Seventh Annual Provost's Teaching & Learning Symposium Posters

Celebrating Teaching & Honoring Provost Philip Rous!

April 21, 2023

Chesapeake Employers Insurance Arena

Poster Presentations 2:00-3:30 p.m.

Abstracts for each numbered poster appear below. To help locate posters of interest, below each abstract, you will find 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)*
- *Hrabowski Innovation Fund Grant Recipients (HIF)*
- *Instructional Technology/Teaching with Technology (Technology)*

1. *Energizing the Classroom: Gamification, Role Play, Simulation, Case Studies, Discussion, and more,* Kerri Evans *(Social Work)*

   We will share a new interdisciplinary class that was created for SP2023 entitled, "Teacher and Social Worker Collaborative: Supporting Immigrant Students in Schools" that focuses on issues of diversity, equity, and inclusion for immigrants in K-college (developed as part of a Hrabowski Innovation Award). Using an interdisciplinary approach to teaching, we have intentionally included active learning opportunities into all class sessions as a way for students to engage with material, energize one another to learn, and co-construct the learning process. Our poster will share 1) the week-by-week plan for content delivery and the various types of pedagogical tools used throughout the course and 2) comments from student reflections about the pedagogical approaches used in the class. Course is interdisciplinary with faculty from 2 majors, and students that represent 5 majors and 7 minors! *Strands: Course/Curriculum Development, DEI, HIF*

2. *Metacognition Modules: Teaching Self-Regulation in MCS 101,* Donald Snyder, Jason Loviglio, and Kristin Anchor *(Media and Communication Studies), and* Tory Williams *(Faculty Development Center)*

   100-level courses provide departments with unique challenges and opportunities, related to the fact that they offer an introduction to majors and are often populated by early inexperienced college learners. While the goal of the course needs to be focused on providing majors (declared and potential) with an overview of the discipline, they should also focus on

orienting students into beneficial practices that will increase their ability to learn effectively in the unique college environment. This poster covers our intervention introducing metacognition and self-regulated learning strategies into MCS 101. Aided by a Hrabowski Adaptation Grant, we administered pre and post intervention surveys evaluating the impact of the assessment for three years, covering shifting modalities due to the pandemic. The poster will cover our findings and include recommendations for other 100 level introductory courses. *Strands: Course/Curriculum Development, HIF*

3. *UMBC Interdisciplinary CoLab: Narrative Research, Project Based Learning, Carole McCann (Gender, Women's, + Sexuality Studies), Donald Snyder (Media and Communication Studies), and Rachel Carter (Gender, Women's, + Sexuality Studies)*

   For the past 5 years, UMBC Interdisciplinary CoLab has provided innovative team-based applied learning opportunities in narrative-based research. Interdisciplinary teams of undergraduates work with a faculty Project Leader to utilize diverse humanities research methods, modes of analysis, and technical tools to produce public-facing final products. The program's objective is to provide students with a professional research experience while they learn to work effectively in diverse interdisciplinary teams, tell effective stories, and amplify community voices. The current poster documents our experiences of providing product based learning opportunities to our undergraduates, and reflects upon our five year assessment review (qualitative and quantitative, including direct measures (student exit interviews and essays; faculty and client feedback)) detailing student success in various areas including working in collaborative teams, gaining professional experience, and working across disciplinary boundaries. *Strands: Academic Success, Assessment/SoTL*

4. *A Multi-Semester International Tandem Conversation Project: Assessing Linguistic and Intercultural Gains, Talke Macfarland and Susanne Sutton (Modern Languages, Linguistics, and Intercultural Communication)*

   In Spring 2021, a virtual international tandem conversation partner project was established in fourth semester German. For 10 weeks, UMBC German 202 students conversed on a virtual platform for one hour with a partner student at Lüneburg University, Germany. Since 2021, the project has expanded to three consecutive semesters (202 -302). (1) The investigators assessed whether the tandem project led to increased linguistic output and had an effect on students' intercultural competence. (2) Language assessment materials were developed based on ACTFL standards and changes in intercultural competence were assessed modifying current self-assessment methods proposed by scholars in the field. Assessments were administered at the beginning and the end of the semester. (3) Findings show that linguistic gains and changes in intercultural competence are most significant in fourth semester but continue through sixth semester. Just as valuable to students, though, is the personal relation they built with their tandem partner(s). *Strands: Assessment/SoTL, Course/Curriculum Development*

5. *For a Need of a Spanish 201-Placement Test: A Pilot Study Result, Milvia Hernández (Modern Languages, Linguistics, and Intercultural Communication)*

PAT Grant was awarded in Spring 2020 to create and pilot a Spanish 201-Placement Test for incoming freshmen and transfer students who have completed level 3 in high school or have taken elementary courses in another institution. The purpose was to determine if students had the appropriate language level and placement in SPAN 201 or a below course (SPAN 102/103 OR 101) based on their current skills to fulfill the UMBC foreign language requirement successfully and in a timely matter. This placement test was created based on the specific grammar and vocabulary foundation needed in our SPAN 201 courses. Blackboard was the tool used to create and give the test. Respondus LockDown Browser used to ensure academic integrity. It was given during 2021 with 66 participants. Data indicated that this type of implementation helped students to choose an appropriate course (SPAN 102/103; 201) and successfully fulfill UMBC foreign language requirement. *Strands: Academic Success, Technology*

6. *When is the Same Not the Same? Issues of Question Equivalence in Online Exam Pools, Sarah Leupen (Biological Sciences), Linda Hodges (Faculty Development Center), Sarah Bass and Tara Carpenter (Chemistry and Biochemistry), Cody Goolsby-Cole (Physics), and Liz Stanwyck (Mathematics and Statistics)*

   During the pandemic, the use of question pools for online testing was recommended to mitigate cheating. Yet little systematic analysis of the practice apparently exists. In this study, we undertook an investigation of student performance on our questions in online exam pools across several STEM courses: upper-level physiology, general chemistry, and introductory physics. We found that the difficulty of creating analogous questions in a pool varied by question type, with quantitative problems being the easiest to vary without altering average student performance. However, when instructors created pools by rearranging aspects of a question, posing opposite counterparts of concepts, or formulating questions assessing the same learning objective, we discovered student learning differences between seemingly closely-related ideas. We provide suggestions for instructors on steps to take to improve equity of question pools, such as "test driving" proposed questions in lower stakes assessments. *Strands: Assessment/SoTL, Technology*

