

Emergency Management Higher Education Program

Lessons Learned from the 2019 AERA Conference in Toronto, Canada



Report from the Scholarship of Teaching and Learning Focus Group

EXECUTIVE SUMMARY

The FEMA Higher Education program sponsored a 9-member SoTL focus group at the American Educational Research Association (AERA) annual meeting in Toronto, Ontario – Canada from April 4th to April 9th, 2019. Members of the focus group was encouraged to attend sessions at the conference to identify relevance to emergency management and homeland security education. The 2019 AERA Annual Conference centered around the theme Leveraging Education Research in a Post-Truth Era: Multimodal Narratives to Democratize Evidence. Notes and discussions about the 2019 AERA conference from the SoTL focus group were combined and synthesize into this report.

This report is organized around four themes, with highlights below:

Theme 1: Teaching in Emergency Management and Homeland Security Higher Educational Programs

Research focused on teaching focused on concerns of the teachers and the students. Specifically, SoTL focus group members noted that there is an increased importance not just on the diversity teachers matching that of the student body, but that inclusion of teachers and professors into the campus environment is equally as important. Research also included several concerns for specific types of diverse students including; historically marginalized racial and ethnic minorities, international students, rural students, and adult learners. Interestingly, the increased use of online environments may have disproportionate impacts on diverse students and teachers.

Theme 2: Emergency Management and Homeland Security Higher Educational Programs

The 2019 AERA sessions were also tailored to identify studies on program curriculum, specifically, accreditation, assessment, and advising. In research sessions focused on accreditation, SoTL members noted a potential of the Waldorf methods. Campus climate assessments have shown that problems faced by particular groups that may otherwise erupt and cause program-wide problems down the road, flipped learning is not always effective, and types of testing has an effect on student learning and retention. Online courses have a host of problems for teacher course preparation and student learning, but also for safety and bullying online.

Theme 3: Job Market in the Emergency Management and Homeland Security Professions

The goal of teaching students is to prepare them for the workforce environment. The studies from the 2019 AERA session indicated that programs ought to carefully consider inherent biases in several internship models, which unintentionally prohibit all student from gaining real-world experiences. For students from lower socioeconomic households, this can be a barrier. For students with full-time or part-time jobs, shorter internships may be necessary to provide more opportunities. Many internship employers are beginning to place importance on soft skills, with automation taking over jobs with finite tasks. Changes in job market needs world-wide indicate an importance on both soft skill and digital literacy.

Theme 4: Research in Emergency Management and Homeland Security Professions

Though the SoTL SIG is primarily focused on teaching and learning, the AERA conference provided opportunities for members of the focus group to learn about topics related to research. While several sessions discussed the closely-related topic of climate change, other sessions highlighted broad issues around sharing research findings in an online environment, research equity, and federal funding for research.

The report ends with a summary of the lessons learned in each theme, potential next steps for the emergency management and homeland security community, and suggestions for future SoTL focus groups interested in attending the AERA. Finally, two appendices are included to capture the voices of those who have attended and highlight research theories in use at the conference.

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INTRODUCTION AND OVERVIEW

The Scholarship of Teaching and Learning (SoTL) Special Interest Group (SIG) is focused on the study of teaching and learning in emergency management and homeland security (EM/HS) programs. Since 2017, members selected by the SoTL SIG have attended the AERA conference to spark broader discussions in the EM/HS field about teaching, research, and learning. The FEMA Higher Education program sponsored the SoTL focus group at the American Educational Research Association (AERA) annual meeting in Toronto, Ontario – Canada from April 4th to April 9th, 2019.

The 2019 SoTL focus group was co-chaired by Drs. Bennett, Comiskey, and Rouse who attended the 2018 AERA Conference in New York, New York. Similar to the years prior, the co-chairs held a national application process to engage potential participants from the larger EM/HS discipline. The co-chairs selected six individuals based on the same criteria as the previous years, which included a quantitative rubric vetting tool. Each co-chair was assigned two individuals to mentor during the conference.

AERA SoTL Focus Group Members

- **Wendy Walsh**, FEMA, NTED, NTES Higher Education Program Manager
- **DeeDee Bennett**, Assistant Professor, College of Emergency Preparedness, Homeland Security, and Cybersecurity, University at Albany
- **John Comiskey**, Assistant Professor, Monmouth University
- **Rebecca Rouse**, Associate Professor/Adjunct, Tulane University
- **Cameron Carlson**, Program Director, Homeland Security & Emergency Management Program, University of Alaska Fairbanks
- **Maeve Dion**, Assistant Professor of Security Studies, University of New Hampshire
- **Rachel Dowty Beech**, Assistant Professor and Coordinator, Online Master’s Degree Program in Emergency Management, University of New Haven
- **Jason Levy**, Professor, Disaster Preparedness and Emergency Management, University of Hawaii
- **Patricia McIntosh**, Emergency Management Coordinator, Emergency Management Degree, and Certificates Program, College of the Mainland
- **Ponmile Olonilua**, Associate Professor, Emergency Management/Homeland Security, Texas Southern University

The 2019 AERA Annual Conference centered around the theme Leveraging Education Research in a Post-Truth Era: Multimodal Narratives to Democratize Evidence. The conference organizers used the Oxford Dictionary’s 2016 word of the year, “post-truth,” with the following definition: “relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief.” Furthermore, given the history of using post-truth ideals and propaganda to marginalize diverse populations further, conference organizers intended for the conference theme to spark discussion about ways to “lessen inequality and increase educational opportunities.” Therefore, in this report, within each theme, policy implications, as well as, considerations for diversity and inclusion, are identified.

The questions guiding the 2019 AERA Conference were:

The question for education researchers is how, in a so-called “post-truth” political era when evidence is shunted, and emotion is exploited, can we make our research matter to lessen inequality and increase educational opportunities? How do we have an impact when our most conscientious methodology—measuring, understanding, and communicating material and experiential “realities”—is increasingly discredited by those who construct alternate truths to serve their agendas? Furthermore, how can our findings speak to and of emotions such as fear and anxiety, which are regularly scapegoated onto the most marginalized individuals rather than attributed to their economic and social causes?

