

SCHOLARSHIP OF TEACHING AND LEARNING

# SUMMIT

**September 21-22, 2023**

## **CONFERENCE PROGRAM**

Thursday, September 21

*30th Anniversary: Pearls of Wisdom*

## SoTL Briefs 1A - 9:00 - 9:45am

### **92 How Intelligent? Assessing the effectiveness of Intelligent Agents in online classes.**

Teresa Raczek [ORCID iD](#), Anja Bernardy, Audrey Garcia, Uli Ingram, Laura McGrath, Snehal Shirke  
Kennesaw State University, Kennesaw, GA, USA

#### **Abstract**

Students in online courses tend to withdraw at higher rates and earn lower grades than students in face-to-face classes. Consistent engagement with the instructor enhances student connection and performance, but fostering such engagement can be time-consuming. Using Intelligent Agents (IAs) in D2L saves faculty time by automating the process of sending targeted reminders, encouragement, praise, or offers of help. IAs have great potential for faculty in any discipline, but their effectiveness in curbing withdrawals and increasing student grades in online classes remains to be seen. Thirteen faculty across eight disciplines at a large regional comprehensive university used IAs in one of two asynchronous sections of the same course taught in the same semester. They maintained their usual communication methods in the other section. The results shed light on the effectiveness of this technology.

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### **98 Student Use of Chat GPT: Cheaters or Active Learners?**

Anna M LaChance [ORCID iD](#), Julia M Ronconi, Erica Light, Christina DiMarco-Crook  
University of Massachusetts, Amherst, MA, USA

#### **Abstract**

ChatGPT, an AI-driven language processing tool, has instructors and academic institutions divided regarding its implications for teaching and learning. While some institutions are banning its use due to academic integrity concerns, other scholars embrace and explicitly integrate the use of ChatGPT into their courses. Absent from instructor-driven discourse are the perspectives of students. We report on our collaborative, multidisciplinary study that seeks to investigate student perspectives on the use of ChatGPT. We conveniently surveyed undergraduate students in majority STEM majors from a large R1 university in the Northeast on whether, how, and why they use ChatGPT for academic work. Data were analyzed via thematic analysis drawing from conceptual frameworks of academic help-seeking and emerging ChatGPT literature (Trust, 2023). Forty percent of students report using ChatGPT for their academic work for a variety of purposes. Student perspectives provide dimension to ongoing ChatGPT academic discourse and highlight opportunities to support active learning.

# SoTL Briefs 1B - 9:00 - 9:45am

## **43 Qualitative Analysis of Intern Applications and its Relationship to Performance**

Dr. Erik H Hofmeister  
Auburn University, Auburn, AL, USA

### **Abstract**

This study aimed to identify qualitative aspects of small animal veterinary internship applications that are associated with intern performance, as determined by a score given at the end of the year. The hypothesis is that there will be consistent themes within applications associated with top-performance scores and themes associated with bottom-performance scores determined by faculty and residents who scored them. This study took place with data collected on small animal interns from the 2015-2016, 2016-2017, and 2017-2018 intern classes from four different institutions. A scoring form was in use at one of the sites to evaluate the interns in 19 areas of competency. Applicants were divided into top-performers and bottom-performers by sorting the calculated overall scores from highest to lowest, labeling the top half of interns as 'top-performers,' and labeling the lower half of interns as 'bottom-performers.' Following analysis of the scoring forms, thematic analysis of the intern applications began.

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## **73 Teaching Empathy for Post-Graduation Success in Business: An Integrative Review of Literature**

Dr. John J Marinan, Dr. Marvin Bontrager  
Georgia Gwinnett College, Lawrenceville, GA, USA

### **Abstract**

Undergraduate students' views of empathy are low in business education. To what extent can empathy be taught during school? We examine the effects of low empathy levels among business students and the effects on future business leaders. An integrative literature review was conducted to provide insights into the current state of teaching empathy in business schools. We analyzed a span of journal articles from 2018-2023 and categorized them by themes and relevant search terms. Teaching methods and interventions were explored to identify potential ways for educators to incorporate empathy as part of classroom instruction curriculum. Given the cross-disciplinary application of teaching empathy in the classroom, these findings can be useful to educators in a wide variety of fields. Identification of negative workplace behaviors such as need for power, arrogance, and counter-productive work behaviors can impact the overall work environment. These relationships are applicable for both business and non-business disciplines.

# SoTL Briefs 1C - 9:00 - 9:45am

## **93 Procrastination and final grades: The impact of student start and submission times.**

Teresa Raczek [ORCID iD](#), Mark Patterson, Sai Sreekar Kaja  
Kennesaw State University, Kennesaw, GA, USA

### **Abstract**

While it is commonly known that procrastination can affect student learning and final grades, few faculty use a robust quantitative measure to identify student procrastination in their courses. We draw on the concept of a procrastination index to identify student procrastinators and assess their progress in online science general education courses with labs in a large regional comprehensive university. Faculty participants in the study introduced various teaching techniques that are thought to help students procrastinate less and to start and finish work earlier. The expectation is that these techniques will ultimately improve overall student performance. We assess the effectiveness of the techniques by using the procrastination index to identify procrastination rates among the 405 students who took the classes and their relationship to final course grades.

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## **119 Implementing Standards-Based Grading in a Lower-level Math Course**

Dr. Marcela Chiorescu  
Georgia College, Milledgeville, GA, USA

### **Abstract**

Standards-based grading or mastery-based grading has the potential to promote a deep understanding of the content while encouraging growth mindset and reducing test anxiety. This study explores the implementation of standards-based grading in a lower-level math course at a liberal arts university. I will present the rationale behind my implementation, results, and student reflections.

# Innovative Teaching Talks 1D - 9:00 - 9:45am

## 9 Meaningful Guest Speaker Experiences

Dr. Laura Schisler, Dr. Angie Durborow, Dr. Zack Rice  
Missouri Southern State University, Joplin, MO, USA

Listen to our three speakers share their experiences hosting meaningful and engaging guest speaker sessions as one of their teaching strategies in their university classrooms. They will share how they determine who to invite, when to invite them, how to prepare for them, and what they do after they visit. Participants will also be encouraged to share their own experiences of what has worked for their classrooms!

