical Systems Heuristics. In M. Reynolds & S. Holwell (Eds.), Systems approaches to managing change: A practical guide. Springer, The Open University.

S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press. https://doi.org/10.2307/j.ctvjf9vz4

Student-led learning: A CURE for the common ecology lab

Ehren Moler, *James Madison University*

Abstract: STEM course labs can and should promote pivotal experiences that unlock student potential and prepare students to be effective STEM professionals. In this poster, I describe the why and how of designing labs as "course-based undergraduate research experiences" (CURE) to help students think like professional scientists. I summarize the theory, instructional plans, and takeaways from a 16-week, 200-level undergraduate ecology lab course I designed and taught at California State Polytechnic University (Cal Poly) in spring 2024. The poster invites readers to consider using CUREs to help students develop a growth mindset and strengthen their sense of autonomy.

Employers of STEM graduates want employees who are ready to take initiative and solve problems. STEM lab sessions are uniquely positioned as training grounds where students can develop these critical attributes, but STEM lab activities are notoriously formulaic and fail to engage students in activities that help students hit the ground running in the workplace or graduate school. This poster features insights I've gained from recently transitioning from being a senior manager of a climate-tech company R&D program, to being an assistant professor with the goal of helping STEM students to become high-impact scientists. I present the theory, instructional plans, and takeaways from a 16-week, 200-level undergraduate ecology lab course I designed and taught at California State Polytechnic University (Cal Poly) in spring 2024, which featured a semester-long research project and a high degree of student autonomy. Students included mostly junior-level biology majors, all of whom had previous course-based experience with statistical coding and ecology.

The lab course was designed as a course-based undergraduate research experience (CURE), in which students were presented with a single theme of study (vegetation decomposition as it relates to CO2 emissions), one

common-read from the primary literature, and a suite of analytical tools to select from, but otherwise were set loose to design and execute their research with minimal guardrails, but plenty of support as needed. The CURE theme began by presenting students with a role-playing scenario in which they were cast as environmental consultants serving a hypothetical client who wants a climate-smart land management plan. The theme exposed students to regional environmental legislation, and tasked students with independently designing research plans, "hiring" a team of researchers (i.e. teaming up with other students from their lab section) with whom to conduct the study, and working together toward a final presentation. Independent and team-based activities were built into the CURE to aid in the development of individual and teamwork skills. The CURE exposed students to valuable practical considerations that professional researchers commonly encounter. Examples include: how to search and interpret the primary literature for ideas on how to conduct their studies, how to select measurements and associated tools that are adequate for their research questions, and how to balance time constraints against the desire for a robust experimental design and sufficient data. In this poster, I describe the sequence of course topics and learning targets, student activities and deliverables, main challenges and growth points (both those of the students and the teacher), and ideas on motivating students unaccustomed to autonomy in a lab setting. The topics presented in this poster should be of interest to anyone interested in improving the content and outcomes of their STEM lab modules.

Students' Perceptions of Specifications Grading in Higher Education

Adriana Streifer, Michael Palmer, Jessica Taggart, *University of Virginia*

Abstract: Specifications grading is an alternative grading system that emphasizes transparency, low stakes, learning, and equity. It attracts practitioners for its potential to enhance student motivation and remedy several challenges of traditional grading. Despite its growing popularity, little is known about students' perceptions of and experiences with it. We examined students' predicted and actual experiences of specifications grading in courses across several disciplines at a research-intensive, public university in the United States. Most students expressed positive attitudes toward specifications grading before and after experiencing it. Facets of motivation, including choice, value, and expectations of success, were important factors shaping students' perceptions.

Alternative grading is a philosophical approach to evaluation that emphasizes educational equity; philosophical and ethical coherence; transparency; and student learning, engagement, and sense of belonging. Though approaches vary, all forms of alternative grading arose to address the philosophical, ethical, mathematical, and practical problems of traditional grading. Among forms of alternative grading, specifications grading (hereafter "specs grading") is now one of the most popular. It first gained widespread attention with the publication of Nilson's Specifications Grading: Restoring Rigor, Motivating Students, and Saving Faculty Time [1]. Broadly speaking, specs grading evaluates students' work on transparently-communicated criteria that align closely with learning objectives. Students' assignments are designated as either meeting or not meeting specifications. Assignments are grouped into bundles for each grade. A student earns a course grade by meeting specifications on all assignments within a bundle. To lower the stakes and provide flexibility (e.g., allow assignment revisions), token systems are often employed.

Specs grading is a relatively recent development in the world of grading innovation. Most literature on it addresses the impacts on students' learning outcomes and instructors' workload and experiences within specific courses. For instance, studies of specs-graded courses have found improvement in students' technical

writing skills [2] and mathematical thinking skills [3], reduction in students' grade anxiety [4], and more positive instructor experiences with grading [5] and substantive interactions with students in office hours [6]. What is missing from this still-developing body of literature is a thorough understanding of students' perceptions of specs grading, including their reactions to specific features of the method. This study examines students' predicted and actual experiences of specs grading across a range of course types, levels, sizes, and disciplines. Additionally, we explored how students perceived specs grading to influence their motivations to learn.

Our presentation will describe the methods, results, and conclusions of a multi-semester, multi-course, multi-discipline study of students' perceptions of specs grading, both before and after they experienced it. Data were collected using a pre/post survey, which included both Likert and open-ended questions. Likert questions were analyzed using descriptive statistics, as well as inferential statistics to examine median change over time. Qualitative data was analyzed inductively to find themes, and the coding scheme was refined by comparing coding across researchers.

Key results are that students found specs grading appealing both before and after they experienced it, and that specs grading increased students' motivation to earn a higher grade and produce better quality work. Students both predicted and confirmed that specs grading systems made expectations more transparent, closely aligned their efforts to their resulting grades, gave them more choice and control over their work, and decreased their grade anxiety. Overall, these results align well with theoretical constructs of motivation that center expectancy and value [7] and autonomy [8].

Based on these results, we propose a set of recommendations for practice, both for instructors who wish to implement specs grading and for educational developers who support instructors in implementing efficacious and equitable grading practices.

References

B. (2015). Specifications grading: Restoring rigor, motivating students, and saving faculty time. Stylus Publishing.

M. (2018). Effectiveness of specifications grading in teaching technical writing to computer science students. Journal of Computing Sciences in Colleges, 34(1), 104-110.

V. (2020). Using revision and specifications grading to develop students' mathematical habits of mind. PRIMUS, 30(8-10), 908-925.

(2020). When classroom interactions have to go online: The move to specifications grading in a project-based design course. Information and Learning Sciences, 121(7/8), 525-532. https://doi.org/10.1108/ILS-04-2020-0119

(2022). Two years of specifications grading in philosophy. Teaching Philosophy, 45(1), 23-64. https://doi.org/10.5840/teachphil20211118154

(2019). Specifications grading in political science. Journal of Political Science Education, 15(2), 191-205. https://doi.org/10.1080/15512169.2018.1447948

S. (2000). Expectancy-value theory of achievement motivation. Contemporary Educational Psychology, 25(1), 68-81. https://doi.org/10.1006/ceps.1999.1015

M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), Handbook of self-determination research (pp. 3-33). University of Rochester Press.

Students' perspectives of interactive electronic textbooks in higher education.

Jessica Grimm, Stacy Stolzman, *Concordia University Wisconsin*

Abstract: Advancements in technology and use of electronic textbooks (EBs) have altered pedagogies throughout higher education. A variation of the EB, the interactive electronic textbook (IEB), provides an innovative way to promote learning, engage the learner, and enhance outcomes. Limited research has been conducted using IEBs compared to traditional textbooks (TTBs) or EBs in higher education. A descriptive pilot study using qualitative methodology and thematic analysis will be used to explore the impact IEBs have on students, learning, engagement, and outcomes in undergraduate advanced anatomy course in a higher educational setting.

Introduction: Advancements in technology have altered pedagogies throughout higher education. The use of such technological developments is becoming increasingly diverse aimed at promoting student learning, engagement, and enhancing outcomes. In higher education, electronic textbooks (EBs) are commonly used as digital alternatives to the traditional textbook (TTB). Most EBs, however, are simply electronic copies of their paper version, with no interactive content (Baldwin, 2015). A variation of EBs, interactive electronic textbooks (IEB), promote interactive learning methods and the ability to engage students and measure learning outcomes (Baldwin, 2015). The purpose of this study is to explore undergraduate advanced anatomy students' perspectives using an alternative IEB chapter compared to reading a TTB or EB version of similar content. It is hoped that this pilot study will help with the development of additional IEBs and modes of instruction.

Literature Review: Limited research has been conducted using IEBs compared to TTB or EBs, especially in higher education (Lim et al, Baldwin, 2015; Spencer et al, 2020). A study completed by Lim et al. indicated that undergraduate students who learned through IEBs compared to standard EBs produced higher scores in academic achievements, concluding EBs "should not be static" (2020). A recent literature review by Dahlan et al, amalgamated several concluding the incorporation of multimedia elements in IEBs engrosses the attention of learners and enhances their comprehension (2024).

Research Design: This descriptive pilot study aims explore students' perspectives using an alternative IEB chapter compared to reading a TTB or EB version of similar content from two different sections of advanced anatomy course at Concordia University Wisconsin in fall 2024. Qualitative methodology and thematic analysis to explore the impact the IEB chapter has on student's learning, engagement, and outcomes in the higher educational setting. Students who meet the inclusion criteria of enrollment in RSC 3020 Advanced Anatomy will be invited to participate in the study. Students will utilize the pilot IEB chapter in Week 9 of a 16-week semester. Online, zoom recorded, focus groups with 5-10 participants in each group will provide students the opportunity to share perspectives, in semi-structured interviews, on the IEB compared to TTB or EB version of pre and post covered course content. Zoom recordings will be transcribed into written transcripts by the co-investigators. The transcripts will be reviewed separately by the co-investigators using

the six-phase thematic analysis as described by Braun and Clarke (2006). The qualitative analysis will be descriptive to explore themes that arise from the data collection.
Results: Fall 2024 data collected will be collected, analyzed, and ready for presentation by December 2024 within the Instructional Technologies category. This data will assist in development of additional IEB chapters and utilization of IEBs in future semesters for Anatomy courses. This study will contribute to the emerging research about IEBs and help to establish their place in higher education and in the health sciences.

References

A. (2015). Developing an Interactive Textbook Using iBooks Author. Federation of Business Disciplines Journal. 3(1), 1-12. https://fbdonline.org/wp content/uploads/2021/02/2015-V3.P1-12-Interactive-TextBook.pdf

(2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa.

M., Sabri, S., Mohtaram, S., Kamarudin, N. S., Syazana, F., Ahmad, Z. (2024). Impowering Learning: The Impact of Interactive Ebooks. Educational Administration: Theory and Practice Journal. 30(5). 12231-12237. https://doi.org/10.53555/kuey.v30i5.5079

C. Y., Liu, L. W. L., & Hou, C. C. (2020). Investigating the Effects of Interactive E-Book towards Academic Achievement. Asian Journal of University Education/Asian Journal of University Education, 16(3), 78. https://doi.org/10.24191/ajue.v16i3.10272

(2020). Interactive E-Texts and Students: A Scoping Review. Canadian Journal of Education, 43(1), 258-287. http://files.eric.ed.gov/fulltext/EJ1248468.pdf

Study Abroad South Africa: Connect and serve communities abroad

Peter Ziegler, Ozzie Abaye, Mark Reiter*, Virginia Tech*

Abstract: To embrace the future of learning, education must adapt to global challenges by fostering problem solvers with global mindsets. Interdisciplinary approaches and programs aligned with the UN's 17 Sustainable Development Goals will develop essential social competencies, improving outcomes and empowering students to address complex global issues through collaboration, entrepreneurship, and active citizenship. This discussion includes an overview of our pedagogic and evaluative framework throughout a semester-long, service-learning course. Students collaborated with local NGOs, co-developing projects in the fall semester and implemented them in winter. The experience includes exploring South African history to understand the socio-economic factors affecting food security.

The UN's Sustainable Development Goals (SDGs) are a set of 17 global goals established by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development. These goals represent "an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth - all while tackling climate change and working to preserve our oceans and forests."1 To help meet these goals, education must adapt to global challenges by fostering problem

solvers with global mindsets. Programs aligned with the UN's Sustainable Development Goals will build essential social competencies, empowering students to address complex global issues through collaboration, entrepreneurship, and active citizenship.

We shifted a study abroad South Africa program from "a guided tour type of program" to an "internationally oriented service-learning opportunity focused on Global Food Security. This internationally oriented experiential learning opportunity relates to the Global Food Security and Health minor, an interdisciplinary program that explores the biophysical, technological, and institutional drives that contribute to global food security and population health. One SDG: Zero Hunger focuses on food security, improved nutrition, and promoting sustainable agriculture. "Every day, almost 20 million people in South Africa go to bed hungry. And every month, 30 million people don't have enough money, leaving them vulnerable to food insecurity. In Cape Town, community gardens and nonprofits are fighting this food insecurity by rescuing food waste, encouraging people to grow their gardens at home, and fostering the next generation of agricultural entrepreneurs" (ONE Campaign, 2023).

In collaboration with several service-learning project providers from Cape Town, Virginia Tech students worked on several projects throughout the fall semester and implemented the projects in the winter term of 2024. Specifics about incorporating SDGs into the curriculum, the organizations, the service projects, student reflections and future plans will be discussed.

References

https://sdgs.un.org/goals

(2021, October 15). Meet the organizations tackling Cape Town's food insecurity and food waste. https://www.one.org/africa/stories/food-waste-insecurity-organization-cape-town/

Surveying the Motivational Climate in Courses to Improve Student Engagement

Brett Jones, Zeynep Ambarkutuk, Jennifer Gallagher, *Virginia Tech*

Abstract: What can instructors do to improve student engagement? In this interactive session, we answer this question by explaining a process we used in 20 different undergraduate courses to provide instructors with feedback that they then used to improve student motivation. We will (a) present the research-based motivational model that served as the theoretical foundation for our process, (b) explain how we collected student motivation data in the courses using a survey, (c) describe the report we provided to instructors based on the survey results, (d) discuss how we worked with some of the instructors to suggest changes to their courses.

The MUSIC® Model of Motivation (Jones, 2009, 2018) is a model created for instructors to use to develop instruction that will motivate students and engage them in their learning. The MUSIC model consists of five components that have been researched extensively over many years by many researchers to support student engagement in academic settings: eMpowerment, Usefulness, Success, Interest, and Caring (MUSIC is an acronym that is used to help instructors remember these five components). The five key principles of the model are that the instructor needs to ensure that students:

1. feel empowered by having the ability to make decisions,
2. understand why what they are learning is useful for their goals,

3. believe that they can succeed if they put forth the effort required,
4. are interested in the content and instructional activities, and
5. believe that the instructor and others in the learning environment care about their learning and about them as a person (Jones, 2009, 2018).

Instructors can assess their students' perceptions of the five MUSIC model components by surveying their students with the MUSIC® Model of Academic Motivation Inventory (Jones, 2012/2023). The MUSIC Inventory helps instructors determine their strengths and weaknesses related to motivating students by measuring students' perceptions of each of the five MUSIC model components. The MUSIC inventory has been shown to produce valid scores across many different types of college courses (Jones & Skaggs, 2016; Jones & Wilkins, 2023).

In this session, we will begin with an interactive activity that helps faculty learn about their personal teaching strengths and weaknesses related to motivating students. They will complete a brief questionnaire related to one of their courses, and we will explain how to interpret the responses.