7. *Disciplinary Differences in STEM Faculty and Student Use of Learning Objectives: Implications for Teaching and Learning, Sarah Leupen (Biological Sciences), Tory Williams (Faculty Development Center), Linda Hodges (Faculty Development Center), Laura Ott (Biology at University of North Carolina at Chapel Hill), Eric Anderson and Lili Cui (Physics), Kalman Nanes (Mathematics and Statistics), Mark Perks (Chemistry and Biochemistry), and Cynthia Wagner (Biological Sciences)*

   Using learning objectives to guide course design is often considered an educational best practice, but little research exists that explores how students use them over time and across courses. We surveyed students on their use and perceived value of learning objectives across four science, technology, engineering, and mathematics (STEM) disciplines, examined students' ability to match exam questions with learning objectives, and analyzed how their course performance related to these qualities. We also gathered instructors' information on their implementation of learning objectives. Students in less quantitatively focused courses, i.e., biology and organic chemistry, reported valuing and using learning objectives more than students in more quantitatively focused math and physics courses. Our results have implications for considering disciplinary practices for use of learning objectives as

instructors design and implement courses, educational researchers plan studies, and assessment specialists formulate institutional assessment plans. *Strands: Assessment/SoTL, Course/Curriculum Development*

8. *Improvement of Student Learning by Automatic Grading Systems,* ***Matthias Gobbert (Mathematics and Statistics)***

   Many mathematics textbooks come with online testing systems provided by the book publishers. These systems include a number of interesting advantages: (i) homework with multiple or unlimited number of attempts; (ii) quizzes with different numerical values for each student; (iii) immediate feedback. The automated grading avoids the customary long delay in feedback associated with human grading. With this and other strategies that leverage the capabilities of the system for quizzes and tests, the students practice more and earlier, and thus there learn the material better. This should in turn lead to a decrease of the failure rate in the course as assessment criterion. I will share other important lessons such as the use a flipped classroom and team-based learning in this context as well as on the exact choice of repeat attempts or timing (synchronous or asynchronous) of homework, quizzes, and tests. *Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development, Technology*

9. *The Impact of an Interventional Proof-Writing Course,* ***Kathleen Hoffman, Justin Webster, and Kal Nanes (Mathematics and Statistics), and Tory Williams, Kerrie Kephart, and Jennifer Harrison (Faculty Development Center)***

   An interventional class, Introduction to Mathematical Reasoning, was developed to improve student success in proof-based classes such as Introduction to Real Analysis. A novel reflective writing component based on proof-writing modalities was introduced as part of this course. Assessment methods include analysis of students' reflective writing, course grades in both the interventional course and subsequent course, relative to course grades in the prerequisite course, and a pre-post assessment. Writing high-quality reflections was correlated with higher grades in the intervention and subsequent courses. Additionally, the pre-post assessment shows growth in all student learning objectives. Grade progression data illustrated that the interventional course had a positive impact on student performance in real analysis with the most notable effect on students who received a “B” or “C” in the prerequisite course. Student perceptions of the course were positive both immediately after the course and after taking the subsequent Real Analysis course. *Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development, HIF*

10. *Using Senior Peer Mentoring for Experiential Learning of Core Chemical Engineering Topics,* ***Neha Raikar and Mariajosé Castellanos (Chemical, Biochemical, and Environmental Engineering)***

    Experiential learning has the potential to aid student understanding by providing opportunities for real-world applications. Unfortunately, not all students are able to secure internships related to their study area or undergraduate research experiences. As an alternative, we connected two core courses: Capstone Design and Process Control and Safety. We hypothesize that having peers to guide through the process enriches the student experience. This work combines the merits of peer mentoring with experiential learning to

provide a novel interaction between seniors and juniors. For the process control project, students enrolled are hired as interns working alongside the senior design teams. Respective mentor teams provide the interns with a unique project prompt. The typical timeline for project completion is three weeks. The deliverables consist of a five to ten minutes video presentation of the work along with all the supporting documents. We will perform qualitative and quantitative evaluations of the effectiveness of this effort. *Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development*

11. *Using Anonymous Grading for High-Stake Assessments to Reduce Performance Discrepancies Across Student Demographics,* *Neha Raikar (Chemical, Biochemical, and Environmental Engineering) and Nilanjan Banerjee (Computer Science and Electrical Engineering)*

    Classroom assessments like exams and quizzes are frequently used metrics for evaluating student course performance. However, these evaluation methods may suffer from implicit bias like the halo or horn effect, introducing grade discrepancies. Moreover, a student's anxiety about being judged by the teaching staff can cause suboptimal performance. Anonymous grading can help mitigate these issues. Our hypothesis is that by implementing anonymous grading, there will be a reduction, if not an elimination, of implicit bias during grading. The first part of the project is on developing a tool for easy implementation of anonymous grading. The second part of the project would focus on data collection and performing statistical analysis to see if there is a change in performance as a result of anonymous grading. The third part of the project will focus on collecting qualitative and quantitative feedback from students and other faculty members through surveys and focus groups. Currently, we are focusing on the first and second parts. *Strands: Academic Success, Assessment/SoTL, DEI, HIF*

12. *Assessing and Reversing Students' Unpreparedness in Upper-Level Biology Courses,* *Claudia Gualtieri, Fernando Vonhoff, and Michelle Starz-Gaiano (Biological Sciences)*

    Teaching experience suggests that students have trouble completing primary literature reading assignments. It is crucial to develop strategies to bridge the gap between learning from textbooks and learning from primary, data-based literature. Therefore, the goal of this study was to assess students' unpreparedness and to test the efficacy of annotating primary papers in the upper-level biology course BIOL414/614, Eukaryotic Genetics and Molecular Biology. This was done by presenting students with questionnaires regarding their approach to primary literature articles and their reading strategies. Students have reported to find most challenging of a paper the communication style and language complexity, the unfamiliarity with the experimental methods, and the amount of background information provided. Advantageous strategies for reading a primary paper indicated by students include reading a paper multiple times, taking notes, and looking up the meaning of unknown terms. As a potentially helpful method, we tested annotating papers to improve student's understanding. *Strands: Academic Success, Course/Curriculum Development, HIF*