## 75 Integrating Computational Thinking in Teacher Preparation for Assessment

Dr. Xiaolu Liu, Dr. Rachel Gurvitch, Dr. Deborah Shapiro, Mr. Yonggi Son  
Georgia State University, Atlanta, GA, USA

Assessment is crucial to ensure effective teaching and learning outcomes. Teacher education programs must provide adequate training in assessment development, implementation, and data analysis to prepare pre-service teachers for assessment-based instruction. This may be enhanced through computational thinking (CT) integration. Integrating CT concepts in teacher education involves incorporating concepts such as problem-solving, algorithmic thinking (logical steps/process, e.g., step-by-step instruction), pattern recognition, and data analysis into the curriculum. This innovation addresses the need to enhance the assessment practices of teachers, who can use computational tools to gather and analyze data on student performance. The growing emphasis on data-driven decision-making in education highlights the importance of preparing teachers to collect, interpret, and use data effectively. By integrating CT concepts into teacher education coursework, future teachers may better assess student learning and improve their teaching practices. This session will introduce CT concepts and how CT concepts can be integrated into assessment practices.

## 106 Impact of a day-long STEM activities for middle school students designed by college faculty and students

Dr. Rahaf Barakat, Dr. Rebecca Kalman, Dr. Cindy Robertson, Dr. Lorraine Jonassen, Dr. Caroline Hanson, Dr. Jamye Curry Savage, Dr. Ramata Cisse, Dr. Karen Perell-Gerson  
Georgia Gwinnett College, Lawrenceville, GA, USA

The Super Saturday Series, offered by the School of Science & Technology, provides middle school students a day-long series of STEM activities from Chemistry, Biology, Information Technology, and Exercise Science. Faculty and college students designed activities in one-hour blocks focusing on their areas of expertise and interest. The experience allowed middle school students to learn about STEM through hands-on, engaging, and entertaining activities in each specialty. Further, the experience gave college students opportunities to apply their knowledge to trigger STEM interest among the next generation of college students. During Spring 2022 and Spring 2023, male and female middle school students attended the four departmental activities in separate groups. Every student completed a pre and post-survey sharing their views on STEM education and potential career choices. The survey results showed the one-day's event positively impacted their attitudes toward the various STEM disciplines and potential college major choices.

# **Innovative Teaching Talks 1E - 9:00 - 9:45am**

## **35 Lowering the affective filter: How to give the students the emotional tools to succeed**

Dr. Raquel Prieta  
Oakland University, Auburn Hills, Mi, USA

Students enrolled in Language Conversation Courses feel an added stress when taking oral exams with traditional grading. This creates an affective filter (a barrier) that hinders and obstructs second language learning. A traditional grading in this setting does not promote self-confidence, but rather creates a learning anxiety. I argue that a different type of grading, in particular, live feedback and self-assessments can lower their affective filter, allowing the input of information to the brain and therefore, promoting second language acquisition.

## **69 "I Tell Myself I Can Do It Later, but Later Never Comes:" The Evolution of Attitudes and Perceptions of First-Year Theatre Students During Their First Semester of College**

Dr. Jim Davis  
Kennesaw State University, Kennesaw, GA, USA

"I Tell Myself I Can Do it Later, but Later Never Comes:" The Evolution of Attitudes and Perceptions of First-Year Theatre Students During Their First Semester of College

This presentation looks at how the attitudes and perceptions of first-year theatre students evolve throughout their first semester, particularly focusing on time management, dealing with academic demands, relationships with faculty, and finding community. Using data from surveys and interviews, the project examines the ways in which students adapt and find community within their program and university, and how this growth contributes to academic success. Ultimately, the presentation offers insights into the complex and multifaceted experiences of first-year students, providing recommendations for how faculty and staff can support their success and well-being throughout their academic journey.

## **144 Supporting student success through building community and fostering a sense of belonging**

Amy Hillen  
Kennesaw State University, Kennesaw, GA, USA

### **Abstract**

College students' sense of belonging is an indicator of their success and wellbeing. In this session, I share activities used to support student belonging and build community in my mathematics content courses for prospective elementary school teachers. Sample activities, student responses, and suggestions for how to adapt this work to other disciplines and/or settings will be shared.

# Innovative Teaching Talks 1F - 9:00 - 9:45am

## 82 Using Padlet to enhance student learning in a blended context

Ms Tracy Douglas [ORCID iD](#)

University of Tasmania, Launceston, Tasmania, Australia

Increasingly, core content in higher education is presented online in a variety of forms (text, video, animations, audio, interactive activities) to offer flexibility for student learning. As this learning occurs asynchronously without a continual teacher presence, it can be difficult for teachers to gauge the depth of student learning and the knowledge gaps that may be present in a given student cohort. In blended courses, where students learn content online and then apply their learning in face-to-face or synchronous online classes, it is important to capitalise on these active learning sessions to accommodate student needs and enable effective experiential learning. In 2023, I have trialled the use of Padlet in my online content modules to enable first year students from diverse academic backgrounds to identify difficult areas of content. The Padlet information is then utilised to adapt on-campus learning activities to meet current student requirements and enable retrieval practice.

## 86 Persistence Project Implementation at a SLAC

Dr. Melanie E Trexler, Dr. J. Megan Steinweg  
Roanoke College, Salem, VA, USA

As we fully return to campus after three years of remote and hybrid learning, how can we create relationship-rich environments in our classrooms, specifically for first-year students? Following the Oakton Community College model, we invited the faculty at our SLAC teaching primarily first-year students to complete five tasks in the first three weeks of classes: Learn student names, Change “office hours” to “student hours” on the syllabus, Return an assignment to each student with formative, success-oriented feedback, Express high academic standards for the class and send a clear message that students who struggle are not doomed, Meet one-on-one, or in clusters of two or three, with students for a ten to fifteen-minute conversation. We'll discuss preliminary findings and suggest that while these strategies do increase relationship-rich environments in the classroom, SLACs might experience different results in student retention compared to community colleges.

## 153 Benefits of Incorporating Surveys and Data into First-Year Writing Courses

Dr. Maria Zafonte  
Grand Canyon University, Phoenix, AZ, USA

Students need to read and think critically as well as understand visual texts and infographics. As a first-year writing instructor, I have tried to merge these skills into the Cause and Effect argument by having students derive topics from the Pew Research Center. There, in addition to narrative text, students spend time deciphering visual depictions of survey data. To encourage critical thinking, students ask causal questions about a data point or statistic that interests them. In doing so, students move from a rote (and possibly AI-produced) essay to one that explores less obvious questions, providing them opportunities for critical thinking and research. This brief presentation will provide an introduction to the Pew Research Center, provide tools to guide data exploration, along with some examples of student work. Additionally, we will explore using tools such as Canva to help students create visual depictions of their arguments.