SoTL Guiding Questions

The guiding question for SoTL focus group members was based on the prompts from 2018. Each focus group member was given access to session summary forms to organize their notes and to assist in the themes for this report. The prompts were as follows:

1. The relevance of the session to EM/HS education (writ large – preparedness, politics of fear, trust in government, advocacy, public service, nonprofit leadership, engaged scholarship, engaged teaching, civic engagement, etc.).
2. The relevance of the session to EM/HS academic program accreditation.
3. Importance of the session to measuring, fostering, enhancing community (or pop) culture.
4. The relevance of the session to workforce development (creating, enhancing, benchmarking, motivating, continuing education, etc.).
5. Importance of the session to EM/HS SoTL (methods, sampling, publishing, dissemination).
6. The relevance of the session to EM/HS policy, policy development, policy benchmarking, policy advocacy, policy change, etc.
7. List the top two or three takeaway points from the session.
8. Identify any opportunities to share/educate other participants about the EM/HS academic disciplines.
9. Identify if you made any connections for future collaboration.

Report Organization

All of the SoTL focus group members are professors in emergency management and homeland security programs across the nation. In general, their interests span beyond the scholarship of teaching and learning and cross into modalities for teaching, safe spaces for students, accreditation significance, program assessment, future job market opportunities for students, injecting field experience into courses, civic education, and research. Additional content areas included cybersecurity and climate change. As many professors are required to invest a significant portion of their time to research or university service, these topics are essential for higher education programs in emergency management and homeland security. Given the 2019 AERA Annual Meeting theme and the guiding questions for each focus group member, this report is focused on the following topics:

- Theme 1: Teaching in Emergency Management and Homeland Security Higher Educational Programs
- Theme 2: Emergency Management and Homeland Security Higher Educational Programs

- Theme 3: Job Market in the Emergency Management and Homeland Security Professions
- Theme 4: Research in Emergency Management and Homeland Security Professions

THEME 1: TEACHING IN EMERGENCY MANAGEMENT AND HOMELAND SECURITY HIGHER EDUCATIONAL PROGRAMS

This theme is based on all the elements of teaching, which include more than just the method and practice of teaching but also considers the teachers, students, and the modes by which teachers connect with students. Beyond pedagogy and andragogy, other interest influences a teacher's impact, including the campus climate and inclusion initiatives. Additionally, there are diverse needs of students, which we need to acknowledge and address, and the variety of students we engage include adult learners, international students, migrants, refugees, and students from rural locations. This diversity in the student body indicates we may need to revisit our resources for safe spaces and mentoring.

Teachers

Many of the session discussions and papers focused on the individual teachers; the pedagogy and innovative techniques used, as well as the campus climate and inclusion factors which allowed them to be successful in their positions.

Pedagogy

- Dr. Megan Boler's "pedagogy of discomfort" could be an essential mechanism to engage EM students and prompt discussion of challenging topics, especially among students who have post-traumatic stress disorder or related disaster experiences. Such a discussion can lead to more positive suggestions for possible improvements in training and practice. Nexus to EM/HS includes training transfer, the gap between learning and performance which can be explained by a combination of learner (e.g. cognitive ability, motivation level), intervention (reinforcement, error-based examples, modelling), and work environment (e.g., peer and supervisor support, organizational culture characteristics * see Burke and Hutchins (2007)
- One paper (Redlands, Prince George's County P.S.) studied interactions of new and veteran professionals engaged in the same Professional Learning Networks (PLN), e.g., using twitter exchanges to fill gaps in classroom education. Study participants found self-selected PLN activity was significantly more meaningful than required participation. Paper found PLN frameworks used more for short-term knowledge building, whereas Communities of Practice (COP) frameworks used more for longer-term knowledge building. – Note a possibility for enhancing the community by interlacing COPs and PLNs; e.g., encouraging PLNs to continue dialogue after a training/exercise event.
- Another addressed the instructional design methodology of "productive failure." This is similar to the concept of "desirable difficulties" — where professions regularly face problems in practice, and students need to be able to adapt, extrapolate, and have a readiness to learn in new situations. (This is not the same as problem-solving learning.) This work may be of interest for educating in EM/HS professions in which new conditions are common, and adaptation and extrapolation are necessary.
- Maker Space Party: On Saturday, April 6th, 2019, graduate students and the Toronto Hive organized and delivered a "Maker Space Party" for children of conference attendees and the neighboring community. Maker Space Parties focus on learning through hands-on experience, experimenting, and producing. Several activities were offered for children, including operating robots, designing alarms, crafting electronic bookmarks, creating music, and using a 3-D printer. Technology and its implications for learning and teaching were the primary focus.

Inclusion

- As reported by E Alexander from the Ohio University in her presentation titled, "The Mammyfication of Black Femme Faculty at Predominantly White Institutions: Professional Socialization, Promotion, and Tenure", faculty of color are disproportionately assigned to teach “diversity” courses, which can impact their tenure and promotion.
 - The tenure process needs to be reshaped to include the values of Black women (and professors of color) to challenge the inequities embedded in the process
- Communities of Practice
 - A session on the philosophy of teaching discussed collaboration (versus competition) among teachers, institutions, and disciplines. Communities of practice are international, regional, and layered; draw from public and private sectors and multiple governmental levels, and attend to teaching innovations and extracurricular applications.
 - Another session (in an off-topic discussion) discussed communities of practice in terms of universities partnering with other-than-university-level schools and with non-educational entities. Overwhelmingly the participants used the concept of communities of practice in terms of research in primary schools or service learning projects in schools, but EM / HS can readily substitute the projects and programs associated with the concept to schools, civic and governmental organizations, and private industry, too.
 - Comparative studies on international success stories highlighted the Nordic collaborative process, in which stakeholders include teachers, students, parents, businesses, unions, and policymakers. These collaborative relationships are held in high esteem, especially in vocational education.
 - In the Nordic model, there is high trust and low accountability in a decentralized system, which requires extensive dialogue and culturally specific variability within and across systems.
- Teacher preparation
 - An entire panel discussed teacher preparation for teaching in a modern school environment. Technological enhancements were *not* the topic, rather violence, poverty, hunger, familial issues, poor study habits, inadequate learning in prior years, and expectations that teachers will intervene in an assortment of crises. This topic is relevant to EM / HS as it extends the whole community concept within schools, in a culture where teachers often say, “I just teach the kids; I don’t want to do all the rest of this.”
- Impacts of Online Engagement
 - In one session about public comments on educational videos, presenters, discussed that while little research exists on the differential comments that educators receive online, their study shows that most comments are generally favorable when the educator is male.
 - In contrast, women educators on YouTube and TedTalk videos had greater polarity with more positive and negative comments.
 - A discussion about social media questioned these platforms as democratizing spaces.

