

Tenth Annual Provost's Teaching & Learning Symposium Poster Presentation Abstracts

*Re-Envisioning General Education: Developing a Unique Foundation to
Support Students' Life-Long Learning*

Friday, October 2, 2026, 2:00-3:30 p.m.

University Center Ballroom & Ballroom Lounge

Abstracts for each numbered poster appear below. To help locate posters of interest, please see the color-coded strands that each poster falls into from the following:

- *Academic Success*
- *Assessment/Evaluation/Scholarship of Teaching and Learning (Assessment/SoTL)*
- *Course/Curriculum Development*
- *Diversity, Equity, and Inclusion (DEI)*
- *General Education*
- *Globalization*
- *Hrabowski Innovation Fund Grant Recipients (HIF)*
- *Teaching with Technology or Generative Artificial Intelligence (Technology)*

1. *UMBC From 450ft: Using DIY Imagery to Model Campus*, Charles Kaylor (Geography and Environmental Systems), Jessica Graziano (Geography and Environmental Systems), and Abdu Mahgoub (Computer Science and Electrical Engineering) [DEMO]

The GES 286 "balloon lab" introduces students to remote sensing by capturing imagery via balloons flying 450 feet above campus. Students use color and near-infrared (NIR) cameras to produce orthomosaics and calculate the Normalized Difference Vegetation Index (NDVI) to assess vegetation health. Recently, the lab expanded to include Structure-from-Motion (SfM), a photogrammetric workflow enabling students to generate three-dimensional campus models of campus. Assessment methods include field check-ins, formative assessments, and portfolio evaluations. Key lessons learned highlight how manual map algebra demystifies the complex physics of photogrammetry, providing practical and theoretical geospatial insights. For the symposium demo, we will showcase an interactive station featuring dual-camera payloads alongside live Agisoft Metashape and ArcGIS raster calculator interfaces. We will contrast our original manual georeferencing against our newer, automated orthomosaic workflow, illustrating the evolution of students' analytical capabilities in modeling the campus environment.

Strands: General Education, Technology

2. *Critical Self-Reflection and Loving Accountability: Competencies for Dialogic Community Building and Connection in an Election Year*, Ciara Christian and Jasmine Lee (Center for Social Justice Dialogue) [DEMO]

Developed by the Center for Social Justice Dialogue, competencies for dialogic community building--critical self reflection, cultural storytelling, generous listening, and loving accountability, equip individuals with the skills and tools to take responsibility for creating inclusive environments; tell culturally nuanced stories; listen for shared humanity; and critically examine their identities, perspectives and worldviews. Skills in these competencies are useful across many contexts, but become critical during the heightened polarization that accompanies US political elections. Informed by survey data collected across several departmental programs, this demo-poster will highlight classroom activities connected to two competencies, critical self-reflection and loving accountability, to support instructors in fostering environments wherein students can take ownership in co-creating inclusive environments; reflect critically on their own identities; and engage in perspective taking across difference.

Strands: *Course/Curriculum Development*, *DEI*, *General Education*

3. *FosterDialogue @ UMBC: Fostering Belonging, Discourse, and Learning*, Jasmine Lee (Division of Institutional Equity), Eric Ford (Shriver Center), and David Hoffman (Center for Democracy and Civic Life) [DEMO]

This demo showcases Dialogue @ UMBC, a workplace collective committed to fostering a culture of dialogue at UMBC. Across frameworks, dialogue has been shown to encourage self-awareness, perspective-taking, and civic engagement. At an institution committed to inclusive excellence, pedagogy, and practice, dialogue serves as a practice that pulls communities together, supports conflict repair, and enhances academic engagement, cultivating a more equitable and inclusive learning environment for all. This demo showcases data demonstrating broad institutional impact across learning and belonging interests. Via the poster, handouts, data sharing, and example activities, faculty are invited to explore dialogue practices and possibilities for the classroom and beyond.

Strands: *Academic Success*, *Course/Curriculum Development*, *DEI*, *General Education*, *Globalization*

4. *Building Belonging from Day One: Launching UMBC's New Student Experience Pilot*, James DeVita (Student Affairs), Gina King (Enrollment Management), and Ronita Walker (Undergraduate Academic Affairs) [DEMO]

This presentation explores the launch of UMBC's New Student Experience (NSE) pilot in Summer 2026, a collaborative initiative within the Provost's Student Success Coordination framework. The pilot represents a partnership across Undergraduate Academic Affairs, Enrollment Management, and Student Affairs to intentionally redesign the first-year experience in ways that promote student success, belonging, and persistence. The NSE integrates high-impact practices into a coordinated student journey, including pre-advising, an overnight orientation experience, cohort-based first-semester UNIV courses, and Work-Integrated Learning (WIL) through Service Learning. By aligning these traditionally separate activities into a holistic experience, the initiative seeks to strengthen students' sense of community and connection while improving retention and graduation outcomes. This

session will highlight early lessons learned from the pilot cohort, discuss how intentional design can enhance academic success and belonging, and explore strategies faculty can use to integrate belonging-centered practices into the classroom in alignment with the goals of the New Student Experience initiative.

Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development, General Education

5. *Computing for All: Cultivating a Computing Ecosystem for Students and Heads of Household in Public and Subsidized Housing*, Patricia Ordóñez (Information Systems), Marilyn Iriarte (Information Systems), Shrishti Dewangan (Information Systems), Jamie Gurganus (Engineering and Computing Education Program), and Diana Valencia (Chemical, Biochemical, and Environmental Engineering) [DEMO]

This project seeks to cultivate a dynamic learning ecosystem in partnership with Bay Ridge Apartments, specifically engaging heads of households in public and subsidized housing with UMBC students. By providing undergraduate and graduate computing students with service-learning opportunities to apply their technical skills in meaningful, hands-on experiences, we aim to foster social impact through the Born to Grow, Brave to Grow, & Bold to Grow (B2G) Learning Centers, one of the projects of the UMBC NICE (Novel Informal Computing Education) Lab. In return, this initiative will allow us to assess computing students' computing identity and mindset, focusing on their sense of belonging and self-efficacy in the field. This opportunity will also lead to students earning a Center for the Integration for Research, Teaching & Learning certification for both undergraduate and graduate populations.

Strands: Assessment/SoTL, Course/Curriculum Development, DEI, HIF, Technology

6. *Student-Driven Sustainable Material Innovation for 3D Printing*, Fiona Bell and Sana Navi (Information Systems) [DEMO]

This project engaged interdisciplinary UMBC students in a hands-on workshop to design, test, and refine sustainable 3D printing materials from local bio-waste streams (e.g., eggshells, sawdust, coffee grounds). Students built embodied skills in material development, digital fabrication, and sustainable design thinking while directly experiencing the technical and creative challenges of formulating viable print materials. Learning and attitudinal shifts were assessed through pre- and post-workshop surveys capturing changes in students' knowledge of, and beliefs about, 3D printing and sustainable materials. Survey results revealed that students were strongly motivated by sustainability goals but gained new appreciation for the difficulty of developing viable alternative materials for 3D printing. This poster will include a demo of the student-developed material recipes alongside physical 3D-printed vessels, allowing viewers to directly see and touch the tactile qualities and printability of these sustainable, bio-based innovations.

Strand: HIF

7. *Hilltop Print Shop: Learning with Letterpress*, Lindsay DiCuirici (English) and Lindsey Loeper (Special Collections) [DEMO]

This demonstration invites attendees to create an impression using UMBC's Hilltop Print Shop, a mobile letterpress lab designed to teach historic bookmaking methods. Hilltop Print Shop was funded in part by a Hrabowski Innovation Grant to teach students letterpress, bookbinding, and papermaking in the context of book history. Book history is the interdisciplinary study of printed things, with an emphasis on the cultural, economic, religious, geographic, and political factors that shape the global print record. Materials from the HPS have been used in courses like "Currents in American Literature" and the Humanities Scholars seminar as well as in faculty workshops; student recruitment, welcome, and study events; and the first annual UMBC BookFest. The aim of HPS is to implement maker-based pedagogy in Humanities classrooms and, eventually, to build a bookmaking lab open to members of the UMBC campus and to community partners in Baltimore County and city.

Strand: *HIF*

8. *Beyond the Grade: Implementing 'Ungrading' in a Chemical Engineering Capstone*, Maria José Castellanos (Chemical, Biochemical and Environmental Engineering) [DEMO]

This poster describes the implementation of 'ungrading' in the Chemical Engineering Capstone (ENCH 446) at UMBC. My interest in 'ungrading' was sparked by Kohn (1994) and Ungrading (Blum, 2020), which highlight how traditional grading can undermine intrinsic motivation and shift attention away from learning. A key insight from this work is that students prioritize numerical grades over instructor feedback when both are provided. I replaced traditional grading with extensive, iterative feedback throughout the semester. This approach created a lower-risk environment that supported the creative and iterative nature of engineering design, encouraging students to experiment, make mistakes, and improve. The course includes weekly meetings, oral presentations, and an individual portfolio. At the end of the semester, students propose their final grades based on evidence of technical competency, teamwork, and communication. Data collected over the past four years show high student satisfaction, reduced stress, and greater engagement with meaningful learning.

Strand: *Academic Success*

9. *Cracking the Data Black Box: Uncovering SoTL Evidence of AI's Impact on Student Learning*, Sarah Bass (Chemistry and Biochemistry), Tara Carpenter (Chemistry and Biochemistry), Karen Chen (Information Systems), John Fritz (Division of Information Technology), Jason Paluck (Division of Information Technology), Tom Penniston (Division of Information Technology) [DEMO]

GenAI tools like Gemini Notebook can offer a 24/7 "virtual prof" for student support but create a "data black box" hindering analysis of AI engagement on performance—a challenge central to the Scholarship of Teaching and Learning (SoTL). To bridge this gap, UMBC faculty and staff are exploring two options across three courses. In IS 296 "Data Science," students will be asked to download their usage data across Google products using Google's own "Takeout" function, and then voluntarily upload it to a UMBC DoIT-approved repository that strips out any personally identifiable information (PII). This won't scale in CHEM 101 & 102 "Principles of Chemistry I and II," both of which are too large (800+ students each), so DoIT is piloting a secure, "home-grown" AI platform that captures

detailed interaction data. In addition to supporting and extending current faculty-led SoTL research, we aim to empower students as partners in scaling self-regulated learning.

Strands: **Assessment/SoTL**, **Technology**

10. *From Data to Insights to Action for Human Flourishing: A Personal Informatics Approach to General Education Data Science Course*, Karen Chen, Jennifer Posada, and Emma Shay (Information Systems)

Personal informatics refers to the data-driven, iterative process of collecting personal data, reflecting on it, and using the resulting insights to inform positive behavioral change. This practice—growing in popularity with the widespread use of wearable devices—can also be viewed as a form of data-driven scientific inquiry into personal behavior. When embedded in educational contexts, personal informatics offers college students an authentic and active learning experience that cultivates both data science skills and self-regulation—critical competencies to promote flourishing for learners whose executive functions are still developing. In this work, we describe a personal informatics project piloted in IS 296, a science/non-lab general education course. We present an analysis of students' final reflection and creative artifacts. Our findings offer insights into how this multi-purpose learning activity can be improved to support students' development as data science learners, while empowering them to engage in meaningful, evidence-based inquiry grounded in their lived experiences.