13. *At-home Experiments as a Platform to Develop Critical Thinking Ability,* *Gautom Das (Chemical, Biochemical, and Environmental Engineering)*

An ability to think critically is one of the five program educational objectives (PEOs) of the BS in Chemical Engineering program. In a recent survey, the graduates also ranked it as one of the most important skills that they require at work and in their continued education. However, the ability to think critically does not come inherently, rather instructors need to be intentional of facilitating the creative exercises. In this work (in a senior laboratory course), the instructor used at-home experiments as a platform for students (n =36) to design and conduct open-ended experiments in Fall 2022. Their projects can be viewed as very promising, yet preliminary. Hence, further work and perhaps on a larger scale is needed to understand the effectiveness of this approach. *Strand: Course/Curriculum Development*

14. *Synchronous IRL/DL Technologies for Innovative Teaching,* ***Eileen O'Brien, Diane Alonso, and Anne Brodsky (Psychology)***

With limited resources, two campuses, and over 1,000 students, the Psychology department must consider creative options for course offerings. Through a Hrabowski Innovation grant, the department purchased equipment to retrofit a classroom to create a Hyflex environment. In Spring 2022, an instructor, TA, 12 undergraduate students on main campus, 4 undergraduate students at the Shady Grove campus, and one online student, participated in a project, examining the effectiveness of teaching an upper-level Research Methods class using the Hyflex modality. Effectiveness was assessed via grades, surveys, and feedback from the instructor, TA, and a faculty observer. Findings indicate that this approach provided high quality instruction to more students, with equal access across both campuses. Evaluations were mixed but grades in the course were similar to prior semesters. Lessons learned include recognizing the needs for additional technical support, for higher quality visual technology, and for better audio communication for questions and discussions. *Strands: Assessment/SoTL, Course/Curriculum Development, HIF, Technology*

15. *Evaluation and Enhancement of a Learning Unit on Quantum Algorithms,* ***Alan Sherman, Sam Lomonaco, Omar Shehab, and Mark Laczin (Computer Science and Electrical Engineering) and Linda Oliva (Education)***

Dr. Alan Sherman and his team created a two-week learning unit for quantum algorithms and field-tested it in spring 2021 and fall 2021 in three sections of CMSC-641 Algorithms. This unit introduces the new transformative paradigm of quantum algorithms, which offers tremendous potential for solving important complex problems. Its scope is the minimum knowledge necessary to understand the basics of a traditional and near-term quantum algorithm, including Shor's algorithms for factoring integers. The unit comprises six class meetings, each including a set of required readings, a video to be watched before the class meeting, a clicker question, and structured class activities. The unit also includes weekly quizzes, homework, and an exam question. The main output of this project are six educational videos which are available on UMBCtube. Surveys after each unit revealed that students generally accomplished the learning objectives of the unit. *Strands: Assessment/SoTL, Course/Curriculum Development, HIF, Technology*

16. *Learning-and-Assess-by-Teaching: An Ungrading Adventure in Introductory Data Science Course,* ***Karen Chen (Information Systems)***

Learning-by-teaching is a type of active learning technique that has many layers of benefits to engage learners and improve learning, which includes improving their metacognitive process, increased use of effective learning strategy, enhanced motivation and self-efficacy as well as the opportunity to hone communication skills. All those benefits are highly desirable in data science education. At the same time, teaching assignments may also be used as a formative assessment tool to probe into students' level of mastery through analysis of students' teaching products. In Spring 2022, we piloted an "alternative mid-term" where undergraduate data science students in IS 296 were asked to demonstrate their competency by teaching their newly acquired skills to students without data science. Students' feedback shows initial evidence of engagement and acceptance. We will also highlight a few examples of evidence of learning we gleaned from analyzing students' teaching products. The scaling challenge will also be discussed. *Strands: Academic Success, Assessment/SoTL*

17. *Caselets: Improving Data Science Problem Solving at Scale,* ***Karen Chen, Shimei Pan, and Maryam Alomair (Information Systems)***

In an era when AI tools such as chatGPT can generate code according to specific instructions, it is important to train future data scientists to hone their higher-order reasoning and problem-solving skills that AI does not easily replace. Caselet (bite-size case studies) is a self-paced online practice tool to support the accelerated development of Data Science Problem Solving (DSPS) skills at a large scale. DSPS is a constellation of competency in a complex domain that is built upon but beyond the mastery of conceptual knowledge of methods and procedural skills, which are commonly taught in a typical data science curriculum. At UMBC, we have piloted Caselets with two cohorts of graduate-level data science students in IS 733 with 40 students. We will report the initial findings from the pilots with respect to students' knowledge structure, as well as the role of metacognition and caselet practices in predicting course-level learning outcomes. *Strands: Assessment/SoTL, Course/Curriculum Development, Technology*

18. *Embedding Digital Data Storytelling in Introductory Data Science Course: An Inter-institutional Trans-disciplinary Pilot,* ***Karen Chen (Information Systems), Sarah Jewett Provost), Jamie Gillan and Matthew Decker (English at Montgomery College), Egan Eteffa (University of Maryland and Montgomery College), Anjelica Marzan (Montgomery College), and Justin Thai (Information Systems)***

Learning to communicate effectively with data (a.k.a data storytelling) is an essential skill for data science students. However, it is not well understood how those skills can be effectively taught. In Fall 2021, we piloted a collaborative project between the UMBC undergraduate course Foundation of Data Science (IS 296) and the digital storytelling internship at Montgomery College (MC). During this semester-long collaboration, two MC level-2 storytelling interns and students from IS 296 participated in two cross-training sessions to teach each other basic skills in data science and storytelling. Throughout the course projects, MC interns provide storytelling support to data science students who eventually crafted digital data stories presented as digital media. Reflections from data science students and MC interns show an emerging understanding of data storytelling as an interdisciplinary communication practice. Cross-training participants were able to hone their "expert" skills by teaching others (i.e. "Protege effect"). *Strands: Course/Curriculum Development, Technology*