10:00 - 11:00am

# **Plenary Session: The People We SoTL With: SoTL as Collaborative Process and Inclusive Trans-disciplinary Practice**

## **161 The People We SoTL With: SoTL as Collaborative Process and Inclusive Trans-disciplinary Practice**

Sara Nasrollahian<sup>1</sup>, Anna Santucci<sup>2</sup>

<sup>1</sup>University of Iowa, Iowa City, Iowa, USA. <sup>2</sup>University College Cork, Cork, Munster, Ireland

### **Abstract**

The Scholarship of Teaching and Learning (SoTL) affords practitioners from diverse disciplinary backgrounds a space to engage in inter- and multi-disciplinary exchange and co-creation about their teaching and research. In other words, SoTL embraces a wide variety of methodological expertise, and thus encourages crucial self-awareness of our epistemologies and worldview paradigms because it nurtures complex dialogical encounters that challenge us forward towards increasingly explicit and critical attention to our assumptions and lived experiences. We believe that offering opportunities for disciplinary and worldview paradigms self-awareness development is part of what makes SoTL a radically inclusive force able to foster transformative change in higher education. This session aims to explore SoTL's intentional state of disruptive liminality and constant emergence as a transdisciplinary field informed and shaped by the intrinsic diversity of its participants. We will collaboratively ask how our epistemological perspectives (including who we are, our stories, and the people that shape our journeys) inform the way we understand Teaching and Learning. Finally, we will attempt to apply insights surfacing from this conversation to our contexts by envisioning how SoTL discourse can us help foster practices that expand individuals' potential and value relational complexity in inquiry processes, thus enabling us to enact more equitable approaches within our spheres of influence.

11:00 - 11:30am

## **Discussion Break**

Use this time to grab a meal, connect with other participants through the chat, or continue the discussion from a session you attended!

# SoTL Briefs 2A - 11:30am - 12:15pm

## 25 Impacts of a 20-Year Institutional Funding Program in Support of SoTL

Dr. Jennifer C. Friberg, David Giovagnoli  
Illinois State University, Normal, IL, USA

### Abstract

In this presentation, outcomes from the first 20 years of an internal SoTL grant program will be shared with recommendations for the sustainability and assessment of similar programs at other institutions. Our aim in this presentation is to share our experiences in establishing and maintaining our grant program and to brainstorm with our audience ways in which they might evaluate outcomes of similar funding programs or advocate for institutional funding at their home institutions.

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## 99 A Whole Lotta SoTL

Dr. Maria T Gallardo-Williams [ORCID iD](#), Dr. Diane D Chapman [ORCID iD](#)  
NC State University, Raleigh, NC, USA

### Abstract

The presentation and publication of Scholarship of Teaching and Learning (SoTL) papers are expected outcomes for teaching faculty in most higher education institutions. Most faculty members don't have prior training in this area and struggle to excel in this task. Faculty leaders developed an online faculty development program to provide insight into SoTL research through the delivery of an online institute designed to connect faculty with resources and experts. This presentation will highlight the design and operation of the institute and its perceived outcomes from the perspective of the organizers as well as faculty participants, with a focus on written outcomes and publication in peer-reviewed journals.

# SoTL Briefs 2B - 11:30am - 12:15pm

## **112 Leadership in Song: Developing Collaboration, Community, and Leadership Practices through Music in an Online Course**

Dr. Sheryl J. Croft [ORCID iD](#)  
Kennesaw State University, Kennesaw, Georgia, USA

### **Abstract**

This proposal entitled, "Leadership in Song: Developing Collaboration, Community, and Leadership Practices through Music in an Online Course" outlines how music can be used as a pedagogical tool in an online synchronous educational leadership class to (a) inform educator practice, (b) build community, and (c) provide a transferrable activity that school leaders can modify for use with various stakeholders in their schools. Based on student responses, this assignment underscores how music, an often-underutilized pedagogical tool in academia, can be used to enhance collaboration and self-reflection, revise initial ideas and acknowledge diverse perspectives. Importantly, this particular lesson can be used with students, teachers, and school leaders as a team building exercise in a classroom, with a leadership team, at the beginning of the school year to help faculty and staff form a community around the school's goal and mission.

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## **57 Learning Communities as a High Impact Practice in Doctoral Programs**

Dr. Jaclyn K Rivard [ORCID iD](#), Dr. Estee Hernández  
National Louis University, Chicago, IL, USA

### **Abstract**

This mixed methods study examines the high-impact practice (HIP) of learning communities in the context of a postsecondary-practitioner doctorate. Specifically, it considers the program cohort model and smaller learning communities established for both dissertation writing and collaborative coursework, and the potential impact of these supports on students' sense of accountability, support, and progress in writing the dissertation. Qualitative and quantitative data results suggest that students value instructor and chair feedback, clarity of writing purpose, and the power of learning community relationships.

# SoTL Briefs 2C - 11:30am - 12:15pm

## **131 The Ways Student Success Has Been Defined Since the 20th Century and Beyond: A Literature Review**

Dr. Sidni A Justus [ORCID iD](#), Dr. Tom Vizcarrondo, Dr. Kenneth M White  
Kennesaw State University, Kennesaw, GA, USA

### **Abstract**

Student success has become a buzzword in higher education as many supervisory boards such as the University System of Georgia's Board of Regents are now incorporating this metric directly into strategic plans and faculty promotion and tenure evaluations. While many studies have investigated student success, the extant scholarly literature varies in how this construct is defined and measured in modern education. In this paper, we first unpack the historical evolution of the definition of student success throughout the 20th century. We analyze the outcome metrics (e.g., grade in single course, RPG, overall sense of learning/engagement) associated with different perspectives (i.e., student, faculty, administration). Currently the application of student success metrics in higher education is ahead of our theoretical knowledge about what student success means exactly in theory. Future scholarship should focus on advancing a conceptual definition of student success that could be universally adopted at different campuses and schools.

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## **114 Developing Interdisciplinary Thinking Among College Freshmen: Evaluating the Impact of Classroom Intervention**

Dr. Brennan Collins, ZaEng Mawi  
Georgia State University, Atlanta, Georgia, USA

### **Abstract**

This study aims to determine the level of intervention required to foster interdisciplinary thinking in college freshmen. The EPIC program combines interdisciplinary curriculum with project-based labs. To assess interdisciplinary thinking, this study focused on a discussion prompt that asked students to make connections between courses they were taking. Our three cohorts included group A in EPIC FLCs with intentional interdisciplinary content and the discussion prompts, group B in regular FLCs with the discussion prompts, and group C in regular FLCs with no interventions. In the follow-up survey, the EPIC group provided significantly more examples of connections between their courses than the non-EPIC cohorts. While all cohorts had a similar self-reported understanding of connections between courses, the study suggests that the higher level intervention of intentional interdisciplinary content is necessary for developing interdisciplinary thought in freshmen.