Strands: **Academic Success**, **Course/Curriculum Development**, **General Education**

11. *Teaching Deepfake Detection in Undergraduate Computing Courses: An Exploration with Scenario-Based Approach*, Anita Komlodi (Information Systems and Imaging Research Center), Chhaya Kulkarni (Technology at Towson University), Lavanya Neelakandan (Information Systems), Vandana Janeja (Information Systems), Christine Mallinson (Language Literacy and Culture), and Karen Chen (Information Systems)

Audio deepfakes are artificial speech recordings that use machine learning algorithms to seem like actual human voices. These technologies can represent major threats such as disinformation and fraud, making deepfake detection a critical skill for computing students. Teaching audio deepfake detection is challenging. We studied whether Caselets - structured, scenario-based learning exercises - can effectively teach these concepts by drawing upon knowledge from both computer science and linguistics. We tested our approach with 53 undergraduate students in two computing courses using different teaching methods. Course A (n=29) used guided instruction with linguistic feature training, while Course B (n = 24) used collaborative interactive learning. Students completed pre- and post-class surveys measuring their self-reported knowledge and answered three open-ended questions. Students called for more practice, real-world links, interaction, linguistic focus, and research ties. Caselets effectively supported interdisciplinary learning and show promise for scaling to other computing.

Strand: **Course/Curriculum Development**

12. *Magic Planet: A Digital Sphere for More Engaging Learning, Jeffrey Halverson (Geography and Environmental Systems) [DEMO]*

The Magic Planet is a portable, 3-foot diameter digital sphere used to project Earth Science and Astronomical datasets and animated visualizations. It allows the presenter to manipulate the imagery through rotation, panning, and animation speed. The PI has used it sporadically over the past decade in his classes. He has collaborated with Don Engel to rebuild the driving software, at times engaging students in its upgrade and development of programming. However, the system has been largely secluded either within GES or IT/Engineering. We believe it has much broader application across the UMBC community. Within GES, a large format lecture course, GES 110 – Our Changing Planet – potentially can be built around its use, and it can be used to enrich other courses, such as SCI 100. Furthermore, a means of assessing learning outcomes requires development. The goal here is to demonstrate the capability of Magic Planet and raise community interest.

Strands: **Course/Curriculum Development**, **General Education**, **Technology**

13. *[Library dropped out, delete this one and move numbers up?]*

14. *Not in Plain Sight: Reduce Hidden Barriers for All Learners in Your PDF content, Ada Crutchfield (Instructional Technology)*

Inaccessible PDFs create hidden barriers that directly affect student learning and success in UMBC courses. Missing tags and reading order, low contrast, absent alt text, and un-OCR'd scans can limit students' ability to navigate and understand course materials—especially mobile-dependent learners, English language learners, and students with disabilities. Using Blackboard Ally accessibility reports to evaluate course materials, we assessed the prevalence of PDF issues and their impact on overall course design accessibility. Findings show that small structural improvements significantly enhance students' comprehension, confidence, and ability to complete course tasks. This poster will share practical, PDF remediation tips faculty can adopt to strengthen course accessibility. The conclusion is that intentional PDF design not only removes invisible barriers, but also supports lifelong learning by making course materials clearer, more navigable, and more equitable for all students.

Strands: **Academic Success**, **DEI**, **Technology**

15. *Does Quality Matters Training Change How Faculty Design for Student Success?, Thomas Penniston, Mariann Hawken, and Susan Biro (Instructional Technology)*

UMBC has offered Quality Matters training for over a decade; this study surveyed 52 instructors trained since Fall 2024 who subsequently taught at least one course. We examined whether QM training shifted how instructors design for course alignment, clarity, accessibility, and student success, addressing a challenge: building courses that support learning consistently, regardless of instructor or discipline. Using a survey comparing both trained and untrained instructors, we found striking gaps in confidence and perceived student impact between the groups, along with a surprising discovery about why so many haven't engaged with QM (hint: it isn't resistance). Results suggest the value of a course-design quality assurance framework lies not only in the number of courses that complete a

review, but the extent to which the framework supports repeated cycles of evidence-informed improvement. We are reshaping how we think about faculty development, course review capacity, and what "quality assurance" means at scale.

Strands: Assessment/SoTL, Course/Curriculum Development

16. *From Data to Dialogue: Piloting Blackboard Outcomes for Program-Level Learning Assessment*, Mariann Hawken and Josh Abrams (Instructional Technology)

Outcomes is a new tool that measures and visualizes learning outcome performance directly within Blackboard, addressing a persistent gap between course-level grading and program- or institution-level assessment of student learning. Our proof of concept establishes shared performance scales and key assessments across a small set of courses, surfacing longitudinal outcome data to instructors without requiring separate assessment platforms. Early work has clarified how much institutional alignment -- shared rubrics, defined mastery thresholds -- must precede meaningful data, a key lesson for any program considering adoption. We are seeking pilot partners, particularly programs building or refreshing general education competencies, to test this workflow further. The poster will show an Outcomes dashboard from an instructor and reporter view, making visible how outcome data can drive curriculum conversations. Come see it in action and learn more about Outcomes.

