

ICICLE Higher Ed MIG: January 7, 2025

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Jason Bock, Genzeb Jan, Keith “John” Ellis, Renée Johnson, Emily Marasco, Chloe King, Janice Mak, Shira Fruchtman, Francisco Rios, Aaron Kessler, Bedriye Akson, Patrick Hong, Adesunloye Adeola, Lauren Totino, Skye Nguyen, Megan Koontz, Adesola Ogundimu, Barbara

Regrets:

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Bedriye Akson, bedriyea@mit.edu, aksonb@gmail.com PhD candidate in Information Systems at Middle East Technical University (METU) in Turkey


3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder of 2024 name change: ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

5. Discussion Topics:

- a. Higher Education Case Studies
 - i. [Learning Engineering Case Guide 1.0](#)
 - ii.  2024 Ongoing Case Studies

Discussion Notes

- Jason - Reframing dissertation work in human performance metrics, lots of overlaps in learning engineering, differences between proactive analysis versus reaction analysis, how could the LE framework be used to expand or bridge?
- Mac - Working on design based research, constructive alignment, and LE analysis/improvements for undergraduate materials science labs within engineering programs
 - Critique of LE was more of a cultural one. What distinguishes learning engineering vs. learning design. Could be a critique of identity.
- Addressing concerns about LE - how to respond to people opposed to the toolkit/related content?
- The learning engineering process is interdisciplinary, and a connection/bridge of related elements across many disciplines
- Genzeb - looking at critical thinking in nursing programs.
- Many paradigms to view LE, impossible to know everything about all areas, keep practicing and improving while considering a systems view
- Context matters - the way LE is applied can vary across disciplines and paradigms, important that we keep sharing what we're doing and why. Similar to "thick descriptions" in a qualitative research setting.
- Applying LE doesn't dilute other bodies of literature, it adds and examines
- History repeats itself - "isn't this just *BLANK*" has been said throughout academia as various theories, frameworks, etc. have been developed
- Not a replacement or the same thing as learning sciences
- Need more practical applications and case studies to continue adding validity and refinement to learning engineering evidence
- "Now what?" - put the body of knowledge to work - consider what engineering itself is - making science accessible and applicable
- Importance of bringing solutions and applications to scale
- CHLOE = Changing Landscape of Online Education
- Future discussion idea - AI in learning engineering

6. Next Meeting

- 4 February 2025
 - Next topic: Marilu will present on her LE case.
 - Part 3 of LE cases
- Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of

data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering (October/November 2024), AI tools, techniques, applications etc. in higher ed/learning engineering applications

ICICLE Higher Ed MIG: December 3, 2024

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Emily Marasco, Rob Nyland, Lauren Totino, Michael Jay, Megan Koontz, Keith Ellis, Steve Salik, Aaron Kessler, Amy Janiczek, Zarka Ali, Adesunloye Adeola, Shira Fruchtman, Skye Nguyen, Adesola Ogundimu, Karen Rege

Regrets:

7. Review of the Agenda

- a. Any additions?

8. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

9. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

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- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Lauren (ltotino@mit.edu for more information)

- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Members of the IEEE Learning Engineering community (ICICLE) are facilitating an event on how you can get engaged with Learning Engineering (LE) to take place via Zoom on Wednesday 11 December at 1pmET/10amPT. This session will provide an overview of Learning Engineering, share a use case on the application of Learning Engineering, discuss that use case from a variety of perspectives, and open the floor to participants to pose questions and, if time permits, discuss all things LE. Participants will be invited to continue their exploration of LE as part of the ICICLE Special Interest Groups (SIGs) and Market Interest Groups (MIGs). You can find more info about those ICICLE groups here: <https://sagroups.ieee.org/icicle/>
This session will highlight a use case from Carnegie Learning and will feature Steve Ritter, Carnegie Learning's Founder and Chief Scientist. You can register here: <https://us02web.zoom.us/meeting/register/tZAvdeCrqToiE9w0k3-uWbBsm7OjZSF1258E>
- e. Reminder of 2024 name change: ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

11. Discussion Topics:

- a. Higher Education Case Studies
 - i. [Learning Engineering Case Guide 1.0](#)
 - ii. + 2024 Ongoing Case Studies

Discussion Notes

- Emily - using it as a mapping, analysis, and change management/tracking tool
- Rob - project to help students use GAI in prosocial ways, scaffold their use. Want to model how GAI supports critical thinking. Later - Content analysis on actual spreadsheets (records) students turn in? Collect data in this process and feedback from students and placing that back into future design decisions they'll make.
 - "Shoehorning" LE - wasn't initially part of the process but using something like the Case Guide can help you understand gaps and what to be more intentional about
- Steve - full-scale integration of GAI in LDT program. First iteration - experimenting seeing what works. Then looking to use iterative feedback to finetune design. Decision to anchor entire initiative to AI mentors. Will use AI builder at ASU to build out mentors (has been a little cumbersome for students).
- Adeola - started with problem of personalized learning; many related problems from here. Learning sciences angle - how to leverage in solution to make design decisions?

Data to inform development of platform. At implementation stage, discovering important role of data. Also understanding users/target audience's needs.

- Aaron - as you think about capturing choices in the Case Guide, think about other levels too, not just the base level you see in the guide. (see [Nested LEP poster](#) from ICICLE). Making decisions clear to others is important too. We made purposeful decisions that make learning better for learners by doing XYZ...share this documentation. Case guide should give starting point for this.
 - Ex) Adeola - inform others why they're building the platform the way they are. People in different roles/levels have different goals and want to optimize something different.
 - What are goals and outcomes at center? In this context, with this set of school leaders, these decisions were changed to focus on these outcomes... → track these. They are also entry points to other decisions when other stakeholders are involved.
- Keith John Ellis (in chat) - Not in place to come off mute, but application for nonprofit focused on 15 to 30yo to transform personal self unmet needs into human centric innovations and develop for AI and Quantum careers. Building out the data collection and usage to ai and support this. Also, participated with OKN Collabnext about knowledge graph mapping of research across institutions and hope to build further with that.
- Marilu - Using nested LEPs and tracker for CPA certification programs (CPA Western School of Business in Canada). Very complex environment of learners who pursue the certification. Data from "micro" cycle. Added extra column to LEED tracker to be clear about topic the decision was made about. Came into work when project was in motion, but no one was talking about data and not written down.
 - Can share in January meeting?

12. Next Meeting

- 7 January 2025
- Next topic: Marilu will present on her LE case.
 - Part 2 of LE cases
- Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we

assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: November 5, 2024

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Jason Bock, Renée Johnson, John Ellis, Adesola Ogundimu, Michael Jay, Emily Marasco, Zarka Ali, Amy Janiczek, Marilu Lam-Herrera, Lauren Totino, Adesola Ogundimu, Syria Fruchtman, Steve Salik, Marilu Lam-Herrera, Chloe King, Anne Fensie, Skye Nguyen

Regrets:

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. John Ellis keith.j.ellis.th@dartmouth.edu, Grad Student
- b. Chloe King cking@cpawsb.ca Research Assistant CPAWSB

3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder of 2024 name change: ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

5. Discussion Topics:

- a. Assessment discussion continued- how can we apply these concepts to special cases like large scale classrooms, case studies, etc.

Discussion Notes

- Upcoming collaboration opportunities
 - AIS 2025 (HCII 2025) (contact Aaron/check your emails from Michael)
 - American Society for Engineering Education (contact Emily)
 - ASU FOLC Fest <https://provost.asu.edu/folc-fest> (contact Steven)
 - OpenDS4All : actively updating/ reviewing content (mentioned ICICLE)
 - <https://nebigdatahub.org/opens4all/>
 - <https://github.com/odpi/OpenDS4All/>
 - South by Southwest proposal accepted! (Renee) [Navigating Needs](#)
- LE Newsletter article on the Higher Ed WIB by Jim Paradiso:
<https://www.linkedin.com/newsletters/learning-engineering-weekly-7228960258193248257/>
- Report from Lauren on AECT (nested LEs) - hands on session
 - Steve Salik on Gen AI
 - Anne Fensie spread the word on LE
 - Clear need for LE within topics/attendees
 - Samaa presented on AI in Education. Training teachers in K-12, particularly those from marginalized communities.
 - Jeremy Rochelle from Digital Promise speaking on guidance on the use of AI.
- Anne - Measuring Learning Outcomes
 - How do we measure learning in a way that is comprehensive, rather than just measuring a few of the students
 - Question from Jason - How do we deal with this in the age of AI? Anne's response is that we go small
 - Samaa - removing discussion posts and instead doing some creative activities. Developing tutorials for specific tools. Authentic assignments that involve complex work.
 - Principle Innovation at ASU: <https://pi.education.asu.edu/>
 - ASU Generative AI Journey: <https://tech.asu.edu/features/AI-Journey-24>
 - Emily - concerns around perceptions of AI and what students think they capabilities are
 - Common Sense Media has a pretty good training for educators about AI: <https://www.commonsense.org/user/login?destination=/education/training/ai-foundations>.
 - Digital Promise has some great resources on AI Literacy: [Artificial Intelligence in Education – Digital Promise](#)
 - Lauren - BC LE grad program including a digital portfolio and justification of what informs your design stance and development as a LE
 - How to Use AI to Help, Not Hinder Learning: [EdTech Books](#)
 - Systems view of using AI: [2407.12796](#)
 - LE Case Guide 1.0 for next time: [Learning Engineering Case Guide 1.0](#)

6. Next Meeting

- 3 December 2024
- Next topic: Sharing higher ed relevant case studies (i.e. one minute pitch of what we are all working on!)
- Refer to the LE Case Guide 1.0 in preparation!

- Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: October 1, 2024

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Emily Marasco, Lauren Totino, Shira Fruchtman, Jim Paradiso, Steve Salik, Marilu Lam-Herrera, Renee Johnson, Zarka Ali, Samaa Haniya, Rezwana Islam, Anne Fensie, Jon Wade, Skye Nguyen, Michael Jay, Renee Deljon, Adesola Ogundimu

Regrets: Rob Nyland

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
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4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder of 2024 name change: ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering
- e. Publishing - Jodi, Rob, and Scotty met with [EdTechBooks](#) to discuss the possibility of publishing materials with them
- f. Status of 2024 Proceedings/Reflection Submissions - share any final reflections with Rob and Emily via email before Friday, October 4th

5. Discussion Topics:

- a. Anne Fensie - Learning Outcomes

Discussion Notes

- Anne is working within a large team (~20 people) to conduct a scoping review of learning events and assessments
 - Now have about 170 articles that actually measure adult learning in distance education (includes intelligent tutors, distance, time)
 - Medical field is doing a good job due to credential/accreditation tracking
 - Far-transfer assessments - “unicorn of education” that measures how students will actually need to use the course concepts in career applications
 - Language learning has a very broad range of literature with various qualitative assessments
 - Need to be clear on the qualitative indicators and rubric criteria
 - Team is halfway through article extraction
 - Team had to first define “what is learning” and create inclusion criteria
 - Open to additional collaborators!
- In postsecondary, we are not taught about creating/implementing assessments
- Consider: what do we actually want our students to do?
- Anne suggested video: Writing behavioral objectives:
https://www.youtube.com/watch?v=olOSOI0YPL4&t=206s&ab_channel=DrRobinLindbeck
- Steven suggested book:
https://www.amazon.com/Preparing-Instructional-Objectives-Development-Instruction/dp/1879618036/ref=sr_1_1?crid=3FQRQRCZBSQ5L&dib=eyJ2IjojMSJ9.0wv43I7TjQQrkAK90GHj64i3pDL-uW_Ez-cl9-_Dhads4CKUjFFtGooYWnbfeEnyOMnf6hSb7CXY4XW0fL8lgbCuib7as8D2wK9KpA9Yo7B_0G135Bi66op-uFFbV97D-7UpD55KPvN8TUavdum6jqHf7UBzWfucelK0vK_WtTb4SwSD89DjQX5bA97uk4mjqAh9pqSOvZDqPKIAwBVtnxchnkchb1-8VmAE1sMvyo.pTgc5quhG2GADRV0nYAxdB4LJCPSDrbQ2Fhh1XJFCHg&dib_tag=se&keywords=mager+objectives&qid=1727799827&srefix=mager+objective%2Caps%2C167&sr=8-1
- Steven suggested article:
<https://www.learningguild.com/articles/2359/magers-criterion-referenced-instruction-approach-ideal-for-self-paced-elearning/>
- Weak versus strong recall - owning the knowledge for application
- Use intentional distractors to assess misunderstandings, etc.
- AI can be used to help plan where students might be confused, etc.
- Use rubrics to outline exactly what should be demonstrated- anyone should be able to use the same rubric for similar assessment (inter-rater reliability)
- Anne suggested book: Classroom Assessment Techniques (Angelo and Cross) - formative assessments for postsecondary
- Low-stakes assessments can help students with retrieval and strength the memory traces
- Anne suggested tool: EdPuzzle can be used to embed questions in videos (typed or audio recorded responses)

- Renee mentioned a mix of Kirkpatrick model and Phillips ROI to assess training in corporate settings
- Anne also uses an “Exit Ticket” through a Google Doc to have students consider their reactions and reflections
- Teaching for the future, not the past - for example, how has instructional design itself changed over the past few years?
- Steven shared an AI mentor to support student learning/questions, build student communication skills and professional dialogues, provides continuity
- Renee suggested Microsoft PowerApps can also function as custom GPTs built on uploaded source materials, programmed as no-code apps
- Quizzes are a snapshot in time- how can we assess as students progress?
- Students don’t always see the value of self-directed learning on their future careers/responsibilities
- Rigor of assessment plans - direct versus indirect evidence of learning
- If students have complaints, challenge them to make suggestions for improvements rather than just complain
- Consider changing “learning” to “knowledge gains”
 - Is that still applicable though in a world of ChatGPT? Is knowledge or systems-level application more important?