Next, we will walk through a process based on Jones et al. (2020) that we used in 20 courses (35 sections with 18 instructors) during the Fall 2023 semester to help faculty improve student engagement. This process involved presenting each instructor with a "Motivational Climate Report" based on a survey of their students. We will explain the survey (including how to obtain it for free and implement it), what was included in the report, and how the report can help instructors increase student motivation and engagement.

Finally, we will offer attendees the opportunity to analyze their own data and consider strategies that might improve student engagement in their classroom. Participants will be encouraged to share ideas and ask any questions related to the model, process, or own perceptions.

By the end of the session, participants who pay attention will: (1) have a better understanding of their strengths and possible weaknesses as a motivating instructor, (2) be able to describe some evidence-based principles of motivation science that explain why students are motivated to engage in their courses, and (3) have the knowledge and tools needed to survey students in their own courses to make data-based instructional decisions to increase student motivation and engagement.

References

D. (2009). Motivating students to engage in learning: The MUSIC Model of Academic Motivation. International Journal of Teaching and Learning in Higher Education, 21(2), 272-285. https://www.isetl.org/ijtlhe/ijtlhe-article-view.php?mid=774

D. (2018). Motivating students by design: Practical strategies for professors (2nd ed.). CreateSpace. https://vtechworks.lib.vt.edu/handle/10919/102728

D. (2012/2023). User guide for assessing the components of the MUSIC Model of Academic Motivation. Retrieved from http://www.theMUSICmodel.com

D., Biscotte, S., & Harrington Becker, T. (2020). Using a motivation model and student data to redesign general education courses: An examination of a faculty development approach. Journal of General Education, 69(3-4), 235-250. https://doi.org/10.5325/jgeneeduc.69.3-4.0235

D., & Skaggs, G. E. (2016). Measuring students' motivation: Validity evidence for the MUSIC Model of Academic Motivation Inventory. International Journal for the Scholarship of Teaching and Learning, 10(1). Retrieved from http://digitalcommons.georgiasouthern.edu/ij-sotl/vol10/iss1/7

D., & Wilkins, J. L. M. (2023). Validating the MUSIC Model of Academic Motivation Inventory: Evidence for the short forms of the college student version. Journal of Psychoeducational Assessment, 41(1), 22-35. https://doi.org/10.1177/07342829221121695

Teaching (and Leading) from Within: Exploring the Forgotten Virtue of Humility

Austin Council*, Agricultural*

Abstract: Educators are asked to incorprate a laundry list of prosocial practices into their classrooms such as inclusive and culturally responsive pedagogies, student-centered learning, and high impact practices like service-learning, all while navigating rapid technological advancements affecting the educational landscape. This practice session seeks to provide space for educators to slow down, reflect, and examine the relationship between their inner and outer lives as it relates to their vocation. In this process we will learn how to develop a sense of humility and identify key spiritual practices to care for ourselves when more is being asked of us than ever before.

In today's fully connected, fast-paced, and growingly diverse higher education landscape, educators are asked to embrace a myriad of mindset shifts and practices in their teaching. There are calls for more inclusive and culturally responsive pedagogy (Florian, 2008; Sleeter, 2011), student-centered learning (Wright, 2011), space to facilitate difficult conversations (Love et al., 2016) and for educators to implement high impact practices such as service-learning, undergraduate research, and globalized learning in their classrooms (AAC&U, n.d.). Not to mention the rapid shifts occurring with new technological advancements affecting the classroom, such as artificial intelligence (Fitria, 2021) and social media (Chawinga, 2017; DeAndrea et al., 2012; Tess, 2013). While these practices are all inherently progressive and have data to show their positive impact on student learning, higher education professionals often wonder how all of this can be successfully achieved while striving for balance in one's work and personal life.

The future of higher education will only grow more complex, and given these trends, it is important that we take a step back, breathe, and reflect deeply on our lives as teachers. In this process we must ask ourselves why we sought the courage to teach, how it fills our souls, and what we can do to best care for ourselves when more is being asked of us than ever before. This practice session seeks to help educators slow down and examine the relationship between their inner and outer lives through exploring humility, a long-forgotten virtue that has grown in popularity in both leadership (Chancellor & Lyubomirsky, 2013; Morris et al., 2005) and education circles (English, 2016; Willis, 2023) over the past several decades. Participants will receive an overview of the virtue including the history of humility and its roots in religion and philosophy (Porter et al., 2016; Roberts & Cleveland, 2016), modern definitions (Peterson & Seligman, 2004; Tangney, 2000; 2002), research trends, how it is used in education and leadership spaces, and what we can do to develop a stronger sense of humility in our personal and professional lives.

Once we have identified key aspects of humility the practice session will shift to explore how humility relates to our sense of spirituality and connectedness. In this process we will reflect and apply concepts from Parker Palmer's (2000) acclaimed book Let Your Life Speak: Listening to the Voice of Vocation to our lives as

teachers/leaders. In the chapter "Leading from Within" Palmer explains that we must "ride certain monsters all the way down" in order to "cast less shadow and more light" (p. 6) in our vocations. These include (1) insecurity around identity and worth, (2) the belief that the universe is a battleground, (3) "functional atheism" or the idea that we are responsible for everything and everyone, (4) fear of the natural chaos in life, and lastly (5) denial of "death" or the cycle of ideas, projects, initiatives, etc. The session will conclude with practical insights on how to overcome these "monsters" through different care-based spiritual practices from Tree of Contemplative Practices (Bergman & Duerr, n.d.).

References

Retrieved from https://www.aacu.org/trending-topics/high-impact

Tree of Contemplative Practices. Retrieved from https://onbeing.org/blog/the-tree-of-contemplative-practices/

(2013). Humble beginnings: Current trends, state perspectives, and hallmarks of humility. Social and Personality Psychology Compass, 7(11), 819-833. https://doi.org/10.1111/spc3.12069

D. (2017). Taking social media to a university classroom: teaching and learning using Twitter and blogs. International Journal of Educational Technology in Higher Education, 14(1), 1-19. https://doi.org/10.1186/s41239-017-0041-6

C., Ellison, N. B., LaRose, R., Steinfield, C., & Fiore, A. (2012). Serious social media: On the use of social media for improving students' adjustment to college. The Internet and higher education, 15(1), 15-23. https://doi.org/10.1016/j.iheduc.2011.05.009

R. (2016). Humility, Listening and 'Teaching in a Strong Sense'. Logos & Episteme, 7(4), 529-554.

N. (2021). ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION: USING AI TOOLS FOR TEACHING AND LEARNING PROCESS. Prosiding Seminar Nasional & Call for Paper STIE AAS, 4(1), 134-147. Retrieved from https://prosiding.stie-aas.ac.id/index.php/prosenas/article/view/106

(2010). Exploring inclusive pedagogy. British Educational Research Journal, 37(5), 813-828. https://doi.org/10.1080/01411926.2010.501096

M., Gaynor, T. S., & Blessett, B. (2016). Facilitating Difficult Dialogues in the Classroom: A Pedagogical Imperative. Administrative Theory & Praxis, 38(4), 227-233. https://doi.org/10.1080/10841806.2016.1237839

A., Brotheridge, C. M., & Urbanski, J. C. (2005). Bringing humility to leadership: Antecedents and consequences of leader humility. Human Relations, 58(10), 1323-1350. https://doi.org/10.1177/0018726705059929

J. (2000). Let your life speak: Listening for the voice of vocation. John Wiley & Sons.

E. (2004). Character strengths and virtues: A handbook and classification (Vol. 1). Oxford University Press.

L., Rambachan, A., de Cea, A. V., Rabinowitz, D., Pardue, S., & Jackson, S. (2016). Religious perspectives on humility. In Worthington Jr, E. L., Davis, D. E., & Hook, J. N. (Eds.). Handbook of humility (pp. 63-77). Routledge.

C., & Cleveland, W. S. (2016). Humility from a philosophical point of view. In Worthington Jr, E. L., Davis, D. E., & Hook, J. N. (Eds.). Handbook of humility (pp. 49-62). Routledge.

E. (2011). An agenda to strengthen culturally responsive pedagogy. English teaching: Practice and critique, 10(2), 7-23. Retrieved from

http://education.waikato.ac.nz/research/files/etpc/files/2011v10n2art1.pdf

P. (2000). Humility: Theoretical perspectives, empirical findings and directions for future research. Journal of Social and Clinical Psychology, 19(1), 70-82. https://doi.org/10.1521/jscp.2000.19.1.70

A. (2013). The role of social media in higher education classes (real and virtual)-A literature review. Computers in Human Behavior, 29(5), A60-A68. https://doi.org/10.1016/j.chb.2012.12.032

S. (2021). Teachers' cultural, social and emotional capabilities: how teacher compassion and humility is an antecedent to student confidence. Pedagogy, Culture & Society, 31(1), 91-108. https://doi.org/10.1080/14681366.2021.1884122

B. (2011). Student-centered learning in higher education. International Journal of Teaching and Learning in Higher Education, 23(1), 92-97. EJ938583

Teaching Social Justice in Global TPC Design: Virtue Ethics in the Digital Era

Xiaobo Wang, *Sam Houston State University*

Abstract: This presentation shares teaching cases based on virtue ethics and social justice frameworks. Both

At a Southwest state university where state policy no longer permits DEI initiatives, it is extremely important to keep building course content and curricula that advocates social justice. The university's MA in Technical Communication, a program that recruits primarily industry professionals can ideally build the bridge between academia and industry, provides a great opportunity to imbed social justice pedagogy that also encourages equal and diverse user experience in transnational, multilingual TPC context. The undergraduate certificate and minor in TC programs are also great initiatives to cultivate students' intercultural/global awareness and user-centered design for multilingual audiences.

Applying virtue ethics, photo and video apps were put under scrutiny of a decolonial, social justice TPC pedagogy that attempts to reverse the negative course of application design, advocating equality and diversity of photo and video app users across the globe. This presentation shares class projects and international teaching sessions on global communication design in graduate and undergraduate classrooms, with a pedagogy that is guided by virtue ethics and technology frameworks that are primarily drawn from recent TPC and rhetorical studies, particularly the social justice turn scholarship in TPC. Pedagogical case one is critical reflection essays on Sun's, Gonzales's, and Vallor's works with practical applications/examples/cases in students' own work or projects (primarily industry projects). Case two is an undergraduate discussion session

between students in a technical writing class in the US and a business writing class in China, focusing on students' user experience and their discussions about photo- and video- editing apps. The class discussion was facilitated by Xiaobo, and students were asked questions in the research project she and Gu published in 2022. She also offered students recent frameworks in virtue ethics and technology, as well as social justice literature in TPC.

Major takeaways of this virtue ethics based social justice approach are: First, laying theoretical foundations using most current scholarship in social justice and virtue ethics in TPC is extremely helpful in cultivating students' decolonial, transnational awareness and intercultural competencies; Second, inviting students to sit in an international collaborative class session can help them better understand each other's viewpoints and different layers of oppressions during class discussions; Third, inviting working professional students to partner with their companies and/or using company projects as artifacts are conducive in teaching global TPC design for social justice.

References

Selected References

Y. (2014). Decolonial methodologies: Social Justice Perspectives in intercultural technical communication research. Journal of Technical Writing and Communication, 44(3), 297-327. https://doi.org/10.2190/tw.44.3.e

S., & Holmes, S. (2018). Rhetoric, technology, and the virtues. University Press of Colorado/Utah State University Press.

(2007). Confucius's virtue-centered rhetoric: A case study of mixed research methods in comparative rhetoric. Rhetoric Review, 26(2), 142-159.

(1999). Ethical intercultural technical communication: Looking through the lens of Confucian ethics. Technical Communication Quarterly, 8(4), 365-381. https://doi.org/10.1080/10572259909364675

(1994) Teaching to transgress: Education as the practice of freedom. Routledge.

(2022). Designing Multilingual Experiences in Technical Communication, Utah State University Press.

(1994) Understanding media: The extensions of man. MIT Press.

(2022). Global social media design: bridging differences across cultures. New York, New York: Oxford University Press.

(2016). Technology and the virtues. Oxford University Press.

R., & Jones, N. N. (2019). Technical communication after the social justice turn: Building coalitions for action. Routledge.

and Gu, B. (2022). "Ethical Dimensions of Photo/Video Apps: An Ethnographic Study of Photo and Video Apps", Journal of Business and Technical Communication, vol. 36, no. 3, 2022.

"Encouraging Student Advocacy in Social Justice Classrooms," Reflections: A Journal of Community-Engaged Writing and Rhetoric, vol. 22, no. 1, 2022.

Teaching doctoral-level writing with cultural sensitivity and responsiveness

Michelle Szpara, *Gwynedd Mercy University*
Alia Sheety, *Cabrini University*

Abstract: Our institution's social justice mission supported practitioners from local, under-resourced schools in earning doctoral degrees; approximately 50% of whom identify as minority. Historical institutional inequities (Delpit, 2006) have had an impact on students' academic writing. In response, the Ed.D. program underwent multiple transformations over seven years, with the goal of developing comprehensive, integrated writing support. Students' localized practices and knowledge - from their practitioner roles in school districts - were ascribed value in the research/writing process. Presenters will share outcomes, syllabi, writing-workshop tools, and writing rubrics; participants are invited to share programmatic approaches to writing needs.

In this University's accelerated Ed.D. program, our institution's social justice mission has supported professional practitioners from local, under-resourced school districts in earning their doctoral degrees. Among the Ed.D. students whom we served, approximately 50% identified as minority. While wealthier school districts may typically provide resources such as writing groups, sabbaticals, mentorship, and course reimbursement, under-resourced districts may be less likely to provide doctoral supports to their teachers and administrators, due to budget restrictions. Therefore, the University faculty in the Ed.D. program sought to create and provide equitable supports inside and through the Ed.D. program.

A convergence of institutional inequities has had a problematic impact on doctoral students' academic writing. Although the program's students are often well-established practitioners with advanced degrees, many still struggle in research and composition elements critical to dissertation completion and scholarly publication. Although grammar and APA are addressed from the beginning of the program, even students with stronger academic writing backgrounds may still struggle with higher order writing concerns, such as discourse, ethos, synthesis, and paragraph structure, as well as lower order writing concerns, such as grammatical and sentence-level errors.

The nature of students' writing struggles has been analyzed by the faculty, especially through the cycle of inequity described by Delpit (2006), in which otherwise capable students are "passed along" in the educational system, from grade to grade (and from graduation to graduation) without addressing systemic inequities in their academic development. The manifestations of this cycle can be observed in some doctoral students' writing, especially when they demonstrate writing weaknesses beyond those expected when learning the dissertation genre.

To better meet the needs of students who experience these academic writing struggles, the University Ed.D. program underwent multiple transformations over the past seven years. The goal of the programmatic revisions had been to provide more comprehensive, integrated writing support throughout the doctoral program.

Within this writing-focused transformation, students' localized practices and knowledge - many of which stem from their practitioner roles in school districts - were ascribed value in the research/writing process. These sites of knowledge became entry points for them to engage in scholarly research conversations and shift the source of their ethos from classroom experience to the production of cogent, articulate scholarship.

Presenters will share syllabi, writing-workshop tools, and writing rubrics, and participants will be invited to share their own programmatic approaches to writing needs.

References

2022. The CPED Framework. https://cped.memberclicks.net/the-framework

(2006). Other people's children: Cultural conflict in the classroom. The New Press.