Strands: Academic Success, Assessment/SoTL, Technology

17. *Building a Campus-Wide First-Generation Learning Network: Preparing Students and Educators for Success at UMBC*, Corris Davis (Academic Opportunity Programs)

First-generation students often enter college with less familiarity with informal knowledge, networks, and institutional practices that support academic success and lifelong learning. At UMBC, a semi-formal partnership addresses this issue on two fronts: Golden Ticket helps incoming first-generation students learn about campus resources, build relationships, and develop confidence in seeking support, while First-Generation Advocate Training equips faculty and staff to recognize first-generation experiences, clarify institutional expectations, and connect students with resources. Assessment includes participation data, feedback, and evaluations of student and staff learning and perceptions. These initiatives suggest that a foundation for lifelong learning extends beyond academic knowledge to include help-seeking, relationship-building, and navigating complex environments. Supporting that foundation requires both preparing students to navigate the university and preparing the university to support them. Together, these approaches position student success as a shared learning process among students, educators, and the campus community.

Strands: Academic Success, DEI

18. *Passing the Torch: The Retriever Graduate Preparation Network's Framework for Building Life-Long Scholarly Foundations*, Michael Hunt, Ting Huang, and Aritra Samanta (McNair Scholars)

The Retriever Graduate Preparation Network (RGPN) reimagines graduate preparation as a tiered foundation for lifelong scholarly success, moving students from broad exposure

through deeper engagement to sustained commitment and a formal scholarly identity. Grounded in Holistic Critical Mentoring (HCM), this project builds self-advocacy, mentorship literacy, and scholarly habit-building through defined engagement tiers. Each engagement circle has distinct participation thresholds with the ability to serve all UMBC students with particular attention to those from limited-income backgrounds and historically excluded populations. Assessment draws on self-evaluation surveys administered at three points across the RGPN McNair 301 course, alongside engagement tracking mapped to institutional learning-outcome rubrics (UMBC, AAC&U, NACE). A key lesson emerged from cohort attrition: departures traced to mismatched expectations about program intensity, not program design, prompting the team to pursue sustained, lower-stakes engagement models as a retention strategy before formal commitment. This poster shares the framework and invites campus dialogue on scaling foundation-building structures like HCM.

Strands: *Academic Success*, *General Education*

19. Academic Advocacy Effects on Retention, Delana Gregg (Undergraduate Academic Affairs) and Cliff Saul (Academic Success Center)

UMBC's Academic Success Center provides undergraduate students with an Academic Advocate to assist them in resolving academic and institutional challenges that may adversely affect persistence, progression, and timely completion of degree. From 2019 to 2025, 7,945 students had a case with the Academic Advocates, and 1,855 students met with their Academic Advocate. Propensity score matching was conducted via nearest-neighbor matching on a logistic propensity model to produce covariate balanced groups for outcome comparison. Statistical significance of outcomes were assessed via McNemar's test and paired t-tests. Our analysis estimated a statistically significant effect from being in the Academic Advocacy program and for meeting with an Academic Advocate when controlling for other academic variables. Positive treatment effects on retention were found when matching students in the program with similar students who are not, and for those who met with an Academic Advocate matched to similar students who did not.

Strands: *Academic Success*, *Assessment/SoTL*

20. From Conversation to Connection: A Mixed-Methods Study of Mentoring Moves and Student Transformation in Higher Education, Mariano Sto. Domingo (Meyerhoff Scholars)

A mixed-methods investigation of mentoring conversation moves that promote university students' sense of belonging and awareness of strengths was conducted by a multi-institutional research team that included UMBC. The qualitative study phase, involving 25 mentor-mentee matches, resulted in the development of the Beehive Model, which shows what mentors say and do during mentoring encounters leading to student transformation. Our findings illustrate that elements of transformation were reported by a high percentage of interviewed mentors and mentees. Over two-thirds of mentees reported an increase in belonging within their mentoring relationship, with over half also reporting a concomitant increase in campus engagement. A confirmatory factor analysis of student transformation-related survey items (N = 352) revealed three factors: Relational Growth, Community Engagement & Connection, and Personal Insights of Belonging & Awareness of Strengths.

This study has tremendous significance in the theory, praxis, and research of mentoring in higher education spaces.

Strands: Academic Success, Assessment/SoTL

21. *Qualitative Discovery in Action: Centering Baltimore City Voices to Inform CWIT's K-12 Programming*, Jess Myers (Center for Women in Technology), Jordan Taliaferro (Psychology), and Jor'Danna Davis (Center for Women in Technology)

Inspired by UMBC's call to ask "Who are we not serving?", this project expands the Center for Women in Technology (CWIT) K-12 Ambassador Program into a high-impact applied learning experience. To prepare Ambassadors to lead inclusive K-12 tech programming, our current work focuses on qualitative discovery—conducting interviews with current UMBC students who attended Baltimore City Public Schools, alongside campus and community partners. This poster highlights our foundational interviewing efforts, which explore key factors supporting student pathways and persistence. Looking ahead, stakeholder insights will directly inform CWIT's outreach and recruitment approaches for K-12 events, guide inclusive leadership training for our Ambassadors, and drive the development of a near-peer mentor program designed to support Baltimore City students in submitting strong applications to the CWIT Scholars Program. Ultimately, this work-in-progress establishes a collaborative foundation to empower UMBC student leaders while broadening pathways into tech for Baltimore City youth.