- In the presentation by George Veletsianos, Royce Kimmons, Ross Larson, Tonia Dousay, and Patrick Lowenthal, they outlined the literature on the type of harassment faced by women scholars online.

- 40% of internet users have experienced online abuse (Duggan et al. 2014; Lenhart et al., 2017)
- Women report more severe & sustained forms of abuse (Duggan et al., 2014; Lenhart et al., 2017)
- Harassment of women scholars affects more than productivity (Veletsianos, Houlden, Hodson & Goose, 2018)
- Example purposeful harassment: Offensive name-calling, physical threats, sexual harassment, and stalking. (Lenhart et al., 2017)



Figure 2: Presenter slide on Gender and Harassment online

- In another session, presenters discussed how social media is changing the politics of education. Not just for students, but also teachers. They mentioned how social network analysis could help with parsing through the dark side of the web and attributed the changes to a post-truth era. Although there is a connection between social media and politics, the presenters (and audience) were quick to note that most policymakers are not social media literate.
 - “Computational propaganda” uses social media to spread far-right extremism. For example, in the 2012 Facebook “emotional contagion experiment” researchers altered Facebook feeds and found that if more negative news were fed into a person’s Facebook feed, then that person would start posting more negative posts, but more positive news in a person’s feed would result in the person typing in more positive posts.

Students

Student success, however, is not solely dictated by the effectiveness of the teacher. Several studies discussed the diversity of the student body, including age, nationality, and regional upbringing, as factors that can impede success at institutions lacking in inclusion.

Diversity

- Historically Marginalized (socioeconomic status, race, and ethnic minorities)
 - A conversation after a session discussed at length the modern classroom environment where student priorities outside of the classroom are more akin to survival than succeeding. This is especially true for poor and isolated students. A cycle of failing in school leads to perceptions of dim futures, which cycles back to students questioning the point of learning. The argument that learning does not take place in isolation was discussed, yet the discussants agreed again it is challenging to fix everything in students’ lives, nor enable them to take control before adulthood.

- Various presenters made mention of learning environments that integrate students of diverse backgrounds but create dissonance and disconnection from their cultures, neighborhoods, families, or support systems. Cited examples included schools artificially integrated by compelling Black students to attend all-white schools. The dissonance was not necessarily race-based, rather the student was removed from a familiar community and sub-culture. (Consider the concern we have over this in EM response operations.)
- International Students, Migrants, and Refugees
 - Students from a developed country, with more resources and the latest technology, may require less effort to accomplish a task than the counterpart from a less developed country.
 - Migrants and refugees need programs geared toward adaptation to different teaching-learning methods, solutions for credentials and orientation issues, scholarships and financial aid, and geographical locations close to work and educational opportunities. Terms and contexts in media (including social media) that emphasize “otherness” need to be minimized by having equal and opposite forces of encouragement and a sense of belonging.
 - A session included conversations about providing DACA students with safe passage and potentially tailored financial aid. Registration requirements make identifying these students possible, and frightening for them. Some schools seem concerned with government requests for admissions data. Regardless, the learning environment for these students can be extra intimidating and challenging. (Homeland security courses that term illegal immigrants as “threats” may want to reconsider the semantics.)
- Rural student
 - Andrew Crain used a 2007 article by Theodore Coladarci entitled “Improving the Yield of Rural Education Research” to see if that research design extends to higher education, what topics, places, and people are involved, and how do these relate to rural concerns. Reviewed 50 articles from 2000 – 2019 and viewed them while applying Bourdieu’s theory and reflexivity. Found that the western U.S. was very underrepresented (only two, from CO and CA) and called that area “educational deserts.” Highest value articles were from Appalachia, and 19 of 50 studies did not use a theoretical framework. Considering the needs of emergency management and homeland security in western states, this represents a challenge for researchers to find out more about rural students seeking and pursuing higher education in emergency management in western states. Leanne Fray used a mixed-methods approach in Australia to examine rural students’ decisions about staying in higher education or leaving.
 - Conclusions of Andrew Crain (University of Georgia) and Leanne Fray (University of Newcastle, Australia) were of particular note. Researchers need to push the envelope in terms of higher education, application of theory, more policy standpoints on the “brain drain” from rural to urban areas. A focus on poverty presents problems from policy standpoints, and more institutional relationships are needed. There are vast differences between rural communities in terms of economy, geography and demography, which impacts both the needs for special training in EM for these areas and the needs of the students pursuing training or degrees in EM/HS.
- Graduate student needs
 - An interesting conversation arose (tangentially related to the session content) wherein the presenters advocated for the encouragement, support, and engagement with future teachers,

regardless of origin. (In EM / HS, “new” teachers often arrive after completing entire careers as various practitioners, or as adjuncts teaching while working.)