Teaching with Heart in the STEM higher education classroom

Roel Snieder, Cortney Holles, *Colorado School of Mines*
Qin Zhu, *Virginia Tech*
Cynthia James, *Cynthia James Enterprises*

Abstract: Engineering education does not need to be sterile and cold-hearted. Our teaching with heart project aims at the opposite by addressing the importance of care for students in STEM higher education, and by providing teachers with tangible ways to create a caring classroom environment. Since care cannot be faked, we help teachers examine the character that they bring to the classroom, and we assist them to reframe their character through introspection and articulation of intention. In our session we will present some teaching with heart practices and exercises that we do with teachers.h

Students are struggling with poor mental health with 40% of students suffering from depression or anxiety [1], [2]. This raises the question how teachers in engineering education can best support students. Creating a caring classroom environment supports students. This is not only the right thing to do from a moral point of view; students also learn better when embedded in an environment of positive emotions [3]. But how does one prepare teachers for creating a caring classroom environment?

Traditionally teacher preparation is based on design and pedagogy. Design includes the formulation of outcomes, assessment, and the way in which we guide students towards the outcomes. Pedagogy addresses the way in which we run the class and addresses issues such as passive vs. active learning and whether we flip the classroom or not. Both design and pedagogy are essential in teacher preparation, but we think that teacher preparation should be extended to include the character development of teachers.

We define character as the mental framework that shapes our choices and behavior, it is thus an important driver of the way teachers show up in the classroom. Character is shaped by the beliefs that we hold, and it is thus important that we evaluate our beliefs and reframe them where we think they can be improved. Our teaching with heart program (https://twh.mines.edu) helps teachers in STEM higher education develop a caring classroom environment. This program is funded by the Character through Community Program of the John Templeton Foundation. We work with cohorts of teachers and use a workshop series and online community to assist teachers bringing heart to the classroom. The community aspect of our program is important because we learned that teachers in our program often perceive themselves to be an outlier in an engineering culture that values being tough and demanding. In fact, some teachers expressed concerns that being caring may negatively affect their annual evaluations and even their application for tenure.

We have developed teaching with heart practices [4](https://twh.mines.edu/teaching-with-heart-practices/) and advising with heart practices (https://twh.mines.edu/advising-with-heart-practices/). Some of these

practices are easy to implement and take little time or effort, while others involve mental training over an extended time. In our practice session we will present a selection of the teaching with heart practices.

In our project we have uncovered impediments that prevent teachers in STEM education to teach with heart. These include confusing caring with pampering, a sense of disconnect from colleagues when teaching with heart, a high work pressure, and a lack of self-care[5]. We do exercises with teachers in our program that help them develop a caring classroom environment, and that help them reflect on the beliefs that they bring to the classroom. We will do some of these exercises in the practice session in an abbreviated form. The insights and reflection by teachers on their habits and their underlying beliefs helps teachers make deliberate choices of how they want to show up in the classroom.

References

I. Lesher, "Target student mental well-being," Science, vol. 371, p. 325.

Accessed: Sep. 02, 2022. [Online]. Available: https://cgsnet.org/graduate-student-mental-health-and-well-being/

L. Fredrickson, "What Good Are Positive Emotions?," Rev. Gen. Psychol., vol. 2, no. 3, pp. 300-319, Sep. 1998, doi: 10.1037/1089-2680.2.3.300.

Snieder, C. Holles, Q. Zhu, and C. James, "Teach with heart!," Phys. Today, vol. 76, no. 3, pp. 10-11, 2023, doi: 10.1063/PT.3.5185.

Accessed: May 10, 2023. [Online]. Available: https://www.chronicle.com/article/they-need-us-to-be-well

Tech-Savvy Success: Empowering First-Year Students with Essential Skills for the Digital Age

Erin McDonnell-Jones, Savanna Love*, Randolph-Macon College*

Abstract: This presentation is designed to share a model for an innovative course designed to equip first-year undergraduate students with essential life skills and technology proficiency. The course, "Technology & Education in the Modern Age" was created to support students in developing skills necessary to succeed in higher education and their profession, with a focus on emerging technologies and tools. In addition to sharing our model and the research and work that went into creating the course, our goal is to discuss how elements from this model might be adapted to help transform first-year students in a variety of contexts.

In today's rapidly evolving digital landscape, equipping first-year students with essential life skills and technological proficiency is paramount for their collegiate and professional success. This presentation will introduce a new undergraduate course, "Technology & Education in the Modern Age," designed to address these needs comprehensively. The course, aligned with ISTE Standards for Educators, aims to provide first-year students with the necessary tools to navigate both academic and real-world challenges effectively. It focuses on two primary areas: life skills crucial for collegiate success and a variety of technology tools essential across multiple curricula. The course is structured to offer hands-on learning experiences, fostering both personal and academic growth. The goal of our presentation is to share the model for this course and engage in discussion regarding how a course such as this can transform student experiences in different contexts.

Transitioning from high school to college can be daunting for many students. This course emphasizes the development of life skills that are critical for success in higher education. These skills include:
Time Management: Students learn effective strategies to manage their time, balancing academic responsibilities with personal activities.
Productivity Tools: The course covers tools like Office 365 and Google Workspace, enabling students to enhance their productivity and efficiency.
Digital Literacy: Understanding the basics of computing, software, and hardware is essential for navigating the modern technological environment.
Collaboration and Communication: Students are introduced to modern communication tools and online collaboration strategies, preparing them for group projects and remote learning scenarios.
The course also provides in-depth training on various technological tools and concepts, including:
Digital Design and Multimedia: Students explore digital design principles and multimedia tools such as Canva and Adobe Spark, fostering creativity and technical skills.
Video Production and Editing: The course introduces basic video production and editing techniques, essential for creating engaging content.
Artificial Intelligence: Fundamental AI concepts and their practical applications are covered, preparing students for future technological advancements.
Emerging Technologies: The course investigates emerging technologies like AR, VR, and IoT, discussing their potential applications and ethical considerations.
The culmination of the course is a final project designed to integrate and apply the knowledge and skills acquired throughout the semester. Each student (or group of students) will create a proposal for integrating technology into a real-world scenario, focusing on a specific area of interest. This project will demonstrate their understanding of various technological tools and concepts, including productivity software, digital design, video editing, artificial intelligence, and emerging technologies.
"Technology & Education in the Modern Age" is a forward-thinking course that prepares first-year students for the challenges of collegiate life and beyond. By combining essential life skills with technological proficiency, the course ensures that students are well-equipped to succeed in multiple courses across various curricula. This presentation will delve into the course structure, objectives, and outcomes, highlighting its significance in modern education.
Join us in exploring how this innovative course can transform the educational experience for first-year students, setting them on a path to success in both their academic and professional journeys.

References

I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2018). Computer-based technology and student engagement: A critical review of the literature. International Journal of Educational Technology in Higher Education, 15(1), 1-18. https://doi.org/10.1186/s41239-018-0100-0

A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. Computers & Education, 59(2), 423-435. https://doi.org/10.1016/j.compedu.2012.02.001

S. (2016). Examining current beliefs, practices and barriers about technology integration: A case study. TechTrends, 60(1), 30-40. https://doi.org/10.1007/s11528-015-0014-3

(2013). The acceptance of tablet-PCs in classroom instruction: The teachers' perspectives. Computers in Human Behavior, 29(3), 525-534. https://doi.org/10.1016/j.chb.2012.11.004

(n.d.). ISTE standards for educators. ISTE. https://iste.org/standards/educators

(2008). Learning with laptops: Implementation and outcomes in an urban, under-privileged school. Journal of Research on Technology in Education, 40(4), 447-472. https://doi.org/10.1080/15391523.2008.10782516

(2019). Online student support: A framework for embedding support interventions into online courses. Journal of Learning Analytics, 6(3), 1-15. https://doi.org/10.18608/jla.2019.63.1

The Benefits of Undergraduate Research For Faculty

Peter Eubanks, *James Madison University*

Abstract: Much has been studied and written about the benefits of undergraduate research for college students, including an increase in critical thinking skills, analytical ability, effective speaking ability, persistence, and retention (particularly for underrepresented students). But what of the benefits of undergraduate research for faculty? This practice session will explore many of these benefits, including increased opportunities to teach, research, and serve within one's area of expertise; an increased understanding of undergraduate interests, pedagogical needs, and sense of relevancy; and the ways in which undergraduate research experiences can invigorate classroom discussions and dynamics.

Much has been studied and written about the benefits of undergraduate research for college students, including an increase in critical thinking skills, analytical ability, effective speaking ability, persistence, and retention (particularly for underrepresented students). But what of the benefits of undergraduate research for faculty? This interactive, 45-minute practice session will explore many of these benefits, including increased opportunities to teach, research, and serve within one's area of expertise; an increased understanding of undergraduate interests, pedagogical needs, and sense of relevancy; and the ways in which undergraduate research experiences can invigorate classroom discussions and dynamics. Attention will also be given to how undergraduate research can become a significant support in helping faculty members receive tenure and/or promotion. Participants will be encouraged to share their own experiences, challenges, and questions in a workshop-style environment.

The Bloom's Taxonomy You Don't Know

David Moore, Christi Camper Moore, *Ohio University*

Abstract: An instructional taxonomy organizes and categorizes educational objectives, outcomes, and strategies, providing a structured framework for educators. Bloom's Taxonomy (1956), a widely known taxonomy, outlines categories such as knowledge, comprehension, application, analysis, synthesis, and evaluation. Often simplified to action verbs, this reduction loses significant detail from the original 403-page text. This session argues for the value of Bloom's original refinements and distinctions, demonstrating how they enhance course design. Through examples from instructional design, arts administration, and dance, participants will explore how the complete taxonomy facilitates curriculum innovation, supported by an interactive design process.

An instructional taxonomy is a classification system used in education to organize and categorize learning objectives, outcomes, and instructional strategies. These taxonomies provide a structured framework for educators to design, implement, and assess educational experiences. The most widely known instructional taxonomy is Bloom's Taxonomy (1956), which describes the categories, knowledge, comprehension, application, analysis, synthesis, and evaluation.

Bloom's taxonomy is often abbreviated into a page or two list of action verbs (commonly found on collegiate teaching support websites). However, much is lost in this reduction. The original text is 403 pages (and that is just volume 1 focusing on the cognitive domain). The original taxonomy is further subdivided. For example, "comprehension" is subdivided into the categories of translation and interpretation, while "evaluation" consists of judgments in terms of internal evidence and judgments in terms of external criteria.

In this session, we argue that there is great value in these refinements and distinctions that are provided in the original taxonomy, and far too much is lost by diminishing the taxonomy to a list of synonym verbs. The original provides a complete spectrum of educational outcome possibilities as well as demonstrating assessment examples for each category.

We will review in detail the complete Bloom's taxonomy and demonstrate how the refined distinctions it contains can be used to improve course design. Using examples from our own disciplines of instructional design, arts administration, and dance, we will illustrate how the original taxonomy opens opportunities for reimagining one's curriculum in ways an abbreviation is incapable of doing.

We will lead participants in a brief interactive design process to examine how to apply the details of the taxonomy to their own teaching and course construction.

References

S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain New York, Longmans, Green.

The Connection Project: Finding Connection and Belonging at Virginia Tech

Colleen Driscoll, *Virginia Tech*

Abstract: The Connection Project (TCP) is a one-credit class now being offered at Virginia Tech that decreases loneliness and depression while increasing a sense of belonging. In this session participants will learn about the research behind TCP, course structure, and implementation and reception at Viriginia Tech as well as have the opportunity engage in some of the activities that students participate in during the TCP class. The goal of this session is to allow participants to learn more about TCP so that they have a better understanding of classes that can be offered to support student well-being and promote meaningful connection.

The Connection Project (TCP) is a new, one-credit class being offered at Virginia Tech this year. In 2023, the US Surgeon General, Dr. Vivek Murthy, declared loneliness an epidemic in the United States. Alarmingly, one of the groups that reports some of the highest levels of loneliness is eighteen to twenty-four-year-olds, which makes up a large portion of our college student population. This is where TCP comes into play. This class, developed at The University of Virginia, is an evidence-based program shown to decrease loneliness, increase a sense of belonging, and decrease depressive symptoms for students who complete the class. The effectiveness of this program led to the implementation of it at Viriginia Tech to better support the holistic

well-being of Hokie students. A TCP class meets for an hour and fifteen minutes once a week, for the whole semester. The class does not entail any quizzes, exams, or homework. The class is solely based on students attending class each week. When students come to class, they engage in discussion with six to ten peers led by two trained upper-class student facilitators. Discussions throughout the semester revolve around a variety of relationship topics including trust, conflict, vulnerability, and more. These discussions are facilitated through activities that make these big topics more approachable. The goal of the course is that students not only build relationships with the people in their small group, but also learn more about themselves and learn the skills to make connections with anyone throughout their lives. In the Virginia Tech pilot program of TCP last year, 100% of students who participated would recommend the program to a friend and students felt that the program changed their approach to making connections. In this session participants will learn about the background and research supporting TCP, the course structure, and how it has been implemented and received at Viriginia Tech. Participants will also be given the opportunity engage in some of the activities that students do during the TCP class to get a better sense of what the class might look like and how students build these relationships skills. The goal of this session is to allow participants to learn more about TCP so that they have a better understanding of classes that can be offered to support student well-being and promote meaningful connection.

References

https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf

https://pubmed.ncbi.nlm.nih.gov/35575603/

The Effect of Instructor Mindset on Student Motivation

Deborah Richardson, Robert Bledsoe*, Augusta University*

Abstract: Building on Dweck's research on mindset, motivation, and student success in the face of academic challenges, this study explores the impact of instructor mindset on student motivation. Students who reviewed a syllabus that reflected a growth mindset on the part of the instructor reported being more motivated to master their learning and less motivated to avoid negative judgments than students who reviewed a fixed mindset syllabus. Whereas men reported similar mastery orientation in both conditions, women reported more mastery orientation after reading the growth-oriented syllabus. Discussion will consider how instructors can design courses that will encourage mastery orientation.

The importance of student mindset to student success has been thoroughly researched and supported (Blackwell et al., 2007; Burnette et al., 2013). Growth mindset incorporates a "can do" attitude associated with seeking challenge and sustaining efforts in the face of failure. Fixed mindset, on the other hand, incorporates a "either you have it or you don't" attitude associated with avoiding challenge (Dweck & Leggett, 1988). Mindsets are associated with motivation. Those with a growth mindset have an internalized desire to master learning, while those with a fixed mindset are likely to be motivated to achieve favorable judgments from others (performance-prove orientation) or avoid appearing incompetent (performance-avoid orientation.

The present study asks whether an instructor's mindset as reflected in a syllabus may also influence student goal orientation. Previous research has revealed that instructor mindset influences student persistence and confidence (Canning et al., 2019; Jarrard et al., 2024). We hypothesized that students who encounter a syllabus

that reflects a growth mindset on the part of the instructor would report more mastery orientation and less performance motivation than those who encounter a fixed-mindset syllabus.
Undergraduate students read a syllabus for a STEM course that reflected either a growth mindset or a fixed mindset and completed a questionnaire that included measures of the three goal orientations. In the growth mindset syllabus, the instructor indicated that the course was challenging, but students who put in effort were likely to succeed, that student success was a shared responsibility between students and instructor, and there were multiple opportunities for feedback. In the fixed mindset syllabus, the instructor indicated that even with effort, some students were likely to be unsuccessful, that students needed to accept personal responsibility for their success, and there were few opportunities for feedback or access to the instructor.