Strands: DEI, HIF

22. *A Pedagogy of Place: Learning from and for the World*, Joby Taylor (Shriver Center), Sally Scott (Community Leadership Program), and Terrell Brown (Community Partner)

This poster presentation explores "Pedagogy of Place" as a framework for lifelong learning and community engagement. Drawing on Shriver Center's 30 years of practice, we embrace John Dewey's vision of education as life. Participants will discover how to cultivate a deep sense of place by examining layered histories and leaning into emergent social and community assets and challenges. We will showcase practical methods for placemaking, including "Untours," situated storytelling, and community-guided walks. Our poster will feature our interactive walking tour map of the Baltimore Harbor promenade, which invites critical and creative reflection on unused, misused, and hidden spaces in our city center. By preparing students to show up thoughtfully in complex settings, a pedagogy of place approach fosters the critical skills needed for students to make learning matter in shaping our collective future. Join us to consider learning and assessment strategies grounded in engaged participation in the world around us.

Strands: Assessment/SoTL, Course/Curriculum Development, DEI, General Education, Globalization

23. *Microcredentials for Service and Learning Storytelling*, Emily Passera, Emily Paul, Alex Ballard, and Lori Hardesty (Shriver Center)

The Shriver Center at the University of Maryland, Baltimore County (UMBC) has embraced microcredentialing as a tool to support community engagement for students in a leadership

practicum. Using six dimensions of student leadership development: self-identified skill growth, application of professional development, career planning, leadership identity, resilience through challenge, and intrinsic motivation/enjoyment, students celebrated and acknowledged their learning at their service sites. PRAC 096 Instructors used a rubric with a binary scale to evaluate a final creative expression project. Each of the six criteria required specific examples from their partnership experiences, making the assessment evidence-based and easy to score consistently. We learned that storytelling requiring specific examples from service or reflection facilitation sharpened accountability. Student success can be powerfully articulated through creative mediums, offering insights that traditional written reflections may not capture. Storytelling became genuinely enjoyable for the students who were given the creative freedom to express their leadership journey.

Strands: Academic Success, Assessment/SoTL

24. Microcredentials as Tools for the Integration of the Liberal Arts and Workforce Development, Felipe Filomeno (Political Science and Global Studies)

This poster presentation evaluates the integration of microcredentials into undergraduate liberal arts courses at the University of Maryland, Baltimore County (UMBC). Seeking to bridge the perceived gap between liberal arts curricula and career readiness, the research examines the impact of embedded digital badges on student engagement, career preparedness, and professional identity development. Utilizing a mixed-methods approach, anonymous surveys were collected from 53 undergraduate students across three Global Studies courses during the Fall 2025 and Spring 2026 semesters. Quantitative and qualitative analyses revealed that while microcredentials motivate increased effort on course assignments and improve career self-efficacy, a significant proportion of earners struggle to articulate the specific skills represented by their badges and do not show professional identity development as a result of microcredentials. To prevent microcredentials from becoming purely symbolic tokens, the study recommends that instructors consistently reinforce real-world professional applications throughout the semester.

Strands: Assessment/SoTL, Course/Curriculum Development, Globalization, HIF

25. The Culture GEP & Language Proficiency for Better Communication Across Cultural Boundaries, Irina Golubeva, Erin Hogan, and Elisabeth Arévalo-Guerrero (Modern Languages, Linguistics, and Intercultural Communication)

Global competence, one of UMBC's core values, is the focus of MLL305 and practiced in all of MLLI's courses. Intercultural communication skills are learned behaviors, though rarely addressed in undergraduate curricula. This research argues that conflict resolution styles—such as differences in directness or emotional expression—are adaptable through context, power dynamics, and heightened self-awareness. Complimentary studies (i.e. Wang, Wang, and Wei 2025) demonstrate how language proficiency, in addition to conflict resolution styles, further enhances global competence. We will share the findings of Dr. Golubeva's 2023 study, which evaluated the impact of a structured intercultural telecollaboration module on UMBC MLL305 students. Specifically, her in-depth study assessed how such interventions foster empathy, critical self-reflection, and the development of effective conflict-handling strategies, ultimately promoting better communication across cultural boundaries.

Strands: *Assessment/SoTL*, *DEI*, *General Education*, *Globalization*

26. *Fostering Global Competence and Linguistic Growth Through Virtual International Exchanges, Tandems, and COIL Projects*, Susanne Sutton, Maria Manni, Vira Zhdanovych, and Tomoko Hoogenboom (Modern Languages, Linguistics, and Intercultural Communication)

Virtual Conversational Exchanges, Tandems, and Collaborative Online International Learning (COIL) projects are innovative, low-cost programs designed to foster student learning, linguistic proficiency, and intercultural competence, while providing an accessible alternative to traditional study abroad. Implemented across many MLLI curricula, the projects have connected roughly 8,000 UMBC students with international peers at partnering institutions in Germany, Japan, Estonia, Spain and five Latin American countries. Students engage in structured collaborative tasks, including weekly conversations, cross-cultural perspective discussions, interviews, collaborative video projects, and hands-on U.S. market research for joint business plans. Student learning and success is assessed using students' reflective journal entries and collaborative project outputs, with key findings being: these virtual exchanges and project collaborations improve students' linguistic growth and cultural awareness while furthering skills in conflict resolution, technology, and time/project management. Presenters will show the commonalities in projects supporting UMBC's aspiration of 'developing a unique foundation to support students' life-long learning.'