# Innovative Teaching Talks 2D - 11:30am - 12:15pm

## 13 Liberatory Design: Centering Students and Equity in Higher Education

Dr. Karen M Sarafian  
University of the Pacific, Stockton, CA, USA

The most innovative business and technology leaders design, prototype and try new products and services to improve human experiences, yet innovation in teaching and learning seems less common. Using Design Thinking and Liberatory Design modes and mindsets in higher education, we—educators and students—can innovate and move beyond traditional practices to support deeper, more equitable learning experiences. Co-created in 2021 by leaders at Stanford's d.School and the National Equity Project, Liberatory Design modes emphasize reflection on self and the system, and the role of empathy in centering students. Of the 12 mindsets, critical are authentic practice to build relational trust, self-awareness, and creative courage. Based on a “how might we” design challenge, this session includes an introduction to Liberatory Design and practical application of the mindsets to teaching and learning across disciplines in higher education, and the possibilities for application to course design, grading, and beyond.

## 15 Decolonizing Our View of the Past for a Better Tomorrow

Dr. Jacquelynne A. Boivin [ORCID iD](#)  
Bridgewater State University, Bridgewater, MA, USA

This presentation shares an assignment from a second-year seminar, “Decolonizing the American Education System’s Approach to Teaching US History and Social Sciences,” which encourages students to question the whitewashed, colonized, storybook-like narratives that they have previously learned. Students explore groups, figures, events, and places that have been forgotten and ignored. This course is open to all majors, but enrolls mostly future teachers, thus emphasis is placed on how students’ newly formulated understandings with emphasis on primary source documents as resources for sense-making can guide their future instruction and influence on young minds. The assignment described in this presentation is called, “Using Yesterday to Improve Tomorrow.” In it, students create a presentation that addresses two people and one event from United States History that should be understood by the nation as examples of “lessons learned” to avoid repeating past mistakes and the impact on varying levels of the education system.

## 45 Enormous Problems and Empowering Solutions: Cultivating Students’ Skills in the Chemistry Classroom to Influence Public Policy

Dr. Kristy Wittman Howell [ORCID iD](#)<sup>1,2</sup>, Dr. Amanda M Glass<sup>1</sup>  
<sup>1</sup>Johnson County Community College, Overland Park, KS, USA. <sup>2</sup>University of North Carolina, Greensboro, NC, USA

Hart (2009) proposes that when students learn in a community of scholars who are expected to make robust connections to their world, they are more likely to and more capable of learning that expects them also to contribute to that community’s well-being. In 2023, honors students at a very large, suburban community college enrolled in the spring forum focused on water quality, environmental justice, civic engagement, and citizen science. Following alternating lab and discussion weeks, where students built their social justice, ethics, and chemistry knowledge, students prepared white papers for presentation to members of the campus community, elected officials from city and county

government, and other interested parties. The white papers focused on engagement - civic and scientific - and proposed routes toward improved relationships between utilities, users, and elected officials. The course demonstrated the value of community-engaged, scientifically-accurate policy and improved students' civic and community-mindedness.

## **Innovative Teaching Talks 2E - 11:30am - 12:15pm**

### **88 Virtually minded? VR as a pathway for engagement and mindfulness**

Dr. Jennifer M Zosh [ORCID iD](#)<sup>1</sup>, Dr. Laura Evans<sup>1</sup>, Dr. Laura Cruz [ORCID iD](#)<sup>2</sup>

<sup>1</sup>Penn State University, Brandywine, Media, PA, USA. <sup>2</sup>Penn State University, State College, PA, USA

In this session, we will share insights and pilot data about a project examining the use of virtual reality (VR) as an alternate pathway for supporting mindfulness in the context of an undergraduate class designed to explore the arts and sciences of human flourishing. By exploring both novel content (a course devoted to both content knowledge and experiential learning of flourishing) and novel technology (using VR to support mindfulness practices), we propose that education of today's college students requires new approaches and that technology can be a powerful tool in leveraging student interest. We will present pilot results from a scholarship of teaching and learning project including students' own voices about their experiences with these novel approaches. We will also explore lessons learned that will be informative to anyone teaching college students and/or considering using virtual reality as a tool to promote deep engagement and learning.

### **115 Lyrics for Learning: Using Music to Set the Tone in Your Courses**

Meredith K. Ginn

Kennesaw State University, Kennesaw, GA, USA

Music is its own unique language, so why not start each class with a song to set the tone for learning and highlight the day's lecture topic? Using lyrics as a "jumping off" point can engage students in critical thinking and discussion in a creative and non-threatening way. This is also a useful technique to lighten the mood and energize students as they transition between classes. Finally, incorporating music may be helpful to engage students who self-identify as auditory learners.

In this session, a communications professor will share her experiences using music in a general education course to engage students in both in-person and online modalities. Student feedback will be relayed, as well as further considerations and ideas for implementation across disciplines.

### **139 Advice from the Field: Creating Open Resources as a Means of Knowledge Sharing**

Dr. Silvia Bartolic

University of British Columbia, Vancouver, BC, Canada

The COVID-19 pandemic brought about a crisis in educational delivery methods, and a sudden lack of community in schools and in personal life. Consequently, education about relationship science may be more important than ever, as individuals seek to better understand their connection to others. It has been shown that Open Educational Resources (OERs) can bridge the gap between formal and informal

learning, and expand access to education (OECD, 2007). The current project thus aims to facilitate student learning and community engagement through student participation in conducting relationship science expert interviews. By connecting students with researchers and practitioners who are established in their field, students can engage as citizens of the academic community, while developing transferable skills in research, self-reliance, and interpersonal engagement. By transforming the interviews into Open Educational Resource (OER) videos, education in relationship science can then be expanded to a wider range of learners outside the university community.

## **Innovative Teaching Talks 2F - 11:30am - 12:15pm**

### **24 Ethical Challenges in the AI Era: Dealing with Cheating and Plagiarism**

Dr. Yi Duan  
Marshall University, Huntington, WV, USA

The new artificial intelligence (AI) tools represented by ChatGPT can be very useful for teaching and learning activities, but have also generated ethical concerns. More and more students have been using ChatGPT for their homework assignments and essays. AI-assisted cheating and plagiarism have become the new challenges in teaching and learning. This session will introduce some practical tools to deal with these challenges, including assessment design to prevent cheating and plagiarism as well as cheating and plagiarism detection. However, some detectors can be imperfect and need to be used with caution.

### **122 Exploring the Potential Use of ChatGPT for Accounting Quizzes and Exams**

Dr. Taewoo Park  
Georgia Gwinnett College, Lawrenceville, GA, USA

When asked if it could assist with accounting quizzes, ChatGPT replied, "Of course! I would be happy to help you with accounting quizzes. What specific topics or areas do you need assistance with?" This presentation aims to demonstrate the potential use of artificial intelligence chatbots for completing exams and assignments in accounting courses.