As predicted, students who read the syllabus that suggested a growth mindset on the part of the instructor reported more mastery goal orientation (Ms = 3.30 vs. 2.88; $F(1, 217) = 7.65$, $p = .007$) and less performance-avoid orientation (Ms = 2.13 vs. 3.06; $F(1, 217) = 39.42$, $p < .001$) than those who read the syllabus that reflected a fixed mindset. Further analyses revealed that the mastery orientation differences between fixed and growth conditions were stronger for woman-identified (Ms = 3.34 vs. 2.61) than man-identified students (Ms = 3.24 vs. 3.14), $F(1, 217) = 4.18$, $p < .04$).

These results provide support for Dweck's motivational model, and they point to the impact of instructor attitude and expectations on student motivation to achieve. Discussion will consider how instructors can design courses that will encourage mastery orientation.

References

S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child Development, 78(1), 246-263. https://doi.org/10.1111/j.1467-8624.2007.00995.x

L., O'Boyle, E. H., VanEpps, E. M., Pollack, J. M., & Finkel, E. J. (2013). Mind-sets matter: A meta-analytic review of implicit theories and self-regulation. Psychological Bulletin, 139(3), 655-701. https://doi.org/10.1037/a0029531

A., Muenks, K., Green, D. J., & Murphy, M. C. (2019). STEM faculty who believe ability is fixed have larger racial achievement gaps and in¬spire less student motivation in their classes. Science Advances, 5(2). https://doi.org/10.1126/sciadv.aau4734

S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95(2), 256-273. https://doi.org/10.1037/0033-295X.95.2.256

S., & Bledsoe, R. (in press). Student perceptions of faculty mindset. Journal of the Scholarship of Teaching and Learning.

The Effectiveness of AI Onboarding Activities for First-Year Students

Tim Ball, Dayna Henry, *James Madison University*
Amanda Bryan, Steven Zhou, Breana Bayraktar, *George Mason University*
Jessica Taggart, *University of Virginia*

Abstract: How do we teach college students to use generative AI tools in helpful and ethical ways without letting go of their unique voices? In this practice session, participants will discover ways to onboard their students to AI and experience one of the onboarding activities themselves. Participants will reflect on their usage as well as have the opportunity to reevaluate their AI usage after hearing other participants' experiences and opinions. We hope that by practicing these AI onboarding activities participants will better understand their students' experiences with generative AI tools and the reflective practices needed to use AI ethically and responsibly.

Roughly half of college students in the United States reported using AI to help them with their schoolwork, with 1 in 5 saying they have used AI tools to complete assignments or exams and 50% saying they still completed most of their projects themselves (Welding, 2023). How do we, as educators, begin conversations about AI use with our students? How do we incorporate the necessary discussions about ethics, integrity, algorithmic bias, and mis-/dis-information? How do we teach college students to use generative AI tools in helpful and ethical ways without letting go of their unique voices? We believe the answer is we teach them right now and in the classroom. Many studies have shown that the use of generative AI tools is steadily increasing (Almaleki, 2020) and the need to teach AI ethics to these students is apparent (Wecks et al., 2024).

All of this leaves individual college instructors at the crossroad between the hope for administrative regulation and the hope that students will develop their own ethical AI practices. Rather than stand rooted at that intersection, we propose to teach first-year college students how to ethically use generative AI tools through onboarding activities.

Onboarding activities have been used in myriad careers for new employees (Sant, 2020). A team of faculty members and educational developers have created eight onboarding activities for instructors of first-year college students to adopt. These activities are designed to be applicable across a range of contexts, take no more than an hour, and can be mixed and matched by the instructor. Activities include:

1. An AI definition scavenger hunt designed to help students understand how AI works.
2. An AI initiation activity in which students assess their prior knowledge of AI text generators and speculate about their over-reliance or under-reliance on these text generators.
3. An activity designed to help students understand algorithmic bias inherent in decision making.
4. Understanding AI, machine learning, and deep learning. In this activity, students will articulate what artificial intelligence is and be able to determine whether AI is used.
5. Using ChatGPT for information creation. Students will be able to articulate the capabilities and constraints of information that is developed through various creation processes.

We want students to use AI independently in ways that align to our ethical expectations while providing space for students' voices and experiences through ongoing dialogue with ourselves and their engagement with other students. In this proposed practice session, presenters will have participants engage with at least one of the AI onboarding activities the team created. Participants will reflect on their usage, discuss various opinions including any anxieties / excitements about AI, and then privately reevaluate their usage after hearing other participants' experiences and opinions. We anticipate that participants, like our first-year students, will increase their knowledge of four learning outcomes through this activity, specifically about how AI works and when to use it, in addition to evaluating outputs and the need to add human value to those outputs.

References

S. A. (2020). Saudi international students' perceptions of the utility of artificial intelligence and intelligent personal assistant tools in EFL learning (Publication No. 28028490) [Doctoral dissertation, Concordia University Chicago]. ProQuest Dissertations and Theses Global.

(2020, August 1). What is employee onboarding? Read the definitive guide. Effectory. Retrieved August 15, 2024, from https://www.effectory.com/knowledge/what-is-onboarding/

O., Voshaar, J., Plate, B., & Zimmermann, J. (2024). Generative AI usage and academic performance. Social Science Research Network Electronic Journal. Available at http://dx.doi.org/10.2139/ssrn.4812513

(2023, March 17). Half of college students say using AI on schoolwork is cheating or plagiarism. BestColleges. Retrieved August 15, 2024, from https://www.bestcolleges.com/research/college-students-ai-tools-survey/

The Effects of Metacognition Exercises for Students in Online Degree Programs: An Experimental Design

Les Stanaland, *University of North Texas*

Abstract: Do self-regulated reflective journaling exercises increase student metacognition? Seeking to increase awareness at the post-secondary level of metacognition support practices, this study examines the effect of one common strategy on a student's self-reported sense of metacognition. A Solomon four-group randomized research design is used in conjunction with the Metacognitive Awareness Inventory to test whether reflective journaling leads to higher metacognitive gains. Leveraging the nature of online, required courses in a general baccalaureate degree program, we expect these findings to be useful to administrators and faculty who are seeking to improve student learning and perceptions of academic programs.

Pioneered by John Flavell (1979), metacognition theory seeks to explain how people understand the processes of learning. Defined as "any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise" (ibid, pg. 906), the theory supposes that as students increase their own metacognition, they can then gather more knowledge more efficiently, thereby becoming not only better learners but more self-aware humans.

Further research into the aspects of metacognition led to a bifurcation into knowledge about and regulation of cognition. "Knowledge about" would include declarative, procedural, and conditional knowledge, while "regulation of" includes planning, evaluating, and monitoring of same (Jacob and Paris 1987). Conceptualized and operationalized by Schraw and Dennison (1994), the Metacognitive Awareness Inventory (MAI) survey is comprised of 53 "I" statements that students answer in the affirmative or negative. Question scores are then subdivided into 8 areas to calculate a student's ability to know and regulate their own learning. Ohtani and Hisasaka (2018) found that metacognition exercises are moderately correlated with learning gains; however, measures of achievement such as final grades may not accurately measure learning (Biggs and Tang, 2007) while Santangelo, et al (2023) found that weak metacognitive skills were associated with low retention. Therefore, this study proposes to uncover if reflective journaling (Alt and Raichel 2020, Ramadhanti et al 2020, Kuiper 2002) leads to increases in metacognition but not necessarily higher course grades.

This study attempts to fill a gap in the literature in the area of testing metacognitive exercises. Langdon, et al (2019) uses the MAI and tests different exercises; however, there was no control group and the students were

in self-selected psychology courses; this study will observe students in a required course for a general degree program and will be able to test a treatment group against a control group to better ascertain the efficacy of reflective journaling as a metacognition strategy.

References

and Raichel, N. (2020). Reflective journaling and metacognitive awareness: Insights from a longitudinal study in higher education. Reflective Practice 21 (2), 145-158.

(2007). Teaching for quality learning at university: What the student does (3rd ed.). Open University Press.

H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-

American psychologist 34 (10), 906-911.

E. and S. G. Paris (1987). Children's metacognition about reading: Issues in

Educational psychologist 22 (3-4), 255-278.

(2002). Enhancing metacognition through the reflective use of self-regulated learning strategies. The Journal of continuing education in nursing 33 (2), 78-87.

T. Botnaru, M. Wittenberg, A. J. Riggs, J. Mutchler, M. Syno, and M. C.

Examining the effects of different teaching strategies on metacognition

Advances in physiology education 43 (3), 414-422.

and T. Hisasaka (2018). Beyond intelligence: A meta-analytic review of the

Metacognition

and Learning 13, 179-212.

and Ghazali, A. and Hasanah, M. and Harsiati, T. and Yanda, D. (2020). The use of reflective journal as a tool for monitoring of metacognition growth in writing. International Journal of Emerging Technologies in Learning (IJET) 15 (11), 162-187.

Cadieux, and S. Zapata (2021). Developing student metacognitive skills

Journal of STEM Edu-

cation: Innovations and Research 22 (2).

and R. S. Dennison (1994). Assessing metacognitive awareness. Contemporary

educational psychology 19 (4), 460-475.

The Future is Yours: Implementing Student-Goal Driven Pathways in a Culminating Course

Michael Forder, Lauren Mortensen, Kristin MacDonald*, Virginia Commonwealth University*

Abstract: Graduation is a common goal for fourth-year undergraduates and their faculty, but students have diverse post-graduation plans. Culminating academic experiences, like service learning and internships, help bridge the gap between college and post-graduate life. However, these experiences are not always designed with an increasingly diverse student population in mind. Implementing curricular pathways into culminating courses provides learners with an application experience that fits their personal goals. Sharing lessons learned from re-designing a service learning course, we will highlight decision points and present suggestions for developing pathways that are responsive to the needs of diverse learner populations.

Graduation serves as a shared goal for fourth year undergraduate students and their program faculty. While degree attainment is a unifying focus, students are not a monolith; they approach graduation with personalized visions of what comes next. Culminating academic experiences, including service learning, internships, and thesis work, are implemented into program curriculum both to provide opportunities to apply program content in a challenging and meaningful way, and to act as a bridge between the undergraduate experience and life after graduation. Well-intentioned program efforts to predict what students need after graduation often provide a uniform script for post-graduation success that fails to appreciate the increasing diversity of the undergraduate student population. As the idea of the typical undergraduate student is eroded, programs must reconsider how to support learners approaching graduation.

Adult learners, or non-traditional students, in higher education are a growing population across campuses nationwide. While there is variance in how non-traditional learners are defined, two of the most commonly identifiable characteristics identified by the National Center for Education Statistics are being at least 25 years old, and either pursuing a degree or certificate for the first time or returning to complete a degree or certificate after an unsuccessful first attempt (NCES, 2020). As enrollment rates of non-traditional students increase, faculty must appreciate differences in these populations and adopt flexible learning models that may include asynchronous content, varied assessment methods, and practical, real-world applications of course content. Adult learners bring a wealth of prior knowledge and experiences to their studies, which can enrich the learning environment if appropriately harnessed. Faculty should design courses that validate and incorporate these experiences, fostering an inclusive atmosphere that values diverse perspectives (Merriam & Bierema, 2014). This approach not only enhances engagement but also deepens learning by linking theoretical concepts to practical, lived experiences.

Students approaching graduation in the Bachelor of Science in Health Services program at Virginia Commonwealth University must complete a culminating service learning course. Previously, in addition to the service learning component, enrolled students completed career readiness tasks such as resume development and motivational interviewing. Acknowledging that this curriculum was directed at traditional-aged students preparing to enter the workforce, the course was redesigned utilizing a professional pathways framework. Creating a course culture of choice, students can select one of three pathways focused on college-to-career preparation, attending graduate school, or professional skills development. The pathways aim to provide students with content and activities relevant to their personal goals, while demonstrating the diverse application of the knowledge and skills developed in the program.

This interactive practice session will focus on design and development considerations for utilizing a pathways framework in a culminating course. Sharing lessons learned from re-designing our service learning course, we will highlight key decision points and present suggestions for developing pathways that are responsive to the

needs of your diverse learner populations. Participants will engage in class discussion around practical considerations (e.g., assessment and workload equity, timing and delivery) and will conclude with some guiding questions for faculty to consider.

References

B., & Bierema, L. L. (2014). Adult learning: Linking theory and practice. Jossey-Bass, a Wiley brand.

Department of Education. National Center for Education Statistics (NCES), a part of the U.S. Department of Education. (2020). https://nces.ed.gov/

The Pedagogical and Interpersonal Benefits of Food Studies in Lesson Design

Moriah Maresh, *Goodwin University*

Abstract: Thanks to technological developments, the human experience is undeniably changing. One aspect that will never change, though, is the need for food. But for humans, food is more than a requirement for survival. It is influenced by culture, identity, economics, and psychology. Attendees will learn and brainstorm how to embed food-based activities across disciplines and why these activities enhance pedagogical practices and promote student success. As the world keeps changing, it is only sensible that educators nourish student learning by leveraging the timeless, significant topic of food.

Thanks to technological developments, the human experience is undeniably changing. One aspect that will never change, though, is the need for nutrition. Educators and students can find consistency and foster relationships within the shared language of food. Students need to feel valued and heard in the classroom. Often, the complexity of topics in higher education can become overwhelming, particularly if those students are not native English speakers or have been out of school for years. By utilizing the comprehensive topic of food, educators can invite all students to the table of learning. After all, for humans, food is more than a requirement for survival. One's choices regarding food "are the result of a complex negotiation among three competing considerations: the consumer's identity (social and personal), matters of convenience (price, skill, availability), and a sense of responsibility (an awareness of the consequences of what we eat)" (Belasco, 2008). Because the need for food is universal and contributes to conversations regarding culture, identity, and economics (to name but a few), educators have the exciting opportunity to harness this unifying human experience when crafting lessons and fostering engaging, inclusive learning environments both synchronously and asynchronously.

This roundtable discussion will explore how engaging with the cultural, social, personal, and psychological aspects of food in lesson development can foster impactful learning environments across disciplines. After providing background on Food Studies and its pedagogical benefits, the presenter will illustrate how she has utilized food as a contextual tool for planning lessons for various English and Sociology courses. For example, students can practice analysis by exploring the nuances of their favorite dishes—texture, cost, prep time, color, taste, memory—prior to analyzing a literary text. In addition, the presenter will delineate how this practice contributes to the Universal Design for Learning, particularly in terms of nurturing "joy and play" and optimizing "relevance, value, and authenticity" (CAST, 2024). As Bruckner (2023) described when illustrating the pedagogy of food and race, the topic of food can break down barriers and welcome all to the table of learning:

Discomfort and extended silences did occasionally accompany our classroom ambience, for instance, as I modeled vulnerability by sharing my own personal history of utilizing SNAP benefits and the stigma I experienced. These emotionally uncomfortable aspects and personal disclosure challenged traditional classroom dynamics in that I tried to situate myself as a fellow learner, and students often did not know how to react. (p. 485)

Participants will then be encouraged share their own experiences with food and brainstorm how integrating food-related content and activities in their respective disciplines could enhance pedagogical practices and increase student success. As the world keeps changing, it is only sensible that educators nourish student learning by leveraging the universal, timeless, and culturally significant topic of food.

References

(2008). Food: Key Concepts. Berg.