Strands: *Assessment/SoTL*, *Course/Curriculum Development*, *DEI*, *General Education*, *Globalization*, *Technology*

27. *Bridging Language and STEM Through Team Teaching: Student Learning in Russian for Technology and Cybersecurity*, Vira Zhdanovych, Nathan Wooddell, and Carter Lemen (Modern Languages, Linguistics, and Intercultural Communication)

Russian for Technology and Cybersecurity is an innovative interdisciplinary course integrating Russian language learning with computer science and cybersecurity—fields rarely combined, even in interdisciplinary curricula. As careers requiring Russian increasingly demand the ability to read and reason about technical material, the course addresses this need through a distinctive team-taught partnership between a Russian language specialist and a computer scientist. Students develop proficiency in Russian, a Critical Defense Language especially relevant in the DC metropolitan area, alongside technical and cybersecurity skills. Each week, students learn technical concepts and Russian terminology together, culminating in a capstone project using Russian-language sources to investigate real-world cybersecurity issues. Learning is assessed through language tasks, technical assignments, collaborative work, and the capstone project. Lessons learned include the value of cross-disciplinary teaching and sequencing linguistic and technical complexity so the two reinforce rather than compete with one another.

Strand: *Course/Curriculum Development*

28. *A New Page in Primary Source-Driven Coursework and Assessment, Susan Graham and Lindsey Loeper (Library)*

Professors and students are increasingly seeking coursework and projects that move beyond traditional assessment methods. In partnership with UMBC humanities and visual arts professors, Special Collections instructors have developed a suite of extended course assignments that build student understanding of primary source research, involve hands-on active learning techniques, and support creative, discipline-specific, assessment methods. Special Collections instructors use the ACRL/SAA Guidelines for Primary Source Literacy to develop single- or multi-session instruction sessions with undergraduate and graduate students; in FY26 we taught over 60 instruction sessions, reaching over 1,000 students. This poster will examine our partnerships with professors to develop new coursework that builds directly on the sessions coordinated by Special Collections. Examples will be shared from 200-, 300- and 400/700-level classes. These course assignments include public presentation at an open house event, client presentations by design teams, archival collection processing and metadata, and visual document analysis.

Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development

29. *Bridging Academic and Experiential Learning: Student Empowerment, Internships and Professional Communication, Donald Snyder and Jason Loviglio (Media and Communication Studies)*

This poster presents the findings of our 18-year experiment in building experiential learning into the core of the Media and Communications Studies major. The conceptual insights and practical skills of MCS, like all Humanities disciplines, are subject to constant revision (the latter more dramatically than the former). Thus students' experiences in the workplace do not merely represent an outcome of their education, they are also crucial parts of the educational experience itself. Internships form the basis for dynamic group learning, theoretical connections, and practical skill-building. What began as a required "applied experience" early in the MCS curriculum, has developed over the past nearly two decades into a 6-credit sequence that builds metacognitive skills on professional communication, networking, and self-advocacy. Crucially, these courses require regular and rigorous assessment and creative reinvention, as the conditions of work, communication, and students' understanding of their place in the world are increasingly in flux.

Strands: Academic Success, Course/Curriculum Development, General Education

30. *The Effects of Social and Institutional Engagement on First-Generation Student's Sense of Belongingness and Academic Success, Mirela Cengher, Karrie Godwin, David Schultz, Susan Sonnenschein, Freya Kaur, and Praveen Kumaravelan (Psychology)*

Background: First-generation students comprise 30% of UMBC's student body but face disproportionate risks of academic attrition. This mixed-methods study evaluates how UMBC's UNIV101 seminar and supplemental institutional engagement (IE) activities, like mentoring and study groups, impact first-year GPA, sense of belonging, and degree persistence. Methods & Ongoing Analysis: Data collection involves quantitative tracking of first-year outcomes alongside qualitative interviews capturing retention challenges. We are currently analyzing the final datasets. Preliminary Results & Discussion: Data trends

tentatively suggest that while UNIV101 provides a strong academic baseline, combining the seminar with relational IE activities may yield more optimal effects on student belonging and fall-to-fall persistence. Final results will guide UMBC policy and programming to optimize targeted, scalable interventions for first-generation student success.

Strands: Academic Success, DEI, HIF

31. Transforming Graduate Student Writing, Nicole Morse (Language, Literacy, and Culture)

This project seeks to transform graduate writing support at UMBC by drawing on best practices in the literature to engage a cohort of graduate student writers from across the disciplines in a semester-long pilot program that will assess strategies that are most effective for UMBC's graduate students. Study participants will engage in a weekly workshop on genre awareness and rhetorical strategies using best practices in effective instruction in academic and professional writing. Through surveys and focus groups, the workshop's effectiveness will be assessed, and then participants will be paired with other graduate students to share what they have learned. The value of peer-to-peer graduate writing support will be evaluated through surveys. The result will be a proposal for cost-effective ways to transform graduate writing support at UMBC.

Strands: Assessment/SoTL, HIF

32. Leveraging Interdisciplinary Teamwork to Facilitate Public Engagement with Data, Rebecca Williams (Information Systems) and Sarah Jewett (Undergraduate Academic Affairs)

Mr. Trash Wheel is a trash interceptor, a social media celebrity, and a Baltimore landmark. Created by Waterfront Partnership, Mr. Trash Wheel and his family depend on solar and hydro power to collect 500 tons of litter and debris in local waterways. The collected data derived from the trash hauls help to inform ecological understandings, vital legislation, and local practice. In collaboration with Waterfront Partnership, an interdisciplinary CoLab student team developed an interactive story map to show how rainfall events drive trash through our watersheds and into the strategically positioned mouths of Mr. Trash Wheel and his family. This public-facing tool combines varied maps, animated characters, data visualizations, fan art, and textual information, and its success depended heavily on the students' diverse skillset, authentic collaboration, and reflective activities. The tool will run alongside the poster, and will also be hosted on WaterFront Partnership's website.