We tested ChatGPT's ability to answer various types of exam questions and evaluated its responses. Our analysis indicates that ChatGPT can be a valuable tool for achieving high scores on exams, particularly for essay-type questions, despite occasionally providing incorrect answers with confidence. For simple computational problems, it provides accurate answers and explanations, though it may struggle with questions requiring more complex analyses.

The development of artificial intelligence chatbots will undoubtedly have a significant impact on future teaching environments in college education. This presentation will also discuss the educators' perspective and how they can prepare for the future.

**12:30 – 1:30pm**

# Keynote Address: Making it Stick: Improving Learning with Spacing and Retrieval Practice

## 164 Making it Stick: Improving Learning with Spacing and Retrieval Practice

Megan Sumeracki  
Rhode Island College, Providence, RI, USA

### Abstract

Decades of cognitive research can inform classroom learning. However, this research is not always translated into practice. In this keynote address, Dr. Megan Sumeracki, co-founder of the popular website The Learning Scientists and co-author of *Understanding How We Learn: A Visual Guide*, will describe two strategies--spacing and retrieval practice--that have robust evidence to support their use during learning. After providing a brief overview of the strategies and evidence to support their effectiveness, she will draw on The Learning Scientists' resources to share applications of the strategies that can be used in a variety of instructional settings, followed by a discussion of how instructors can leverage scholarship of teaching and learning methods to investigate these strategies.

1:30 - 2:00pm

## Discussion Break

Use this time to grab a meal, connect with other participants through the chat, or continue the discussion from a session you attended!

2:00 - 3:00pm

# **Plenary Session: Exploring the Synergy between Artificial Intelligence and the Scholarship of Teaching and Learning (SoTL): Inspiring Educators to Integrate Innovative AI Tools in the Classroom**

## **160 Exploring the Synergy between Artificial Intelligence and the Scholarship of Teaching and Learning (SoTL): Inspiring Educators to Integrate Innovative AI Tools in the Classroom**

Sarah Eaton<sup>1</sup>, Melanie Hamilton<sup>2</sup>

<sup>1</sup>University of Calgary, Calgary, Alberta, Canada. <sup>2</sup>University of Saskatchewan, Saskatoon, Saskatchewan, Canada

### **Abstract**

This conference session aims to foster an interactive and lively discussion surrounding the profound impact and influential role of artificial intelligence (AI) in the context of the Scholarship of Teaching and Learning (SoTL). By engaging in SoTL research, educators can enhance their understanding of how AI tools can be effectively leveraged within the classroom to optimize teaching practices and student learning outcomes. This session will explore the potential of SoTL research in facilitating successful integration of innovative AI approaches and elucidating their impact on student learning.

### **Learning Objectives:**

- Understand a basic history and development of artificial intelligence that is now commonly used in education.
- Engage in a collaborative discussion to exchange ideas, experiences, and best practices for utilizing AI tools in the classroom, informed by SoTL research.
- Gain insight into the potential benefits and challenges associated with integrating AI tools in the classroom through the lens of SoTL research.
- Explore the role of SoTL in helping educators understand how to effectively integrate AI tools with teaching practices to enhance learning outcomes.

# SoTL Briefs 3A - 3:15 - 4:00pm

## **137 Re-imagining Family Theory Through Students as Partners in Course Redesign: Connecting Theory to Community**

Dr. Silvia Bartolic, Dr. Alyssa Alexander  
University of British Columbia, Vancouver, BC, Canada

### **Abstract**

In response to stakeholder feedback on a curriculum reform project, using a 'students as partners approach', we redesigned a family theory course to better connect theory to community. As part of the course's final assessment, students completed a reflection assignment as a way to evaluate whether a small shift to community engagement was useful in assisting students in applying family theory to real world scenarios. Student reflections from two sections of the course were thematically coded. We detail our goals in the course redesign, outline successes and challenges of redesigning to an experiential learning based course and highlight themes showcased in student reflections on the benefits of applying theoretical frameworks to understanding and solving community issues.

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## **33 Looking Back to Look Forward: Reflects on a Pedagogical Partnership Five Years Later**

Dr J. Michael Rifenburg [ORCID iD](#), Emily Pridgen  
University of North Georgia, Dahlonega, GA, USA

### **Abstract**

The conference theme highlights thirty years of sharing wisdom. In this spirit, we reflect on the pedagogical partnership we undertook together five years ago. We highlight how our faculty-student partnership has positive lingering effects for faculty and students long after the experience concludes. We specifically open space for conversation on what longitudinal studies into the impacts of pedagogical partnerships might look like

# SoTL Briefs 3B - 3:15 - 4:00pm

## 91 Doing SOTL Together: Models for Developing Collaborative Research Projects in Teaching and Learning

Laura Cruz [ORCID iD](#)

The Pennsylvania State University, University Park, PA, USA

### Abstract

In this interactive session, we present three models (collaborative reflection, incubators, and partnerships) for developing and supporting cross-disciplinary, collaborative scholarship of teaching and learning (SoTL) projects at the campus or college level. Session facilitators will provide definitions and examples of each project type, as well as strategies for implementing similar projects with your colleagues at your own campus. Our experiences suggest that developing such projects can not only enrich SoTL research, but the process also serves to strengthen a sense of community across your campus.

# SoTL Briefs 3C - 3:15 - 4:00pm

## 129 Investigating sociodemographic and contextual variables related to student course withdrawal

Dr Sidni A Justus [ORCID iD](#), Dr. Teresa Raczek, Gianni Bisio  
Kennesaw State University, Kennesaw, GA, USA

### Abstract

Student withdrawal from individual courses can hinder progression in the degree and timely graduation. While many studies have been done to investigate overall persistence in higher education, less focus has been placed on the decision making process for withdrawing from individual courses. In this paper, we use quantitative and qualitative data to investigate the role of academic factors like course modality, course difficulty, and faculty performance as well as the relevance of external factors like health, mental health, family matters, jobs. We also examine the decision making process for students, along with who they consulted. By gaining knowledge and understanding into what leads students to withdraw or persist within courses we may help academic institutions better meet students' needs, improve academic experiences, and increase course retention and higher-level progression and graduation rates.

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## 28 The Working on Wellness Together Project: A Multi-Disciplinary Well-Being Study

Roxanne Atterholt, Tammy Divens, Kathy Shaffer, Jennifer Jewell  
The Pennsylvania State University, Sharon, PA, USA

## **Abstract**

Are you interested in student well-being? Research has indicated that college students everywhere are in the midst of a profound mental health crisis. As many as 9 in every 10 college students are experiencing mental health challenges that negatively impact their overall well-being (Dennon, 2021). The Working on Wellness Together project (n=289) is a campus response to this crisis. This survey-based study assessed the collective impact of a set of linked curricular, co-curricular, and extra-curricular interventions. Six instructors from multiple disciplines worked together to integrate individual and collective well-being across an entire campus. This interactive session will present the results of a mixed-methods study that explored the relationship between well-being, engagement, and student success. As the findings demonstrate, these shared activities provide new models of engagement that could be replicated at your institution.