K. (2023). Digesting ourselves and others through a critical pedagogy of food and race. Journal of Geography in Higher Education, 48(3), 468-490. https://doi.org/10.1080/03098265.2023.2255547

Universal Design for Learning Guidelines version 3.0. https://udlguidelines.cast.org

The Power of Peer Education for the Future of Learning

Christina Fabrey, Amber Smith, *Virginia Tech*

Abstract: Alexander Astin (1993), leading researcher on student development and retention, notes that "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years." Literature further confirms that peer educators can have a substantial impact on student development, motivation, and achievement, and yet many educators struggle with how to integrate, train, and adequately develop peer educators. This workshop will explore what the research tells us about the power of peer education in supporting learning, and discuss best practices in peer education, providing participants with strategies and resources to support peer educators.

High-quality student relationships with faculty, students, and administrators are a key characteristic of a supportive campus environment, however, supportive and knowledgeable peers are often left out as a resource to help students feel welcomed, affirmed, and supported as members within an academic community. Peer education programs can welcome and affirm students, guide students in understanding and successfully navigating the institution and classroom and provide academic and social support in both formal and informal ways. In fact, Alexander Astin (1993), a well-known researcher on student development and retention, notes that "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years". Teaching faculty can leverage this conclusion by integrating peer educators in the learning process where students can help students succeed. With peer education training and support, faculty can utilize students to dispel learning myths, increase content knowledge, and provide additional learning opportunities within the classroom.

Peer education can be as academic as tutoring, as social as connecting students with the campus community, or as holistic as sharing wellness techniques. During a time where loneliness is a major concern plaguing college students (Alonzo, 2023), facilitating meaningful connections with peers is more important than ever.

Literature confirms that peer educators can have a substantial impact, not only on students' emotional wellbeing, but their development, motivation and achievement in the classroom (Pascarella & Terenzini, 2005; Mayhew, Bowman, Rockenbach, Seifert, Wolniak, 2016). Yet many educators have never been trained on how to integrate peer education into learning or on how to adequately support the development of peer educators. This workshop will explore what peer education is, what forms it can take, and what the research tells us about its power to support learning, success, and retention. Using evidence-based data, the session will describe the benefits to peer educators and the students they serve.

Participants will learn about the role of a peer educator (tutors, mentors, coaches, etc.) in the classroom and how students can enhance or extend classroom learning. Participants will be introduced to peer-learning models, such as peer support groups, mentoring, and reciprocal teaching. They will also be provided with resources through Oregon State University's and Virginia Tech's Peer Education Programs to support students in developing leadership roles as peer educators in the classroom. Essential to the workshop is a discussion on best practices in peer education, so that participants will leave with a toolbox full of strategies and resources to support peer educators in the classroom.

Draft Session Outline:
-What is peer education and what roles can peer educators play in the classroom?
-Major findings from research on peer education
-Impact on student growth (for both students and peer educators)
-Breakout groups discussion by peer education interest area: Strategies for application in the classroom and across institutions
-Additional resources and tools to support peer education
-Q&A

References

The New Plague on Campus: Loneliness. Inside Higher Education.https://www.insidehighered.com/news/students/physical-mental-health/2023/11/08/new-epidemic-gripping-college-campuses-loneliness

(1993), What Matters in College: Four Critical Years Revisited. San Francisco: Jossey-Bass.

J., Rockenbach A. N., Bowman N. A., Seifert T. A., Wolniak G. C., with Pascarella E. T., Terenzini P. T. (2016). How college affects students: Vol. 3. 21st century evidence that higher education works. San Francisco, CA: Wiley.

T., & Terenzini, P.T. (2005). How College Affects Students, Volume 2, A. Third Decade of Research. San Francisco, CA: Jossey-Bass.

The Transformative Power of Experiential Learning

Mark Barrow, A. Ozzie Abaya, Michael Berg, Kwame Harrison, Stephen Martin*, Virginia Tech*

Abstract: Experiential learning is a powerful approach to teaching and learning based on the principle that the best way to acquire knowledge and skills is through hands-on experience and reflection. Students who participate in experiential education develop a deeper mastery of course material, improved collaborative and leadership skills, a stronger

sense of professional identity, and greater self-confidence, to name just a few of its many proven benefits. Sponsored by the Academy of Teaching Excellence at Virginia Tech, this roundtable discussion explores the transformative power of learning by doing in a wide range of classroom and extracurricular contexts.

During this roundtable discussion, six members of the Academy of Teaching Excellence at Virginia Tech will offer brief (ca. 3-4 minutes/each) reflections on their work organizing and directing meaningful experiential learning opportunities and the impact of those experiences on students. We will then open the discussion up for audience members to ask questions, offer comments, and provide their own perspectives on and experiences related to experiential learning.

The presenters and topics include:
Michael Berg, Chemistry, "Undergraduate Teaching Assistant in Organic Chemistry: Experiential Learning Through Peer-Led Learning"

Undergraduate teaching assistants (UTA) provide opportunities for students to practice skills and knowledge of course material. There are excellent rewards from the UTA experience: review of organic chemistry for professional exams (MCAT, DAT, etc.), experience for those interested in teaching careers, networking with the instructor, peers and students, practicing essential skills such as communication, professional development, and much more.

Stephen Martin, Chemical Engineering, "Learning through Competition - Experiential Learning in Student Design Teams"

Student design competitions provide opportunities for undergraduates to gain practical hands-on experience while working as a member of a student-led team. We sponsor two teams, the ChemE Car team and the ChemE Cube team, to compete in regional and international competitions. A key to the success of these programs is the careful balance between faculty guidance and student autonomy.

Mark Barrow, History, "The Book Project: Modeling Professional Practice and Promoting Professional identity in the Senior Capstone Course"

“The Book Project” is an innovative approach to the senior capstone course in History that challenges students to create a self-published, collaboratively produced book. Students in the course not only work harder but they also gain a stronger sense of professional identity and more confidence in their ability to reconstruct, interpret, and communicate the past.

Kwame Harrison, Sociology, "Experiential Learning in the Ethnographic Tradition"

Experiential learning in the social sciences can be founded on intentional approaches to everyday activities. Guided by the ethnographic practice of participant-observation and the anthropological maxim of making the familiar strange and the strange familiar, this presentation explores activities through which students can gain phenomenological insights and apply social-science principles.

A. Ozzie Abaye, Plant and Environmental Sciences, "Study Abroad South Africa: Connect and Serve Communities Abroad"

This course involves engaging in service learning around food security in Cape Town, South Africa. Participants collaborate with local NGOs to address and help mitigate issues related to hunger and nutrition.

The program includes meetings with local farmers to explore sustainable agricultural practices and other activities to provide a comprehensive perspective on the region's challenges and its rich cultural and natural heritage.

Trauma-Informed Pedagogy: Creating Classrooms That Are Safe Enough To Be Dangerous

Jordan Davis, *JD Speaks LLC*

Abstract: Chronic absences, participation anxiety, and difficulty focusing are visible trauma responses in college students. But what if trauma-informed pedagogy could make classrooms not just safer, but more intellectually daring? This workshop shows how care for students and academic rigor can reinforce each other. Drawing on evidence-based practices, participants will learn to design classes centering love, community, and trust. These strategies create environments where students engage with controversial topics, ask challenging questions, and make productive mistakes. Educators will learn to cultivate classrooms that are both supportive and intellectually adventurous, preparing students for impactful learning beyond course boundaries.

In today's complex educational landscape, educators face the challenge of creating learning environments that are both academically rigorous and emotionally supportive. This workshop, "Trauma-Informed Pedagogy: Creating Classrooms That Are Safe Enough to Be Dangerous," offers a transformative approach to teaching that addresses these dual needs.

Drawing on evidence-based practices and current research, this workshop will equip faculty and staff with the tools to recognize and respond to trauma in the classroom while fostering an environment that encourages intellectual risk-taking and deep engagement. The workshop is grounded in the understanding that trauma affects students across cognitive, physical, and emotional domains, influencing their ability to focus, attend classes regularly, regulate emotions, and engage in challenging academic work.

Key topics covered in the workshop include:
- Principles of Trauma-Informed Teaching: The workshop will define trauma in education along with core tenants of trauma-informed teaching, such as scaffolding, student agency, social-emotional learning, and accessibility
- Designing and Facilitating for Trauma-Informed Learning: Attendees will learn to proactively design engaging, culturally responsive learning experiences that promote student wellbeing. They'll discern between aspects of their pedagogy that add cognitive load versus ones that promote intellectual rigor and student-centered learning
- Self-Care for Educators: Recognizing the emotional toll of this work, we'll discuss strategies for educator self-care, including setting boundaries and processing experiences with colleagues.

Throughout the workshop, participants will engage in interactive exercises, including free-writing, small group discussions, and scenario-based problem-solving. These activities will provide opportunities to apply trauma-informed principles to their own teaching.

By the end of the workshop, attendees will:
- Understand how trauma manifests in the classroom and impacts learning
- Gain practical strategies for creating trauma-informed learning environments
- Develop skills for responding to trauma responses while maintaining academic rigor

This workshop is led by Jordan H. Davis, a Pedagogy Specialist with extensive experience in faculty development and college-level teaching. He is currently a Project Coordinator at Georgetown University's Center for New Designs in Learning & Scholarship (CNDLS), and as an independent Pedagogy Specialist and Founder of JD Speaks LLC. In addition to Jordan's expertise and anonymized lessons from the hundreds of faculty he's worked with, additional resources that undergird the content of this workshop include numerous guides, toolkits, and current research on trauma-informed teaching in higher ed, Tom Senninger's Learning Zone Model, work on metacognition from Sandra McGuire's Teach Students How to Learn (book), and national statistics on trauma in college students.

Understanding Health Professions Students' Intentions to Work with Older Adults

Mingyang Zheng, Pamela Y. Frasier, H. George Philippi Jr., *Radford University*

Abstract: The aging population in the United States is growing rapidly, yet a shortage of healthcare workers persists, with health profession students showing limited interest in geriatric care. This study aims to understand the factors influencing these students' intentions to work with older adults using the Theory of Planned Behavior. Findings suggest that educational interventions should focus on improving attitudes toward older adults and leveraging social influences to enhance the desirability of geriatric careers. Addressing biases and enhancing the educational curriculum are crucial steps toward mitigating the workforce shortage in geriatric care.

Background and Purpose: The Current Population Reports (Vespa et al., 2020) estimated that the population aged 85 years and over would double in 2035 (11.8 million), compared to the aging population in 2020 (6.5 million). Meanwhile, the US is experiencing a shortage of healthcare workers to provide services and support for older adults. Students in healthcare professions often report a limited interest in working with this demographic. The reasons for students' lack of interest are varied and inconclusive. Guided by the Theory of Planned Behavior, this study investigated healthcare profession students' attitudes toward older adults, perceived behavioral control, subjective norms, and the level of perceived self-efficacy associated with their intention to work with older adults.

Methods: Data were collected using a cross-sectional survey design. The Working with Older Adults Scale (Graham & Rosén, 2020) measured students' intention, attitude, subjective norm, and perceived behavioral control. The New General Self-Efficacy Scale (Chen et al., 2012) was utilized to assess students' self-efficacy. Surveys were sent to 1348 health profession students from disciplines including Physical Therapy, Occupational Therapy, Nursing, Counseling, Physician Assistant, Social Work, and Speech Therapy at a mid-size comprehensive public university in southwest Virginia. A total of 244 complete responses were collected (response rate: 18%). The majority of respondents identified as White or Caucasian (76.2%), 8.2% as Black or African American, 3.3% as Hispanic or Latino, 2.9% as Asian, and 9.4% as a mix of these and other racial identities. Two hundred eleven respondents self-identified as Female (86.8%), 22 as Male (9.1%), 5 as Transgender Male (2.1%), and 2.0% as Non-Binary or preferring not to answer. Structural equation modeling was used to test the overall model fit and the direct and indirect relationships among variables based on the theory of planned behavior.

Results: The structural equation model shows a reasonably good fit to the observed data, as indicated by key fit indices (CFI, TLI, RMSEA, SRMR). Attitude (estimate = 0.930, $p < 0.001$) and subjective norm (estimate = 0.864, $p < 0.001$) significantly predict intention. The effects of Perceived Behavioral Control on Intention

(estimate = 0.169, p = 0.118) and Self-efficacy on Intention (estimate = 0.008, p = 0.976) are not statistically significant.

Conclusions and Implications: These results support the Theory of Planned Behavior in the context of healthcare profession students' career intentions. Multicollinearity might affect the observed relationships between perceived behavioral control and self-efficacy. Thus, the results do not support the theory's expansion to include self-efficacy, as it may conceptually overlaps with perceived behavioral control. The findings have implications for gerontology education. Interventions to improve students' perceptions towards aging care could be crucial in addressing the healthcare workforce shortage. Educational programs should focus on enhancing positive attitudes and confidence in working with older adults.

References

M., & Eden, D. (2012). New General Self-Efficacy Scale [Dataset]. https://doi.org/10.1037/t08800-000

L., & Rosén, L. A. (2020). Working with Older Adults Scale: Application of the Theory of Planned Behavior. The Gerontologist, 60(6), e428-e437. https://doi.org/10.1093/geront/gnz077

M. (2020). Demographic turning points for the United States: Population projections for 2020 to 2060. U.S. Census Bureau. https://www.census.gov/content/dam/Census/library/publications/2020/demo/p25-1144.pdf

Use of an Acute Vigorous Aerobic Exercise Intervention to Improve Neurocognitive Outcomes in Undergraduate STEM Students

Angela Anderson, Grace Boyer, Deborah Good, *Virginia Tech*

Abstract: State of the art recreational facilities make up a strategic selling point to prospective students at higher educational institutions in the United States. However, can these recreational facilities also be used by students as a strategy for improving academic success? This study investigated the impact of a 40 min spin class, compared to sedentary activity on neurocognitive tests to determine whether high intensity exercise, changes abilities related to attention and memory. Findings suggest that instructors can promote physical activity as a strategy to improve student academic success.

Based on previous work in both rodent models and in humans that demonstrate an overall increase in academic success and/or cognitive function with increased exercise, as well as reduction in anxiety following exercise, the following hypothesis was investigated: Does an acute bout of vigorous aerobic exercise, performed 1.5-2 hours prior to cognitive testing improve performance on executive function tests compared to sedentary controls? In mice, vigorous intensity exercise is linked to increased cognitive function [1], and new neuron formation, especially in the hippocampus, a region where memories are stored [2]. In humans, two studies involving college females and vigorous intensity exercise demonstrate increases in grade point average (GPA) and working memory [3, 4]. In addition, greater fitness in middle- and high-school youth has been shown to correlate with increased academic achievement [5]. Studies have shown that both acute and chronic aerobic exercise promote an increase in a child's working memory [6, 7]. In addition, research has shown that those who exercised more frequently had stronger self-perceived critical thinking skills [8]. Participants were randomized into group 1 or group 2 in a crossover design where each group serves as its

own control. In the exercise arm, participants completed a 40 min spin class and in the sedentary arm, participants watched cartoons for the same period of time. A 90 min rest period with light snacks was given prior to administration of the CANTAB neurocognitive tests. Improvements in cognition were seen, specifically regarding memory tasks. Connecting students with opportunities for increased physical activity has the potential in to increase academic performance. Implications for classroom learning and strategies to connect students with increased opportunities for physical activity will be discussed.

References

Fabel, K. and G. Kempermann. Neuromolecular Med, 2008. 10(2): p. 59-66.

Schoenfeld, T.J. and C. Swanson. Biomolecules, 2021. 11(8).

Lo Bue-Estes, C., et al. Percept Mot Skills, 2008. 107(3): p. 933-45.