- Adult learners
 - The problem with using an enrollment management model to understand the “why” and “where” of people going to college is that it is linear/sequential, so don’t know if a student leaves or goes somewhere else (the changing nature of opportunity). Constance Iloh (University of California – Irvine) proposed a more ecological model to track education and career paths of non-traditional students.
 - Students with access to information usually get a better lay of the land, but many are in “information deserts.” Non-traditional students don’t have a high-school guidance counselor – where are they getting their information? What info are they going on? What is the nature of their changing/stable/ family / financial / work life structure? Are they urged toward vocational education? Ivory tower? What social pressures are acting to steer them that way?
 - This presenter addressed how adult students perceive that asynchronous online class discussions (AOCD) are not deeply engaging. When guidance and prompts are proscriptive, student participation emphasis is on compliance rather than deeper learning and engagement. “Going through the motions.” The study found inconsistent instructor engagement. Also acknowledged that AOCD served a function not elsewhere satisfied elsewhere in an online course.
- Legacies
 - One session devoted its panel to examining parental influence on whether students attend college, where they attend, what they study, and the degree to which a diverse student body matters in the selection. Studies include the influence of parents versus step-parents, whether parents attended college, whether parents graduated from college, legacies, sports, financial considerations, and proximity to home. The audience surfaced several factors not considered to include the role of non-parents on student decisions, the personal goals of the students, important role models’ influence, why students go to college (internal or external factors), etc. The quantitative research presented was impressive, but the studies needed to be extremely controlled to be valid, with findings that are not quite representative. The session served as a great reminder that the factors one does *not* consider must be addressed and rationalized. (Also, the question of college choices limiting major areas of study seems valid and may explain why the profession of EM is not diverse.)
- Safe Spaces
 - One paper (McGill) followed a couple of students entering engineering education in Sweden. These case studies showed continued problems with the inclusion of nontraditional students in STEM.
 - One paper (Univ. Ill at Springfield) did research identifying the particular courses that were impeding student success in undergraduate online programs. There was a lot of attrition and poor performance in certain gateway courses (first two years of college, lots of grades that are poor (D), Fail (F), or withdraws (W)). Online transfer students showed a larger number of D, F, or Ws. The authors found trust in certain courses mattered more than others, e.g., student success. This could be researched more at other schools and for EM/HS undergraduate programs across the board. Factors/rationales may be interesting given our somewhat nontraditional student body

- This session identified an overlooked method of marginalization enacted through “niceness” and the act of “being nice” and telling others to “be nice.” Niceness creates conflict by giving people a choice of 1) speaking out and risking further marginalization or (2) remaining silent and containing oneself. Measuring “niceness” requires creating safe spaces where stories can be constructed and shared without fear of reprisal.
 - Policies in institutions of higher education that protect against marginalization have come under increasing scrutiny in terms of how and when they relate to the definition of “free speech.” This session addressed how EM/HS programs might use well-being as a way to encourage behaviors of administrators, faculty, and students, in addition to establishing support programs/services to students under undue stress to better ensure their ability to focus. Disaster training focused on top-down policies, while during the discussion, the need for more bottom-up strategies and better communication was noted.
 - Students from different cultures handle stress in different ways. Standardizing ways of helping students who have experienced disasters or marginalization is less effective than structuring flexible ways to approach problems.
- Mentoring
 - A recurring topic in many sessions was the concept of “self-study.” Self-study promoted meaningful reflection combined with a community of practice, and “critical friends.” Panelists in several sessions shared international, interdisciplinary, cross-disciplinary, regional, and other layered entities that created robust, interactive networks that shared practices and reflected on their own and others’ progress.
 - Routine discussions, in person or virtually, laid a foundation for long-range explorations. These were characterized as personal learning journeys with colleagues.
 - Particularly useful for communities exploring or initiating new tools, methods or practices. (Perhaps like the EM scholarship community.) The structure and consistent communications permit comfort and collaboration for the innovations being promoted.
 - “Critical friends” was introduced in a study where two individuals combined to create a small community, depending on each other for candid feedback, insightful assessments, and shared tools and trials.
 - The community of practice that is working toward integration or evolution of concepts and collaboration both depends on existing communities and cultivates new ones.
 - Encourage peer networks and achievement in learning communities in higher education, heutagogy (self-determination learning), applied learning, and academic coaching
 - Positive interactions with faculty members to foster an inclusive environment, explicit advocating for students of other religion and race. Have a campus-wide policy

THEME 2: EMERGENCY MANAGEMENT AND HOMELAND SECURITY HIGHER EDUCATION PROGRAM CURRICULUM

The 2019 AERA sessions were also tailored to identify studies on program curriculum, specifically, accreditation, assessment, and advising. These studies focused on the resources, the connection to effectiveness and success, as well as the impact on enrollment and graduation.

Accreditation

- Waldorf schools (typically K-12) have their accreditation processes but the methods they use could be worked into EM / HS curricula without a problem and have great potential to help non-traditional students coming into EM / HS from traumatic experiences as well as equip students who will experience trauma by entering into these fields better prepare for it and recover from it.
 - Waldorf methods presented were applied across over 24 countries after many different types of disasters (earthquake, mass shootings, war, tsunamis, hurricanes, wildfires, etc.) and were successful at improving healing and fostering post-disaster community development.

Assessment

- Campus climate assessments were recommended by Colin Ben (Arizona State University) to identify problems faced by particular groups that may otherwise erupt and cause program-wide problems down the road.
 - Higher education institutions need to incorporate training for instructors and professors on how their well-intentioned behaviors burden students of color as well as initiate policies to provide supportive interventions. This is particularly important in disaster management, where mitigation and recovery efforts are well documented to place burdens on people of color.
- Class size is a negative predictor of grade, part-time faculty award higher grades. Not certain why. This effect is consistent across all formats, class sizes, and course levels. Impact: As schools are pushed to save money, more schools pushed to larger class sizes and more part-time faculty. The author suggested changing the narrative for a smaller class argument to one of student retention rather than the existing narrative of instructor workload. Where large courses are offered, provide supplemental small group opportunities, support faculty, provide instructional support. My Observation: need to work towards calibrated grading across instructors within institutions. Be very clear with grading intentions for part-time instructors.
- Flipped Learning is not always effective. This study looked at four learning factors (quality of preview learning materials, peer interactions, teacher facilitation, student participation) on the outcomes of enjoyment, boredom, and self-efficacy. Enjoyment is significantly predicted by the quality of preview materials, instructor facilitation, and level of participation. Boredom is negatively predicted by the quality of preview materials and negatively predicted by participation. Self-Efficacy predicted by the quality of preview, participation, and peer interaction. Conclusion: Flipped classrooms do not always support enhanced learning. Careful content design includes attention to both autonomy, active participation, and adequate feedback
- Testing effect. Students that were tested more often scored significantly higher (7 % points higher). Endogenous instrumentality and attendance at the end of the semester were associated with an increased likelihood of continuing to enroll in computer science courses and helped to predict retention in computer science programs.
 - Instrumentality is an important motivational construct that empathizes the connection between a present task and a future goal. Instrumentality is conceptualized as a task-specific

variable. Reflecting context-dependent characteristics, two different types of instrumentality are distinguished: endogenous and exogenous instrumentality. Endogenous instrumentality is the perception that learning in a present task is useful to achieving valued future goals and exogenous instrumentality is the perception that outcome in a present task is instrumental in achieving valued future goals.