19. *Pandemic Perspectives: Using Storytelling to Connect across Centuries,* ***Anne Sarah Rubin (History), Sarah Jewett (Provost), and Jamie Gillan (English at Montgomery College)***

Storytelling can connect us to others who share our physical or virtual space, yet how can we also use stories to connect us across the centuries? In a recent storytelling collaboration, I integrated a digital storytelling project into an American history class. Students explored Baltimore's 1819 Yellow Fever Epidemic through primary source research, and considered how their current experiences and perspectives with the covid pandemic intersected with these historical experiences and perspectives. They were struck by the echoes of historical language and confusion across two hundred years. These stories illustrated how digital story pedagogies can facilitate the development of historical empathy and connect the past to present in students' own lives. Story interns from Montgomery College helped to support the developing narrative and technical skills of UMBC students. *Strands: Course/Curriculum Development, Technology*

20. *Making "Digital Cruikshank": A Special Collections Collaboration,* ***Lindsay DiCuirci (English) and Susan Graham (Library)***

In Fall 2022, students in Lindsay DiCuirci's combined undergraduate and graduate English seminar participated in a semester-long collaboration with UMBC Special Collections. This course was supported by a Hrabowski Innovation Grant which allowed Susan Graham and her team to digitize a collection of donated materials related to George Cruikshank. Cruikshank was nineteenth-century England's most prolific caricaturist and illustrator; the Merkle family's donation included unbound manuscript materials and over 120 printed works. Working in teams to build a digital resource based on these materials, students produced "Digital Cruikshank: Etching & Sketching in Nineteenth-Century England" (https://library-dev.umbc.edu/wp/specialcollections/cruikshank/). The resource features over 130 sketches gathered into collections with accompanying explanatory content. This presentation will share elements of the project management workflow and student-created guides and templates. We will also highlight the interdisciplinary affordances of collaborative, archival work as well as the significant pedagogical benefits of a project-based class in the Humanities. *Strands: Course/Curriculum Development, HIF, Technology*

21. *Content and Context in a Single Image: Multi-format analysis of Lewis Hine photographs in Special Collections,* ***Lindsey Loeper and Susan Graham (Library)***

We will present a lesson plan developed by Special Collections faculty leading archival and visual literacy sessions. During the hands-on exercise, students analyze an original photography print, a digital surrogate, and a publication that includes the same photograph within the text. The worksheet directs their analysis and a class discussion includes both structured and unstructured, open reflection on the photograph and their research experience. Our goals are to introduce visual literacy concepts for historical research; encourage use of historical visual items when developing research questions; demonstrate the research process using multiple format types for comparison; and familiarize students with working in a special collections department. This case study is the focus of a book chapter, "Content and Context in a Single Image: Multi-format analysis of Lewis Hine photographs at UMBC," in the forthcoming book, Unframing the Visual: Visual Literacy

Pedagogy in Academic Libraries and Information Spaces. *Strand: Course/Curriculum Development*

22. *A Digital Dashboard for Supporting Online Student Teamwork,* *Simon Stacey (Honors College)*

Teamwork skills are crucial to college students, both at university and afterwards. However, few tools exist to monitor student teamwork and to help students develop teamwork skills. We present a tool which collects the interactions of students who are using online platforms to complete a sustained task as a team; conducts a range of analyses of these data; and then presents information about team and team member behaviors in real time on a digital dashboard. This dashboard provides instructors with a user-friendly picture of team and team-member dynamics, which can also be made available, as appropriate, to both teams and team members. While some behaviors have been shown to be (or are self-evidently) beneficial or harmful to team performance, these data and analyses also make possible exploration of whether less obvious behaviors affect team outcomes and performance. *Strands: Academic Success, Assessment/SoTL, HIF, Technology*

23. *Theory to Practice: Collaborating with Practitioners to Improve Lesson Planning Instruction for Campus to Field Transition,* *Kim Feldman and Cheryl North (Education)*

With the current teaching shortage, it is even more imperative that we seek innovative ways to improve teacher preparation. Unfortunately, at times, there is a disconnect between what is learned in courses on campus and what is experienced in the field (Zeichner, 2009). Through collaboration with school-based partners, this project created work groups with teachers, recent graduates, and university faculty to develop field-based formative assessments that strengthened lesson planning and focused on student learning. While we are still collecting stakeholder surveys, performance assessment scores, and focus group data to determine if interns are more prepared for the demands of the field, this poster presentation will share our initial process for designing the new formative assignments and lessons learned during implementation. Our preliminary work suggests that university coursework developed in conjunction with field-based practitioners and students themselves can result in formative assessments that more closely meet the needs of all stakeholders. *Strands: Academic Success, Assessment/SoTL, Course/Curriculum Development, HIF*

24. *Quality Matters in Political Theory,* *Lisa Vetter (Political Science)*

I will present my experience preparing and submitting my course, POLI 210: Political Thought, for Quality Matters certification (which was awarded in December 2022). Political Thought stands out in the political science discipline for its close relation to the humanities. As such, it is not often taught online. An examination of comparable courses elsewhere often reveals non-measurable learning objectives, rubrics that lack clearly defined criteria, a dearth of active learning activities, and an uneven commitment to diversity, equity, inclusion, and accessibility. My course revision sought to address these problems directly through the certification process. My presentation will explain the various changes made to overall course structure, learning objectives, and assignments, and the rationale behind these changes. My conclusion is that with concerted effort and additional support, courses

that are largely theoretical and humanities-based can be made more accessible and engaging to a broader student body. *Strands: Course/Curriculum Development, DEI, Technology*

25. *Quality Does Matter: Post-pandemic Impact on Course Design,* ***Mariann Hawken, Susan Biro, and Laura Wyatt (Instructional Technology)***

While the Online Learning Consortium recognized the PIVOT initiative with an "Effective Practice" award, due to the scale and timing of UMBC's pandemic response to teaching and learning, we could not implement a key element of the Quality Matters (QM) framework that informed PIVOT: peer review of course design. QM is an internationally recognized peer review process to carefully evaluate the components of a hybrid or online course design using quality standards founded in best practices and research. QM emphasizes alignment of measurable learning objectives to assessments, instructional materials, course activities, and technical tools used in the course. QM also emphasizes clear course organization and information so students know exactly what is expected. Fourteen courses at UMBC now have QM certification. Reflecting on the process of continuous improvement, we continue collecting and analyzing data to evaluate effectiveness of the initiative as well as its impact on learner engagement and satisfaction. *Strands: Assessment/SoTL, Course/Curriculum Development, Technology*