6. Next Meeting

- 5 November 2024
- Next topic: Assessment discussion continued- how can we apply these concepts to special cases like large scale classrooms, case studies, etc.
- Future topic parking- creating an "organizational culture" that promotes LE, inviting “guest users/reflectors”/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: September 3, 2024

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Rodney Beard, Michael Jay, Steve Salik, Jason Bock, Anne Fensie, Amy Janiczek, Karen Rege, Shira Fruchtman, Zarka Ali, Jim Paradiso, Skye Nguyen, Genzeb Jan, Samaa Haniya, Adesola Ogundimu, Marilu Lam-Herrera

Regrets: Aaron Kessler, Jodi Lis

7. Review of the Agenda

- a. Any additions?

8. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

9. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
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10. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakerlabs.net)
 - i. September 18, 2024
 - ii. Topic:
- b. Reminder - ICICLE SIG for grad students- contact Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering
- e. [Conference Proceedings and Reflections](#) due September 30th
- f. [LE Case Guide 1.0](#)
- g. Air Force recently announced the [Learning Engineering Center of Excellence](#)
- h. Learning Engineering workshop in progress at Air University

- i. Anne is working on building a Learning Engineering Microcredential for University of Maine System - potentially work together with ASU as they are developing as well.
- j. Genzeb - questions about resources for Hyflex classrooms
 - i. Connect with Steve regarding ASU Hyflex resources:
<https://provost.asu.edu/sync>

11. Discussion Topics:

- a. Research and Publishing in Learning Engineering
 - i. What are publication venues for work in Learning Engineering?
 1. Jim - Use existing assets from ICICLE. Trying to be diverse in our publication outlets. There is some difficulty in getting materials openly licensed.
 2. Idea for a substack from Learning Engineering
 3. Jim - Scholarcy as a way of summarizing research and sending it out via social channels
 - ii. How can we better support publishing in Learning Engineering?
 - iii. What are challenges in publishing in Learning Engineering?
 1. There may be pushback from traditional instructional design and technology programs. The challenge with pitting learning engineering against instructional design.

Discussion Notes

- Learning Engineering case studies or special edition in Journal of Applied Instructional Design

12. Next Meeting

- 1 October 2024
- Next topic: Anne Fensie - Learning Outcomes

- Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-a-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning

process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: August 6, 2024

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Rob Nyland, Jason Bock, Michael Jay, Aaron Kessler, Marilu Lam-Herera, Karen Rege, Vipin Verma, Diana Vasquez, Lenora Ott, Jim Paradiso, Rodney Beard, Shira Fruchtman, Renee Deljon, Steve Salik, Zarka Ali, Renee Johnson, Adesola Ogundimu, Emily Marasco, Eric Ultes, Anne Fensie

Regrets: Lauren Totino (was lovely seeing many of you at the conference!!)

13. Review of the Agenda

- a. Any additions?

14. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Lenora Ott, Director of Learning Design, [Universal Learner Courses](#) at ASU Learning Enterprise. lenora.ott@asu.edu
- b. Diana Vasquez, Sr Learning Experience Designer - Vanderbilt University - diana.vasquez@vanderbilt.edu
- c. Steve Salik, Program Coordinator Learning Design and Technologies Program, Mary Lou Fulton Teachers College (MLFTC) Arizona State University, shsalik@asu.edu
- d. Vipin Verma, Assistant research scientist, Decision Theater @ ASU, vipin.verma@asu.edu
- e. Renee Deljon, Sr instructional designer, EdPlus at ASU, BioSpine rdeljon@asu.edu

15. Starting Themes and Planning

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 - i. Topic:
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17. Discussion Topics:

- a. 2024 ICICLE Conference Follow Ups
- b. Share the LE projects you are working on, or ideas for speakers/collaborations/discussion topics!

Discussion Notes

- What stood out to you about the conference?
 - Lenora Ott
 - LEED Tracker - how do we document the process of design decisions
 - Renee Deljon
 - It was fascinating to witness the birth of a new academic discipline. Appreciated how the ICICLE leadership has been trying to wrangle complexity through the use of SIGs and MIGs.
 - Good opportunity to bring forward existing expertise for collaborations/insights
 - It seems a central question is, how much data needs to be used for a process to “count” as using the LE process.
 - Eric Ultes
 - A lot of the same challenges are happening across various SIGs and MIGs. The things that we tackle can help one another.
 - Steve Salik
 - How do we integrate elements of Learning Engineering into an Instructional Design / Learning Design program
 - Michael Jay
 - In addition to being an academic discipline, LE is a practice in a wide set of domains. The cross fertilization between the academic and the practice is central to our challenge and opportunity.
 - Anne Fensie
 - Reminder: you can still contribute to the collective LE syllabus
 - ■ Fensie, Anne: The Collective Curriculum: Building a Learnin...
 - Aaron Kessler
 - We need to think about different ways of communicating with different stakeholders.
- What would you like to support you in the coming year?
 - Eric - Talent pools and connections with jobs

- Renee J - More organized call for publication, how do address the holes? What are the specific topics that need to be addressed?
- Renee D - I suggest having strategies for different entry points, so to speak, that is, starting with engaging with leadership, mid-level management, or faculty and IDs.
- Aaron K. - Research is hard. Learning Engineering is not often capturable in a way that traditional peer review research has.
- Steve - Potentially talk with Royce Kimmons at BYU about doing a journal in their platform
 - ASU is using a non-graded format, makes it difficult to measure the impact of something.

●

18. Next Meeting

- 3 September 2024
- Next topic: Research/Publishing in Learning Engineering
 - Find examples of the types of articles that have been published in LE and venues for publications.

Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: July 2, 10 AM MDT

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Attending: Rob Nyland , Zarka Ali, Emily Marasco, Michael Jay, Janice Mak, Adesola Ogundimu, Renee Johnson ,

Regrets: Lauren Totino

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- a.

21. Starting Themes and Planning

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22. ICICLE News and Reminders

- a. 2024 ICICLE Conference - There's still time to register: [Personal Information - ICICLE 2024 Learning Engineering Conference \(cvent.com\)](#)
- b. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakerdlabs.net)
 - i. Topic:
- c. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- d. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- e. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

23. Discussion Topics:

- a. Tips for engaging meaningfully and effectively during conferences, how to follow-up on conference takeaways/connections
- b. Planning for 2024 ICICLE Conference Presentation
 - i. Preliminary time on schedule: Day 1 Concurrent Session at 2:35 - 3:35

- ii. Session Materials:
 1. Link to [Conference Proposal](#)
 2. [Workshop in a Box Planning Template](#)
 3. [Conference Slide Presentation \(DRAFT\)](#)

Discussion Notes

- Emily presented at CEEA on LE and technology in learning environments
- Zarka, Kayla, Michael presented at ISTE on LE - noticed three distinct groups (a) engaged, b) critical, c) disengaged/left early
 - Group B wanted to see the end result first, THEN the process - needed the motivation, mixed context group
 - Group A had a more holistic view and were able to engage from the start, had more software/engineering backgrounds, context made sense
 - Group C was mostly teachers and educators, weren't sure how this applied to them
 - PK-12 group might need to start with more simple terms- even something like "human-centered design" needs more explanation, idea to have terminology defined on the website (as defined by ICICLE), could be a good idea for more contexts as well - keep it simple!
- Tips for connecting with people during and post-conference:
 - Business cards help with a tangible reminder, but most people are using LinkedIn barcodes, etc.
 - Helps to have a specific project to anchor the connection
 - How can this new connection/relationship help each party to solve challenges in their work/projects?
 - Never sit with people that you already know (virtual-only connections might be an exception!)
 - Have a specific follow-up in mind- let's think about inviting people who sit with us specifically to the next Higher Ed meeting
 - Make a plan for virtual coffee to set the next steps, or even try to connect again at the conference (e.g. coffee, drinks, etc.)
 - Apps can help to build community - Whova, etc.
 - Use Google forms to be ready to collect info (for groups)
 - Can go into the conference directory to highlight specific people and make notes on how/why you want to follow-up
 - Size of the conference matters- easy to get overwhelmed by number of people that you meet
 - "Networking excursions" tied to specific sightseeing locations/activities
 - "Buddy" system for new conference attendees
 - Recommendations within area - 1 min, 3 min, 5 min, etc.
 - Lurk near the people you want to meet with- they might bring you into the conversation

- On the other hand, don't monopolize people's time yourself- lots of people are waiting to connect after session
- Wear an "ask me about" sticker/button
- Invite others to join your conversation
- Look for identified "first-timers", "presenters", "conference committee", etc.
- Participate in any conference scavenger hunts, prize activities, etc.
- Tips for selecting sessions:
 - Divide-and-conquer approach with colleagues from same institution
 - Attend sessions that are directly relevant to current interests/projects
 - Take a few minutes everyday to write about "what I learned" in a presentation to be shared back at home
 - Sometimes sessions aren't the right fit- life is too short to sit in a boring session when you could be writing up your notes from other sessions!
 - Presenter quality makes a difference for the content!
 - Using multi-tasking carefully- do what works for you! Can be a distraction, or help to stay focused - same with tech use
 - Pace yourself, especially on Day 3 - reflect on the best sessions you've seen so far!
 - Think about what will be happening in the session and what you need yourself to stay engaged- visualization stimuli versus panel conversations
 - Roundtables/"birds of a feather" can be a good time to connect on specific issues- be brave!
 - This year's conference will have breakfast "sense-making debriefs" on Days 1 and 2
 - Unplanned time can be useful for filling in content/connection gaps
- MIG prep for conference
 - Day 1: elevator pitch for orientation
 - Day 3: MIG meeting - Rob and Emily to prep Google form
 - Possible MIG dinner on Tuesday - rooftop across the street from OMNI
 - <https://alibitempe.com/>
 - <https://alteregotempe.com/>
 - Sign-up/email ahead of time
 -

24. Next Meeting

- August 6, 2024
- Next topic: Conference learning debrief, potential new projects coming out of conference and sharing with those unable to attend
- Emily to renew meeting invite
- Community calls to continue in July and August

Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes, Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

ICICLE Higher Ed MIG: June 4, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Michael Jay, Jason Bock, Zarka Ali, Karen Rege, Jodi Lis, Anne Fensie, Ahmed, Jim Salsman, Brenda Braitling, Renee Johnson, Monique Liles,

Regrets: (regrets for July 2 - Lauren)

25. Review of the Agenda

- a. Any additions?

26. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Jason Bock, Director of Distance Education at AMDA
- b. Jim Salsman, jim@talknicer.com, TalkNicer.com is a free English pronunciation intelligibility remediation web app for ESL learners of all ages
- c. Karen Caldwell, SUNY Potsdam (caldweke@potsgdam.edu)
- d. ahmed.naumaan@gmail.com (American Public University System)

27. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

28. ICICLE News and Reminders

- a. 2024 ICICLE Conference - Register before June 15th for the Early Bird Rate: [Personal Information - ICICLE 2024 Learning Engineering Conference \(cvent.com\)](https://cvent.com)
- b. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
 - i. Topic:
- c. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- d. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

- e. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

29. Discussion Topics:

- a. Planning for 2024 ICICLE Conference Presentation
 - i. Preliminary time on schedule: Day 1 Concurrent Session at 2:35 - 3:35
 - ii. Link to [Conference Proposal](#)

Discussion Notes

- Worked on [Conference Proposal](#) Document

ICICLE Higher Ed MIG: May 7, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Michael Jay, Janice Mak, Lauren Totino, Emily Marasco, Milana Grozic, Aaron Kessler, Zarka Ali, Dina Kurzweil, Brenda, Monique Liles, Qiong Cheng, Renee Johnson , Monique Liles, Genzeb Jan, Sam Shojaei, Adesola Ogundimu, Samaa Haniya, Rob Nyland, Jon Wade, Kelly Cooney, David Ibrahim

Regrets: Regrets for 6/4/24 - Lauren

30. Review of the Agenda

- a. Any additions?

31. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Qiong Cheng qcheng1@uncc.edu

32. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

33. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
 - i. Topic:
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

34. Discussion Topics:

- a. Review results from conference acceptance
- b. Anne to present on how we assess learning outcomes
- c. Discuss specific ideas for studying learning engineering

Discussion Notes

- Renee Johnson is doing a upcoming presentation on Learning Engineering

2024 ICICLE Conference Accepted Presentations

- Higher Ed MIG - will be presenting on Workshop in a Box and accompanying materials
- Zarka - PK-12 got accepted, will be reaching out to the other MIGs (Higher Ed and Government and Military) to create scenarios
- Lauren and Aaron - 2 presentations one on LEED and another on nested representations
- Janice - Morocco presentation grouped with 3 other presentations about Learning Engineering in Africa
- Session on teaching Learning Engineering was accepted - Anne, Emily, et. al.
- Qiong - Educational Knowledge Graph Modeling and Constructions to Facilitate Adaptive Learning and Assessment

Assessment of learning data and learning outcomes

- Need to consider- what are we trying to measure, and what are we trying to address? Do the measurements align with what you intend to address?
- How can we provide evidence of an entire system working?
- Research questions should be alignment
- Can be difficult to control variables in a complex approach
- Qualitative methods (like case studies, rich descriptions of interventions, etc.) can provide more evidence of how LE MAY have influenced the outcomes
- Learning engineering is more than one specific intervention
- Could do a case study on effects of an LE team-based approach, etc.
- Embedded case studies with design-based research
- Can we compare how instructional design models, processes, etc. are measured or assessed? (e.g. Kirkpatrick's Model, ROI Institute's Model for assessing ROI from a corporate training perspective, etc.)
- How are engineering design processes assessed? Software engineering processes/models? Could look at accreditation processes like ABET, CEAB, etc.
- Thinking about approaching your specific questions very intentionally first- can't be vague or general
- Needs to be a more rigorous process
- Think about the options you have assessment and data collection
- Instructional design and frameworks, etc. are still embedded in the LE process

- LE (perhaps compared to some other models or frameworks) encourages you to think about the role of implementation
(https://www.thinkmind.org/index.php?view=article&articleid=eImI_2022_2_40_58010 - Paper by Rachel and Aaron at eLmL)
- A single learning experience can result in different outcomes depending on the instructor implementing it, how it was implemented, if/how they were supported to implement, etc. - high level of variability
- The new LEED tracker can provide a tool for evidence - how decisions can impact each other and the outcomes
 - Traceability
 - Tracking the micro decisions
- Could be swayed by your “approach” to engineering learning
- Need to understand existing inefficiencies
- Could look at field of Implementation Science (which is from the medical field) - research on strategies for promoting the uptake of evidence-based practices, programs, and policies
- Traceability versus rigor
- Might not be able to control precisely, but should at least be able to move towards general outcomes/more precision (precision education)

ICICLE Higher Ed MIG: April 2, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Zarka Ali, Rodney Beard, Karen Rege, Anne Fensie, Renee Johnson, Kayla Morehead, Chris Blakesley, Adesola Ogundimu, Michael Jay, Dina Kurzweil, Emily Marasco, Maureen Giacobbe, Rob Nyland

Regrets: Lauren Totino, Janice Mak

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Maureen Giacobbe

mgiacobbe@qcc.mass.edu

Work at Quinsigamond Comm. College within the Center for Acad. Excellence & Distance Learning

3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakeredlabs.net)
 - i. Topic:
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

5. Discussion Topics:

- a. Continuing discussions on types of data that can be collected in a higher ed context (qualitative vs. quantitative sources)

Discussion Notes

- From Michael: Thoughts on the balance of Qual and Quant: Qualitative in terms of making sure we are asking the right questions that lean into the areas that Learning Engineering addresses that are otherwise ignored and then quantitative data collection that incorporates both more traditional and more enlightened areas that LE impacts.
- Need to balance “planning your study perfectly” with getting ethics approval and then applying for modifications as needed
- Initial sharing of learning engineering research needs to be centered with existing IEEE publication standards and processes
- Emily challenges: 1) getting students to engage 2) permission for collecting certain types of data – which leads to more anonymous feedback
 - Likes the odd Likert scale
 - Beginning to use autoethnographies - instructors talking about themselves
- Regional differences in what is common for particular disciplines
- Renee looking for validated surveys for instructional design
 - Joosten, T., Cusatis, R., & Harness, L. (2018). Instructional characteristics and quality of courses influencing student success in online courses: A cross-institutional predictive study. *Online Learning Journal*.
 - May be able to search for surveys in ERIC
- Odd Likert scales- what is the best way to differentiate “I don’t know” from “I don’t care” - helps to quantify what the middle option is
- Consideration of sample design vs. experimental perspective
- We are largely educators/practitioners- research time is limited
 - Who can we engage with among educational researchers to move forward?
- LE Google group has focus on quantitative data and methods- needs more on mixed methods/qualitative
- Design-based research methods can be a good starting place
- LE research has overlaps with other areas that supports our intended outcomes anecdotally, but not empirically
- Can we look at more rigorous models to see how LE can support them?
- May need a slow and strategic approach to where we publish first- build credibility before targeting largest venues

- Current discussion on the Google group about learning engineering as an engineering disciplines- can we collect data ethically and without causing any form of harm? Obligations to public good and society?
- Theoretical frameworks exist for whether data is worthwhile to be collected and potential benefits- balancing both tangible and intangible costs
- Construct validity- data that is being collected should already be generated through the learning process whether it is answering a question or observation of a behaviour
- A lot of online learning research is collecting the wrong data- enjoyment, engagement, etc. may not be the right data
- How do you properly measure learning vs. attitudes/self-efficacy/perceptions
- Renee suggests: xAPI & cmi5 > SCORM but it's so complex to integrate = need for LE strategies
 - Ben Goldberg has presentations on using some interesting tools for converting xAPI to competency measures
- Should the LE community be engaging with accreditation bodies?
- Opt in/opt out can be problematic from a sampling perspective, it's easy to get that wrong. But it can lead to inappropriate sampling that may not have external validity.
- Working with complex data requires a lot of human resources
- Collecting data from an LMS versus LRS (Learning Record Store)
- IEEE Prevalent Perspective: Quantitative = Hard Data, Qualitative = Soft Data - we need to engage with folks on an ongoing basis
- Selection of learning tools needs to balance the user/learning experience, accessibility, research data, ethical collection, and more
-
- **Next Meeting**
 - May 7, 2024
 - Next topic: A) Review results from conference acceptance, B) Anne to present on how we assess learning outcomes, then we will discuss specific ideas for studying learning engineering

Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography, brainstorming what types of data can be collected to support the learning process/outcomes

ICICLE Higher Ed MIG: March 5, 2024 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Emily Marasco, Zarka Ali, Renee Johnson, Lauren Totino, Anne Fensie, Adesola Ogundimu, Samaa Haniya, Dina Kurzweil, Jim Paradiso, Jodi Lis, Monique Liles
Regrets - Aaron, Janice

6. Review of the Agenda

- a. Any additions?

7. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Skye Nguyen, nguyens@lanecc.edu, Lane Community College

8. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

9. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakeredlabs.net)
 - i. Topic:
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

10. Discussion Topics:

- a. 2024 IEEE ICICLE Conference Call is [extended](#)
 - i. PK-12 Colab -
<https://docs.google.com/document/d/1TmwnPQtHoMuYnri1jAmhDxdzNQBcsUfXQxb8X5kRRs4/edit?pli=1>
 - ii. 2024 meeting/conference topic brainstorming report outs / work time

1. Previously formed groups: [2024 Learning Engineering Conference Presentation Topics and Groups - Google Sheets](#)
2. [Workshop in a Box Outline](#)
3. [Crowdsourcing an Intro to LE Syllabus](#) (put your email here if you are interested in working on:
 - a. eamarasc@ucalgary.ca
 - b. jodillis@gmail.com
 - c. rjohnson33@islander.tamucc.edu

- b. Conducting research ethics for learning engineering initiatives

Discussion Notes

- The learning agency has created a Learning Agency Hub. In there, they have a link for Intro to Learning Engineering as well as open data sources: <https://the-learning-agency.com/learning-engineering-hub/introduction-to-learning-engineering/>
- Regional differences governing human subjects and research
- <https://www.hhs.gov/ohrp/regulations-and-policy/regulations/index.html>
- Canada Tri-Council ethics course: <https://tcps2core.ca/welcome>
- USA CITI courses: You can often get access to CITI courses through an institution with which you are affiliated: <https://about.citiprogram.org>
- Process can be time-consuming and limiting, but helps protect educations and research
- Open more rigorous ethical considerations for published work vs analysis for internal use - what if you serve two roles?
- Do educators “behave better” when they know you are collecting data? Does that “taint” the data collection?
- Concerns around data collection, storage and even transmission
- Technology adds additional layers of complexity
- Embodied discourse analysis justifies the need for video data: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10016174/>
- Might need to consider whether the institution is private or publicly funded
- State/provinces/regions may have their own set of policies and laws along with federal laws
- Data is important for the feedback loop of learning engineering
- Consider using technology/licenses that the institution already supports
- Other ethical considerations are the test proctoring software that use facial recognition and gain control of users' computers

- There is some research pointing to false positive rates associated with some of the proctoring tools particularly for users with darker skin tones
 - Meredith Broussard's research
 - Does data ever age out of requiring an IRB? Does it become archival data needing secondary use permission?
 - Do broad tools that facilitate learning across multiple platforms run into more issues given the wide access to student data and interactions?
 - Additional complexities with groups such as incarcerated populations
- **Next Meeting**
 - April 2, 2024
 - Next topic: continuing discussions on types of data that can be collected in a higher ed context (qualitative vs. quantitative sources)

Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications (March 2024), how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: February 6, 2024 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813> Passcode: 995990

Attending: Rob Nyland, Emily Marasco, Michael Jay, Doug McCarty, Anne Fensie, Zarka Ali, Lauren Totino, Genzeb Jan, Monique Liles, Renee Johnson, Adesola Ogundimu, Samaa Haniya, Jim Paradiso, Jodi Lis, Janice Mak

11. Review of the Agenda

- a. Any additions?

12. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Renee Johnson, rjohnson33@islander.tamucc.edu, Texas A&M University-Corpus Christi, PhD- Instructional Design and Educational Technology (~2025)
- b. Latasha Smith, lsmith@cbc.edu, Central Baptist College, PhD - Cellular Physiology & Molecular Biophysics (Adjunct Professor) / Intern - Learning Engineering - Studyhall.AI

13. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

14. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
 - i. Topic: Conducting research with students, Phil Vahey, Zarka, and Kayla
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Reminder: We have a new name! ICICLE = International Consortium for Innovation and Collaboration in Learning Engineering

15. Discussion Topics:

- a. 2024 IEEE ICICLE Conference Call is [live](#)
- b. PK-12 Colab -
<https://docs.google.com/document/d/1TmwnPQtHoMuYnri1jAmhDxdzNQBsUfXQxb8X5kRRs4/edit?pli=1>
- c. 2024 meeting/conference topic brainstorming report outs / work time
 - i. Previously formed groups: [2024 Learning Engineering Conference Presentation Topics and Groups - Google Sheets](#)
 - ii. [Workshop in a Box Outline](#)

Discussion Notes

- Existing collaborations: 1) “Workshop-in-a-box” group (materials and how to give a introductory workshop on LE), 2) LE as a team sport combined submission with PK-12 where each MIG provides a scenario, 3) assessing the effectiveness of LE (might be better as a future publication, more of a priority discussion than a submission)
 - Does the “workshop-in-box” need to go further and have more “working” opportunities, or would that be more applicable to a larger course, etc.
 - Important comment from Lauren: “Re: the "solving complexity at scale" theme, I think the development of workshop-in-a-box is a direct response to solving for the complexity of teaching others about LE at various scales and in various contexts. Maybe that framing is a way to make it clear the session is about giving the workshop, not giving the content that's in the workshop”
 - How can we assess the effectiveness of LE? Are there certain best practices?
 - Zarka, Ellen, Jodi, Samaa had planned a meeting to discuss similar concepts/literature review- ready to connect with others as well (Jim, Monique, Emily, Michael, etc.)
 - Ellen did some work on instructional design and learning design, for example to start with: Learning Design versus Instructional Design: A Bibliometric Study through Data Visualization Approaches
<https://www.mdpi.com/2227-7102/12/11/752>
- **Next Meeting**
 - March 5, 2024
 - Next topic: Sharing and defining research ethics terms and best practices

Future topic parking- creating an "organizational culture" that promotes LE, inviting "guest users/reflectors"/LE-adjacent folks to learn more and give feedback (maybe as a way to test the workshop-in-box), various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: January 9, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Michael Jay, Doug McCarty, Emily Marasco, Zarka Ali, Anne Fensie, Jim Paradiso, Adesola Ogundimu, Aaron Kessler, Dina Kurzweil, Chris Blakesley, Monique Liles, Tracy Arner, Jon Wade, Kelly Cooney, Khawla Shnaikat, Rob Nyland, Jodi Lis

16. Review of the Agenda

- a. Any additions?

17. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Kelly Cooney, Learning Engineer Johns Hopkins University
- b. Jon Wade, University of California, San Diego (UCSD)

18. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

19. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

20. Discussion Topics:

- a. Jodi & Aaron - Resources for Primer
- b. Workshop outline/proposed ASEE submission
- c. 2024 meeting/conference topic brainstorming

Discussion Notes

- New Name for ICICLE - International Consortium for Innovation and Collaboration in Learning Engineering

- Reach out to Aaron regarding Design SIG work. Developing resources for the Primer.
 - Need to add Zarka, Tracy, Anne, Emily M, Chris Blakesly, Adesola Ogundimu, Jon Wade, Kelly Cooney

ICICLE Higher Ed MIG: December 5, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Michael Jay, Doug McCarty, Karen Rege, Kayla Morehead, Emily Marasco, Zarka Ali, Anne Fensie, Jim Paradiso, Lauren Totino, Adesola Ogundimu, Aaron Kessler, Dina Kurzweil, Chris Blakesley, Monique Liles, Tracy Arner, Jon Wade

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

5. Discussion Topics:

- a. Conference proceedings final submission
- b. Workshop outline/proposed ASEE submission
- c. 2024 meeting/conference topic brainstorming

Discussion Notes

- Folder in Google Drive for uploading resources that can be shared/used with specified attribution (make sure you check the first slide or accompanying text file for how materials should be used appropriately)

- Upcoming workshop submission to the American Society for Engineering Education 2024 - contact Emily if you want to be involved
- Workshop outline could be a topic for the 2024 ICICLE conference
- Possible ICICLE 2024 conference topics:
 - Crowdsource what needs to be taught in a learning engineering course-building on 2021 workshop and talk about changes/iterations/etc.
 - Hands-on session on solving problems with learning engineering- use various case studies (e.g. addressing AI as a learning challenge, etc.)
 - What would be the deliverable at the end of that session?
 - What do we want people to get out of this? Take on different roles or use their current roles?
 - Could this be an activity within the larger workshop? Incorporate a reflection and how the activity could be adapted to their own context.
 - How do we teach higher ed faculty to use learning engineering in their course design process
 - Iterating on a Workshop in Box- design a 90 workshop on introducing learning engineering, then share the workshop outline/materials/activities, get feedback from attendees on the workshop (we are using the LE process to collect/analyze data on the workshop itself! – feedback loop)
 - Motivation- why do we want to use LE? What are the benefits/value added?
 - Definitions
 - Process
 - Case studies on how it can be used
 - Activity on building your team (trying different roles, etc.)
 - Activity on adapting LE to a particular context
 - Opportunity for follow-up/share results of using the workshop (Discord channel, etc.)
 - Collation of research on the impact of using the LE process
 - What research already exists?
 - How to conduct evidence-based research on the effectiveness of LE?
 - What are the right questions to ask?
 - Building personas, lessons learned from practice using the methods, etc.
 - Maybe needs to convene a cross-SIG/MIG group on various LE research agendas
 - Effective practices for using data to solve problems within the LE process

- How does LE relate to other frameworks, e.g systems thinking - is problem-solving iterative?
- Can learning engineering, by definition, be applied to non-instructional environments, e.g. student services?
- How to assemble an LE team, what are the roles and why, who are the leaders, engaging with stakeholders, etc.
 - Breaking down silos
- Tracking LE decision-making with the LEED tracker and analyze how faculty/IDs make decisions - ethnographic approach as well?
 - Component-based research
 - At the microlevel, it can be really hard to attribute causality. We need to think about how to aggregate vectors to create a compelling argument.
- **Next Meeting**
 - Next meeting moved from January 2 to January 9, 2023
 - Next topic: Working groups on ICICLE 2024 Conference submissions

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: November 7, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Zarka Ali, Emily Marasco, Rob Nyland, Michael Jay, Khawla Shnaikat, Adesola Ogundimu, Lauren Totino, Doug McCarty, Anne Fensie, Monique Liles

6. Review of the Agenda

- a. Any additions?

7. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

8. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

9. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
 - i. Rob will be interfacing with the grad student SIG on Oct. 11, will report back in November
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

10. Discussion Topics:

- a. Rob - report back from the discussion with the grad student SIG on October 11
- b. [Presentation write up for conference proceedings](#) - Due Nov 17, 2023
- c. Workshop in a box progress

Discussion Notes

- Emily report out from the IEEE Frontiers in Education Conference in October. Had a small workshop (about 15 people) with some good conversations, are considering doing another workshop at another engineering education conference in June of 2024.

- Jim said that we are able to use Jim and Sae's slidedeck for workshop in a box.
- AECT 2023 Report out (Lauren, Anne, Rob)
- Discussion on themes from conference proceedings

- **Next Meeting**
 - Next meeting on December 5, 2023
 - Next topic: Generating a workshop outline and pilot for ASEE

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: October 3, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Aaron Kessler, Michael Jay, Lauren Totino, Monique Liles, Emily Marasco, Tracy Arner, Khawla Shnaikat, Devin Atkin, Rob Nyland, Zarka Ali

1. Review of the Agenda

- a. Any additions?

2. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Monique Liles laquita.liles@saintleo.edu
- b. Michael Collins msc227@psu.edu Penn State (I didn't join this time around)

3. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

4. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
 - i. Rob will be interfacing with the grad student SIG on Oct. 11, will report back in November
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

5. Discussion Topic: Reviewing Findings from the Conference and Preparation for Conference Proceedings

Discussion Notes

- Emily, Jim and Bror presenting on learning engineering at IEEE FIE (Oct.)
- Jodi and Karen will be presenting on learning engineering at Quality Matters (November)

- Rob, Jodi, Lauren, Aaron, and more... at AECT 2023 (October 15-19)
- Zarka has completed a qualitative analysis of the conference responses received during the Higher Ed MIG wrap-up sessions
- Q1: If you could bring back one message from the conference, what would it be?
- Q2: What could the ICICLE Higher Ed MIG do to support conversations around learning engineering?
- Some tie-in to CCC SIG- would benefit from some representation from the Higher Ed MIG
- Conversation is two-fold: a) What else can we add to our proceedings, b) how does this analysis inform our future directions?
- Aaron: How do we build off the presentations and materials that are available already? How can we leverage the components of the courses that we have already – up front slides?
 - We need to recognize that the audiences are different depending on the organization. MIT is going to have more faculty autonomy rather than another. We need to be aware of the contextual differences.
- Jodi: This may go along with the idea of the Learning Engineering primer. Materials for different audiences. We may want to have a follow up conversation on the primer about what we already have.
- Learning engineering “CliffsNotes”
- Proceedings outline:
 - Description of the session
 - Include the analysis (or a summary depending on the length)
 - Reflections from all HE MIG members
 - Please feel free to add your own reflections to the proceedings outline in the OneDrive folder, including your name or initials
- Growing list of learning engineering resources:
 - <https://docs.google.com/spreadsheets/d/1BHG2XJ13v74htuQRKBgGNVjJnynz1-sIDPGgwmjf2RU/edit#gid=1331798190>
- Slide deck that Sae and Jim have done:
 - https://docs.google.com/presentation/d/1pEsmmrF2YRfOTkKYj4PXyCyNHIDBPplg/edit?usp=drive_link&oid=108126180380800943248&rtpof=true&sd=true
- Can share existing slides/resources, but need to give credit to authors
- Feel free to add your own resources with sharing/credit instructions in the notes of the first slide or on a cover page
- Need to be able to pull slides for different audiences, conversations, etc.
- Creation of a master slide deck for various stakeholders, case studies, etc.

- Some custom examples may still be needed, but can leave space or recommendations for creating those in the master slide deck
- Workshop facilitator should also provide their own localized examples of the LE process

6. Next Meeting

- Next meeting on November 7, 2023
- Next topic: Working on drafting out an outline for the workshop. Blank presentation and we will decide what elements should go in.
 - Emily will create a folder and contributors can submit their own presentations/materials that can be used to cover the topics

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: September 5, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Rob Nyland, Emily Marasco, Zarka Ali, Tracy Arner, Doug McCarty, Michael Jay, Karen Rege, Mac Love, Devin Atkin, Khawla Shnaikat, Chris Rennison, Lauren Totino, Adesola Ogundimu

7. Review of the Agenda

- Any additions?

8. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- Doug McCarty: doug.mccarty@au.af.edu
- Adesola Ogundimu: aogundimu@jhu.edu (If you see this, kindly provide an access code for the Zoom meeting)
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9. Starting Themes and Planning

- a. Welcome, introductions
- b. Our MIG themes: Identification, Visibility, Collaboration
- c. Aiming for tangible impact and growth

10. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

11. Discussion Topic: Building connections from the conference

Discussion Notes

- Government/Military SIG possibility
- Link of interest:
<https://silverliningforlearning.org/episode-162-the-art-science-of-learning-engineering/>
- What should we do in the future:
 - Build a resource site that is similar to the work that has been done by Zarka and Michael's team in the PK-12 MIG
- Reviewed the Mentimeter results – Emily will post to the Google Drive, Zarka will conduct a qualitative review- see if we can create a landing page from the priorities
- "Explain LE to me like I'm a..."
 - ...Instructional Designer
 - ...Administrator
 - ...Faculty member
 - Put it in terms various stakeholders may be familiar with but underscore the team sport aspect. Build on our earlier work with terminology.
- How do we make LE more approachable and easy to adopt without seeming like a new time-consuming fad?
- Workshop-in-a-box, gamified principles for teaching about LE
- "10 things you should know about Learning Engineering" handout (for higher ed)

- Could result in a publication- start with post-conference proceedings?
- Will be the topic of the October meeting!
 - Zarka will analyze the results from the mentimeter and will add them to the shared drive to review during the next meeting of the group.
 - Rob will work on sketching out the components of the workshop in a box for discussion at a future meeting.

12. Next Meeting

- a. Next meeting on October 3, 2023
- b. Next topic: Creating our contribution to the conference proceedings

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: July 11, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Rob Nyland, Christopher Rennison, Kayla Morehead, Khawla Shnaikat, Lauren Totino, Michael Jay, Rod Roscoe, Tracy Arner, Anne Fensie

13. Review of the Agenda

- a. Any additions?

14. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

15. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: Finalize ICICLE conference session logistics
- c. Our MIG themes: Identification, Visibility, Collaboration
- d. Aiming for tangible impact and growth

16. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren
(ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. See you at the conference!

17. Discussion Topic: Conference session logistics

Discussion Notes

- As people come back from the break (we think), have a slide showing where different groups of interest should sit
- Start with overview of Higher Ed MIG/context (30 sec)
- Goals are: conversations about LE in higher ed- who (stakeholders), what, bridging vocab, how to be effective (3 min)

- Examples of stakeholders
- Examples of barriers
- Examples of “other language” that might be more approachable/relatable
- “Show and share” Mentimeter information capture - with prompts
 - Use higher ed MIG members as facilitators around each table
- Mentimeter question: If you could bring back one message from this conference, what would it be? Identify stakeholder in brackets. (3 min)
 - e.g. LE could be a good process for curriculum design (admin/T&L Institute)
 - e.g. LE could support my research work (fellow grad students)
- Group questions: (5 min)
 - Discuss the messages and who needs to hear them
 - How can we overcome barriers in having these discussions?
 - What tangible task are you going to follow-up with after the conference?
- Mentimeter question: What could the Higher Ed MIG do to better support having these types of discussions? (3 min)
- Conclude with “join us” slide (30 sec)
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- Web edit: on behalf of Higher Ed MIG
- For the non-higher ed folks in the room (since all sessions are for all attendees), how can we prompt them to generally reflect on how they engage stakeholders to talk about LE, and then take that and map it to engaging HE stakeholders? Thinking of ways to include a wide audience– prompt through group facilitation
 - These same questions are applicable for all groups. Different responses but same questions. Possible suggestion. To be inclusive, could say if interested in k12, corporate and highered, join specific group.
- "Learning Engineering concerns with solving problems that teachers, curriculum designers, and textbooks are not usually asked to solve".
- ACTION: Emily will send an email reminder with facilitation guidelines a few days before the conference.
- ACTION: Rob and Emily to coordinate the slide/Mentimeter creation
- Ask Zarka, Theresa and Gerri to review
- Watch for Anne’s slide template to be sent out
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-
- **Ideas for moving forward:**
- ASU initiatives for higher ed

- Finalizing our resources and outreach materials
- Creation of video for Jim
 - Outlining the script could be September's topic?
- Could share examples/case studies on the website
- Looking for representatives from across the groups to collaborate on creating a primer for different audience
- Rep from SoLAR on analytics?
- Larger landscape- sociology of teaching & learning/higher ed, transdisciplinary approach
- Ethnographic approaches
- Systems thinking vs design thinking vs futures thinking
- Research initiatives on LE (e.g. course design, engineering applications, etc.)
- How to prepare conference submissions on learning engineering and related topics (and identifying possible venues/publications) - tie-in to the existing list that Jim Paradiso is coordinating
 - Possibly invite journal editors to speak? Learn about LE and getting a paper published within those publications
-

18. Next Meeting

- a. Next meeting - See you at the conference!
 - i. Summer schedule:
 1. Asynchronous update in August- share what you learned at the conference or review others' notes and how it might apply to your own context
 2. Meet again on September 5: tentative topic on building on lessons from the conference and how we frame our MIG to the public (i.e. video script outline)
- b. Next topic: Conference follow-up and sharing

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: June 6, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Rob Nyland, Jodi Lis, Anne Fensie, Theresa Henderson, Lauren Totino, Karen Rege, Aaron Kessler, Gerri Light, Khawla Shnaikat, Zarka Ali, Tracy Arner, Michael Jay, Khawla Naji

19. Review of the Agenda

- a. Any additions?
- b. CCC SIG has been reactivated- working on competency framework for learning engineering and corresponding teams
 - i. Would like a rep from higher ed MIG to join
 - ii. Would also be good to have insights on the curriculum and resources. [List of LE resources](#).
 - iii. Reach out to Jodi (jodillis@gmail.com) and Evangeline Schepper (eschepper@quanthub.com) if interested

20. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

21. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: ICICLE conference presentation changes
- c. Today: Discuss summer meeting schedule/activities
- d. Our MIG themes: Identification, Visibility, Collaboration
- e. Aiming for tangible impact and growth

22. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- b. Reminder - ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- d. Still space to register for the conference