## **Innovative Teaching Talks 3D - 3:15 - 4:00pm**

### **150 Beyond Accessibility Resources Memos: Removing Barriers to Active Learning with Neurodivergence in Mind**

Dr. Elizabeth Bartelt  
University at Buffalo, Buffalo, NY, USA

This session will address the fact that students with neurodivergence are often subject to the hidden curriculum of higher education. We frequently discuss in higher education the importance of incorporating active learning strategies into the classroom. However, we rarely think about how these strategies that directly benefit neuro-typical students and some neurodivergent students may further harm some of our most vulnerable students. A specific review of common AR memos (e.g., 50% additional time on exams) will be paired with common in-class activities (e.g., think-pair-share) and an analysis of how these activities may or may not work for students with accessibility needs will be discussed. Participants will receive a guide to thinking about common in-class activities, who they work best and worst for, and how to vary in-class activities to engage your most vulnerable learners effectively.

### **141 Engaging Students with Intellectual Disabilities in the College Classroom**

Dr. Melissa Martin  
USC Aiken, Aiken, SC, USA

Comprehensive Transition Postsecondary (CTP) programs provide college students with intellectual disabilities (IDs) a pathway to learn skills related to academics, independent living, and employment. With over 300 programs nationally, it is important college-level instructors are familiar with common learning strategies and supports for students with IDs. The goal of this session is to provide practical strategies instructors can implement with ease.

### **110 Leveraging Generational Diversity for Classroom Success**

Dr. Russell E Fail, Dr. Charles A Fail  
Purdue University Global, West Lafayette, IN, USA

The landscape of online education continues to become more diverse as access to technology increases and the acceptance of distance learning continues to grow. Along with this growth comes new challenges and opportunities as virtual classrooms represent multiple generations with both

students and faculty. In this innovative teaching talk, ideas and techniques for facilitation and assessment will be offered that can leverage the unique benefits of a multi-generational classroom. Special attention will be given to how the prior experiences of older students can benefit others through interactive classroom discussions and assignments. Also presented will be ideas on how faculty can use their own experiences to form a narrative that speaks to a diverse classroom.

## **Innovative Teaching Talks 3E - 3:15 - 4:00pm**

### **52 Potential of ChatGPT to Help Develop Background Knowledge Assessments and Supports for Undergraduates in Subject Area Courses**

Omer Ari, Amin B. Barooni  
Georgia State University, Atlanta, GA, USA

Background knowledge (e.g., biology knowledge) is a strong predictor of students' deep comprehension of texts and learning in subject area courses (e.g., biology). Artificial intelligence (AI) tools, now increasingly available especially through OpenAI's (2020) ChatGPT, appear to offer the natural language processing capabilities that are needed to create background knowledge assessments (e.g., topical vocabulary assessments and cloze passage reading tasks). In this session, we will review main research findings on background knowledge, share our ideas on building these assessments, and discuss ways to create online content modules in support of students' background knowledge development around topics that need reinforcement.

### **60 Collaboration in the Construction of Knowledge: Using Popular Press and Social Media to Help Students Develop a Critical Perspective and Increase Classroom Engagement**

Dr. Mackenzie Cato [ORCID iD](#)  
Kennesaw State University, Kennesaw, GA, USA

Like many in higher education, I struggle with student engagement, which is closely related to student success. In order to increase engagement in my courses, I developed a semester-long assignment that can be used in both f2f and online classes as a participation grade or as extra credit. I wanted my students to make connections between what they were learning in my course and what they experienced in their day-to-day lives. To do this, I developed an assignment where students introduce discussion topics based on academic research that they've seen in popular press coverage or on their social media platforms. This assignment has proved to be a successful way to increase student's confidence in class participation, collaborate in course discussions, explore topics that interest them, make critical connections between how academic research is used in popular press and on social media, and foster higher order thinking: synthesis, analysis, and evaluation.

### **61 “Why Students Choose NOT to Use ChatGPT”: Using Natural Language Processing to Explore the Factors Influencing Student Decision-Making in the Use of AI Tools for Assignments**

Dr. Chi Zhang  
Butler University, Indianapolis, IN, USA

With the emergence of artificial intelligence (AI) tools, such as ChatGPT, it has become increasingly challenging to prevent students from utilizing these tools to complete their assignments, leading to a failure to meet the study's intended learning outcomes. To address this issue, the instructor in the Digital Marketing and Marketing Analytics course implemented an innovative approach by providing students with two options for their final reflection paper. This allowed students to make an informed decision and choose whether or not to use ChatGPT for their assignments while providing a rationale for their choice. To gain a deeper understanding of students' reasoning for their choices, the author employed natural language processing techniques to analyze students' reflections. The study also examines whether the students' decision to use or not to use ChatGPT is related to their overall grade point average (GPA) in the course.

## **Innovative Teaching Talks 3F - 3:15 - 4:00pm**

### **85 Teaching family nursing assessment through an Interactive Discussion Seminar in Community Health**

Dr. Diane L. Keen [ORCID iD](#), Mrs. Dawn Ziegler, Mrs. Tammy Green  
Kennesaw State University, Kennesaw, GA, USA

Family nursing assessment is an essential component of baccalaureate nursing education; however, teaching this concept can be challenging. Community Health, a senior-level nursing course, piloted a Family Discussion Seminar to replace a traditional scholarly paper. The discussion seminar allowed students to synthesize their assessment in an integrative and experiential learning experience. This project provided nursing students with multiple learning opportunities to develop the skills necessary to conduct an interview with a family from the student's clinical site or community and share their learning in a discussion seminar presentation with their clinical group.

### **78 Leveling Up Patient Simulations using SoTL**

Kellsie Busho, Danielle Kelsay  
The University of Iowa, Iowa City, IA, USA

This session will provide an opportunity to learn about a SoTL study conducted within our training clinic related to patient simulations in a professional degree program. We designed a study looking at the impact simulations have on student learning and to inform clinic teaching in speech language pathology and audiology to integrate simulations effectively into clinical teaching.

### **30 Using children's literature to teach complex topics to undergraduate students: A case study in adopting novel pedagogies**

Amanda Redinger  
Kennesaw State University, Kennesaw, GA, USA

Children's literature has been used to teach educational topics ranging from social justice to mathematics. However, most of this cross-use has occurred in middle- and upper-grades. This presentation seeks to highlight the efficacy of using children's literature to teach complex topics in an undergraduate setting. Students who experience being taught novel concepts through children's literature experience a nostalgic and engaging way to learn that reinforces topics in a less complicated & more entertaining way. Implications of instructors utilizing this novel higher education pedagogy include increased retention, engagement, and understanding of concepts that have traditionally been taught in a conventional way.