26. *Making Course Materials Accessible with Ally,* ***Mariann Hawken and Josh Abrams (Instructional Technology)***

How would you know if your course materials are accessible to all students? Creating accessible content and interactions to support diverse learning preferences are the guiding principles of Universal Design for Learning. Improving the accessibility of course content not only helps ensure students with different abilities can access materials, but it improves the learning experience for everyone. Ally is a tool that focuses on making digital course content more accessible. Integrated into the Blackboard system, Ally provides a robust toolkit to help remediate inaccessible content, provide alternate formats to students, and inform faculty about ways to improve accessibility of their materials. *Strands: Academic Success, Course/Curriculum Development, DEI, Technology*

27. *Impacts of Online SI PASS Academic Support for MATH 151,* ***Delana Gregg and Deborah Webb (Academic Success Center)***

The Academic Success Center and the Department of Mathematics and Statistics received a 2021-2023 Hrabowski Innovation Fund Award to extend supplemental instruction peer-led study sessions (SI PASS) support for MATH 151, allowing for an SI PASS Leader to be assigned to every course lecture. We collected and analyzed data on the effects of the intervention on student participation and success (D/F/W rates, retention) during online and in-person learning. In addition we collected student survey data on the usefulness of SI PASS and preferences for online versus in person review sessions. Preliminary student data indicate that online SI PASS sessions continue to be popular among students even after a return to in-person learning and with the option of in-person SI PASS sessions. Also, participation in online SI PASS sessions appear to correlate with lower D/F/W rates and higher retention, even when compared to in-person sessions. *Strands: Academic Success, Assessment/SoTL, HIF*

28. *Inclusive Teaching,* *Nicki Belfiore (Social Work), Mariajosé Castellanos (Chemical, Biochemical, and Environmental Engineering), Erin Durham (Library), Janet Gross (English), Maggie Knisley (Sociology, Anthropology, and Public Health), Louise Murray (Erickson School of Aging Studies), Neha Raikar (Chemical, Biochemical, and Environmental Engineering), and Fernando Vonhoff (Biological Sciences)*

We reviewed literature had very restrictive definitions of inclusivity. Other research gave much broader definitions including: age of student, introvert/extrovert personality, first-generation college student, non-native English speaker, etc. The group wrestled with our own definitions of inclusivity, realizing that it likely also meant different things to students. We examined our own classroom practices to create a more welcoming, inclusive atmosphere and identified potential changes to more consistently or deeply practice inclusivity. We created a short survey (IRB-approved) to find out students' opinions of the instructor or course design. Results from 139 responses indicated that a warm, respectful and passionate instructor who knows students' names makes a large positive difference. Fair and equal treatment is important. Conversely, unkind or demeaning remarks turn the classroom into an uncomfortable space. Overall nearly 86 percent of respondents said they had NOT dropped a class due to discomfort or feeling unwelcome or not included. *Strands: Assessment/SoTL, DEI*

29. *Teaching Climate Change and Society: Easing Climate Distress and Enhancing Students' Sense of Efficacy,* *Dawn Biehler and Maggie Holland (Geography and Environmental Systems)*

We designed GES 350: Climate Change and Society to alleviate climate distress and develop students' critical understanding of collective action. Students explore climate policy and action in Maryland, engaging with a global process at a familiar scale. Students attend events related to climate legislation and local actions, conduct and present team-based research about climate change in Maryland sub-regions, and initiate "climate conversations" with an acquaintance. Students took a modified version of the survey "Climate Change in the American Mind" (Yale Center for Climate Change Communication) at the beginning and end of the course to assess change in knowledge and sense of efficacy; a subset participated in a focus group to assess specific activities and affective outcomes. We have learned that regular practice in communicating on climate change within and outside the class, and awareness of real-world mitigation and adaptation actions, helps students grapple with the looming specter of climate change. *Strands: Assessment/SoTL, Course/Curriculum Development, HIF*

30. *Other Voices in American Environmental History: A Student Designed Assignment Exploring Perspectives of Underrepresented Minority Groups,* *Suzanne Braunschweig and Jackie Filigenzi (Geography and Environmental Systems), and Kerrie Kephart (Faculty Development Center)*

"American Conservation Thought" is an elective course which explores ideas of American conservation history from European colonization to the modern environmental movement. It focuses on changing attitudes toward wilderness/environment and has traditionally taken a Eurocentric perspective. In spring semester 2022, a new course goal was added to examine American environmental thought from the perspective of underrepresented/marginalized groups. Students collaborated in designing an assignment to write about wilderness from the

point of view of one such group of their choosing. Through a guided process of small-group brainstorming and whole-class discussion during one class period, students came to consensus on guidelines and a grading rubric for the assignment. Topics ranged from BIPOC perspectives to those of the LGBTQ+ community. In this poster session, we share the process students went through in designing the assignment and we engage viewers with the themes explored in the students' papers, as well as research next steps. *Strands: Assessment/SoTL, Course/Curriculum Development, DEI*

31. *Mentoring Practices at Different Levels,* ***Suzanne Braunschweig (Geography and Environmental Systems), Abhijit Dutt (Computer Science and Electrical Engineering), Stephen Miller (Biological Sciences), Steve Pitts (Psychology), and Michelle Starz-Gaiano and Cynthia Wagner (Biological Sciences)***

    Our Faculty Learning Community (FLC) focused on mentoring strategies and practices at three different levels: undergraduate students (S. B. and C. W.); graduate students (A. D. and M. SG.); and new faculty (S. M. and S. P.). As a large group, we focused on the question, "What defines good mentoring?" and acknowledged that mentoring is an active process on both sides. In our subgroups, we took advantage of campus resources (inviting specific people to present to us), as well as literature searches, and UM system initiatives. Each subgroup came up with ideas for moving forward to enact excellent mentoring practices at each level and briefly discussed how to implement these approaches campus-wide. *Strand: Academic Success*