- Nexus to HS and EM education and training: design/structure curricula to engender instrumentality

Online Courses

- Online education in IHEs is offered in all 50 states. Nearly 30% of all students enrolled in IHE took at least 1 online class, according to 2014 data. Some states are beginning to require 1+ online learning experience as part of Highschool graduation requirements.
- Employing online platforms was another area of concern. Not only were there stark differences pointed out in the curriculum development of courses taught online, but there were also various concerns about massive open online courses (MOOCs) and about maintaining a safe environment given the increase in violence online.
 - Instructors in online programs enhance online communities of students better by posting comments to each individual student privately (via feedback for a discussion or assignment) rather than participating in discussions openly. It's better to let the students gain a rapport with each other than act like a gatekeeper to community creation. (2) Need a better (nonlinear, non-sequential) model than an enrollment management model (linear, sequential) to trace how non-traditional students fare when they select a program, change programs, or leave EM/HS altogether. An ecological model such as that proposed by Constance Iloh may be better suited toward that task.
 - In one presentation on asynchronous online discussions:
 - Factors that impact quality and participation: interaction between student and instructor the *most* important facets.
 - Type of questions and thinking fostered: Some cultures not as familiar or comfortable with collaborative work. Consider adding additional coaching for those students,
 - Effects on students: Instructors who post less frequently but with *most* depth inspired a higher level of critical thinking.
 - Strategies of students and instructors: Student facilitation or moderation is a powerful mode of interaction.
 - Use of simulations to facilitate on-line programs was examined in online as well as traditional programs. Preliminary results suggest high levels of student engagement.

MOOCs

- Several common findings of the online learning literature (e.g., online classes have more active learning and less lecture than classroom learning; opportunity for immediate, individual feedback to the teacher was more available online; instructors felt they were better teachers after going through the structured process of putting a course online; etc.).
- By 2017, more than 9,000 MOOCs exist and are hosted by over 800 IHEs, serving 80 million learners (Shah, 2018).

- Reported completion rates for MOOCs range from 3%-15% (Jordan, 2015; Alraimi et al., 2015; Breslow et al. 2013; Hollands & Tirthali, 2014).

Safe learning & Violence online

- Francis Huang (University of Missouri) and Yolanda Anyon (University of Denver) surveyed over 30,000 students who had been suspended, students who had not received other disciplinary action or received no disciplinary action about perceptions of school climate and safety. Jennifer Maeng and Dewey Cornell (both from University of Virginia) compared school climate survey responses from schools using the Virginia Student Threat Assessment Guidelines and schools using other threat assessments using ANCOVA. All speakers from this session came to similar conclusions about punitive orientation (less effective) versus a preventative approach (more effective) toward encouraging a safe school climate.
- While many schools have clear plans, and enhanced infrastructures, the level of TRAINING provided to campus employees is a better investment in campus safety. This should include an emphasis on identifying students at risk and how to handle potential or emerging situations.

THEME 3: JOB MARKET IN THE EMERGENCY MANAGEMENT AND HOMELAND SECURITY PROFESSIONS

The goal of teaching students is to prepare them for the workforce environment. Several EM / HS programs have instituted internship requirements to provide students with opportunities to gain experience in the field. The studies from the 2019 AERA session indicated that programs ought to carefully consider inherent biases in several internship models, which unintentionally prohibit all student from gaining real-world experiences. Furthermore, other sessions highlighted empirical research about ongoing changes in the job market and what that means for future student success.

Internship Models

- One session discussed the future of work for college students and whether or not higher education perpetuates inequality. The session discussion was based on an article in the chronicles of higher education.
- Landing a valuable internship is often based on luck. It is typically for low pay and does not offer career stability. For students from lower socioeconomic households, this can be a barrier. For students with full-time or part-time jobs, shorter internships may be necessary to provide more opportunities. There is a push to reconsider the internship model in favor of a series of shorter internships or apprenticeship models. This is a real discussion for EM/HS programs, especially given the importance experience has in the field. Many programs try to offer and make it mandatory for students to participate in internships. The inherent inequalities of internship programs must be addressed.
- Many internship employers are beginning to place importance on soft skills, with automation taking over jobs with finite tasks. A real discussion is needed for how to develop soft skills. This is true in EM/HS jobs, as well.
 - Soft skills include collaboration, teamwork, and communication skills needed to manage multiple tasks or priorities. This is related to personality types that lend towards socialization.
 - The concept of teamwork, collaboration, and communication skills are critical in the EM/HS field. However, these soft skills do not appear in the proposed core competencies for the next generation of emergency managers (Feldmann-Jensen, Jensen, and Smith, 2017).

Changes in Job Market Needs

- In a session entitled “What skills are key to Labor Force Success? Results from the Program for the International Assessment of Adult Competencies, presenters once again discussed the overwhelming importance of soft skills in jobs and careers worldwide. The presenters also discussed the importance of digital literacy.
- The Program for the International Assessment of Adult Competencies (PIAAC) measures digital problem-solving skills, from basic to complex, among adults who know how to use a computer – the “digitally literate.” Approximately 16% of adults in the US are not digitally literate and is comprised of individuals from a variety of sociodemographic characteristics. However, U.S. adults who are not digitally literate tend to be less educated, older, non-White, slightly more male, and disproportionately foreign. U.S. digital literacy rates are less than the global average.
 - This finding is connected to the Next Generation Core Competencies for Emergency Management Professionals. Where, authors Feldmann-Jensen, Jensen, and Smith (2017) discussed five core competencies that help build the EM practitioner; Scientific Literacy, Geographic Literacy, Sociocultural Literacy, Technological Literacy, and Systems Literacy.
- Again, using the PIAAC, another presenter analyzed the relationship between higher education and the use of soft skills among U.S. workers. Using a sample of over 2,400 individuals, the presenters found that having both higher education and soft skills correlated to higher earnings (once controlled for work experience and numeracy).