# SoTL Briefs 4A - 4:15 - 5:00pm

## **49 Effect of COVID-19 on Students' Online Course Engagement and Success**

Dr. Rasha Ashraf  
Georgia State University, ATLANTA, GA, USA

### **Abstract**

This paper examines how student engagement changes in the online learning environment post COVID-19 era. Using about 40-thousand content-level engagement and 8-thousand task completion data for an asynchronous online course, this analysis documents that post COVID-19 era students were less engaged and took more time to complete assigned tasks, however, students do not seem to perform worse during that period, suggesting students' ability to use virtual portal more efficiently improved post COVID-19 era. The effects of content engagement and assignments task completion timelines on performance that were prevalent in pre-COVID era continue to remain significant post-COVID era, suggesting that online course engagements continue to remain vital for students' success. However, the task completion timeliness related to tests does not seem to have a similar effect as in the pre-COVID era.

## **146 Caring educators: The importance of interpersonal relationships in college teaching and learning**

Dr. Jessica Braymiller Knapp, Dr. Elizabeth Bartelt, Dr. Jessica A. Kulak, Dr. Adam Graczyk  
University at Buffalo, Buffalo, NY, USA

### **Abstract**

Mental health among college students is an increasingly important public health issue, as students are reporting higher levels of depression and anxiety than the general population. University student support services tend to be overtaxed and students are often left feeling the university does not care for them. There is an increasing body of literature indicating that interpersonal relationships with college faculty are important to college students, these relationships can mitigate the negative academic-related effects of mental health challenges. We conducted a survey incorporated into more than 10 end-of-semester course evaluations at University at Buffalo in Spring 2023. Findings showed that students highly valued being cared for in the classroom they defined this in three main themes of being respected, faculty acknowledging traumas in the news, and flexibility in expectations.

# SoTL Briefs 4B - 4:15 - 5:00pm

## **67 Pedagogical Approaches and Behaviors That Elicit Student Appreciation**

Dr. Alexandra M. Barnett, Dr. Shawn M. Bielicki  
Liberty University, Lynchburg, VA, USA

### **Abstract**

This study qualitatively analyzed student responses to a teacher appreciation program, "Teacher Appreciation Grams" (TAGs), to identify desirable teacher behaviors and pedagogical approaches. TAGs allow students to express their appreciation for faculty by filling out an online form. Posters and banners are placed throughout campus, displaying QR codes to the online form for a month each semester. The Center for Teaching Excellence (CTE) prints the TAGs on a template designed by marketing to look like an old-fashioned telegram. TAGs are delivered to teachers at department faculty meetings. Since its implementation in September 2020, students have submitted 2127 TAGs. Upon analysis of the students' TAG responses, the following themes of faculty pedagogical approaches and behaviors that elicited appreciation emerged: a) faculty personal characteristics, b) spiritual disciplines demonstrated by faculty, c) efficient course design, d) faith learning integration, and e) active learning.

## **138 Students Perceptions of and Participation in Developing an OER Textbook**

Dr. Silvia Bartolic  
University of British Columbia, Vancouver, BC, Canada

### **Abstract**

This session reviews the findings from a survey as well as a reflection assignment examining student perceptions of the development of an Open Educational Resource (OER). Exploring student concerns surrounding a lack of diversity in and accessibility of academic materials aids us in better designing an inclusive OER. Further examining student financial concerns allows us to understand the educational inequalities students face in accessing educational materials. Through engaging with students, this study provides data that opens a conversation about the benefits of OER in contrast to traditional course materials.

# SoTL Briefs 4C - 4:15 - 5:00pm

## **11 Research as Resilience: Teaching the capstone seminar**

Whitney Russell  
California State University Stanislaus, Turlock, CA, USA

### **Abstract**

This presentation reports the results of a study conducted with a senior capstone class in an interdisciplinary social science department. Going off of widespread belief that learning during covid has resulted in lower academic achievement among students, I show how independent research impacts and shapes a student's understanding of their own academic ability.

## **19 Pre-service Technology Education teachers and their conceptual metaphors for teaching and learning**

Kieran Forde [ORCID iD](#)  
University of British Columbia, Vancouver, BC, Canada

### **Abstract**

Understanding that metaphor can play a key role in the process of teacher self-formation, this research explores pre-service Technology Education teachers and their evolving conceptual metaphors of teaching and learning as they transition from teacher candidate (TC) to proto-professional. This is a mixed-methods study of 22 teacher candidates' use of teacher metaphors and how this reflects their professional growth over the first semester of their teacher education program. The study used surveys and textual analysis to examine metaphor as a tool for reflective practice, exploring TCs' conceptual metaphors for teaching and learning at the beginning and end of their first semester and whether the instructor's focus on metaphor encouraged their students to think more "metaphorically". Findings reflect previous larger studies that reveal "the central role played by a novice's image of self as teacher" (Kagan, 1993) and how this is connected to professional growth.

# Innovative Teaching Talks 4D - 4:15 - 5:00pm

## **81 Grizzly Fitness at Your Fingertips App – Information Technology Students' Project**

Anca Doloc-Mihu [ORCID iD](#), Kristie Walsdorf, Karen Perell-Gerson  
Georgia Gwinnett College, Lawrenceville, Georgia, USA

This experiential learning project enables Information Technology (IT) students to learn practical skills required in software engineering jobs (different programming paradigms, languages, frameworks, and cloud technologies) by actively implementing a real-world project. IT students are implementing an app called "Grizzly Fitness at Your Fingertips", which contains helpful fitness videos created by Exercise Science students. Students work in teams and apply an Agile methodology to an entire semester project development cycle. Our novel real-world project improves STEM competencies such as critical thinking and problem-solving (requires research), along with skills for software engineering and creativity, while motivating students and pushing them to think outside the box. The goals of this project are to provide IT students with an experiential learning opportunity to demonstrate how what they learn in class can be applied to a real experience and to provide the local community with educational information to enhance their fitness experiences.