32. *Identifying an Interdisciplinary Path to Social Responsibility Education Across the COEIT Curriculum,* ***Helena Mentis (Information Systems), Maria Sanchez (Engineering and Computing Education), Kara Seidel (Language, Literacy, and Culture), Felipe Filomeno (Political Science and Global Studies), and Christine Mallinson (Language, Literacy, and Culture)***

    This project identified pathways to integrate Social Responsibility Thinking (SRT) into engineering and computing curricula and to facilitate cross-college collaborations around SRT education. With support from a Hrabowski Innovation Grant, which we collected data through interviews with CAHSS faculty that teach courses with a high proportion of COEIT students, a survey applied to COEIT faculty, and a survey applied to COEIT students. We applied thematic analysis to CAHSS interview data and descriptive statistics on the COEIT survey data and then triangulated the three data from those three sources. Our findings indicate a unified view of the faculty from both colleges and students in COEIT in the need to have social responsibility education and the challenges that exist to realize SRT by COEIT faculty. *Strands: Assessment/SoTL, Course/Curriculum Development, HIF*

33. *Broadening Participation of Women Undergraduate Transfer Students in COEIT: Designing an Interactive Technology for Affective Skill Development,* ***Andrea Kleinsmith, Tera Reynolds, Asha Kumar, and Jennifer Posada (Information Systems), Leann Alhashishi (Computer Science and Electrical Engineering), and Anu Olutoye (Information Systems)***

The objective of this work is to design, develop and evaluate a prototype system for supporting the social and emotional connection of women transfer students in the College of Engineering and Information Technology (COEIT). In the first phase of this exploratory project, we developed an initial prototype of a mobile app that allows users to send representations of their current physiological state to their mentor/mentee. We are currently in the second phase in which we are conducting co-design sessions with transfer students to better understand their specific needs and concerns with an affective support system and develop an initial set of affective physiological representations. The final phase will be a field test with the proof-of-concept system. Formative assessment will consist of a qualitative analysis of the co-design sessions. Summative assessments will consist of qualitative analysis of the post-field test review sessions and within subject analyses of the post-study surveys. *Strands: Academic Success, DEI, HIF*

34. *Preventing Gender-Based Harm at the University of Maryland, Baltimore County: Designing and Teaching a Multidisciplinary Course,* *Jodi Kelber-Kaye (Honors College), Marcela Sarmiento Mellinger (Social Work), and Christopher Murphy, Amelia Meman, Danielle Farrell (Psychology)*

Gender-based harms (GBH) are a public health concern for college campuses which have numerous negative effects on physiological, physiological, and academic outcomes. We aim to address this through the design, implementation, and evaluation of a 3-credit FYS course centered on teaching the cultural and systemic roots of GBH and providing students with experiential skills to create personal and social change to prevent harm. Using a quasi-experimental design, we compare the experiences of enrolled students with those in other FYS courses; data is being collected through surveys and interviews. Several lessons have been gleaned from the two completed sections: 1) students enjoyed the intertwined aspects of the course and found they complemented each other, 2) multidisciplinary course content is difficult to design and teach and requires working significantly with individuals of different fields to create a quality course, 3) institutional support is critical moving forward, as students felt the course should be taught to a broader number of students. *Strands: Assessment/SoTL, Course/Curriculum Development, DEI, HIF*

35. *InterEqual,* *Irina Golubeva (Modern Languages, Linguistics and Intercultural Communication), David Di Maria and Adam Holden (Center for Global Engagement), Kathrine Kohler (Modern Languages, Linguistics and Intercultural Communication), and Jasmine Lee and Mary Ellen Wade (Student Affairs)*

In this poster presentation, the authors discuss the results of a campus-wide survey conducted in the frame of the Hrabowski Innovation Fund project. The sample consisted of 819 undergraduate, graduate, Ph.D., and non-degree students. The authors explore students' experiences with diversity, equity, and inclusion on campus as these relate to aspects of their personal identity and students' perceptions of campus climate. In particular, the authors scrutinize students' intercultural and democratic competencies, following the Reference Framework of Competences for Democratic Culture (2018). The Delphi Method was used to validate the survey instrument, previously piloted with 150 participants and launched campus-wide. The study findings informed the design of five InterEqual modules piloted with more than 200 undergraduate students across different majors. The authors hope that these research findings and training modules will contribute to boosting institutional

support for more inclusive policies and practices on university campuses. *Strands: Assessment/SoTL, DEI, HIF*

36. *An Equity-based Participatory Approach to Technology-rich Learning in Community Recreation Centers,* Foad Hamidi *(Information Systems)*

Equity-based approaches to making have identified the crucial role of community educators in prioritizing community assets and learner participation. In this project, UMBC graduate and undergraduate students conducted interviews and collected observations of community educators' strategies and youth outcomes in four after-school maker programs in urban recreation centers. Community educators used equity-based strategies to engage youth, including identifying their interests through direct conversation and indirect signaling, customizing program activities to respond to interests, and encouraging self-expression and authenticity. These strategies led to increased social connections among youth and increased technology self-efficacy and project ownership. *Strands: Assessment/SoTL, DEI*

37. *Fed Body and Mind: A Mixed Methods Study of the Whole Academic Student,* *Jasmine Shumaker, Semhar Yohannes, and Shawn Parker (Library), and Lydia Sannella and Ariel Barbosa (Retriever Essentials)*

An ongoing quantitative multi-part study between a public institution and the on-campus food bank. This presentation explores the possible link between student usage of the Library pantry and academic performance. Attendees will learn about our methods used, including: implementing a library mini pantry, identifying its users, conducting a quantitative study utilizing the statistics of the main campus pantry, examining a possible link between pantry users and academic performance, and creating a similar report from the identified mini library pantry users to examine a possible link between the mini pantry users and academic performance. Learning Outcomes: Attendees will: identify connections between student food insecurity and academic performance, recognize the role of an academic library as it relates to eliminating food insecurity, and describe approaches, strategies, and practices that will aid in the establishment of a food pantry in an academic library. *Strand: Academic Success*

38. *Community Conversations: Developing and Assessing the Expansion of Mental Health Prevention Efforts within Identity-based Spaces,* *Samantha Smith (Health Promotion) and Jasmine Lee (Student Affairs)*