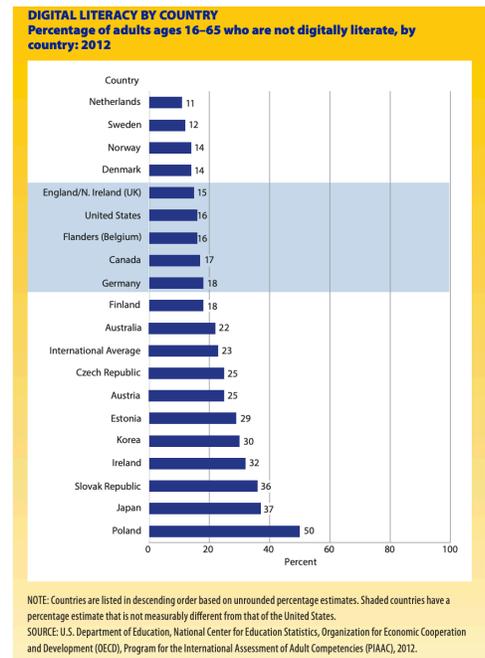


Figure 3: Image on digital literacy by country. Source: PIAAC, 2012

THEME 4: RESEARCH IN EMERGENCY MANAGEMENT AND HOMELAND SECURITY PROFESSIONS

Though the SoTL SIG is primarily focused on teaching and learning, the AERA conference provided opportunities for members of the focus group to learn about topics related to research. For those in tenure track positions, research is an essential factor in gaining tenure and continuing career goals. While several sessions discussed the closely-related topic of climate change, other sessions highlighted broad issues around sharing research findings in an online environment, research equity, and federal funding for research.

Impacts of Climate Change

- All climate change is local (analogue to all disasters are local) Children’s Common Worlds in Times of Climate Change and “Post Truths” Children’s creative responses to climate change and environmental issues. Variances in diverse socio-economic contexts (indigenous populations) to respond differently to climate change (indigenous populations). Early childhood environmental education promoted. Nexus to EM and HLS is self-evident, i.e., use storytelling to promote climate change in EM and HLS curricula.

Equity in Research

- Collaboration
 - There needs to be an increased focus on partnerships. One presenter cited a proposed method of “increasing focus on research-practice partnerships to improve educational practice and advance research knowledge.”
 - Similarly, Sandvik and Fjøltoft discussed participatory dialogue in Norwegian Schools as a way of leveraging culturally specific practices in design-based research-practice partnerships. While focused on general education. This may be useful to consider for EM/HS studies.

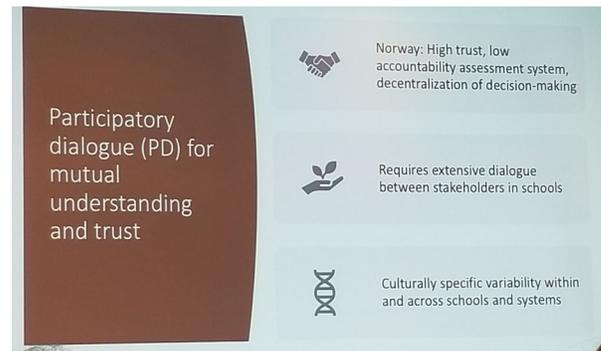


Figure 4: Presenter slide on the Nordic Participatory Dialogue model for mutual understanding and trust.

- Funding
 - NSF can fund research on educational policies, particularly as related to technology use and training in EM/HS.
 - This NSF program could help fund research concerning how EM/HS students and professionals learn on the job and how that learning compares with what they receive in institutions of higher education
 - The Division of Research on Learning in Formal and Informal Settings (HER/DRL) at the National Science Foundation (NSF) could play an essential role in funding for EM/HS research in education. So much EM education is hands-on work, and many students in these fields are juggling formal education with their on-the-job duties. This NSF directorate could serve to fund research on how to bridge the formal EM/HS education with on-the-job training through service-learning, internships, research projects, and other such initiatives.
 - The links listed below are major funding agencies, though there are at least 26 federal government agencies that provide funding for research. In speaking with agency representatives, examples for EM/HS surfaced including drone applications for search and rescue (NSF) and the effect of dogs in calming and comforting children after disasters (NIH).
 - Tips for pursuing government funding include reviewing projects funded in the past, contacting program directors directly, persistence, and excellent grantsmanship. Taking a workshop on grant writing or following a well-regarded workbook can help refine products immeasurably.
 - Every agency that offers funding published extensive guidance for proposals, processes, and policies.
 - For each of the agency links, look in the main menu for “funding” or “grants.” You can find previous years’ funded work as well, plus contact information for program directors.
 - Funding agency links (among others):
 - Private sector funding through 120,000 charitable entities: [Foundation Directory Online](https://fconline.foundationcenter.org/) (https://fconline.foundationcenter.org/)
 - [Federal government grants](http://www.grants.gov) (www.grants.gov)

- [National Science Foundation \(NSF\)](http://www.nsf.gov/funding) (www.nsf.gov/funding)
- [National Institute for Health \(NIH\)](http://www.nih.gov) (www.nih.gov)
- [Department of Education](http://www.ed.gov) (www.ed.gov)
- Department of Defense: see U.S. Army and U.S. Air Force research laboratories
- [Department of Homeland Security](http://www.dhs.gov/dhs-grants) (www.dhs.gov/dhs-grants)
- [Center for Disease Control](http://www.cdc.gov/funding) (www.cdc.gov/funding)
- [National Institute of Occupational Safety and Health](https://www.cdc.gov/grants/) (https://www.cdc.gov/grants/)

CONCLUSIONS, NEXT STEPS, AND SUGGESTIONS

SoTL members noticed two recurring discussions about teaching at the AERA conference, issues around pedagogy, and the importance of inclusion among teachers and diversity of the student body. Pedagogical techniques which may be useful to emergency management and homeland security include silent whiteboard, productive failure, and the pedagogy of discomfort. Members of the focus group were also able to participate in a MakerSpace party hosted by the conference to expose children, students, and participants about emergency preparedness. Diversity and inclusion initiatives are often focused on the student; this year, SoTL members noticed an increase in discussion among researchers about the importance of inclusion initiatives focused on professors. Some of the efforts focused on communities of practice, faculty of color, and online engagement.