## **101 Grizzly Fitness at Your Fingertips app – Exercise Science students' fitness videos**

Dr. Karen L Perell-Gerson, Dr. Kristie Walsdorf, Dr. Anca Doloc Mihu, Ms. Cindie Corey  
Georgia Gwinnett College, Lawrenceville, GA, USA

This experiential learning project enables Exercise Science (EXSC) students to utilize skills they learn in class to a "real world" experiences. EXSC students created fitness videos which go onto an app that Information Technology students are creating called Grizzly Fitness at Your Fingertips. EXSC students presented their videos to physical education walking classes to obtain feedback regard the video effectiveness. Physical Education students rated the videos based on style/organization, creativity, content, timing, relevance, and overall impression. EXSC students reflected on this feedback to determine what went well or not in order to make changes for the final versions that will be presented on the app. The goals of this project are to provide EXSC students with an experiential learning opportunity to demonstrate how what they learn in class can be applied to a real experience and to provide the local community with educational information to enhance their fitness experiences.

## **104 Use of ePortfolios in an Exercise Science introductory course**

Dr. Karen Perell-Gerson, Dr. Kristie Walsdorf, Dr. Rebecca Cooper  
Georgia Gwinnett College, Lawrenceville, GA, USA

ePortfolios provide students with opportunities to showcase knowledge and skills through learning artifacts and reflection. ePortfolios, however, can be a way to generate learning as well as document previous learning. Documenting previous learning is often done in capstone classes to showcase what students have learned. Generating learning, however, can be done across all academic courses. The purpose of this study is to describe the student experience using ePortfolios in an Exercise Science (EXSC) introductory course. During FA22, 18 students were asked to complete an ePortfolio where students reflected on their time management, professional goals, soft and hard skills, direction of profession, and work ethic. At the end of the semester, students were asked about their experience with the ePortfolio including instructions, workload, pages which demonstrated growth, feedback, effect on potential careers, benefits and usefulness. This work demonstrates that generating learning can be beneficial to students early in their academic career.

# Innovative Teaching Talks 4E - 4:15 - 5:00pm

## 20 Higher Bloom's Level Exams for STEM Courses

Dr. Kelly E. Theisen [ORCID iD](#)  
SUNY Plattsburgh, Plattsburgh, NY, USA

Many exams in STEM classes focus on recall type questions: memorizing definitions, formulas, etc., but a common result of this is that students forget most (all?) of what they learned as soon as the exam is over. One way to address this issue is to focus on higher level Bloom's tasks for exam questions: analyzing data, applying their knowledge to new situations, and creating an original representation of the content. This makes the exams an additional learning element in the course. My upper level STEM courses have used this type of exam for several semesters now, with similar average exam scores compared to previous recall exams, and positive student feedback on the format. Example learning objectives, exam questions, and student feedback will be shared.

## 31 “Don’t Blink”: Using Outrageous and Gnarly Sources for Critical Thinking and Active Engagement

Dr. Stephanie B. Conner, Dr. Jennifer P. Gray  
College of Coastal Georgia, Brunswick, Georgia, USA

During assignment sequences, students are typically shown examples of ideal projects. Textbooks are full of strong student examples that highlight stellar responses to the assignment. However, only using strong elements ignores a valuable lesson to be learned from critically analyzing bad examples. Being able to explain the weaknesses present in bad examples helps students understand concepts on a deeper level and apply them to their own work. Our session explores the non-traditional use of bad examples to bolster students' understanding of key course concepts. We will provide attendees with quick examples of current assignments from an English Composition course and a Technical Writing course. Part of the assignments include examining outrageous and gnarly outside sources and lousy published user manuals that illustrate horrifying design elements. Students benefit from the exploration of these weak real-world published documents and websites.

## 94 Experiential Learning and Reflection: Growth Through Networking

Dr. Dale C Herndon [ORCID iD](#)  
Georgia Gwinnett College, Lawrenceville, GA, USA

Networking involves interacting with others to develop professional or social contacts. The importance of networking cannot be understated; statistics indicate that 85% of jobs come from networking. However, many students are apprehensive about networking. Many are often not confident in their networking abilities, but even self-assured students question its benefit or mistake it for selling. Experiential learning supports students' knowledge by building their confidence and realizing the advantages of networking. While attending networking events is essential, that alone is often insufficient to solidify the learning process. Students may recant after attending if they feel insecure in their abilities. Reflection, where the learner reviews and evaluates the knowledge gained, helps to cement the learning process. Reflection exercises supplement their education by forcing them to reach conclusions about the meaning of the experience and help them see how they are becoming proficient, thereby building their confidence.

# **Innovative Teaching Talks 4F - 4:15 - 5:00pm**

## **140 Enhancing STEM Students' Quantitative Skills through Iterative Problem-Solving Practice: A Two-Stage Approach**

Dr. Emily G Weigel  
Georgia Institute of Technology, Atlanta, GA, USA

STEM students often struggle with quantitative elements of 'doing science', often because we omit iteration or metacognitive guidance. To address this problem, a two-stage problem-solving approach was implemented, where students complete problems around an extended scenario and rate their understanding (stage 1), then review their stage 1 answers, revising (if initially incorrect) or expanding (if initially correct) their understanding for each problem before re-rating (stage 2). Grades come from attempts at each stage and providing ratings, regardless of their value. This approach provides students with effective distributed practice and reinforces the development of metacognitive skills to identify and correct mistakes. Instructors and TAs have noticed increased focus on attempting problems and understanding reasoning, and efforts have begun to quantify the growth more formally. This two-stage approach offers a model to enhance STEM students' quantitative skills and engagement through iterative, structured problem-solving practice.

## **55 Transformation of a Precalculus Course Using an Active Learning Approach**

Rabia Shahbaz, Ekaterina Nathanson, Jamye Curry Savage, Sarah Park  
Georgia Gwinnett College, Lawrenceville, GA, USA

Many studies have reported that the high DFW rate in precalculus course holds students back from moving forward in their STEM majors. In our college we experience similar challenges of low success and attrition rates in our precalculus course. In order to increase the success rate of our precalculus students, promote student engagement, and increase students' understanding of precalculus and mathematics concepts in general, we transformed our traditional lecture based precalculus course into a hands-on and student-centered course. In our transformed course, we implemented active learning and blended instruction models. We designed online instruction for out-of-class and hands-on activities for in-class practice. In this presentation, we will share our experience of how we transformed our traditional lecture-based course into a student-centered course. We will share student feedback that we collected and how we incorporated it to further improve this course.

## **142 A Responsive Remediation in Real-time Strategy to Address Fear of Failure in Chemistry Courses**

Dr. Melody Kelley [ORCID iD](#)  
Georgia State University, Atlanta, GA, USA

Listen to any motivational speaker or self-help professional, and you will learn that failure is beneficial. While this notion has been broadly accepted in society, it has yet to make its way inside the STEM classroom. A key barrier to transitioning our students from a fixed mindset to one of growth is exploring their relationship with failure. In this session, we will discuss how fear of failure shows up in our students and ways that -as instructors- we can holistically confront the "elephant" in our courses and cultivate safer spaces for students in STEM.