Institutions often face challenges in providing mental health prevention efforts specifically addressing marginalized populations when their health promotion teams are small. This poster session will provide an overview of a health promotion and identity-based area collaboration focused on advancing health equity and holistic campus mental well-being using dialogue. This session will report on developing and evaluating an initiative to reduce stigma and promote community care among marginalized identity populations. Further, grounded in the Theory of Planned Behavior (Ajzen, 1991), this collaboration, "Community Conversations," offers best practices for faculty and instructors interested in promoting positive mental health outcomes within their classroom. *Strand: DEI*

39. *Facilitating Belonging through Dialogue: First-Year Seminar Success,* ***Jasmine Lee and Ciara Christian (Student Affairs)***

"Sense of belonging is a basic human need, as vital to one's existence as air, water, food, and shelter" (Strayhorn, 2022). Moreover, a sense of belonging is connected to overall well-being and academic success (Strayhorn, 2022). This poster presentation shares belonging and identity development outcomes connected to using dialogue pedagogy in a first-year seminar focused on race, social justice, and dialogue. Through intergroup dialogue practices like co-facilitation, generous listening, facilitated activities, and circles, this course is designed to build student knowledge in social justice while enhancing skills for difficult dialogues. Further, by modeling deep sharing and practicing cultural storytelling, we build on the intergroup practice to establish a classroom community of belonging. Finally, because first-year seminars are connected to student success (Schreiner, Louis, & Nelson, 2020), authors will share best practices for cultivating a sense of belonging within FYS across disciplines. *Strands: Course/Curriculum Development, DEI*

40. *First-Year Best Practices at UMBC,* ***Jill Randles and Laila Shishineh (Academic Engagement and Transition Programs)***

First-year students are novice learners who need extra guidance from faculty in understanding academic expectations and in knowing what and how to learn. The practices highlighted on this poster have been shown to be effective here and in the literature in motivating new students and guiding them to success. Faculty are strongly encouraged to adopt as many of these strategies as they can in classes that include a significant number of first-year students (both freshmen and transfers). This poster will highlight both essential best practices as well as some highly recommended best practices from the UGSSC Work Group on Best Practices in Teaching. In addition to highlighting these best practices, this poster will set some context for the development of a robust First-Year Experience at UMBC that is very much still in the works including a future mandatory first-year experience course and other programs specifically tailored to students during their first year on campus. Emphasis on retaining first-year students is essential to the overall mission and success of UMBC as we take an interdisciplinary approach to how we retain first-year students and put first-year students first in all that we do. *Strand: Academic Success*

41. *Diane M. Lee Endowment for the First-Year Experience,* ***Diane Lee (Undergraduate Academic Affairs), Jill Randles and Laila Shishineh (Academic Engagement and Transition Programs), Mark Berczynski (Engineering and Computing Education), Chuck LaBerge (Computer Science and Electrical Engineering), Jamie Gurganus (Engineering and Computing Education), Elaine MacDougall (English and Academic Success Center), and Jonathan Zwi (Music)***

The Diane M. Lee Endowment for the First-Year Experience was created to support and recognize instructional faculty and staff for their work with students during their year of transition to UMBC. The purpose of this poster is to highlight the projects and lessons learned from the first cohorts of awardees. A focal point of this award is for recipients to share their experiences and teaching strategies with others - as we are all partners in ensuring that new students achieve success. In highlighting these experiences and teaching strategies through this poster, we accomplish this goal and disperse invaluable information to others across campus who are working with our newest students. The poster will include a

series of questions to engage participants around this topic and best pedagogical practices. Questions Include: What strategies do you use to engage new students from all backgrounds and abilities? How do you create a sense of belonging for students in first-year courses? What are the best ways to set high expectations but also teachable moments for new students? How do you make space to sit with difficult discussions/questions in your classroom? What ongoing assessment strategies do you utilize for first-year students beyond traditional assessment practices? *Strand: Academic Success*

42. *Powering Up the Narrative: Digital Storytelling in First Year Programming,* ***Mark Berczynski (Engineering and Computing Education), Sarah Jewett (Provost), and Jamie Gillan (English at Montgomery College)***

This poster describes an ongoing HIF project, where Digital Storytelling Interns (DSI) from Montgomery College join a UMBC undergraduate teaching team for a FY programming course, COMP 101Y. Video games are an uncommon medium for Digital Storytelling, but so far it is a successful framing device for this project. In discussions we are seeing students are able to share their own personal lessons learned thus far. We also see self-representation in the descriptions and visual elements of their game characters and worlds. DSIs facilitate discussions, and guide students in self-reflection regarding their college experience and their aspirations after graduation. DSIs provide feedback during the early deliverables of an end-of-semester video game team project, and they review presentations. Overall, the project seems to empower students and reward authentic representation of the college experience. It also provides a personal and meaningful context for learning programming. We will share both of these findings. *Strands: Academic Success, HIF, Technology*

43. *Fostering Pedagogies to Support Transfer Students: A Faculty Collaboration,* ***Mark Berczynski (Engineering and Computing Education), Karen Chen (Information Systems), Sarah Jewett (Provost), Nancy Kusmaul (Social Work), and Sarah Leupen (Biological Sciences)***

Transfer has been framed as a social justice and equity issue. How should that classification shape our pedagogical practices in the classroom? Recognizing the heterogeneity of transfer students, how can we leverage their strengths and support their areas of growth? Though transfer issues are often considered to be the domain of admissions, advising or student affairs, what are our roles and responsibilities as faculty advocates in the classroom? These are the questions that frame our collaboration as a faculty working group. During the last 18 months, we have explored the literature on transfer experiences and transfer success (including two books), invited a leading researcher on transfer and UMBC transfer students to meet with us, and collected a small set of preliminary data from students. Though these initial data are not yet very telling, our shared conversations have deepened our sense of ourselves as SOTL researchers, and facilitated our ongoing pedagogical inquiries. *Strands: Academic Success, DEI*

44. *Guided Supplemental Coding During Office Hours,* ***Anirudhh Gadariya and Ellen Kim (Information Systems), mentored by Jamie Gurganus and Mark Berczynski (Engineering and Computing Education)***