The research presented on program curriculum at the AERA touched on accreditation, assessment, and the impacts of online coursework. Though many focus group members noted the AERA includes several sessions related to K-12 curriculum, some identified ways to institutes of higher education could benefit from lessons learned from other levels of education. One such experience is the use of the Waldorf method, which has been applied across over 24 countries after many different types of disasters (earthquake, mass shootings, war, tsunami, hurricanes, wildfires, etc.) and was successful at improving healing and fostering post-disaster community development. Emergency management and homeland security programs have seen an increased use of online curriculum, and at the AERA SoTL focus group members learned that online course work might lead to violence online, as well as problems for certain types of students. However, among factors that impact quality and participation for students online, the interaction between student and instructor the most important.

The studies from the 2019 AERA session indicated that programs ought to carefully consider inherent biases in several internship models, which unintentionally prohibit all student from gaining real-world experiences. Landing a valuable internship is often based on luck, and typically for low pay without offering career stability. For students from lower socioeconomic households, this can be a barrier. For students with full-time or part-time jobs, shorter internships may be necessary to provide more opportunities. There is a push to reconsider the internship model in favor of a series of shorter internships or apprenticeship models. With many emergency management and homeland security programs relying on internship opportunities to provide necessary work experience for students, this community may want to take note of the discussions around this topic.

Furthermore, global assessments and AERA researchers focused on the importance of teaching soft skills to students. Soft skills include collaboration, teamwork, and communication skills needed to manage multiple tasks or priorities. These skills, combined with subject matter expertise and digital literacy, seem to be indicators for post-graduate employment across fields.

Finally, several sessions discussed the closely-related topic of climate change. Other sessions highlighted broad issues around sharing research findings in an online environment, research equity, and federal funding for research. Though the SoTL SIG is primarily focused on teaching and learning, the AERA conference

provided opportunities for members of the focus group to learn about topics related to research. For those in tenure track positions, research is an essential factor in gaining tenure and continuing career goals.

Many of the lessons learned from the 2019 AERA conference show relevancy and connection to the national preparedness goals and preparing the next generation workforce. A secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the most significant risk. The community will need to develop a workforce that can think critically; collaborate cohesively and effectively; adapt to new and evolving operating environments, and adapt to and learn multiple technologies. It becomes increasingly difficult to achieve these goals without understanding the importance of diversity and inclusion of teachers, students, future co-workers, and communities most at-risk.

Next Steps

We (the Emergency Management Higher Education Community) has been invited to join the AERA Division on Education in the Professions. Yoon Soo Park (U. of Ill. at Chicago) – outgoing president of Division I (Education in the Professions) – wants to invite the EM/HS community to become active in Division I. Currently Division I is comprised of primarily individuals from the medical professions.

The AERA has an [Online Paper Repository](http://www.aera.net/Publications/Online-Paper-Repository) (<http://www.aera.net/Publications/Online-Paper-Repository>). If you are interested in the brief synopsis provided by this report, you should visit the online repository. AERA offers open access to all for papers and presentations, which authors have voluntarily uploaded for all conference sessions since 2010. (Recommend using “simple search,” then use the spyglass icon next to your keyword, not the labeled “search” button.) Currently, 2010-2018 materials are available, with 2019 items to be added soon.

Suggestions

The 2019 SoTL focus group was also tasked with providing suggestions for future EM groups attending the conference.

- Organize everyone to stay in the same hotel
- Meet as a whole group at least twice (once at the beginning and also towards the end of the conference)
- Establish framework for final report prior to conference, if possible
- Keep meeting locations close to the main AREA activities. Try to keep focus group social gatherings in the same general area as the event to minimize additional travel time and expense.
- It is important for new comers to attend the new attendees orientation so they'll understand where things are and what events are available outside of sessions.
- EM/HS SoTL have a session so others can start to know more about FEMA Higher Education program.
- It may be beneficial to share brief bios (or even application statements) with the group before the first Zoom / video conference meeting. It will provide a clear understanding of each participant's background, their interest in AERA, and focus group contributions.

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APPENDIX I. SOTL FOCUS GROUP AT AERA

2018 AERA Impact

Focus group participants from 2018 are still using the experience to inform teaching and research. As leaders in the emergency management space, our community needs to invest in SoTL efforts. At least one of the previous participants has incorporated lessons from AERA to develop a masters' program and submit two federal grants. Many of the opportunities to connect back to the AERA experience are sure to continue for participants over the next few years.

Using what I've learned at AERA, I've continued to work with colleagues to develop online MS degrees in cybersecurity, intelligence analysis, and global conflict and human security. In addition, we've submitted two federal grants this past year for centers of academic excellence in cybersecurity education (to NSA) and intelligence (to DIA) both of which required substantial coalition building and online delivery of courses, certificates and programs in order to advance the US workforce in both cybersecurity and intelligence

Based on current research and lessons learned at the AERA, I intend to submit a paper for the 2020 AERA conference based on the importance of next year's theme: "The Power and Possibilities for the Public Good When Researchers and Organizational Stakeholders Collaborate." Hopefully, if accepted, the session could serve as a soft introduction of disaster education and research into the AERA community.

2019 AERA Experience

Participants in 2019, were asked to reflect on their experience and highlight key lessons or significant findings. Below are their responses in their own words.

My observations at AERA have focused on online adult learning and coalition building – to me best exemplified by the Canadian "Dean's Council" for education programs across the Provinces – which my colleague and I presented last year.

Inadvertently, I learned that NSF grants, typically, require a basis science objective. This objective should be emphasized and repeated throughout the grant application to increase likelihood of acceptance. I will use this knowledge in a forthcoming NSF grant application.

I learnt a lot from my sessions. My key takeaway was the fact that there are other Minority Serving Institutions outside of HBCUs and Hispanic Serving Situations. We forget about the Tribal Colleges and Universities which were established by the civil rights act as well as HBCUs. We all have something in common and SoTL should tap into that and bring all together. Gender and minorities in PWIs are all part of this discussion and our education of EMHS graduates should address all of these.

Based upon my two years of experience with the SoTL SIG, two AERA conferences, as well as my homeland security, emergency management, and police curricula research, I conclude that the SoTL SIG's time and energy would be best served by exploring the pedagogical and androgogical approaches by the multiple disciplines of our field and especially EM, HLS, and public administration.