Bellar, D., et al. J Educ Health Promot, 2014. 3: p. 9.

Coe, D.P., et al. Journal of School Health, 2013. 83(7): p. 500-507.

Best, J.R. Dev Rev, 2010. 30(4): p. 331-551.

Ellemberg, D. and M. St-Louis-Deschênes. Psychology of Sport and Exercise, 2010. 11(2): p. 122-126.

Anderson, A.S. and D.J. Good. (2020) Journal of American College Health, DOI: 10.1080/07448481.2020.1803879

Using Accessible Technology Tools to Meet (Disabled) Students' Access Needs

Asher Burns, Pearl Xie, *Virginia Tech*

Abstract: In this interactive session, we will learn about the importance of prioritizing students' access needs to support the success of (disabled) students in postsecondary education. We will share accessible technology tools and inclusive practices to support instructors in proactively and intentionally planning for students' access needs in their course design and delivery. Then we will highlight evidence-based strategies that help meet students' access needs.

Instructional needs show that it is necessary for faculty members to receive training to support the success of disabled students who request accommodations (Lombardi & Lalor, 2017; Xie & Rice, 2020). However, obtaining disability accommodations is an arduous process that requires disabled college students self-advocate and provide costly disability documentation to justify their needs (Griffen & Tevis, 2017; Rothstein, 2015; Shaw et al., 2010; Squires & Countermine, 2018). Teaching faculty members can disrupt this burdensome process by learning about the concept of access needs and proactively preparing for all students' access needs (Bartolo, et al., 2023; Hubrig, 2023; Reinholz & Ridgway, 2021; Sins Invalid, 2019). The conception of access needs originates from the Disability Justice movement, which emphasizes groups of people work together to provide "collective access" for everyone in a group (Sins Invalid, 2019, p. 26). Access needs are what a person must have to participate in an activity, such as college courses (Reinholz & Ridgway, 2021). Students' access

needs for college courses may include copies of course slides, audio books, or accessible course documents (Bartolo, et al., 2023; Reinholz & Ridgway, 2021).

The Accessible Technologies (AT) team at Virginia Tech provides accessible technology tools and inclusive practices to support instructors in proactively and intentionally planning for students' access needs in course design and delivery. After inviting faculty members to identify and share students' potential access needs and their own instructional needs, we will introduce and highlight a few accessible technology tools (i.e. Anthology Ally, PDF Documentation and Remediation Platform software) to support teaching and learning. By providing instructors with these practical tools and tips, our session will help instructors meet students' access needs in course design and delivery.

In this session, participants will have an opportunity to practice strategies for creating accessible educational materials. For instance, we will demonstrate how to use Anthology Ally to check whether materials are accessible in a Canvas course as well as demonstrate the PDF Documentation and Remediation Platform (PREP), an Artificial Intelligence (AI) Portable Document Format (PDF) remediation tool to make PDF files accessible. Participants will learn and use the Diagram Center's (2021) image description guidelines to create image descriptions. We will also share information on how to simplify and summarize text as part of the Keep Choosing Accessible Learning Materials (C.A.L.M.) campaign (Virginia Tech Accessible Technologies Team, 2024). The session will conclude with attendees identifying one strategy they will implement to meet their students' access needs.

By the end of this session, participants will be able to:
Define access needs and their significance
Use accessible technology tools to create accessible educational materials
State guidelines for writing image descriptions

References

A., Borg, M., Callus, A. M., De Gaetano, A., Mangiafico, M., Mazzacano D'Amato, E., ... & Vincent, J. (2023, November). Aspirations and accommodations for students with disability to equitably access higher education: a systematic scoping review. In Frontiers in Education (Vol. 8, p. 1218120). Frontiers Media SA.

(2021). Making images accessible. DIAGRAM Center. A Benetch Initiative. http://diagramcenter.org/making-images-accessible.html

& Tevis, T. (2017). Tools for Moving the Institutional Iceberg: Policies and Practices for Students with Disabilities. In Disability as Diversity in Higher Education: Policies and Practices to Enhance Student Success (pp. 153-167). New York, NY: Routledge.

(2023). Beyond (Favor) Access: Constellating Communities through Collective Access. College Composition & Communication, 75(1), 117-136.

& Lalor, A. (2017). Faculty and Administrator Knowledge and Attitudes Regarding Disability. In Disability as Diversity in Higher Education: Policies and Practices to Enhance Student Success (pp. 107-121). New York, NY: Routledge.

L., & Ridgway, S. W. (2021). Access needs: Centering students and disrupting ableist norms in STEM. CBE—Life Sciences Education, 20(3), es8.

(2015). The Americans with Disabilities Act and Higher Education 25 Years Later: An Update on the History and Current Disability Discrimination Issues for Higher Education. Journal of College and University Law, 41(3), 531-590.

F., Keenan, W. R., Madaus, J. W., & Banerjee, M. (2010). Disability documentation, the Americans with Disabilities Act Amendments Act, and the summary of performance: How are they linked? Journal of Postsecondary Education and Disability, 22(3), 142-150.

(2019). Skin, Tooth, and Bone: The Basis of Movement is Our People (2nd ed.). [Digital version]. Retrieved from sinsinvalid.org.

E., & Countermine, B. (2018). College Students with Disabilities Explain Challenges Encountered in Professional Preparation Programs. Exceptionality Education International, 28(1), 22-44.

(2024). Choose accessible learning materials (C.A.L.M.). Accessible Technologies | Virginia Tech. https://www.assist.vt.edu/calm.html

(2020). Professional and social investment in universal design for learning in higher education: insights from a faculty development programme. Journal of Further and Higher Education, 45(7), 886-900. https://doi.org/10.1080/0309877X.2020.1827372

Using Continued Growth to Increase Progression.

Laurel Rodgers, *Shenandoah University*

Abstract: What if students had three more weeks to study, practice, and learn material for a course? This is the question we asked when developing Continued Growth for our General Biology 1 students. Continued Growth is a three-week, optional course after the semester for students to review material they struggled with during the standard course time. Students could retake unit exams and replace their original semester exam grades. In the last two years of using Continued Growth, we have demonstrated its ability to help students progress to General Biology 2 without repeating the course.

What if students had three more weeks to study, practice, and learn material for a course? Would it help with progression? Would they be able to master the material instead of needing to retake the entire 15-week course? This is the question we asked when developing Continued Growth for our General Biology 1 course. To answer this question, we created a three-week, optional course after the end of the semester for students to review material they struggled with during the standard course time. Students could retake unit exams and replace their original semester exam grades. The Continued Growth course provides the most benefit to those students who are close to the next letter grade and only need to reevaluate their knowledge of one or two units to pass the course. We have used Continued Growth for two years and have demonstrated its ability to successfully help students receive a passing grade and progress to General Biology 2 the following semester instead of needing to repeat the course. For the first part of my session, I will walk participants through our process of setting up the course, how the course is managed during J-term and Summer 1 term, and data we

have collected regarding progression over the last two years. I will also briefly discuss its use in both entry and graduate level courses at our institution. For the second part of my session, I will lead participants in a discussion to determine which classes would benefit most from the implementation of Continued Growth, how to talk to administrators about implementation, and how to execute a Continued Growth at their institution. Every institution has their own challenges, this second part of the session will allow participants to gather ideas on how to use Continued Growth within the construct of their institution.

Using MS Teams to support active learning in F2F Classrooms

Brian Krohn, *Indiana University Indianapolis*

Abstract: Faculty and students are often intimidated when looking to design and use features of classrooms with high levels of technology integration. Indiana University has been exploring features of active learning classrooms in rooms with a wide variety of features. One promising integration is the use of MS Teams to support student collaboration and share during face-to-face classes. This practice session will expose participants to features of MS Teams and will invite participants to explore features and highlight how Teams virtual meeting can enhance face-to-face classes and reduce the learning curve and costs of implementation.

Recognizing the potential improvements in learning and retention when students are exposed to an active learning environment (Odum, et.al., 2021), many universities are engaged in creating classrooms that integrate elements such as space for student collaboration, white boards, technology to enable screensharing, digital white boards, etc. (Birdwell & Uttamchandani, 2019). Review of research on active learning spaces includes specific examples of universities designing spaces for collaboration that are replete with technological advancements (for example: TEAL (Dori et al., 2003), SCALE-UP (Beichner, et.al., 2007); TILE (Morrone et al., 2017; Van Horne et al., 2014), and MOSAIC (Birdwell & Uttamchandani, 2019; Morrone et al., 2017); ALCOVE (Krohn, 2024)). Often, the learning curve for faculty to adopt such spaces is quite high, thus prompting programs to train faculty to both integrate active learning and how to effectively utilize the technology (for example: Dane-Staples, 2024; Morrone, et.al., 2017). These highly technological integrated rooms can create barriers for faculty (Morrone, 2018) and students (Krohn, 2024).

In response to an in-depth study of faculty perceptions of classroom design Indiana University developed a few sandbox classrooms where faculty and students are exposed to active learning pedagogy and a room design providing flexible space and availability of collaborative technology. As part of this program, referred to as ALCOVE (Learning Spaces, 2023), student perceptions of active learning features were measured over a 4 semester sequence involving classrooms that are more traditional room, group learning focused and technology-enhanced (Krohn, 2024). Initial results from this study suggest that students can be intimidated by a highly technology-enabled classroom with comments similar to many shared by faculty. In response, one ALCOVE room focused on integration with MS Teams. Students found Teams beneficial for in-class and out-fo-class collaboration on assignments and projects. Teams also allows for screen-sharing, live collaboration, and better delivery of course materials while in a face-to-face classroom.

The purpose of this practice session is to introduce features of MS Teams that provide support of interactive learning in classrooms that do not have high levels of technology installed. Participants will be exposed to MS Teams features such as polling, collaborative content creation, in-class screen sharing, and others. Participants will learn from examples from MS Teams implementation over the last 3 years. Topics will include business,

statistics, and can be adapted to other contexts with minimal adjustments. Participants will have an opportunity to experience and develop content for their own courses.

References

J., Saul, J. M., Abbott, D. S., Morse, J. J., Deardorff, D., Allain, R. J., Bonham, S. W., Dancy, M. H., & Risley, J. S. (2007). The student-centered activities for large enrollment undergraduate programs (SCALE-UP) project. Research-based reform of university physics, 1(1), 2-39.

(2019). Learning to Teach in Space: Design Principles for Faculty Development in Active Learning Classrooms. Journal of Learning Spaces, 8(1), 19-27.

(2024). The Role of an Active Learning Fellow: Small Campus Solution to Faculty Development. Presentation to the International Forum on Active Learning Classrooms, July 2024, Rochester, Mn.

J., Belcher, J., Bessette, M., Danziger, M., McKinney, A., & Hult, E. (2003). Technology for active learning. Materials Today, 6(12), 44-49.

L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the national academy of sciences, 111(23), 8410-8415.

(2021). Student perceptions of low-tech active learning and mastery of introductory biomechanics concepts. Sports Biomechanics, 20(4), 458-468.

(2024) Student Perceptions of Standard vs. Technology Enhanced ALCs. Presentation to the International Forum on Active Learning Classrooms, July 2024, Rochester, Mn.

Retrieved September 15, 2023 from https://learningspaces.iu.edu/design/ALCOVE.html

(2018). IUPUI Classroom Needs Analysis 2018. Retrieved September 18 from https://iu.pressbooks.pub/iupuiclassrooms2018/

(2017). Creating Active Learning Classrooms Is Not Enough: Lessons from Two Case Studies. Retrieved September 27 from https://er.educause.edu/articles/2017/12/creating-activelearning-classrooms-is-not-enough-lessons-from-twocase-studies

V. (2021). Active learning classroom design and student engagement: An exploratory study.

(2022). The evaluation of active learning classrooms: Impact of spatial factors on students' learning experience and learning engagement. Sustainability, 14(8), 4839.

T., Saichaie, K., Jesse, M., Florman, J. C., & Ingram, B. F. (2014). Using qualitative research to assess teaching and learning in technology-infused TILE classrooms. New Directions for Teaching and Learning, 2014(137), 17-26.

Using Telepresence Robots for Teaching and Learning in Higher Education

Sarah Capello, *Radford University*

Abstract: This roundtable session will discuss: 1). current research on the use of telepresence robots in higher education, 2). findings and implications of the empirical research the presenter has conducted on using telepresence robots, 3). practical experience stemming from the presenter's experience teaching in a program that uses telepresence robots, and 4). possibilities for future research and collaboration on this topic.

Roundtable Session Topic

This roundtable presentation will focus on existing and potential uses of telepresence robots for teaching and learning in higher education. While they have not been widely used or extensively studied in higher education, telepresence robots offer several intriguing opportunities for improving access to and accommodations for students with unique needs in higher education (e.g., students who face medical challenges or working adults who live in education deserts). Furthermore, they could also support faculty in programs that have extensive field or clinical experiences such as student teaching or counseling practicums. This session will discuss: 1). current research on the use of telepresence robots in higher education, 2). findings and implications of the empirical research the presenter has conducted on using telepresence robots, 3). practical experience stemming from the presenter's experience teaching in a program that uses telepresence robots, and 4). possibilities for future research and collaboration on this topic.

Presenter Contributions to the Session

The presenter has both firsthand pedagogical experience utilizing telepresence robots for teaching and learning in higher education as well as experience conducting research on such uses of the robots. First, she taught courses in a doctoral program where several students attended in-person classes remotely via a telepresence robot . All instructors in the program, including the presenter, had to navigate the logistics of incorporating distance learners into the in-person classroom setting as well as innovate ways to develop and support learning opportunities for all students in this unique space. The presenter can and will speak to those challenges and opportunities in the roundtable session. Additionally, the presenter has conducted and published empirical research on: 1). the use of telepresence robots in postsecondary education classrooms (Author et al., 2022; Author et al., 2022) and 2). the use of telepresence robots for instructional supervision of preservice teachers (Author et al., 2021; Author et al., 2024) and, thus, can speak to the findings and implications of that research.

Presenter Goals for the Session

In leading this roundtable session, the presenter aims to share the affordances of using telepresence robots for teaching and learning in higher education and to inspire session attendees to consider using this technology where possible. She also hopes to network with other higher education practitioners and researchers who are interested in further exploration of the use of telepresence robots in higher education with the goal of future teaching and research collaborations.

Using The New York Times as an Instructional Tool

Austin Council, Olamide Olowoyo*, Virginia Tech*

Abstract: This study explores student perceptions of using current events articles from "The New York Times" as supplemental tools for learning leadership concepts and theories. Using a convergent parallel mixed methods design, the research surveyed students from online, hybrid, and in-person introductory leadership class during the fall 2023 semester. Findings from the study show positive perceptions among students regarding the usage of

current events articles in supplementing their learning about leadership concepts and theories. The findings suggest that integrating real-world examples from reputable sources enhances student engagement, interest, and the likelihood of continued engagement with the course material.

We live in an era of rapid information dissemination, globalization, and global interconnectedness (Fry & Egel, 2021), where news media plays an important role in shaping public opinion and awareness (Huang et al., 2021). This rapid development has led to a significant increase in the integration of real-world current events into academic curricula (Morrison, 2015; Özturk et al., 2021). The integration of current events in news media, particularly exemplified using articles and opinion pieces from mainstream news outlets such as The New York Times, The Wall Street Journal, and The Washington Post among others serve as supplemental learning tools by teachers in educational institutions (Clark et al., 2021). The dynamic nature of leadership education and the importance of bridging theory to practice calls for research to understand how students perceive the relevance and effectiveness of incorporating real-world applications such as current events into their learning experience.