23. Discussion Topic: Conference session replacement planning

Discussion Notes

- Ideas for compressed version of proposal
- Could use Mentimeter, etc. to have people help brainstorm (e.g. stakeholders, phrases/words for defining learning engineering for various groups), etc.
- Get interactive input from audience
- Identification of stakeholders and strategies- what are the entry points?
- Focus on how to approach entry points and corresponding language
- Eliminate elevator pitch and maybe criticism as well
- Using this activity to consider what you learned from the conference and how you apply it to talking to stakeholders in higher ed
- Build on what has already been learned throughout the conference
- Don't need to do so much upfront knowledge building
- Current program areas: case studies, learning sciences, general competencies, teaching LE/curriculum, degree/certification, profession
- Summary session is about looking forward
- Use interactive tools for capturing summary information
 - Who do you think should hear about what you learned from this conference?
 - If you could bring back a message from this conference, what would it be?
 - If you could bring back a message from this conference, who would you share it with?
 - What's one thing you've learned this week that you want to share with your colleagues?
 - Where/how could you apply it?
 - How would you organize research teams differently to better stimulate use of LE processes?
 - Learning engineering "fantasy teams" for higher ed- what skillsets are important? Or D&D style roles!
 - What tangible task are you going to follow-up with after the conference
 - What are potential barriers to adoption
 - Consider culture shift and change management
- Provide a context slides for higher ed
 - Use the previously identified scenarios as examples
- Provide/suggest available resources as a tangible takeaway
- Consider roleplay/skits for possible scenarios/tough conversations that need that entry points

- Prompt conversations back at your own institution- who are you bring to the next SIG/MIG/community meeting, who are you engaging with, tangible tasks
- Emily/Rob will keep the group updated as we find out more about the logistics/speakers
- Do we need to provide materials by a certain deadline?
- Hold July 11th as a time for final discussion before the conference
- Keep August asynchronous to share learnings from conference and how you could apply other participants' takeaways to your own work
- Synchronous again on September 5th

24. Next Meeting

- a. Next meeting - touch base on July 11th regarding session (holiday on July 4th)
 - i. Proposed summer schedule:
 1. Asynchronous update in August- share what you learned at the conference or review others' notes and how it might apply to your own context
 2. Meet again on September 5
- b. Next topic: Conference follow-up and sharing

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: May 2, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Rob Nyland, Michael Jay, Rod Roscoe, Theresa Henderson, Anne Fensie, Kayla Morehead, Karen Rege, Gerri Light, Zarka Ali, Rodney Beard

25. Review of the Agenda

- a. Any additions?

26. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

27. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: ICICLE conference proposals
- c. Our MIG themes: Identification, Visibility, Collaboration
- d. Aiming for tangible impact and growth

28. ICICLE News and Reminders

- a. Co-chair announcement- Rob Nyland
- b. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
(michael@matchmakeredlabs.net)
- c. Reminder - ICICLE SIG for grad students- contact Janet or Lauren
(ltotino@mit.edu for more information)
- d. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- e. Conference registration is open

29. Discussion Topic: Higher ed conference proposal

Draft idea: Building bridges between learning engineering and various communities/stakeholders in higher ed using common language

Discussion Notes

- Objective: How to talk about LE in a higher ed context to achieve adoption goals (creating courses, programs, research initiatives, etc.)
 - Present: Why this is important and examples
- EXPLAIN Start by “labeling” the tables with contexts
 - Creating education ABOUT LE (course, programs, etc.)
 - Adoption of LE principles for course design/faculty development
 - Integrating LE expertise (i.e. people) in higher ed
 - Maybe about building a team which includes bringing on new contributors and getting existing personnel to buy in
 - Incorporating LE in research work/applying for funding
- BREAK and move tables
- Objective: Identifying relevant stakeholders and how they are related (example is shown as higher ed)
 - Present: give examples, touch on power dynamics and equity issues
 - Political dynamics in higher ed, who can make initiatives happen and can “kill” it
 - Activity (individual): mapping stakeholders as they are related to the attendees own circumstance, share brainstorming with larger group for any missed stakeholders in our own identification
 - Activity: assign/choose a stakeholder to each group and have them identify strategies for entry points and communicating LE principles
- Objective: Vocabulary - Possible entry points and approaches, how to respond to criticism
 - Present: Examples of entry points and how to approach
 - Consider internationalization
 - Activity: Continue with same stakeholder
 - Activity: Answering specific questions to create an elevator pitch through answering prompts (and let them customize/add)
- Objective: Feedback and Revision
 - Activity: How to counter skepticism and criticism
 - Activity: Maybe have one group member present and collect feedback from others in the same context
 - Activity: As a group, suggest solutions to make your pitches more robust
- Final Discussion: Give US recommendations as to how ICICLE (and the MIG) could contribute to addressing these issues
-
- Other comments:
- Could use jamboard or miro for people to work collaboratively during the session

- Potential Stakeholders
 - Academic administrators
 - Faculty
 - Students
 - Accreditation boards
 - SoTL experts (instructional designers, etc.)

30. Next Meeting

- a. Next meeting on June 6, 2023
- b. Next topic: Creating activities for our conference presentation

Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: April 4, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Gerri Light, Lauren Totino, Aaron Kessler, Zarka Ali, Michael Jay, Jessica Johnson, Rob Nyland, Tracy Arner, Rod Roscoe, Anne Fensie

31. Review of the Agenda

- a. Any additions?

32. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Tracy Arner - tarner@asu.edu
- b. Rod Roscoe - rod.roscoe@asu.edu (ASU, Human Systems Engineering)

33. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: Learning engineering terminology, upcoming conference proposals
- c. Our MIG themes: Identification, Visibility, Collaboration
- d. Aiming for tangible impact and growth

34. ICICLE News and Reminders

- a. Co-chair recruitment
- b. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael. (michael@matchmakeredlabs.net)
- c. New ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- d. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.
- e. July conference registration is open

35. Discussion Topic: Learning engineering definitions and conference proposals

Draft plan for 2023 development:

2 min. video introducing our MIG (Emily and Jim to coordinate), continue our three existing overarching themes (identification, visibility, collaboration)

—> direct interested folks to our Google drive...

1. Starting definitions and entry point for LE in higher ed

2. A - Framework of questions/steps- what to consider, who to talk to, etc.
3. B - Contextualized entry points for various areas/roles
4. Case study examples with outcomes, sharing of existing projects/experiences/etc.
5. Identify resources for delving deeper in various areas (build out existing resource guide)

Discussion Notes

- New articles to add: Two pieces that we might want to add and I will share with the group: 1) Advanced version of the ISLS paper that Janet Koloder - https://drive.google.com/file/d/1vmro1kc0fLwNW8-iV9zQ0II_B_nC9TVb/view?usp=sharing and 2) new article in Journal of Military Learning - <https://www.armyupress.army.mil/Portals/7/journal-of-military-learning/images/Conference-Edition-2023/Learning-Engineering/Goodell-Learning-Engineering.pdf>
- Examples of entry points into a variety of contexts
- Process diagram - <https://drive.google.com/file/d/1-kbRVx7aPybSXZuH7dRLVX6EmjnDNsH5/view?usp=sharing>
- How to deal with misconceptions?
- What are the differences between engineering education and learning engineering?
 - Engineering education is discipline-specific education development
- “We already do this” - engineering education, learning science, educational psychology, etc.
- Education is complex- people may be resistant to the idea of “controlling inputs and outputs” or “doing things to” learners
- Push back to learning engineering replacing existing terms/roles like instructional design, learning experience designers, etc.
- Not replacing- we’re augmenting with a process - Yes, and. . .
- Importance of systems thinking
 - <https://www.sciencedirect.com/science/article/pii/S1877050915002860> “A Definition of Systems Thinking: A Systems Approach” (Arnold & Wade, 2015)
 - <https://incose.onlinelibrary.wiley.com/doi/abs/10.1002/inst.12159> “A complete set of systems thinking skills (Arnold & Wade, 2017)
- Could we turn the “definitions” part of the resources into an FAQ- addressing misconceptions, varied mindsets, and points of tension in higher ed
- This could be a potential conference session at the ICICLE conference!

- Go beyond misconceptions or tensions to put a positive spin, things people are curious about, what are we bringing/adding?
 - Or “alternative conceptions” instead of misconceptions
- Engineering learning opportunities and inclusive learning environments
- Word “misconceptions” can be off-putting- it’s not misconceptions, it’s that it can be challenging to build bridges between disciplines
- Learning engineering is the coming together of the bridges to create a discipline- both a field and a community (Bror)- both a process and a practice
- From equity world- think of assets (valued different ways of thinking) rather than deficits (wrong ways of thinking), alternate conceptions rather than “wrong” conceptions
- Building awareness rather than correcting
- Maybe FAQ is “how do we have conversations about learning engineering?”
- Want to foster conversation and collaborations
- Look at the table in this reference:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3940460/>
- Deeply contextualized and variable- some learning environments are very siloed, some are very collaborative, some are a mix, etc.
- Identify the different value propositions of LE
- “Coalition of the willing”
- Scholarship of teaching and learning might be a good avenue to be a common language/bridge
- Good place to start conference proposal- building bridges between learning engineering and various communities/stakeholders in higher ed using common language

36. Next Meeting

- a. Next meeting on May 2, 2023
- b. Next topic: Approaching
- c. Email Emily if you are interested in assisting with the conference proposal submission


Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ICICLE Higher Ed MIG: March 7, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending:

1. Review of the Agenda

- a. Next topic: Review terminology and definitions outlined in the guide, discuss discrepancies and context among our defined language
- b. Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography
- c. Please add definitions and language from the toolkit that you think are important for higher ed  Learning Engineering Resources

ICICLE Higher Ed MIG: February 7, 2023, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Gerri Light , Lauren Totino, Aaron Kessler, Zarka Ali, Kayla Morehead

37. Review of the Agenda

- a. Any additions?

38. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Kayla Morehead, kmorehead25@gmail.com, Denver Public Schools

39. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: Review of 2023 plans, set out deliverable goals for developing introductory resources/small entry points for LE in higher ed
- c. Our MIG themes: Identification, Visibility, Collaboration
- d. Aiming for tangible impact and growth

40. ICICLE News and Reminders

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
- b. New ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

41. Discussion Topic: 2023 Plans Continued- Setting Tangible Tasks and Deadlines


Draft plan for 2023 development:

2 min. video introducing our MIG (Emily and Jim to coordinate), continue our three existing overarching themes (identification, visibility, collaboration)

—> direct interested folks to our Google drive...

6. Starting definitions and entry point for LE in higher ed
7. A - Framework of questions/steps- what to consider, who to talk to, etc.
8. B - Contextualized entry points for various areas/roles
9. Case study examples with outcomes, sharing of existing projects/experiences/etc.
10. Identify resources for delving deeper in various areas (build out existing resource guide)

Discussion Notes

- Two potential resource deliverable opportunities - CEEA workshop submission (Canadian engineering education conference) and IEEE Education Week (April 2-8)
- Starting points- defining learning engineering and showing that learning engineering IS engineering
- Two main ideas: process and definition
- Congrats to Gerri for a paper acceptance related to learning engineering sciences!
- Connect people more directly to the content within the book
- IEEE Education Week is more of a static page- may not be the right audience
- Could we create a more dynamic repository of resources that our group could use to be “evangelists” for ICICLE?
- Potential resource- MIT xTalk: <https://www.youtube.com/watch?v=CNyN4fuOpuc>
- Lauren’s mockup:  Brainstorm for HE MIG Resource

- Breaking down the process- leaving time to ask questions about the process vs. being too prescriptive
- Linking to examples while also allowing participants/audience to apply their own context
- Adapt the [general one-page graphic](#) to a higher ed context
- Grounding the language based on the toolkit
 - Identify what it is and how it relates to higher ed
- Can we focus on learning engineering as a verb? - Avoid challenges around the “protected status” of “engineer/engineering”
- Mindset that can be cultivated through various educational backgrounds and professional experiences -> practice + a mindset
- Advice for change management (for the people we attract who want to influence their own institutions)
- Please add definitions and language from the toolkit that you think are important for higher ed
 - **Update 03/07/23** – [Learning Engineering Resources](#)
- The definitions themselves need context - especially because so many terms in the toolkit come from other disciplines and mean something different in the frame of LE
- Consider globalization and translation of terms/definitions
- Will eventually have to think about professional society and accreditors- how do they view our definitions, etc. - Who is driving what actually is used/finalized?
-

42. Next Meeting

- a. Next meeting on March 7, 2023
- b. Next topic: Review terminology and definitions outlined in the guide, discuss discrepancies and context among our defined language
- c. Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION ITEM: Please add definitions and language from the toolkit that you think are important for higher ed- instructions are in the Google Drive resource guide

ACTION for Emily: Emily will talk to both Jims about using Discord more effectively for January

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: December 6, 2022, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Aaron Kessler, Lauren Totino, Chris Blakesley, Arun Lekshmi-Narayanan, Gerri Light, Anne Fensie, Zarka Ali, Damji Stratton, Jeremy Harvey, Jim Paradiso

43. Review of the Agenda

- a. Any additions?

44. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

45. Starting Themes and Planning

- a. Welcome, introductions
- b. Today: Review of current directions and themes, discussion of future topics
- c. Our current themes: Identification, Visibility, Collaboration
- d. Want to have tangible impact and growth

46. ICICLE News

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
- b. New ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

47. Discussion Topic: Moving into 2023

Discussion Notes

- Can we scaffold the entry points to LE in higher ed? Resources like short videos, graphics, then larger/more involved resources
- I/ITSEC graphic could be a good starting point
- Future topic - syllabus template for a LE course

- ASU - creating a new program (certificate-based institute) on learning engineering based on the toolkit- ties together educational psychology, data analytics, etc.
- What are the most important foundational points from the toolkit that support higher ed?
- MIG scope is quite larger- may help to differentiate resources for general contexts, T&L, faculty competencies, applying to instructional design, etc.
- Could take the high level graphic and link to examples/cases/etc.
- Small data and applications for common T&L questions/issues- show people how learning engineering can be used to improve their current experiences
- Learning engineering “recipe” - something that could be adapted to local needs/context, or some sort of framework
- Could try defining the common central challenges in higher ed, but need to consider the context
- “Guided adventure” of questions - how to address challenges
- Engineering is creative design! How to move away from the idea of being unyielding and prescriptive...
- Ties into Lauren’s work on decisions/results
- Demonstrations through worked examples or existing experiences/projects/etc.
- What is already being done intuitively vs. more formally?
- Updates from student SIG insights:
 - Seeing a challenge emerge of blind leading the blind... this is a new area!
 - Coming to a shared viewpoint
 - Defining guidelines
 - Experts vs. novices- how things are perceived and processed differently
 - Consider possible blind spots of experts as well
 - Benefits of peer interactions
- Additional resource: <https://learnlab.org/simon-initiative-summer-school/>
- Could also consider cross-integration with varied entry points- how can people approach LE from their existing practice

Draft plan for 2023 development:

2 min. video introducing our MIG (Emily and Jim to coordinate), continue our three existing overarching themes (identification, visibility, collaboration)

—> direct interested folks to our Google drive...

11. Starting definitions and entry point for LE in higher ed
- 12.A - Framework of questions/steps- what to consider, who to talk to, etc.
- 13.B - Contextualized entry points for various areas/roles

14. Case study examples with outcomes, sharing of existing projects/experiences/etc.
15. Identify resources for delving deeper in various areas (build out existing resource guide)

48. Next Meeting

- a. Skip January, meet again on February 7, 2023
- b. In lieu of January meeting, Emily will send out some goals/prompts to be considered asynchronously via Discord
- c. Next topic: Developing introductory resources/small entry points for LE in higher ed
- d. Future topic parking- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION for Emily: Emily will talk to both Jims about using Discord more effectively for January

ACTION for Emily: Emily will send asynchronous prompts in January

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: November 1, 2022, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Lauren Totino, Karen Rege, Anne Fensie, Aaron Kessler, Jeremy Harvey

49. Review of the Agenda

- a. Any additions?

50. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

Jeremy Harvey - harveyj@lasalle.edu, La Salle University

51. Starting Themes and Planning for 2021 - 2022

- a. Welcome, introductions
- b. Today: Discussion on identifying and addressing digital literacy gaps in higher ed and impact on learning engineering
- c. Our continued themes: Identification, Visibility, Collaboration

52. ICICLE News

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
- b. New ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information
- c. ICICLE outreach coordinated by Jim Paradiso- SIGs and MIGs to create videos and calls to action that can be used in recruitment, engagement, etc.

53. Discussion Topic: Identifying and addressing digital literacy gaps in higher ed and impact on learning engineering

Discussion Notes

- TPACK– teaching training framework, applications to higher ed - Daniel Mourlam (<https://www.usd.edu/research-and-faculty/faculty-and-staff/daniel-mourlam>) - in TPACK handbook (<https://www.taylorfrancis.com/chapters/edit/10.4324/9781315771328-21/tpack-b>)

[ased-professional-development-programs-service-science-teacher-education-evr-im-baran-sedef-canbazoglu-bilici-erdem-uygun\)](#)

- Teacher education technology competencies (TETCs) - original piece (<https://www.learntechlib.org/p/181966/>) - other pieces on big survey work Aaron has been part of in the past (https://researchmgt.monash.edu/ws/portalfiles/portal/270908245/270145188_oa.pdf)
- Thinking about connections to other existing bodies of knowledge
- Mythology around “digital natives”
- Who should be taking responsibility for digital literacy skills in higher ed?
- Faculty are also resistant to certain standards
- Karen has worked with implementing a TPACK framework for faculty/institution- use the framework to get discussions going and communities of practice
- Frameworks are applied differently between disciplines
- ISTE standards also prescribe outcomes for both students and teachers, also SAMR
- Should accreditation bodies be taking responsibility for digital literacy outcomes? E.g. ABET, CEAB, etc.?
- Can we learn and apply K-12 to higher ed?
- <https://www.digitalliteracyassessment.org/> – used in adult education
- <https://edu.gcfglobal.org/en/> – collection of free tutorials on tech skills topics
- Beyond manipulation of hardware and software- can students create content themselves? e.g. videos, discussion board posts, etc.
- Students often consume online content, they don’t create it!
- Could we develop personas and have students identify with them?
- Need to consider what is the return to the student- why should they put the effort into learning these skills?
- Establish the minimal viable skills
- Higher level- how do we teach students to empower themselves? e.g. effective Googling to help themselves!
- Informs the literacy across the program
- Go beyond a “CS 100” Microsoft Office experience
- How much should digital literacy be included in information literacy content/preparation? ACRL has resources
- Lots of variability depending on context and institution
- Learning analytics data may come from an LMS, etc.
- Very dependent on available resources and who has been designated as responsible

- Understanding what the central challenge is for learning engineers- at the student level, faculty level, or researcher level- may be dependent on what the platforms themselves are able to give
- Can be a struggle to determine where the problems are actually coming from- what are the variables of student success? Course design? Content? Learning experiences?
- Need to consider skills need to effectively use tools such as LMS platforms
- From a research perspective, how do we isolate the variables and impact?
- Can depend on what you intend to do with the data and the interpretation- triangulation of datasets and models, how does it feed back into the system?
- Goes beyond curriculum into faculty preparation and training
- Data literacy may be an important part of digital literacy for both faculty and students (e.g. using LMS data effectively or finding time to explore fully)
- Easier to act on direct student feedback instead of more complex data requiring analysis/further investigation- dependent on institutional values as well
- How do we get all stakeholders on board with the various nuances?
- May be we need to put these issues and needs in front of accreditation bodies- here is what learning engineering is and how we can help
- How do we go beyond the core MIT/CMU/BC group- how do we amplify other voices across a global perspective?
- Incorporating perspectives from student SIG

54. Next Meeting

- a. Topic: Directions for 2023- plans for a tangible impact and coordination with ICICLE's overall outreach plans
- b. Future topic suggestions- various digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION for Lauren: Bring student perspectives from November meeting to our December discussion on future directions

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: October 4, 2022, 10 AM MDT

Zoom link: <https://ucalgary.zoom.us/j/99801015813>

Attending: Emily Marasco, Lauren Totino, Karen Rege, Anne Fensie, Jodi Lis, Kenza Filali, Christopher Blakesley, Christopher Rennison

55. Review of the Agenda

- a. Any additions?

56. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

57. Starting Themes and Planning for 2021 - 2022

- a. Welcome back, conference review, Discord
- b. Today: Guest presentation, Jodi Lis
- c. Our continued themes: Identification, Visibility, Collaboration

58. ICICLE News

- a. Monthly community call speaking opportunities- any interest? Contact Emily directly and she'll put you in contact with Michael.
- b. New ICICLE SIG for grad students- contact Janet or Lauren (ltotino@mit.edu for more information)

59. Presentation: Jodi Lis

Discussion Notes

- Topic: Designing digital learning interventions
- Location focused in Africa
- Learning interventions connect with assessment, technology, teaching, learning tracking, competencies, content, and monitoring/evaluation
- Example project on scaling learning technologies in Zambia
- eLearning and onsite mentoring for health applications/quality of care
- Multiple steps of an eLearning workplan for rollout
- Need to consider access limitations (electricity, etc.)
- Policy and governance are also important factors
- Large team effort- many roles come together for success (SME, instructional designer, elearning module developer, etc.)
- Consider interactivity during content development

- Consider offline solutions as part of deployment of technology, infrastructure and the learning platform
- Valuable integration of eLearning for training and mentorship opportunities
- More info- see related material in Learning Engineering Toolkit (e.g. Implementation Considerations Framework)
- Important to remember human-centered design- does the intended intervention meet actual needs? Will it be useful/desired?
- Incorporation of tools across platforms (SMS, social media, WhatsApp courses, etc.)
- Digital library access and offline access

60. Next Meeting

- a. Topic: identifying and addressing digital literacy gaps in higher education
- b. Future topic suggestions- digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: June 7, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Ann Barcomb, Rodney Beard, Andrea Tampus, Aaron Kessler, Dina Kurzweil, Karen Rege, Jana Afifi, Saina Ghasemian-Roudsari, Jim Paradiso, Kenza Filali, Leonora Zefi

61. Review of the Agenda

- a. Any additions?

62. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

63. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Today: Collaboration- what summer research initiatives are happening in our group?
- c. Our continued themes: Identification, Visibility, Collaboration

64. Conference “Pitch”

Group to write “elevator pitch” that can be used in both spoken and written communication- help to recruit/share our MIG’s work during the conference next steps session

- Multidisciplinary MIG for anyone involved or adjacent to higher education interested in the applications of learning engineering for quality education, instructional design, and research-informed analytics/improvement.
- What we focus on:
 - Application of learning engineering concepts for higher education to achieve meaningful impact
 - How to use LE methodology to enhance student learning experience and outcomes
 - Learning engineering as an academic discipline and how we can train future learning engineers
- Current priorities are around identification of learning engineering initiatives at various institutions, visibility of learning engineering research and development, and collaboration across the group members.

Potential target audiences and why they might be interested- we can make

introductions/collaborations across ICICLE!

*Remember not everyone will interpret these words/definitions the same way!

Might need to give context in the conversation.*

- Educators- could involvement in this group improve their teaching goals and student learning experience?
- Instructional designers- could involvement improve applications within higher ed courses, curriculum, etc.
- Graduate/research students- benefit from the collective experience of the group relating to higher ed roles, could potentially help to facilitate readings/reviews/discussions
- Industry collaborations- connections and applications between higher ed and service/product organizations
- Research-Practitioners- connecting across disciplines and applying the outcomes from learning sciences/learning analytics/etc. in a research-informed approach to engineer learning “solutions”

65. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she'll put you in contact with Michael.

Discussion Notes

- See pitch section above. Feel free to add additional thoughts below.
- Shared from Aaron: <https://osf.io/y3cfb/>, to be presented at <https://www.iaaria.org/conferences2022/CfPeLmL22.html>
- Shared from Aaron: <https://osf.io/2qjcf/> to be presented at ASEE
- One more that some of the undergrads working on media/visualizations might find interesting from a colleague at MIT - <https://medium.com/open-learning/learning-doing-and-teaching-biology-through-multimedia-2a43e229a8d3>
- ICSE-SEET - software engineering education track
-

66. Next Meeting

- a. Break July/August, resume in September
- b. Same day/time? - Yes

- c. September guest speaker: Jodi to lead a conversation on digital learning interventions
- d. Future topic suggestions- digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ACTION for Emily: Send out meeting invites for September to December

ICICLE Higher Ed MIG: May 3, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Karen Rege, Lauren Totino, Aaron Kessler, Rodney Beard, Jim Paradiso, Jodi Lis

67. Review of the Agenda

- a. Any additions?

68. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

69. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Today: Data collection, privacy, and equity- what issues and questions are being encountered in higher ed?
- c. Our continued themes: Identification, Visibility, Collaboration

70. Conference Participation

- a. Volunteering
- b. Attendance
- c. Outreach

Group to write “elevator pitch” that can be used in both spoken and written communication- help to recruit/share our MIG’s work during the conference next steps session

71. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she’ll put you in contact with Michael.