By definition, the SoTL SIG focuses on the pedagogical and andragogic theories and tools applicable to the emergency management discipline: experiential learning, program and course assessment, OL learning, creating and maintaining community partnerships. The SIG serves as a resource to share state-of-the-art practices in data collection from emergency management and homeland security classrooms and programs. The SIG

promotes the use of inductive and deductive approaches when analyzing the design of new courses, modifying existing courses, or enhancing the program and serve to strategically disseminate results, actionable items, and materials to academics and practitioners.

Notably, AERA focuses on K-12 rather than higher education. We should focus our efforts on higher education.

My AERA sessions were extremely valuable and -- contrary to others' experiences -- were not focused on K-12. Perhaps this had to do with the affiliated Division(s) and SIGs? The sessions I attended were primarily (if not totally) focused on higher ed. That said, some of the K-12 sessions were valuable for enhancing our competencies and capabilities re: pathways to higher ed.

I recommend that that the HS and EM attend each other's conferences, i.d. EM attend HLS and vice versa, as well as both attending public administration and other conferences. We the "entwined cousins of HLS and EM" must come to understand each other. The aforementioned is also based upon my research and professional experiences will lead me to believe that merging HLS and EM is a National imperative.

APPENDIX II. 2019 AERA THEORIES TO SHARE WITH THE BROADER COMMUNITY

1. Self-determination theory
2. Cultural Theory of risk
3. Community-Capital Framework
4. “Productive failure” (similar to “desirable difficulties”) in SoTL (*not* the same as problem-solving learning)
5. Comparisons of Community of Practice frameworks with Professional Learning Networks
6. Community of Inquiry framework
7. Politeness Theory and Hedging to Save Face, regarding assessments (application beyond the intra-personal??)
8. “Reciprocal interaction” method for assessing knowledge-building in online discussions
9. How should competency-based learning be assessed across disciplines and among different schools? (inter-professional considerations)
10. “Entrustable professional activity” concepts in medical education -- anything for EM/HS to interact with there?
11. Which of the following statements are true about the field of risk perception? (Phillips et al, p. 81-82)
12. “Risk perspective theory” (overlap with #2): focuses on how people perceive risk and deals with a range of disasters as well as “risky activities” (e.g., smoking and skydiving); humans often perceive disaster risk differently. Risk perception theory examines why some activities are perceived as more risky than others?
13. “Risk analysis theory” (overlap with #2 and #12) has origins in the disciplines of sociology and psychology (i.e. social-psychology) and grew out of questions pertaining to environmental and safety issues associated with the use of nuclear power. Risk analysis issues intensified after the Three Mile Island (TMI) nuclear accident in the United States in 1979 and the Chernobyl (in the former Soviet Union) nuclear power plant explosion in 1986.
14. Risk Theory*:

Paul Slovic (the University of Oregon) helped create the study of risk research over 35 years ago. Initially, the field of risk analysis grew out of questions of the environment and safety around nuclear power, to include the Three Mile Island (TMI) nuclear accident in the United States in 1979 and the Chernobyl (in the former Soviet Union) nuclear power plant explosion in 1986.

Originally coming from a social psychological perspective, we might try to understand how teachers and learners view and respond to risk. A risk perspective considers why people perceive some activities as more risky than others (flying vs driving; skiing or swimming, etc.); environmental risk education issues were also discussed, such as how much of a hazardous substance should be allowed into rivers or waste.

Here there may be linkages with EM: The risk perspective may not deal with classic perils, threats hazards and disasters. For example, many educators discussed “risky activities” (e.g. smoking and skydiving) or other risky situations (e.g., possible exposure to cancer from environmental threats). Risk was defined as the probability of an event occurring. The question was raised: Do teachers and the public filter risk through various levels of perception and understanding? People may simply not

worry about a hazard and take enormous personal chances with their health and safety based on an assumption that “a massive disaster won’t happen to me” and many teachers and citizens have a low degree of concern with disasters for most people.

It can be hard to communicate a risk message and convince students or teachers about an impending risk. (Many of the students that came to Becky’s table on the weekend were unconvinced that possible hazards were likely to create a major disaster in your area.) The session ended with an appreciation and understanding that risk and risk perception can assist teachers and others with understanding why students choose to evacuate or not during a disaster. Risk theory also sheds insights on why students and their parents may be willing to live next to a potentially hazardous site such as a chemical company or nuclear power plant. Understanding a class’s perception of risk makes society more capable of helping the public by designing preparedness campaigns and organizing evacuations.

* Taken from session: The Productive Tensions of Dual Credit: Reenvisioning Dual Credit Instruction, Postsecondary Readiness, and Success, Mon, April 8, 8:00 to 9:30 am

15. “Crisis theory/perspective” of disasters focuses upon situations in which the values of society are threatened; there is a short period of time to act; decision makers must deal with a high degree of uncertainty. The Crisis Perspective constitutes a theory which focuses on the decision-making process taking place before, during and after the crisis, with a focus on how leaders make their decisions during times of crisis... Crisis theory examines how leadership and decision-making affect political and social outcomes. This theory involves case studies including political assassinations, economic sanctions, dance hall fires, and mad cow disease as well as traditional hazard and disaster topics such as earthquakes, floods, and dam breaks.
16. “Emergent Norm Theory” involves the study of collective behavior and captures the spontaneous aspects of disaster behavior during the response phase. It focuses upon processes that generate new norms or new social structure and studies the spontaneous creation of new groups and organizations that assist with disaster response.
17. The “Systems Theory” perspective of emergency management examines how the built environment, the physical environment, and human beings interact together; potential victims/survivors in a disaster; an examination of the interactions among the built environment, the physical environment and the human element.
18. “Sociopolitical Ecology Theory” includes the concept of “competition over resources”. Examines the efforts people engage in to secure scarce resources such as food, water, and shelter. Sociopolitical Ecology Theory guides emergency managers to observe which members of the community are likely to be at highest risk for disaster impact: winners and losers in the process of securing resources will occur throughout the disaster cycle; emergency managers should observe which members of the community are likely to be at the highest risk for disaster impact. Emergency managers can use Sociopolitical Ecology Theory to design measures that reduce disproportionate numbers of deaths, injuries and property losses.