This study explores the perceptions of students regarding the use of current events articles from The New York Times as supplementary resources in learning leadership concepts and theories. This study answered two research questions: First, how do students perceive the use of current events articles from "The New York Times" in relation to their overall experience? And second, how do students view these articles as a supplemental tool for teaching leadership concepts and theories? A convergent parallel mixed methods design was employed across three different sections (online, hybrid & in person) during the fall 2023 semester in an undergraduate introductory leadership course. A survey containing both quantitative and qualitative items was sent to students in each class at the end of the semester for extra credit.

The study surveyed 117 students, with a final sample size of n=66 students, yielding a response rate of 56%. The findings from the quantitative analysis of the first research question revealed that a significant proportion of students across all sections consumed news primarily through social media. Furthermore, the data showed that 50% (online), 33% (hybrid), and 75% (in-person) of students "strongly agreed" that the inclusion of The New York Times articles made the course more enjoyable. The qualitative analysis supported these findings, with enjoyment and engagement emerging as key themes. For the second research question, the study found that 44% (online), 29% (hybrid) and 63% (in-person) of students perceived the articles as "very helpful." The qualitative responses highlighted themes of different perspectives and real-world examples, emphasizing the value students placed on the integration of current events into their learning. The findings of this study indicated that incorporating current events articles into leadership education is an effective pedagogical strategy.

Overall, the integration of The New York Times current events articles proved to be highly effective in supplementing traditional learning materials in the leadership course. Thus, educators in the leadership field and beyond should take time to identify news media articles that connect to relevant course concepts and theories and leverage existing partnerships between reputable news media organizations and educational institutions when scaffolding readings and assignments in their courses.

References

H., Schmeichel, M. & Garrett J. H. (2021). How social studies teachers choose news resources for current events instruction. Harvard Educational Review, 91(1), 5-37, https://doi.org/10.17763/1943-5045-91.1.5

W. & Egel, E. (2021). Global leadership for sustainability. Sustainability, 13 (6360), 1-27. https://doi.org/10.3390/su13116360

& Xie, Y. Large-scale quantitative evidence of media impact on public opinion toward China. Humanities & Social Sciences Communications, 8(181), 1-8 https://doi.org/10.1057/s41599-021-00846-2

(2015). Current events in the classroom: A collection of case studies on the why and how of using the news to teach curriculum. (Research Paper). University of Toronto Teaching and Learning Ontario Institute for Studies in Education: Toronto, Canada.

& Öztürk, F. Z. (2021). Use of current events in teacher education. Journal of International Social Studies, 11(2), 11-35.

Using Undergraduate Teaching Assistants to Increase Student Engagement

Barbara Fraticelli, *Virginia Tech*

Abstract: Since August 2020, the Engage Undergraduate TA Program has supported faculty and students in Virginia Tech's Pamplin College of Business by providing centralized training, administration, and payment for all undergraduate teaching assistants within the college. In the recently re-vamped training program, TAs complete 4.5 hours of synchronous, online training, followed by 7.5 hours of asynchronous training modules. Training covers learning technologies (Zoom, Canvas), FERPA, Title IX, effective teaching strategies, communication skills, and tips for grading and office hours. This presentation will address lessons learned and best practices for using undergraduate TAs to support student learning and to promote student engagement.

In the last few years, many faculty have experienced an alarming level of disconnection from students, who seem to have lost ties to their university, their faculty members, and their peers. McMurtrie (2022) summarizes this experience by discussing increased student absences, as well as the inability for faculty to motivate their students to read or to complete assignments. To combat these phenomena, some faculty members have revamped courses to deepen relationships through more discussions and community-building exercises. However, as class sizes continue to grow, faculty can struggle to find the time to connect with each one of their students. Undergraduate teaching assistants (TAs) are a cost-effective way to assist faculty members in increasing student engagement.

In many large universities, the traditional model of teaching support is to employ graduate students as teaching assistants. This model can work well in programs that have a large pool of graduate students (such as engineering schools), but it is not as applicable in schools and universities that have smaller populations of graduate students (such as business schools). In addition, graduate TAs may not be as effective as mentors because they frequently have not taken the course with their assigned faculty member, and perhaps not even at their university. Undergraduate teaching assistants have the advantage of having taken the course recently and, often, with the same instructor who they are supporting as a TA. They can also relate to the students in their courses as near-peer mentors, having gone through the same course experience just a few semesters earlier.

Near-peer teaching has been widely explored in medical schools. Pinter et al. (2021) define near-peer teaching (NPT) as "a special way of teaching where the tutor is one of more academic years ahead of the person being tutored." Their study tested the hypothesis that NPT in surgical education improved student exam results, and they showed statistically significant improvements for test scores of students who learned surgical knotting techniques using NPT. Participant feedback from the near-peer educators showed that they gained a sense of fulfillment in helping younger students, expanded their own knowledge through the teaching process, and identified their NPT experiences (teaching, public speaking) as assets in their professional development. The students felt that they learned the material more deeply because they were more likely to ask questions due to the approachability and empathy of their near-peer tutors.

The Pamplin Engage Undergraduate TA Program uses a near-peer teaching model to support student learning through increased engagement. New TAs receive 12 hours of training modules (synchronous and asynchronous) that address learning technologies (Zoom, Canvas), FERPA, Title IX, effective teaching strategies, communication skills, and tips for grading and office hours. Starting at 100 TAs in Fall 2020, the program has grown to nearly 250 positions in Fall 2024. Engage TAs can incorporate students' perspectives into course development and delivery. This presentation will address the development of an undergraduate TA program, as well as some best practices for using undergraduate TAs to support student learning and student engagement.

References

(2022, April 5). A 'Stunning' level of student disconnection. The Chronicle of Higher Education. https://www.chronicle.com/article/a-stunning-level-of-student-disconnection?cid2=gen_login_refresh&cid=gen_sign_in

T. (2021). Effectivity of near-peer teaching in training of basic surgical skills - a randomized controlled trial. BMC Medical Education, 21(1). https://doi.org/10.1186/s12909-021-02590-2

Utilizing a Continuous Quality Improvement (CQI) Process in Student Assessments

Brian Hill, *Via College of Osteopathic Medicine*

Abstract: CQI is a philosophy that encourages team members to ask "What can we do to improve?" It is adept at providing a functional interpretation of qualitative data, and using these findings to drive meaningful and productive change (1). While it is widely used the healthcare administration and higher education committees and administration (2), it has been sparsely applied to course assessments (3). The incorporation of the CQI into the assessment process trains students to address their concerns by brainstorming to find practical and workable solutions, and then to professionally present their concerns and solutions to course instructors.

This session will discuss CQI processes and protocols, and a model that that incorporated CQI into the course assessment process that is currently used in the graduate program at the Via College of Osteopathic Medicine. Unique aspects that CQI brings to a course assessment process will be emphasized. Inherent to any CQI protocol are focus groups that distill qualitative data into positive, practical suggestions that promote improvement. In course assessments, the qualitative data consists of the raw comments and the focus group consists of a selected subset of 10-12 students from the course. They are provided with a synopsis of the

quantitative assessment data and the raw qualitative data. The focus group is charged to brainstorm through the qualitative data and provide semi-detailed points for the following two questions: "What are some items this instructor did well and should continue doing?" and "What are some items that this instructor could change to improve student learning?" In terms of items for improvement, the focus group is tasked with not just identifying a problem, but with providing a practical and feasible solution.

The second unique aspect of incorporating CQI is that once a student focus group has distilled their findings from the qualitative data, they present their suggestions face-to-face to the faculty in the course. These sessions consist of two-way dialog between the focus group and the faculty. It is not uncommon for faculty to propose a modification to a focus group suggestion for improvement or to solicit feedback on an item that was not addressed by the group or a new idea that is being considered for the next offering of the course. Focus groups tend to modify one or more of their suggestions after their interaction with course faculty.

The advantages of incorporating CQI into course assessments are many, beginning with the quality of the input that is received to implement positive change in the next academic cycle. As a result of the process, most students no longer see course assessments as a formal opportunity for a griping and ranting; instead, they come to see the entire assessment process as a partnership between students, faculty and administrators to bring about positive change (4). Through this process students receive extra-curricular training in CQI. This is particularly important in fields where students are likely to use CQI within their career (5). Beyond that, students receive training in three areas of professionalism:

1. Rather than focusing on merely identifying problems, students learn to focus on providing solutions.
2. Students learn how to correctly handle confidential information (course and faculty assessment data).
3. Students learn aspects of professional communication in their interaction with faculty.

Faculty generally approve of this assessment process in that they receive highly meaningful feedback from students plus they typically enjoy the unique interaction with the student focus groups. An additional advantage is that faculty never view the potentially raunchy and demeaning students comments from the assessment data - all they see are the focus group's suggestions for positive improvement.

References

Kaye, M. and Anderson, R. (1999). Continuous Improvement: The Ten Essential Criteria. Journal of Quality & Reliability Management, v16(5) pp.485 - 509

Pietz, V.L. (2014). Factors Influencing Team Performance in a Continuous Quality Improvement Process in the Wisconsin Technical College System. ProQuest LLC, Ed.D. Dissertation, Northcentral University

Bloxham, K.T. (2010). Using Formative Student Feedback: A Continuous Quality Improvement Approach for Online Course Development. ProQuest LLC, Ph.D. Dissertation, Utah State University.

Harper, B.J. and Lattuca, L.R. (2010). Tightening Curricular Connections: CQI and Effective Curriculum Planning. Research in Higher Education, v51(6) pp.505-527.

Barber, K.H., Schultz, K., Scott, A., Pollock, E., Jyoti, K. and Danyal, M. (2015). Teaching Quality Improvement in Graduate Medical Education: An Experiential and Team-Based Approach to the Acquisition of Quality Improvement Competencies. Academic Medicine, v 90(10), pp. 1363-1367.

Warehouse Wars: A Problem-Based Board Game to Teach Warehousing Systems

Laura Savage, *Department of Industrial and Systems Engineering*

Abstract: A storage area in a warehouse, though it seems simple, is actually a complex system involving many different interconnected decisions, from the type of equipment to the layout of the space, all contributing to the overall cost and efficiency of the facility. Warehouse Wars is a problem-based game designed to be played in an undergraduate Facilities and Logistics course to reinforce the importance of systems thinking in warehousing to the students. It will be played in the fall semester of 2024 and the students' engagement and interest will be gauged using a combination of surveys and grade data.

Game-based learning has been studied for decades and shown to improve student engagement and retention of material [1]. Most research at the college level has been conducted on digital games; however, such games are expensive and difficult to set up, can have a steep learning curve, and are often played alone. Board games, on the other hand, are relatively easy and inexpensive to set up and play and encourage face-to-face interaction among the players, which is important for student mental health and community-building.

Similarly, problem-based learning has been shown to improve retention of material and student engagement. This instructional method presents students with a problem and asks them to work toward the solution, allowing them to discover the necessary course material for themselves along the way. This strategy has been widely studied and applied in numerous disciplines, including engineering [2]. Board games that rely on player strategy instead of randomness can be an effective vehicle for problem-based learning.

With these concepts in mind, a board game called Warehouse Wars has been designed to help teach the concept of systems thinking in warehousing to a class of junior-level undergraduate students in a Facilities and Logistics class. Each group will receive about 200 blocks of various colors, representing pallets of different stockkeeping units (SKUs), and a large game board with a grid representing the warehouse space. They will be required to set up a storage area for their pallets, making decisions like what type of storage and handling equipment to use, how to lay out the space, and how to allocate SKUs to slots. They will then play through a series of rounds, in which pallets must be retrieved and stored, and the team that travels the shortest total distance wins.

The purpose of this exercise is to reinforce for the students the interconnectedness of the game components, which reflects the systems nature of a real warehouse. It also presents an opportunity for students to discover for themselves the most efficient ways to lay out a storage area, which will then be reviewed and supplemented in the next lecture. Finally, it gives students the opportunity to work with their peers and form connections that could help them in this class and beyond.

The students' engagement and interest in the game will be measured afterward using components of Brett Jones's MUSIC model [3]. Their survey results will also be linked to their grades on relevant quiz questions, to try to determine the effect of the game on retention of the material. Finally, open-ended survey questions will be used to assist in future improvements to the game.

The use of board games to implement problem-based learning or to teach complex engineering topics is novel in the literature. If successful, this game could provide a model for games to be developed in other classes or by other faculty, to improve student learning and experience.

References

C. Sousa, S. Rye, M. Sousa, P.J. Torres, C. Perim, S.A. Mansuklal, and F. Ennami (2023). "Playing at the school table: Systemic literature review of board, tabletop, and other analog game-based learning approaches". Frontiers in Psychology, 14.1160591.

Savery, J.R. (2006). "Overview of problem-based learning: definitions and distinctions". Interdisciplinary Journal of Problem-based Learning, 1(1).

B. D. Jones, User Guide for assessing the components of the MUSIC Model of Motivation, http://www.theMUSICmodel.com, 2012/2022, November.

When future learning is a revisit to past: Within-discipline collaboration

Doris Kincade, Dina Smith-Glaviana, Eonyous Shin, *Virginia Tech*

Abstract: Sometimes, the future of learning is a revisit to the past. In recent years, emphasis for teaching and research is often on inter-disciplinary work with collaboration between multiple disciplines and academic units. These approaches can achieve new thinking, outside-the-box research, successful grant development, and new partnerships for cross-major courses. Although seen with benefits, this outward facing focus can have negative effects. Our presentation focuses on methods and benefits of collaboration within-discipline and our efforts to move forward by moving back to a more central-core curriculum. We share benefits gained from within-discipline collaboration and future plans for new learning activities.

Sometimes, the future of learning is a revisit to the past. In recent years, emphasis for teaching and research is often on inter-disciplinary work, such as cross-disciplinary, multi-disciplinary, or trans-disciplinary work, with collaboration between one discipline and one or more other disciplines (Holly, 2009). These approaches can achieve new thinking, outside-the-box research, successful grant development, and new partnerships for cross-major courses. For curriculum, collaboration outside of the discipline can mean exceptional experiential learning for students and wider horizons for career choices (Holly, 2009). Previous research about inter-disciplinary curriculum has noted benefits such as increased career success for students (Schaffer et al., 2006). Although seen with benefits, this outward facing focus can have negative effects. If the emphasis for a curriculum and its faculty becomes extensively outward-reaching, areas of study risk losing their discipline's focus and identity (Rhoten, et al., 2006). Thus, a revisit to the past is explored.

Our presentation focuses on methods and benefits of collaboration within-discipline and our efforts to move forward by moving back to a more central-core curriculum. Noted to this discussion is that our field, like many other related fields situated around design, integrates knowledge from other disciplines, including economics, humanities, and the social sciences (Bertola et al., 2012; Muratovski, 2011). Because our field is multi-faceted, several of us find inter-disciplinary work to be easy and rewarding. However, several years ago, while our unit was engaged in an accreditation process, we began to realized that we had lost a strong focus on our major and discipline. For example, we could not agree on defining terms and objectives for our unit and our major's checksheet. We realized that this lack of centrality damaged our efforts to recruit new students and stalled our curriculum work. We almost lost sight of who we are and what we want for our students.