Discussion Notes

- Aaron started off with link to a preprint (to be presented at ASEE):
<https://osf.io/2qjcf>
- Need to be honest with students around what the data will be used for- informed discussion, benefits/limitations, etc.
- Researcher vs. educator roles have different “approved access” - difference between disseminating and quality assurance

- Instructors can engage in learning engineering just on their own by looking at LMS stats and usage
- What are we doing with the data? When should we be informing students even if there are no ethics/research aspects involved?
- If interested in administering a similar survey- Aaron and team looking for institutional partners (one-on-one cases for IRB approval)
- How do we inform students without being perceived as influencing or giving undue pressure?
- Maybe think about scale- mention to students at the beginning of their program and explain why various researchers might be interested in collecting data and analyzing the results- not tied to a specific project
- Could get someone else from the team to present the benefits/risks rather than the involved instructor
- Can be a mental balance as an instructor to weight pedagogical interventions or guessing student answers vs. being an objective researcher
- Transparency is important- students are more savvy with cyber security, etc.
- Students may not like the idea of being “experimented on” when they are paying for courses, etc. - paying for quality assurance and improvement
- Educational reform can’t be a one-way street- can’t just take without benefit/partnership, when do students actually get to see the return
- Faculty need to be informed as well- what sort of PII is being collected by 3rd party publishers- need to read the fine print on the contract about data collected from students/faculty
- Need to have a discussion about privacy protection in learning engineering like synthetic data, encrypted data, federated learning, differential privacy, etc.
- Data privacy, but also data sharing
- Need to start with our intentions/modelling- what are we trying to do with the data? Is the data that is collected the correct data? Are there other ways to answer the desired questions?
- Need to be sceptical of built datasets that claim to represent certain learning processes
- Data mindset might perceive that the model is the output- exploratory vs. starting with scientific questions
- All or nothing consent in the classroom- e.g. observing the entire class via audio/video, etc. Can you blur/separate one student or is it worth the overhead in the first place? Is there an issue with collecting that data in the first place? Filter before collecting vs. point-of-capture vs. post-processing, etc.
- Need to consider what missing data holds

- What are we doing with the data- what do the fringe data/outliers show? Might be ignored by companies developing products, but educators developing a holistic approach should care about what the fringe data shows or represents
- How do individual personal circumstances (e.g. family death, religious obligations, etc.) impact the way students answer certain questions?
- Triangulation of qualitative vs. quantitative data to see the human-centred aspects
- How much can be handled with the application of approach statistical techniques?
- Jodi will share some summer learning around ethics as it relates to learning engineering
- Future speakers that we might want to consider: ethics applications and collection practices, human-centred qualitative work, and statistical quantitative analysis
- Quantitative Ethnography - <https://www.quantitativeethnography.org/> (Aaron could reach out in the fall)

72. Next Meeting

- a. June 7th, 2022, 10 AM MDT
- b. Break July/August, resume in September
- c. June guest speaker: Jodi to lead a conversation on digital learning interventions
- d. Future topic suggestions- digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering, quantitative ethnography

ACTION for Emily: Write first draft of MIG “elevator pitch” and share ahead of next meeting

ACTION for All: Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: April 5, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Lauren Totino, Jim Paradiso, Jennifer Turns, Emiliano De Laurentiis, Jodi Lis, Anne Fensie, Leonora Zefi, Chris Blakesley, Aaron Kessler, Dina Kurzweil

73. Review of the Agenda

- a. Any additions?

74. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

75. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Today: Continuing discussion of higher ed LE program/curriculum creation
- c. Our continued themes:

Identification

- i. What does “learning engineering” mean to various faculties/areas?

Visibility

- ii. Continuing adding to resource guide or take a look at some of suggested resources to identify particular aspects that may be of interest

Collaboration

- iii. Sharing insights
- iv. Materials from “Bringing Applied Learning Sciences to Your Institution” pre-conference workshop [in this folder here](#)
- v. This workshop was part of the ISLS 2021 conference: https://2021.isls.org/islsws_01/

76. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she'll put you in contact with Michael.

Discussion Notes

- Continuation of last month's discussion
- ISLS has NAPLeS for connecting learning sciences program
- Could we expand our resource guide to include suggestions on creating learning engineering initiatives in higher ed? Great idea!
- Barriers to perceptions- the word "engineering" is associated with hard sciences, not "the art of education"
- Page 16 Language Matters:
https://sagroups.ieee.org/icycle/wp-content/uploads/sites/148/2020/07/ICICLE_Proceedings_Learning-Engineering.pdf
- Engineering itself suffers from a perception problem- people fail to recognize the creativity and problem-solving that should be the center of engineering
- Also pushback from the humanities about a scientific approach to teaching and learning
- Lots of gatekeeping on both sides of the equation
- Suggestion- would it help to have some statements or testimonials from faculty in different fields talking about how learning engineering is a helpful approach for them?
- Data can be helpful (and should be crucial!) for faculty members to improve their courses and delivery
- Learning engineering is process-oriented, not static
- Every offering of a course has different variables to consider! Process should be continually re-examined
- Reminded of Jim Gee (linguist)'s [book](#) about games for learning, in which he introduces a taxonomy of ~30 principles (and terms as a byproduct)- could be an interesting resource to add to our document, creation of a taxonomy of principles/terms.
- Taxonomy of terms- start with the upcoming book on learning engineering and go from there
- Want to avoid having to redefine everytime we have a conversation about learning engineering
- People need to be willing to share and iterate on one another's work- can we create reusable assignments/best practices/etc. for general education
- Consider the narrative around the creation of such best practices
- Good idea to find those willing to share and collaborate, don't need to be everyone!
- How do we balance accreditation with interdisciplinary applied science/humanities?
- Good to find a common language/terms

- Internal sharing vs. external sharing, within an institution vs. across institutions, what sort of aspects are important for scaling and what aspects will always be local?
- Parallels to open education projects
- Frameworks with layers of data for each artifact, etc.
- Sharing of educational initiatives and context, parameters, etc. rather than actual course material/elements (e.g. Jennifer - exam wrapper research)
- Representing educational practice
- International context is different as well- scale might be fully across a country, granularity looks a bit different
- Avoiding re-inventing the wheel- how do we leverage educational and digital interventions that already exist?

77. Next Meeting

- a. May 3rd, 2022, 10 AM MDT
- b. Meeting in June, but then break July/August, resume in September
- c. Topic suggestions- digital learning interventions, research initiatives in LE, continuing the resource guide, types of data collection/privacy, applying lessons learned from data collection/analytics, IRB/ERB/REB initiatives and applications, how people are communicating to their institutions about what they are doing in learning engineering
 - i. May: data collection, privacy, and equity- could we invite some experts in this area? Reach out to IEEE? Jodi to introduce Emily.
 - ii. June: Jodi to lead a conversation on digital learning inventions
- d. **ACTION for Jodi and Emily:** Connect with IEEE experts on data collection/privacy/equity topics
- e. **ACTION for All:** Let Emily know if you are interested in presenting at the ICICLE monthly community call

ICICLE Higher Ed MIG: March 1, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Aaron Kessler, Chris Blakesley, Anne Fensie, Karen Rege, Lauren Totino, Leonora Zefi, Jodi Lis

78. Review of the Agenda

- a. Any additions?

79. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Chris Blakesley, chris.blakesley@rm.edu, Rocky Mountain University of Health Professions (rm.edu)
- b. Leonora Zefi, lzefi@ryerson.ca, Ryerson University

80. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Today: Guest speaker Lauren, Aaron, Jodi - building on past ISLS conference workshop on starting LE/LS program/course, etc. in higher ed
- c. Our continued themes:

Identification

- i. What does “learning engineering” mean to various faculties/areas?

Visibility

- ii. Continuing adding to resource guide or take a look at some of suggested resources to identify particular aspects that may be of interest

Collaboration

- iii. Sharing insights
- iv. Materials from “Bringing Applied Learning Sciences to Your Institution” pre-conference workshop [in this folder here](#)
- v. This workshop was part of the ISLS 2021 conference: https://2021.isls.org/islsws_01/

81. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she’ll put you in contact with Michael.

Discussion Notes

- ISLS Annual Meeting workshop - Bringing Applied Learning Sciences to Your Institution
 - 2 days, 2 hours each, with 1 day in between for reflection
 - Designed to be interactive and practical
- Applying findings of the learning sciences, instructional design, research, and data to design/redesign learning experiences
- Also covered practicalities such as budget, leadership, buy-in, tech, scale-up, etc.
- Stanford Learning Design & Technology program
- Boston College Learning Engineering program
- Common “how” - experience, collaboration, mentorship, internships, etc.
- Common “why” - leveraging learning research, designing learning, evaluation
- There is no one-size fits all approach
- Human-centered design is core
- Where does the engineering part come from - distinctions and overlaps among learning engineering, learning sciences, and instructional design
- Some people felt that they needed to learn more about design
- Need focus on application and real-world
- Shadowing/visiting professionals really resonated- connections to the outside world
- Is a one-year program enough to give a foundation?
- Need to preserve the richness of learning sciences while operationalizing for application
- What are the best practices for making a design studio work?
- Questions from workshop participants:
 - When and why do names/terminology matter?
 - Overlaps between LS and SoTL?
 - Mentors for Applied Learning Sciences graduate students?
 - What does the engineering world think of learning engineering?
 - Critical mass of needed resources?
 - Common or suggested infrastructure across applied LS programs?
 - Core body of knowledge?
 - Transformation/transition- where will students go? What are the overlaps with other programs?
- What does an applied learning scientist need to do?
 - Work within constraints, but aware of different perspectives
 - Breadth of mentorship and interdisciplinary community
 - Understand theory/research

- Able to express excellent reasons for their design decisions
- Consider- who do we want our learners to BE? Culturally aware, diverse, soft skills, 21st century skills
- Where would the program be situated? How would existing schools/departments/disciplines interact?
- Size and level of program
- Capstone or final project
- Include students in co-design in the program
- Using the learning sciences in the design of the program itself!
- Take advantage of existing communities of practice or build-up new ones
- Learning engineering can be a model to think about who a learning sciences practitioner can be
- Institutions/faculties/departments need to be on board
- Breadth vs. depth
- Prep students for a wide variety of careers
- What trajectory are you putting students on?
- Institutional culture and resources are crucial in supporting/blocking certain elements
- Start with constraints (& boundary conditions) at your institution and work from there
- Interfacing between education and engineering
 - Consider interdisciplinary backgrounds vs. those who are very focus on their disciplines- different perspectives on where learning engineering belongs/should be focused
 - Consider existing cross-school endeavours and how to leverage that history
 - Bring together key stakeholders who have the appropriate social capital to get something started
- What sort of rate of growth are we seeing in these US programs? Are there metrics?
 - Not really - could be something that the ICICLE steering committee investigates further
 - Tough to know based on terminology- is it a learning engineering program that is called something else? Lots of initiatives may be unknown!
 - CIP code- US federal reporting classification
 - LE program at BC is STEM-designated by the Dept of Homeland Security according to the program's website
- What is the impact of engineering accreditation- how to leverage vs. restrictions
- “Learning engineering” as a term comes from an analogy! Herb Simon making a point to his engineering colleagues

- Not just a design process- consider how it fits within the system- systems thinking
- Situated learning needs to be contextualized- Jim Greeno
- Definition Janet once used - "the engineering of socio-technical systems" to keep learners engaged/make learning happen

82. Next Meeting

- a. April 5th, 2022, 10 AM MDT
- b. Topic will be continued from March- where is systems thinking already taught in higher ed? What are the overlaps with existing programs/courses and learning engineering?
- c. **ACTION for All:** Let Emily know if you are interested in presenting at the ICICLE monthly community call
- d. **ACTION for Lauren:** Upload presentation slides to MIG Google Drive folder
- e. **ACTION for Emily:** Upload previous workshop materials to MIG Google Drive folder

ICICLE Higher Ed MIG: February 1, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Aaron Kessler, Lauren Totino, Anne Fensie , Melanie Jensen, Jim Paradiso, Rodney Beard, Jim Goodell, Barish Golland, Michael Jay (MatchMaker Education Labs)

83. Review of the Agenda

- a. Any additions?

84. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

85. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Today: Guest speaker Jim Goodell sharing the work being done as part of the Competencies, Curriculum and Credentials SIG
- c. Our continued themes:

Identification

- i. What does “learning engineering” mean to various faculties/areas?

Visibility

- ii. Continuing adding to resource guide or take a look at some of suggested resources to identify particular aspects that may be of interest

Collaboration

- iii. Sharing insights- tentative March topic from Janet/Lauren/Jodi about creating a learning engineering course/program at other institutions

86. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she'll put you in contact with Michael.

Discussion Notes

- ICICLE definition of learning engineering: Learning engineering is a process and practice that... applies the learning sciences, using human-centered engineering design methodologies, and data-informed decision-making... to support learners and their development.
- Competencies, Curriculum and Credentials (CCC) SIG is examining the breakdown of competencies necessary for learning engineering
- <https://docs.google.com/document/d/1nFLMpwrD3krC8roIEvAvVmxMupVJwoaAkKyr8YgK0LE/edit>
- Iterative process- overlaps with the work being discussed in other SIGs, such as design
- Started with job descriptions, roles, and relevant domains
- Compared to the learning engineering “flower” diagram (data science, software engineering, assessment/psychometrician, etc.)
- Used O*Net- framework under the US Dept of Labor to define skills needed for certain skills
- Learning engineering is often seen more as a verb than a noun
- Asked SIG experts to identify elements not covered in the O*Net framework
- Incorporated data analytics/educational data mining (Ryan Baker’s course)
 - Ryan Baker helped found the domain of education data mining
 - Open textbook available (MOOT)- used to help inform the upcoming toolkit
 - <https://www.upenn.edu/learninganalytics/MOOT/bigdataeducation.html>
- High-level of granularity right now- would like to see more specificity in the future (get to data-verified specificity that can be assessed)
- Future iterations will expand on measurability (e.g. how do we measure “consider privacy and ethical implications”)
- Quantifying leads to measurement
- Some data is better than no data- consider imperfect measurements as well
- Are there more opportunities/links to learning technologies?
 - Can we mine log/process data?
 - Some terminology may overlap
 - But important to remember that learning engineering can happen without technology
- The setting context/level matters when we adapt frameworks, competencies, etc.
- High-level aggregate requirements (e.g. engineering accreditation) are very distant to the lower levels of learning outcomes, etc.
- Could the qualitative aspects be increased- incorporate the creation of learning processes (could be an opportunity for us to get involved)
- Keep learner variability and human-centered design in mind as well