Strands: Academic Success, General Education, Technology

33. Learning Through Productive Disagreement: Collaborative Problem Solving and Peer Evaluation in Computing Teams, Sanorita Dey, Ishika Tarin, and Rebecca Williams (Computer Science and Electrical Engineering)

Computing students frequently work on authentic problems that are open-ended, ambiguous, and have no single correct solution. This study examines how students navigate such problems in collaborative teams and how these experiences shape peer evaluation. Using a mixed-methods approach, we analyzed Discord conversations, participation metrics, and peer evaluations from a project-based data visualization course. Teams regularly

encountered conflicting perspectives and addressed them through negotiation, resource sharing, and iterative discussion. Rather than disrupting teamwork, disagreement often promoted sustained engagement and collaborative sensemaking. Students also treated instructors as collaborative resources while retaining ownership of team decisions. Peer ratings were only weakly associated with visible activity; students valued the relevance, timeliness, and impact of contributions more strongly. Differences between self- and peer evaluations further demonstrate that peer judgment is shaped by the social context of teamwork. These findings offer insights into supporting collaborative problem solving and meaningful peer-evaluation practices in computing education.

Strand: [Assessment/SoTL](#)

34. *Evaluating Reflection-Driven Learning in an AI-Assisted System*, Sanorita Dey, Md Nazmus Sakib, Ishika Tarin, Naga Manogna Rayasam, and Manas Gaur (Computer Science and Electrical Engineering)

Sustaining momentum between key checkpoints, such as team meetings, can be challenging in collaborative work, often leading to task drift and inadequate preparation. To address this challenge, we developed ReflectEd, an AI-assisted system that supports reflection between checkpoints through theory-informed prompts, progressively structured activities, and targeted scaffolding. We evaluated ReflectEd through a mixed-methods study comparing a standard reflection workflow with a deeper workflow that included an additional transformative reflection activity. Participants in both conditions demonstrated consistent early engagement. However, the deeper workflow produced more actionable and forward-looking reflections, while also requiring greater effort and proving more difficult to sustain during active work periods. Making reflections visible to collaborators also supported coordination by surfacing differing perspectives and strengthening accountability. These findings reveal important trade-offs among reflection depth, feasibility, and preparedness, offering design implications for AI-assisted systems that promote collaborative readiness and reflective regulation within time-constrained workflows.

Strand: [Assessment/SoTL](#)

35. *From Phishing to Practice: AI-Mediated Scenario-Based Learning for Adolescent Cyber Threat Reasoning*, Sanorita Dey, Saquib Ahmed, and Tejo Gayathri Busireddy (Computer Science and Electrical Engineering)

Adolescents frequently encounter cyber threats in socially embedded contexts where messages appear trustworthy, yet they often struggle to recognize such threats in the moment. A key limitation of existing cybersecurity education is its focus on abstract rules and terminology, which does not adequately support decision-making in realistic situations. This work investigates how scenario-based learning can be designed to support adolescents' reasoning about cyber threats, with a focus on AI-mediated learning-by-teaching as a mechanism for promoting explanation and reflection. We develop an interactive system in which learners guide an AI agent through cyber threat scenarios, and we examine how these teaching interactions influence decision-making, reasoning, and risk perception. Through a design-based, quasi-experimental approach, this research aims to identify how features of AI-mediated interactions can improve adolescents' ability to respond to socially engineered threats and inform the design of more effective, context-driven cybersecurity education.

Strands: *Assessment/SoTL*, *Technology*

36. *Learning to Navigate Career Choices: Reflective Support for Undergraduate Computing Students*, Sanorita Dey, Sudipta Mondal, Md Nazmus Sakib, and Manas Gaur (Computer Science and Electrical Engineering)

Career decision-making is a critical but often overlooked part of undergraduate computing education, requiring students to balance technical interests, identity, values, and future goals. While the Career Decision-Making Difficulties Questionnaire (CDDQ) identifies dimensions of career difficulty, it offers limited insight into students' underlying reasoning. We paired the 34-item CDDQ with structured reflective prompts aligned with its ten subscales and evaluated the approach with 37 undergraduate CS students. Quantitative results revealed that career decision difficulties concentrated in the junior year, while reflections revealed underlying tensions around identity, capability, guidance, values, and family expectations. These findings suggest that reflective augmentation helps advisors understand not only where students struggle, but also why those struggles emerge. We discuss implications for stage-specific career support and reflective advising. Future work will explore an AI agent that generates advisor-reviewable career statements from students' CDDQ responses and reflections to support more personalized student-advisor conversations.

Strands: *Assessment/SoTL*, *General Education*

37. *Beyond Representation: Mechanisms of Culturally Affirming Mentorship for Black and Latinx Students in STEM*, Sanorita Dey (Computer Science and Electrical Engineering), Isabella Lopez (Computer Science and Electrical Engineering), and Maria Sanchez (Engineering and Computing Education Program)

Despite efforts to broaden participation in STEM, Black and Latinx students often lack access to culturally resonant role models. We report a mixed-methods study at a minority-serving institution (201 survey respondents plus focus groups) that distinguishes three dimensions of mentorship impact: professional competence, authenticity, and cultural resonance. Competence emerges as a baseline expectation, while authentic narratives of struggle reduce psychological distance to career paths. Cultural resonance is widely valued but intersectionally patterned, with women demonstrating substantially stronger endorsement of demographic alignment. By disentangling these mechanisms, this work clarifies how culturally affirming role models function in STEM mentorship ecosystems.