Drawing on our experiences, we explain how using Pennington's (2008) framework for collaboration, which entails taking on a shared vision to engage in collective thinking, resulted in benefits for students. Our

collaborative efforts included holding sessions for laddering our courses based on Bloom's taxonomy (Bloom et al., 1956) and revisions of courses through collaborative software. Benefits gained from within-discipline collaboration included (a) creating courses more solidly built on prerequisites, which even our students recognized as improvements, and (b) developing a more cohesive and consistent focus for student recruitment. Additional benefits came from our well-structured curriculum that now helps students develop higher-order thinking skills including critical thinking, problem-solving, and independent learning skills (Alanazi, Osman, & Halim, 2024).

After many struggles, we work diligently to maintain collaboration within our discipline while continuing our inter-disciplinary work for new research topics for faculty and expansion of curriculum for students. Using this approach, we are exploring an inter-disciplinary study abroad program and other experiential learning activities for students. Research has shown that mixing within-discipline and inter-disciplinary work can result in multiple benefits throughout a unit (Holly, 2009) and can "complement and connect their [students'] disciplinary knowledge" (Rhoten et al., 2006, p. 11).

References

A., Osman, K., & Halim, L. (2024). Effect of scaffolding strategies and guided discovery on higher-order thinking skills in physics education. Eurasia Journal of Mathematics, Science and Technology Education, 20(9), em2496.

(2012). Multidisciplinary education as a unique model to support innovation in the fashion industry: the case of Milano Fashion Institute. DesignEd Asia. https://www.designedasia.com/2012/Full_Papers /MULTIDISCIPLINARY%20EDUCATION%20AS%20A%20UNIQUE%20MODEL1.pdf

(1956). Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain. New York and Toronto: Longmans, Green.

K. (2009). Understanding interdisciplinary challenges and opportunities in higher education. ASHE Higher Education Report 35(2), 1-31. https://www.academia.edu /5390376/Understanding_Interdisciplinary_Challenges_and_Opportunities_in_Higher_Education

(2011). Challenges and opportunities of cross-disciplinary design education and research. In G. Bull (Ed.), Proceedings from the Australian Council of University Art and Design Schools (ACUADS) Conference: Creativity: Brain, Mind, Body. 1-5.

D. (2008). Cross-disciplinary collaboration and learning. Ecology and society, 13(2) 8. http://www.ecologyandsociety.org/vol13/iss2/art8

B., Chun, M., & Thompson Klein, J. (2006). Interdisciplinary education at liberal arts institutions. Teagle Foundation white paper, 13. 2-26. https://scholar.harvard.edu/files/boix-mansilla/files/interdisciplinary_education.pdf

P., Kimfong, L., Reyes, L., Oakes, W., & Zoltowski, C. (2006). Analyzing cross-disciplinary design teams. Proceedings of the Institute of Electrical and Electronics Engineers 36th Annual Conference: Frontiers in Education. 17-22. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4117227

Y'all Already Do This Every Day: Qualitative Student Research in Online Spaces

Trevor Jamerson, *Virginia Tech*

Abstract: As much as our information gathering takes place in online spaces, it can be useful to develop sociologically informed strategies for evaluating and engaging with online content. This roundtable discussion concerns the use of online discourse analysis for research and everyday life, specifically relating to videos found on YouTube. Drawing from the Capstone research project in Sociology Senior Seminar at Virginia Tech, this process involves building on recent scholarship regarding online discourse analysis combined with more general principles of sound qualitative research. The result is a triangulated analytic framework focusing on the video, commentary, and links between the two.

The Sociology Senior Seminar class at Virginia Tech requires students to complete original research projects styled after current academic journal practices. When I started teaching this class in 2021 the primary option for doing this work was quantitative analysis. While this is still an option for students, I decided to craft a qualitative option based on my research background and experiences. It is also informed by the digitized realities of most students. This process consists of a three-tiered analytic approach centered on a 5-7 minute-long YouTube video relating to students' research interests that has a publicly available comments section. The first tier involves analyzing the video itself, utilizing thick description, with as much attention paid to small details as possible (Geertz, 1973). The second tier involves analyzing the public commentary by developing a coding scheme based on a framework for online discourse analysis proposed by Tim Recuber (2016), emphasizing the importance of paying attention to 'small batches' of online text along with identifying manifest and latent meanings of the commentary. The third tier involves articulating the relationship between the video and comments, bringing to bear the qualitative principle of triangulation, which is a useful way to build trustworthiness into research design (Tracy, 2008).

This project is meant to meet three distinct goals. The first is for students to demonstrate that they can perform and execute professional-quality research to meet degree requirements. The second goal is to acquire analytic skills to be used in future careers (I have had conversations with several job recruiters who had interest in students doing this work). The third goal is demonstrating, to students, that the knowledge and skills they have accrued through the sociology curriculum are to be used not only to complete degree requirements, graduate, and get a job, but also to better navigate the digital world around them on their own terms through critical consideration of online texts. One of the early challenges faced during this work was getting students to shift their perspective of online information from 'content' to 'data', and I found that increased engagement with qualitative research scholarship--not just assigning readings, but holding small group discussions and practice-based qualitative workshops--helped in that regard. I initially had a mostly even split between students choosing the quantitative and qualitative options, but over time the qualitative option has become much more popular with students. This popularity with students motivates me to continue refining this option.

There is room for improvement. For the video analysis portion of this project, I would like to explore adding more specific principles of visual analysis (Ledin and Machin, 2018), along with 'production of culture' sociological frameworks (Ryan, 1985), to aid in thick description. For coded commentary parts, I would like to explore adding familiarity and training with qualitative coding software such as Nvivo or DeDoose. I would be eager to share my experiences in developing and improving this project, along with hearing from other scholars about how they are managing and developing similar projects for their students.

References

C. (1973). Thick Description: Toward and Interpretive Theory of Culture. Basic Books.

(2018). Doing Visual Analysis: From Theory to Practice. Sage Publications.

(2016). "Digital Discourse Analysis: finding meaning in small online spaces." In Digital Sociologies edited by J. Daniels, K. Gregory, and T.M. Cottom, pps. 47-60. Bristol/Chicago: Policy Press.

(1985). The Production of Culture in the Music Industry. Rowman and Littlefield.

(2010). "Qualitative Quality: Eight 'Big Tent' Criteria for Excellent Qualitative Research". Qualitative Inquiry. (16):10, 837-851

"AI Activities in the Humanities Classroom"

Nicole Greer Golda, Eric Vanden Eykel, *Ferrum College*

Abstract: ChatGPT revolutionized the higher education classroom when it launched in late 2022. In the two years since, dozens of new sites have emerged from Perplexity to Bard. Banning the use of AI in the classroom or in student coursework has proven ineffective if not impossible. Using the humanities classroom as a case study, this practice session will demonstrate how embracing a range of AI tools can improve classroom participation, peak student interest, teach students responsible use of AI technology, and aid in the completion of student learning objectives.

ChatGPT revolutionized the higher education classroom when it launched in late 2022. In the two years since, dozens of new sites have emerged from Perplexity to Bard. Banning the use of AI in the classroom or in student coursework has proven ineffective if not impossible. Using the humanities classroom as a case study, this practice session will demonstrate how embracing a range of AI tools can improve classroom participation, peak student interest, teach students responsible use of AI technology, and aid in the completion of student learning objectives.

Dr. Eric Vanden Eykel (Religious Studies) and Dr. Nicole Greer Golda (American History), both from Ferrum College, will start the session by discussing research on AI effectiveness in the classroom. We will follow this with a short activity that uses AI sites to help students analyze texts by exploring historical context, themes, and rhetorical strategies in early Christian writings and American history. In this activity, participants will be divided into small groups, each assigned a specific task to complete using a particular AI platform. We will finish the activity by discussing the tasks and the results with the large group.

We will then open the discussion to the audience in order to spark conversation about the effectiveness of these strategies and think through tips for employing AI tools 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 interactive AI activities 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.

References

Edward Watson, Teaching with AI: A Practical Guide to a New Era of Human Learning. Johns Hopkins Press, 2024.

"This class sucked…" Collaborating to process negative course evaluation comments

Christopher Seitz, *Appalachian State University*
Muhsin Orsini, *University of North Carolina at Greensboro*

Abstract: Have you ever received negative comments from students on your course evaluations? How did you deal with those comments? Experts recommend that professors collaborate with peers to process through the emotions that may arise from receiving negative comments, and to discover any practical implications that could be realistically implemented based on negative feedback. As such, this practice session will review the literature on this topic (e.g., the typology of negative comments, professors' reactions to comments), and then actively engage attendees in applying experts' tips in processing a sample of negative student comments.

Student comments on course evaluations can be negative. Such comments include a wide range of critiques about professors' teaching (e.g., perceived teaching incompetence, unmet learning expectations, poor delivery of material, excessive workload) (Carmack & LeFebvre, 2023). In addition, professors report receiving occasional cruel, inappropriate comments on course evaluations (e.g., attacks about politics, religion, race/ethnicity, gender, appearance) (Cunningham et al., 2022; Heffernan, 2023; Lakeman et al., 2021; Lampman et al., 2009; Lindahl & Unger, 2010; Tucker, 2014).

Given the natural responses to negative feedback, experts recommend that professors collaborate with others to process emotions and practical implications of negative course evaluation comments. Research indicates that some professors focus more on negative comments, versus positive comments (Moore & Kuol, 2005), and that negative comments can cause a wide variety of emotional responses, including anxiety, anger, sadness, and self-doubt (Arthur, 2009; Carmack & LeFebvre, 2019; Flodén, 2016). Depending on their response to negative comments, professors either make an effort to change their teaching, or they do not (Arthur, 2009). By rationally processing their emotions with colleagues (LeFebvre et al., 2019), professors can view negative comments in a healthy context and implement practical changes to teaching strategies (Cain et al., 2019; Chtena, 2014; Cornes et al., 2022; Khanna, 2019; Rubino, n.d.; Weimer, 2018; Wilcox et al., 2023; Wong & Moni, 2014).

As such, this proposed practice session will actively engage participants in the recommended areas of processing negative course evaluation comments (Cain et al., 2019; Chtena, 2014; Cornes et al., 2022; Khanna, 2019; Rubino, n.d.; Weimer, 2018; Wilcox et al., 2023; Wong & Moni, 2014). Specifically, this practice session will complete the following outline within the 45-minute time limit:

1. Introduction of presenters and topic (1 minute)

2. Overview of the literature on: (10 minutes)
- Negative student comments in course evaluations
- Typology of negative comments
- How professors tend to react to negative comments
- Experts' tips on how to reflect/process negative comments

3. Attendees will be invited to form small groups (3 to 4 people per group), introduce themselves, and read through a sample of fictional, yet realistic, set of positive and negative student comments. (10 minutes)

4. The presenters will guide small groups through applying experts' tips in processing negative comments: (20 minutes)

- Remember the purpose, strengths, and limitations of course evaluations
- Recognize your initial emotional response (e.g., anxiety, anger, sadness) and personal context (e.g., hungry, tired) when reading negative comments
- Categorize comments into different themes for both positive and negative comments
- Eliminate (or report) any negative, non-constructive comments
- When reading negative comments, consider the wider context of the course (e.g., number times you taught the course, any changes you made to the course, if the course is naturally difficult) and timing of the course evaluation (e.g., immediately after a difficult assignment, before/after final exams)
- Compare student comments to other data (e.g., quantitative scores, previous semesters' comments, peer observations of teaching)
- Weigh positive and negative comments when considering making realistic, evidence-based changes to a course

5. Summary of presentation (4 minutes)

References

(2009). From performativity to professionalism: Lecturers' responses to student feedback. Teaching in Higher Education, 14(4), 441-454. https://doi.org/10.1080/13562510903050228

D., Ali, D., & Romanelli, F. (2019). How faculty recognized for teaching excellence interpret and respond to student ratings of teaching. American Journal of Pharmaceutical Education, 83(4), 6680. https://doi.org/10.5688/ajpe6680

E. (2023). A typology of perceived negative course evaluations. Journal of the Association for Communication Administration, 40, 83-100.

J., & LeFebvre, L. E. (2019). "Walking on eggshells": Traversing the emotional and meaning making process surrounding hurtful course evaluations. Communication Education, 68, 350-370. https://doi.org/10.1080/03634523.2019.1608366

(2014, February 9). How to deal with negative teaching evaluations: preventative measures and coping techniques for student evaluations. Inside Higher Ed.

https://www.insidehighered.com/blogs/gradhacker/how-deal-negative-teaching-evaluations

B., Oza, S., Teherani, A., & Chen, H. C. (2022). When students' words hurt: 12 tips for helping faculty receive and respond constructively to student evaluations of teaching. Medical Education Online, 28(1). https://doi.org/10.1080/10872981.2022.2154768

A., & Nayak, R. (2022). First, do no harm: automated detection of abusive comments in student evaluation of teaching surveys. Assessment & Evaluation in Higher Education, 48(3), 377-389. https://doi.org/10.1080/02602938.2022.2081668

(2016). The impact of student feedback on teaching in higher education. Assessment & Evaluation in Higher Education, 42(7), 1054-1068. https://doi.org/10.1080/02602938.2016.1224997

(2023). Abusive comments in student evaluations of courses and teaching: The attacks women and marginalised academics endure. Higher Education, 85(1), 225-239. https://doi.org/10.1007/s10734-022-00831-x

(2019, May 14). How to respond to student evaluations: It helps to put them in the proper perspective. Journal of Accountancy. https://www.journalofaccountancy.com/newsletters/extra-credit/responding-to-student-evaluations.html

(2021). Appearance, insults, allegations, blame and threats: an analysis of anonymous non-constructive student evaluation of teaching in Australia. Assessment & Evaluation in Higher Education, 47(8), 1245-1258. https://doi.org/10.1080/02602938.2021.2012643

(2009). Contrapower harassment in academia: A survey of faculty experience with student incivility, bullying, and sexual attention. Sex Roles, 60, 331-346. https://doi.org/10.1007/s11199-008-9560-x

W., & Unger, M. L. (2010). Cruelty in student teaching evaluations. College Teaching, 58(3), 71-76. https://www.jstor.org/stable/41305088

E., Carmack, H. J., & Pederson, J. R. (2019). "It's only one negative comment": Women instructors' perceptions of (un)helpful support messages following hurtful course evaluations. Communication Education, 69(1), 19-47. https://doi.org/10.1080/03634523.2019.1672879

(2005). Students evaluating teachers: Exploring the importance of faculty reaction to feedback on teaching. Teaching in Higher Education, 10(1), 57-73. https://doi.org/10.1080/1356251052000305534

(n.d.) 5 strategies to manage the hurt of student evaluations. Wiley.

https://www.wiley.com/en-us/network/education/instructors/teaching-strategies/5-strategies-to-manage-the-hurt-of-student-evaluations

(2014). Student evaluation surveys: Anonymous comments that offend or are unprofessional. Higher Education, 68(3), 347-358. https://www.jstor.org/stable/43648724

(2018, May 30). What to do about those negative comments on course evaluations. Faculty Focus. https://www.facultyfocus.com/articles/educational-assessment/negative-comments-on-course-evaluations/

C., McLaughlin, J. E., Hubal, R., & Persky, A. M. (2023). Faculty process for reviewing and utilizing a school's course evaluation comments. American Journal of Pharmaceutical Education, 87(9), 100132. https://doi.org/10.1016/j.ajpe.2023.100132

Y., & Moni, K. (2014). Teachers' perceptions of and responses to student evaluation of teaching: purposes and uses in clinical education. Assessment & Evaluation in Higher Education, 39(4), 397-411. https://doi.org/10.1080/02602938.2013.844222