- Implications for teams vs. individuals
- Outlying data/conditions vs. aggregate performance/themes
- “Boundary conditions” has two different meanings/context between engineering and ethics
 - Ethics is concerned with the way ethical choices change depend on conditions
 - Engineering/mathematics are concerned with how certain values performance at boundaries
- What are the implications for the framework as it applies to individuals vs. teams?
 - Need to consider that teamwork must be done concurrently to benefit across areas- procedural teamwork is more of a hand-off process, true transformation needs to be concurrent and incorporate multiple contexts together
 - Ballroom dance vs. relay
- Some problems with cultural inertia- especially within higher ed!
- Are there ideal examples of this type of integration?
 - Duolingo, Carnegie Learning
 - Building of flight simulators
- Corporate MIG has been working on ways to take the upcoming book, framework, etc. and look at how to implement the recommendations/topics/etc. in their own fields
 - Building of bite-sized resources
 - Is that something we can work on from a higher-ed perspective
- Possibly consider a) curriculum/course design - how do we teach learning engineering in higher ed, b) application - how do we use/research learning engineering in higher ed?
- Upcoming conference will focus around the upcoming learning engineering toolkit (book) to be published
- CCC SIG meets second Friday of the month, 11 am ET/1 pm MT, all welcome to join
 - CCC SIG link: <https://ieeesa.webex.com/meet/jgoodell>

87. Next Meeting

- a. March 1st, 2022, 10 AM MDT
- b. Tentative topic on creating a learning engineering program/curriculum/content at higher ed institutions
- c. **ACTION for All:** Let Emily know if you are interested in presenting at the ICICLE monthly community call

- d. **ACTION:** Janet willing to join March presentation, Emily to confirm details with Janet and possibly Jodi
- e. **ACTION:** Lauren on-deck to lead presentation in March
 - i. *Update from Lauren 1/7/22:* Materials from “Bringing Applied Learning Sciences to Your Institution” pre-conference workshop [in this folder here](#)
 1. This workshop was part of the ISLS 2021 conference:
https://2021.isls.org/islsws_01/

ICICLE Higher Ed MIG: January 11, 2022, 10 AM MDT

Zoom link:

Attending: Emily Marasco, Laura Lukes, Lauren Totino, Rodney Beard, Jim Paradiso, Barish Golland, Ali Carr-Chellman

88. Review of the Agenda

- a. Any additions?

89. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a.

90. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date

b. Identification - today's focus!

- i. What does "learning engineering" mean to various faculties/areas?
- ii. Previous work done by Alison A. Carr-Chellman, Ph.D., University of Dayton, School of Education & Health Sciences,

acarrchellman1@udayton.edu - "What Do Learning Engineers Do?"

1. https://udayton.iad1.qualtrics.com/jfe/form/SV_6feCcgolkc0CFJI

- c. Visibility

- i. Continuing adding to resource guide or take a look at some of suggested resources to identify particular aspects that may be of interest

- d. Collaboration

- i. Sharing insights- February/March topics from CCC SIG and potentially Janet/Lauren/Jodi about creating a learning engineering course/program at other institutions

91. Call for Speakers at the Monthly Community Call

- a. Any interest? Contact Emily directly and she'll put you in contact with Michael.

Discussion Notes

- Previous questions/discussion topics for guests
 - Overall goals of the research and the survey?
 - Decision process for creating the survey
 - Validation/piloting of the instrument
 - Bucket-sorting question- how did they choose the items/bucket topics?
 - Where are they going next? Internal definitions? Educating others?
 - What was the target audience? Those who had knowledge about learning engineering? More of an organic trend investigation?
 - How did you account for different definitions/understanding learning engineering? Or was that the point?
 - Did they consider the “daisy model” for learning engineering? Or the updated version from the toolkit?
 - How broadly was this disseminated? Demographics are very broad?

- Ali’s past Ted Talk: gaming and children, impact on boys
- Four team members: Ali, Ellen Wagner, David Wiley, Brian K. Smith
- Creation team - interested in evolution of learning analytics, the crossover between instructional design, product development and learning engineering
- Survey results not published yet, waiting on some responses still
- Responses from AECT (Association for Educational Communications and Technology) and ICICLE, waiting on The Learning Guild
- Professors tend to consider themselves learning engineers, but don’t necessarily use that terminology- learning engineering adjacent
- Instructional designers/learning technologists tend to have more understanding of the terminology/concepts
- Not many people actually call themselves learning engineering (maybe 5 to 8 out of 50 people)
- Lots of “other” - often leadership roles - directors, senior software engineers, etc.
- Most respondents are in higher education as opposed to industry roles
- Daily tasks/duties tend to vary
- Focus tends to be on writing assessment tools/evaluation instructions/conducting learner analytics/other (leadership skills, management, etc.)
- Duties often relate to data and working with subject matter experts
- Responsible for a digital learning strategy
- Some overlaps with instructional design
- Some descriptions for duties even include Agile, SCRUM, future-facing strategies, etc.

- Learning scientists are not in the design space- research space- when compared to instructional designers
- Learning engineers self-identified the difference between themselves and other roles with product development and data science
- Differences between ICICLE and AECT were negligible
- Tools and tech have really evolved to enable some of this data science/analytics work, scalability
- Rather than focusing on titles, the most important aspect is carrying forward and collaborating
- Different higher ed institutions have been known for instructional development (Penn State, etc.) vs. learning sciences (Carnegie-Mellon, MIT, etc.)
- Definitely political tensions/definition issues when it comes to “turf”
- Jim Goodell’s definition is more around “team sports” - needing an interdisciplinary team - <https://www.qi-partners.com/what-is-learning-engineering/>
- Survey design drew from collective experiences/feedback from team and others
- Very exploratory space
- Probably too early to survey individual institutions with the relevant language- better to formalize the current survey and try in a few years
- Faculty don’t always want to work with instructional designers - names are even changing there - “interaction designers”
- Learning sciences is also becoming more well-known
- Nomenclature is very important- seems to be shifting/various across circles
- https://www.chronicle.com/article/why-the-science-of-teaching-is-often-ignored?cid=gen_login_refresh&cid=gen_sign_in
- Maybe we need to model a Venn diagram, word cloud, etc. to better understand the current space

92. Next Meeting

- a. February 1st, 2022, 10 AM MDT
- b. Presentation from CCC SIG
- c. **ACTION for All:** Let Emily know if you are interested in presenting at the ICICLE monthly community call
- d. **ACTION:** Lauren on-deck to present in March
 - i. *Update from Lauren 1/7/22:* Materials from “Bringing Applied Learning Sciences to Your Institution” pre-conference workshop [in this folder here](#)
 1. This workshop was part of the ISLS 2021 conference: https://2021.isls.org/islsws_01/
- e. **ACTION:** Emily to connect with Jodi and Janet re: March

ICICLE Higher Ed MIG: December 7, 2021, 10 AM MDT

Attending: Emily Marasco, Jim Paradiso, Lauren Totino, Karen Rege, Laura Lukes

93. Review of the Agenda

- a. Any additions?

94. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Karen Rege, Dean for Information and Innovation, Harford Community College, Bel Air, MD krege@harford.edu
- b. Lauren Totino, Learning Engineer, MIT (ltotino@mit.edu)
- c. Laura Lukes (llukes@eoas.ubc.ca)
- d. Barish Golland, Senior Learning Technology Specialist (barish.golland@twu.ca, Trinity Western University)

95. Starting Themes and Planning for 2021 - 2022

- a. Review of goals and tasks completed to-date
- b. Identification
 - i. What does “learning engineering” mean to various faculties/areas?
 - ii. Previous work done by Alison A. Carr-Chellman, Ph.D., University of Dayton, School of Education & Health Sciences, acarrchellman1@udayton.edu - “What Do Learning Engineers Do?”
 1. Had to postpone guest speaker to January
- c. Visibility
 - i. Great work was done on the resource guide
 - ii. Continuing adding or take a look at some of suggested resources to identify particular aspects that may be of interest
- d. Collaboration
 - i. Sharing insights- would be great to have a guest speaker talk about creating a learning engineering course/program at other institutions (Janet/Lauren/Jodi previously gave a pre-conference workshop that might be perfect!)

Discussion Notes

- Could invite Janet/Lauren/Jodi to speak in February/March about how to get a program/course in learning engineering started at your institution
- SOLAR conference is in March- possible overlap? Could be a good resource to incorporate?

- Promotion of upcoming ICICLE conference- what is our role and how can we help?
- Questions/discussion for guests in January
 - Overall goals of the research and the survey?
 - Decision process for creating the survey
 - Validation/piloting of the instrument
 - Bucket-sorting question- how did they choose the items/bucket topics?
 - Where are they going next? Internal definitions? Educating others?
 - What was the target audience? Those who had knowledge about learning engineering? More of an organic trend investigation?
 - How did you account for different definitions/understanding learning engineering? Or was that the point?
 - Did they consider the “daisy model” for learning engineering? Or the updated version from the toolkit?
 - How broadly was this disseminated? Demographics are very broad?

96. Next Meeting

- a. January **11th**, 2021, 10 AM MDT
- b. New connection information
- c. **ACTION:** Lauren to source some materials for potential February/March topic
 - i. *Update from Lauren 1/7/22:* Materials from “Bringing Applied Learning Sciences to Your Institution” pre-conference workshop [in this folder here](#)
 1. This workshop was part of the ISLS 2021 conference: https://2021.isls.org/islsws_01/
- d. **ACTION:** Emily to connect with Jodi and Janet re: February/March
- e. **ACTION:** Emily to send calendar invites for January to June (Zoom link needs to be updated)
- f. **Action:** Continue to add to resources and think of questions for January visitors

ICICLE Higher Ed MIG: November 2, 2021, 10 AM MDT

Attending: Emily Marasco, Anne Fensie, Jim Paradiso, Rodney Beard

97. Review of the Agenda

- a. Any additions?

98. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Anne Fensie, anne.fensie@maine.edu, University of Maine

99. Starting Themes and Planning for 2021 - 2022

- a. Identification
 - i. Update on Slack and mailing list
 - ii. What does “learning engineering” mean to various faculties/areas?
 - iii. Previous work done by Alison A. Carr-Chellman, Ph.D., University of Dayton, School of Education & Health Sciences, acarrchellman1@udayton.edu - “What Do Learning Engineers Do?”
- b. Visibility
 - i. Begin listing blogs, published research, etc.
 - ii. We could compile a list of resources for faculty members
- c. Collaboration
 - i. Sharing insights- how can we use the insights from learning engineering to train other faculty members on best practices for teaching and learning? Faculty buy-in?

Discussion Notes

- Varied aspects of learning engineering - Use of data to understand engineering vs. building software/tools to help with the learning process- how do we build those different elements?
- Concepts of learning engineering are not necessarily new, but the integration and access is changing
- Umbrella paradigm for integrating various disciplines and competencies
- Another element - Learner experience design
- Competing approaches to improving education
- Is learning engineering a way to bring together the best of each approach to facilitate future improvements?
- Can you train a specific learning engineer?
- Compilation of books, websites, programs, resources, etc.

- Existing programs: <https://oli.cmu.edu/educators/learning-engineering/>, <https://www.bc.edu/bc-web/bcnews/nation-world-society/education/learning-engineering-program.html>
- <https://www.amazon.com/Learning-Engineering-Online-Education-Design-Based-ebook/dp/B07H4XQJC4/>
- Note: WHY- why should faculty members care about these resources?
- Could we use Google for now to collaborate? Maybe move to Slack/Discord in the future as the group grows?

100. Next Meeting

- December 7th, 2021, 10 AM MDT
- Same connection information
- ACTION:** Emily to reach out to Alison A. Carr-Chellman, Ph.D., University of Dayton, School of Education & Health Sciences, acarrchellman1@udayton.edu - see if she's willing to discuss "What Do Learning Engineers Do?" research survey/project in next meeting?
- ACTION:** All to contribute to Google doc resources: <https://docs.google.com/document/d/1WDFkvOsdzW9RajRCyK-ADs8LhikiLY23TI3zeAj9wrY/edit?usp=sharing>
- ACTION:** Emily to organize all group documents in a Google folder for easier access
 - Done! You can access the folder directly here: <https://drive.google.com/drive/folders/15blzCADpEyZVaorKzIGQdbGy405F8FwT?usp=sharing>
I will also add the link to our meeting invite.

ICICLE Higher Ed MIG: October 5, 2021, 10 AM MDT

Attending: Emily Marasco, Jim Paradiso

101. Review of the Agenda

- a. Any additions?

102. Introductions - Please add your name, email address, and affiliation if you are joining us for the first time so that you can be added to the mailing list.

- a. Barish Golland, barish.golland@twu.ca, Trinity Western University | Learning Technology Specialist

103. Starting Themes and Planning for 2021 - 2022

- a. Identification
 - i. Getting connected asynchronously through the chat- do we want to continue merging the Slack with the ICICLE larger Slack, or keep our own? Emily will check with Michael and co.
 - ii. What does “learning engineering” mean to various faculties/areas? Potentially share a survey with the ICICLE community (or look at the survey that was shared recently) and group meanings by subject areas? How do various higher ed stakeholders respond to “learning engineering” - Deans, T&L groups, faculty, staff, etc.
- b. Visibility
 - i. Blogs, publishing research, etc.
- c. Collaboration
 - i. Sharing insights across various institutes
 - ii. OERs
 - iii. Faculty development and training- how can we use the insights from learning engineering to train other faculty members on best practices for teaching and learning? Faculty buy-in?

104. Next Meeting

- a. November 2nd, 2021, 10 AM MDT
- b. Same connection information
- c. Calendar invite?