The purpose of this study is to determine if additional review sessions during office hours will improve students' knowledge retention with regards to programing languages. This research will specifically focus on improving abilities using Java. To determine the effects of supplemental Office Hour Review Sessions, there are biweekly assignments to engage students' understanding. Those who attend these additional review sessions will be our experimental group compared to those who chooses not to attend which will be our control group. To further improve these review sessions, students will be required to submit surveys after each session. We will examine 2 of their exam grades and compare it to the control group to see overall student improvement. We hypothesize that a wider exposure of Java concepts and code will encourage a better foundational understanding of overall programming concepts within students; thus, resulting in an improvement between exam scores and students' surveys. *Strands: Assessment/SoTL, Technology*

45. *Impact of Round-Robin on Learning Effectiveness,* ***Max Bobbin, Neha Sian, and Jenny Thomas (Chemical, Biochemical, and Environmental Engineering), mentored by Jamie Gurganus and Mark Berczynski (Engineering and Computing Education)***

Round-robin discussions consist of splitting a problem into multiple parts and having each group start on their own. Then, the groups rotate, so they can discuss and analyze another group's work and then continue to work on the next part of the problem. This process would repeat until all parts of a problem are completed, and each group gets to see at least one other group's analysis. This study aims to identify whether there is a noticeable change in college-level engineering students' understanding and confidence in material by implementing a round-robin system in a Controls discussion. We believe that a round-robin type discussion will increase collaboration and cause students to develop skills to analyze a potential solution to a problem. These skills should lead to a better understanding of the course's material. We will do polling to assess student's confidence before and after the study is conducted. *Strands: Academic Success, Assessment/SoTL*

46. *The Effects of External Learning on Performance of Computer Science Students,* ***Avalon Ferman, Annamaria Palmiero, and Nathaniel Therrien (Engineering and Computing Education), mentored by Jamie Gurganus and Mark Berczynski (Engineering and Computing Education)***

The objective of this study is to determine if optional practice outside of the classroom has a positive impact on students' performance on required assignments. The scope is limited to sections of an introductory computer science class, where sections contain around twenty to thirty students. After each lecture, students will receive optional practice to complete that supports graded programming assignments which are part of their coursework. To see the effect of the practice we will compare the grades from required programming assignments of students who complete the practice with the grades of students who do not complete the practice. We anticipate seeing that the group of students who complete the practice will earn better grades than the group of students who do not complete it. Additionally, we hope this study can be extended to build a course framework that effectively uses external learning for the students' benefit. *Strands: Academic Success, Assessment/SoTL*

47. *Training Students to Listen Better: Advancing Deepfake Audio Discernment,* ***Lavon Davis (Language Literacy and Culture), Sara Khanjan, Noshaba Bhalli, Vandana Janeja (Information Systems), and Christine Mallinson (Language, Literacy, and Culture)***

Audio deepfakes—spoofed audio, generated by or manipulated using Artificial Intelligence—can lead to propagation of deception and misinformation/disinformation. Research by this team has sought to improve identification of audio deepfakes by incorporating insights from sociolinguistics and machine learning. This poster shares preliminary results from a pilot training program, in which graduate research assistants led trainings with four UMBC students to increase their sociolinguistic knowledge for discerning audio deepfakes. An informal pre- and post- evaluation by the trainers demonstrated improvement in students' ability to discern the authenticity of audio clips. These students then shared their insights about the linguistic aspects of audio deepfakes in an undergraduate UMBC Data Science course. Our findings indicate the need to expand the training to improve other listeners' awareness of and ability to discern audio deepfakes—especially for college students, who are constantly exposed to social media and the potential for deception and misinformation/disinformation online. *Strands: Course/Curriculum Development, Technology*

48. *Being Your Best Self in a Troubled Democracy: Unpacking Social Scripts and Reshaping Our Collective Reality,* ***David Hoffman and Tess McRae (Center for Democracy and Civic Life), Simon Stacey (Honors College), and Ricky Blissett (Center for Democracy and Civic Life)***

In both "Talking Democracy" (HONR 200) and "Be Your Best Self in Real Life" (HONR 300), much of the pedagogical approach focuses on sensitizing students to the often-implicit social norms, or "scripts," operating in everyday settings, including universities, workplaces, communities, and online spaces. After analyzing and reflecting on their observations and experiences involving scripts, students propose new approaches to civic dialogue and authentic, empowering engagement with the institutions through which people enact civic life. In a review of these proposals and student feedback from previous iterations of these courses, we identify insights about learning outcomes, including students' successful internalization of why social scripts matter and creative drive toward generating new forms of civic life. Further work will continue to explore how students make sense of their social worlds through these courses, but the evidence from their proposals and feedback has important implications for pedagogical practice in social disciplines. *Strands: Academic Success, Assessment/SoTL*

49. *STRiVE 2023: Transformative Learning Through Deep, Facilitated Reflection on Civic Values and Action,* ***David Hoffman, Tess McRae, Markya Reed, and Ricky Blissett (Center for Democracy and Civic Life)***

The Center for Democracy and Civic Life's annual five day/four night STRiVE leadership for social impact program seeks to support undergraduate students in becoming more effective leaders and contributors to communities. Participants spend time reflecting on their values and participating in dialogue about how those values can inform action, particularly when they are in tension with prevailing social norms. Post-program evaluation results as well as observations of program participants support the conclusion that participants gained key

insights through reflection on values and their links to civic action. Participants frequently cited the lessons they learned about vulnerability and authenticity as important takeaways. These results are promising for future work Center staff will undertake to more fully illuminate the narratives through which these transformations happen, and they support the infusion of values reflection and social norms analysis into other educational settings. *Strands: Assessment/SoTL, Course/Curriculum Development*

50. *Auxiliary Learning Outcomes in the Global Award Application Process*, Brian Souders (Center for Global Engagement)

The process of applying for globally competitive scholarships can result not only in funding for a life-changing educational experience. Given the competitive nature of these awards, these dreams may go unrealized. However, research among past applicants demonstrates that the application process provides students with multiple transferable skills they need for other post-undergraduate writing exercises. Using six years of survey data and semi-structured interviews with UMBC applicants to the Fulbright U.S. Student Program, this presentation outlines the benefits of crafting the personal and professional narrative for this global exchange award. Lessons learned from our students' reflections led to a refined support system for our applicants for the Fulbright and other global awards. *Strand: Academic Success*