Strands: *Academic Success*, *Assessment/SoTL*, *DEI*

38. *Everyday Ethics: Preparing Students with Real-World Dilemmas*, Yasmine Kotturi (Information Systems), Sanorita Dey (Computer Science and Electrical Engineering), Julie Sayo (Visual Arts), Marjory Pineda (Information Systems), Manisha Vijay (Information Systems), and Oluwafisayomi Oyolola (Information Systems)

Undergraduate students often leave college unprepared for navigating ethical dilemmas in the workforce, especially in the technology sector. To prepare students for the ethical challenges in their careers, computing education courses have attempted to embed “ethics”

into their curricula. However, these efforts tend to overemphasize dramatic ethical scenarios that junior technology professionals are unlikely to experience. Therefore, our work develops caselets (brief case studies) grounded in real stories, designed for integration into courses at UMBC across disciplines. Through semi-structured interviews with junior tech professionals (N=6), we gathered narratives of the quotidian ethical decisions that participants faced. We then created caselets taking a composite narrative approach: aggregating stories and omitting identifying details to protect participants' identities. We will measure the success of the caselet integration through pre/post surveys to assess students' confidence in navigating ethical scenarios beyond the classroom and ability to foresee potential pathways when encountering ethical dilemmas.

Strands: Assessment/SoTL, Course/Curriculum Development

39. *A Calibration-First Model for Mixed-Level Seminar Courses, Mayank Chugh, Biological Sciences)*

Advanced mixed-level (juniors, seniors, graduate students) seminar courses are common in universities. These seminars build key skills: reading research papers, interpreting data, and oral presentation and writing ability. They also ask a genuinely heterogeneous group of students, who differ in prior exposure to primary literature, in seminar norms, and in the writing conventions, to perform at one shared standard from the first assignment. Grading the first few assignments before that standard has been made explicit is problematic as it measures which students arrived already prepared rather than what any of them learned in the course, and it discourages the interpretive risk-taking that discussing a research paper requires. Here, I describe a calibration-first assessment model, an ungraded, feedback-rich opening module that precedes graded work, which I have used across three iterations. I share a description of the design, the reasoning behind each of its parts, lessons learned and its limitations.

Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development, DEI

40. *Improvement of Quantitative Reasoning Skills in Transfer and Direct Entry Students Exposed to Cell Biology Modules, Michelle Starz-Gaiano (Biological Sciences), Sarah Leupen (Biological Sciences), Jeff Leips (Biological Sciences), Kathleen Hoffman (Mathematics and Statistics), Christopher Rakes (Education), William LaCourse (Chemistry and Biochemistry), Tory Williams (Institutional Review Board), Hannah Pie (Biology at Howard Community College), and Patricia Turner (Biology at Howard Community College)*

Calls for transforming biological curricula have emphasized a need for improving quantitative skill development. To address this, we designed six interdisciplinary modules to develop quantitative reasoning competencies for a sophomore-level Cell Biology course. After working with four community colleges to align our course curriculum, we determined focal topics, then developed and implemented learning modules. We assessed the effects of the modules on student proficiencies using validated pre-post measurements of specific quantitative competencies. Students showed significant total growth in quantitative goals for each module. Transfer and direct entry students were equally able to gain in quantitative proficiency. Additionally, both transfer and direct entry students exposed to more modules had a higher score on a global assessment of quantitative and biological concepts. Student

attitude assessments toward the modules were largely positive. Our results suggest that adding quantitative modules to core biology courses can promote student understanding of quantitative concepts.

Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development

41. *A Multi-level Approach to Connecting Mathematics to Experiments*, Kathleen Hoffman (Mathematics and Statistics), Brad Percy (Mathematics and Statistics), William LaCourse (Chemistry and Biochemistry), and Chris Rakes (Education)

Technology is changing at a rate that has been compared to the industrial revolution, and educators are struggling to keep pace. We are addressing this gap with an innovative, novel experimental hands-on approach to teaching mathematics by using scientific experimentation. We present results of a science with lab GEP course, Math 110, designed for students who are not on the calculus pathway. Additionally, we present the design of a new course under development, Math 310, which parallels the structure of Math 110, but is intended for students on the calculus pathway. Experimentation in a laboratory setting is frequently used in science, technology, and engineering but is seldom found in mathematics courses, despite calls for interdisciplinary active learning classrooms. The course will be designed to build stronger connections between advanced mathematics and authentic contexts through experimentation.

Strands: Course/Curriculum Development, General Education, HIF

42. *Medical Case Studies: Integrating Mathematical Modeling into Medical Cases*, Sarah Leupen (Biological Sciences), Kathleen Hoffman (Mathematics and Statistics), and Brad Percy (Mathematics and Statistics)

Our interdisciplinary, capstone-style course, Medical Case Studies, which is co-taught by a biologist and a mathematician, combines biology and mathematics and integrates chemistry and physics as students solve 5 case studies and, at the end of the semester, develop an original case study. Students increase their understanding of how mathematical models are used in medicine and of the importance of other courses required for medical school. Each case includes a visit from a physician-expert and analysis of a recent primary literature paper. Students are assessed by performance on case analyses (team), their final case (team), post-case assessments (individual), article analyses (individual) and performance as a team member (individual). We find that students are delighted to integrate their apparently disparate fields of study, enjoy expressing their creativity in the final case, improve their performance as a teammate across the semester, and are completely capable of using complex mathematical models with support.

Strand: Course/Curriculum Development