ICICLE Design for Learning SIG
This document:
2025 - 2023 Agendas and Notes
Previous Notes Archived here - <u>Design for Learning Sig Agendas and Notes</u>

January 28th, 2025 - <u>https://mit.zoom.us/j/94094696812</u>
In Attendance: Aaron Kessler, Amy Parent, Dina Kurzweil, Henry Ryng, ⬭ Renée Johnson ⬭ , Phil Vahey,Micheal Feldstein, Steve Salik, Jeanine A. DeFalco, Dan Belenky, Mark Priest, Lauren Totino, Mrilu Lam-Herrera, Kathy Crowly, Jennifer Englund, Barbara Kilthau, Patrick Hong, Megan Imundo, Shira Fruchtman, Jim Goodell, Chloe King, Skye Nguyen, Rachel Van Campenhout, Laura Lukes, Kelsey Arcenia, Gabi Atwood, Darlene Vann, Mark Priest

Welcome and new member introductions:
1. Mark Priest Software Engineering Institute/Carnegie Mellon University
2. Hassaan Bukhari - BetaFlix hassaan.bukhari@betaflixinc.com
3.

Member updates:

Agenda:
1) Welcome back to Design SIG
2) Resources you might find helpful:
    a) LE Toolkit -
    https://www.taylorfrancis.com/books/edit/10.4324/9781003276579/learning-engineering-toolkit-jim-goodell-janet-kolodner
    b) LE Case Guide 1.0 -
    https://docs.google.com/presentation/d/1zswPfXQxV1_aRHzwQCaGRV5ZehABFUCVTYNR6jF2xS4/edit?usp=sharing

3) Brief Presentation from Marilu Lam-Herrera
    a) Related: Nested LEP work from ICICLE 2024 conference
4) Open Discussion
5) Revisiting AI for Learning Design -
    a) Focusing use of AI
6) Next Meeting: Michael Feldstein -

December, 2024 - No meeting

November 26th, 2024 - <u>https://mit.zoom.us/j/99960999830</u>
In Attendance: Aaron Kessler, David Porcaro, Chloe King, Jeanine A. DeFalco, Lauren Totino, Amy Parent, Megan Imundo, Zarka Ali, ⬭ Renée Johnson ⬭ , Shira Fruchtman, Adesunloye Adeola, Michael Jay, Joann Kozyrev, Marilu Lam-Herrara, Chris, Dina K, Phil Vahey

Welcome and new member introductions:
4. Chris - Sim Insights
5. Anil Sapkota mailto:anilsapkota019@gmail.com
6.

Member updates:
A) Aaron Kessler - Chapter 1 of LE Toolkit - "Learning Engineering is a Process" will be Open Access (soon)
B) 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).
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

Agenda:
7) David Porcaro (https://learningdesignalliance.org/) presentation -

8) Discussion
9) Reminder, the LE Case Guide 1.0 is open to use:
https://docs.google.com/presentation/d/1zswPfXQxV1_aRHzwQCaGRV5ZehABFUCVTYNR6jF2xS4/edit?usp=sharing
10) Next Steps: No December meeting

October 29th, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Zarka Ali, Jeanine A. DeFalco, Lauren Totino, Dina K,
Lisa Jones, Rachel Van Campenhout, Michael Jay, Liza Loop, Shira Fruchtman, Kevin Owens, Dian Kurzweil, Renée Johnson , Megan Imndo, Amy Janiczek, Molly McCormick, Rajesh Jha, Henry Ryng, Skye Nguyen, LaTonya Motley, Tim Felke, Adesunloye Adeola, Joann Kozyrev, Jim Salsman

Welcome and new member introductions:
7. Adesonloye Adeola
8. Raj Jha

Member updates:

9. Loop center is looking for new executive director
10. Starting Nov 6th Michael Jay leading discussions on What is Learning Engingeering
    a. 1PM EST Nov. 6th
11. Rachel - Working on Responsible AI principals
12. Raj - working on applying Responsible AI Framework in new project

Agenda:

11) Call for submissions:
    a) With my co-organizers Erin Czerwinski and Jeanine DeFalco, I am thrilled to announce a CALL FOR PAPERS to be part of a conference session "Learning Engineering: Stories from the Field". This hybrid session will be part of AIS 2025 (which is an affiliated conference of HCII 2025). Session description below. 800 word abstract is due November 8th!
    b) If interested, please email (Aaron Kessler) your full name, email, and affiliation and I will invite you to submit an abstract through HCII system.
    c) Session Description:
       This hybrid session will explore the rapidly evolving field of Learning Engineering, bringing together researchers, practitioners, and professionals to share qualitative and quantitative insights from the front lines of this interdisciplinary practice. Learning engineers operate at the intersection of learning science, technology, and instructional design, using data, algorithms, and technology-driven solutions to create, enhance, and optimize learning environments. This session aims to provide a platform for discussing real-world experiences, ethical dilemmas, innovative practices, and emerging competencies within the field. It will include papers and case studies that reflect on both the theoretical frameworks and practical applications of learning engineering, focus on the use or development of AIS will be especially considered.
12) LE Case Guide 1.0 -
    https://docs.google.com/presentation/d/1zswPfXQxV1_aRHzwQCaGRV5ZehABFUCVTYNR6jF2xS4/edit?usp=sharing
13) Gen AI Conversation - Space to share ideas -
    https://docs.google.com/spreadsheets/d/1w1ujgGmgMyIwwvIhSMGkGCLqLcdL5A1jYQ36bh_VBRo/edit?usp=sharing
    a) Exercise -

Next meeting: David Porcaro - https://learningdesignalliance.org/

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September 24th, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Aaron Kessler, Amy Parent, Dina Kurzweil, Jim Salsman, Lauren Totino, Phil Vahey,Liza Loop, Shira Fruchtman, Amy Janiczek, Megan Imundo, Kathy Crowley, Michael Jay,

Jessica Yarbro, Skye Nguyen, Tim Felke, Keysha, Renee Johnson , Dina Kurzweil, Jim Goodell, Ameenat Kadree, Kristin Torrence , Henry Ryng, Jeanine DeFalco

Welcome and new member introductions:
>   Tim Felke
>   Megan Imundo
>   Kathy Crowley
>   Jessica Yarbro
>   Ameenat Kadree
>   Liza Loop

Member updates:
- Jim Goodell - Royal Canadian Air Force event and grand rounds at university of Houston Medical School
- Playlab (https://www.playlab.ai) is hosting Open Lab time for all past and current Playlab PLC members next Tuesday, 9/24 from 6-7pm ET. Anyone is welcome to join! Feel free to drop in any time during the session to get feedback on your tool, collaborate with fellow community members, ask questions, brainstorm solutions, and iterate on your design in real-time.... **Here are the options for Open Lab Rooms to join:**
  > **Zoom Room 1:** Humanities
  > **Zoom Room 2:** STEAM (Science, Technology, Engineering, Arts, and Math)
  > **Zoom Room 3:** SEL (Social Emotional Learning)
  > **Zoom Room 4:** Other! (My tool doesn't fit into any of the above categories)
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Agenda:
14) Fundraising
15) LE Case Guide 1.0 - https://docs.google.com/presentation/d/1zswPfXQxV1_aRHzwQCaGRV5ZehABFUCVTYNR6jF2xS4/edit?usp=sharing
16) Gen AI Conversation - Space to share ideas - https://docs.google.com/spreadsheets/d/1w1ujgGmgMylwwvIhSMGkGCLqLcdL5A1jYQ36bh_VBRo/edit?usp=sharing
    a) Kristin: Really good for productivity but not with an eye for things like desirable difficulty, scaffolding, other types of research approaches. Lots of potential. We are at unique position to ID and create Learning Sciences driven LLM model - what might that look like?
    b) Phil - Collaboration, most uses are about hyper individualization isn't great. Gen AI could be really useful in supporting social and learning community interactions. ID using for ID - (Jim Goodell - Learner States rather than learning styles)
    c) Kristin: can we accomplish stealth assessments through chats
    d) Jim Salsman - education applications of work and building tools - play lab (see above) - also mention general availability of advanced voice features, in support of mispronunciation remediation of the ability to be understood

e)

Job posting:

August 27th, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Aaron Kessler, Zarka Ali, Lauren Totino, Shira Fruchtman, Henry Ryng, Phil Vahey, Amy Parent, Renee Johnson , Samaa Haniya, Skye Nguyen, Jim Salsman, Joann Kozyrev, Anne Fensie, Amy Janiczek, Jim Salsman, Marilu Lam-Herrera, Michael Jay, Jim Goodell, Diana Vasquez, Sathya Rivas Zavala,

Welcome and new member introductions:

Member updates:
 Anne Fensie - just published a chapter in the Introduction to AI and Ethics in Higher Education textbook called "How to Use AI to Help, Not Hinder, Your Learning". It has several worked examples of using an AI chatbot to help a student learn. Here's the link: EdTech Books

 Jim Salsman - Xoogler review of Google Deepmind paper: "Fine-turning LLMs to be tutors" at https://www.youtube.com/watch?v=pbApB_HszrM -- the paper is "Towards Responsible Development of Generative AI for Education: An Evaluation-Driven Approach" at https://storage.googleapis.com/deepmind-media/LearnLM/LearnLM_paper.pdf

 Joann - new Dean of Extended Studies at ArtCenter College of Design in Pasadena, California.

 Marilu - presented nested LE paper, helped to convince boss to expand her work!

Agenda:
 Michael Jay (two committees)-
 a) an invitation to Learning Engineering (meeting this Thursday) - email him for access (michael@matchmakeredlabs.net)
 b) Committee to have conversation with broader committee around how do you know if LE is happening
 1) LE Case Guide 1.0
 https://docs.google.com/presentation/d/1zswPfXQxV1_aRHzwQCaGRV5ZehABFUCVTYNR6jF2xS4/edit?usp=sharing
 Feedback/thoughts:
 ● Anne - Template good for getting a collection of use cases; is there a way to capture more of the detail? This is such a high level, what about more of the "essence" of LE? Another place to put more detail?
 ○ We've thought about it, balancing act - we imagine the LEED tracker/design decisions is where a lot more detail can be - can link to it

from template. Detail can live there and then share how much or how little from there

- Marliu - If cite it properly, can she translate it to Spanish? Would be important resource to team. Would send version back.
  - Yes - cite the original, as a derivative piece of work
  - Zarka - If it's translated in one language, Sae and Jim G have already translated the LE 2-pager in French. Versions of it under the CC in a couple of languages. Then translate annotated cases back
- Henry in chat - I see how it can scaffold and facilitate adoption
- Idea is to check in each Design SIG meeting to see who wrote a case
- Jim G - different ways within ICICLE to share resources - Google Drive folder, some things up on website. Should put links from those places. How to make sure everything like this that becomes available gets to all the places people might look for it?
- Michael - a lot of cases being collected in different SIGs and MIGs, could this serve as a common way of describing those use cases?
  - Yes - chairs to share across their groups. This can be the way members write up cases.
  - Present this at steering committee - convo with all SIG and MIG leads
  - "What is LE when we see it?" webinar - this might be a topic for that conversation as well
  - Tools Competition "LE Plan" - that group might be looking for something like the case guide
  - Matchmaker team put together variant of this, same goal but a different audience - would like to share more
- Amy - take it for a spin! Don't worry about being right or wrong. The tool takes you through a thought process that helps you get to a deeper understanding and appreciate of LE in action
- Lauren - encouraged to go through sharing experience too as a means of uncovering further insights through that discussion process

We have a much broader audience, what do people need, want to work on, discuss? What comes next?

2) September Meeting
  - AI/Gen AI space - how might we be able to provide further guidance in terms of leading its use in design of learning, design of assets, broader technical/digital learning experiences? Where are opportunities for us to leverage what we know about good learning design and science of learning in prompt engineering, setting up templates, etc.? Where does AI environment fit or doesn't fit in learning (grounding ourselves first)
    - Anne - AI in Edu Google Group has ID group that meets monthly to discuss some of this

- - Zarka - IDs graduating from programs, preparing them from a LE perspective. Some programs just teaching prompt engineering, but not really examining types of outputs or the larger context
    - Joann - 1) Has anyone been playing around with tutor tools? i.e., Khan Academy - just used tutor and exercises. 2) Has anyone been altering how you create your courses? Wants to put projects/outputs at the center of experience and "halo" guided prompt creation around them as an ID model that we could create and use with Gen AI as a support for content creation
        - Renee - I'm getting my PhD in Curriculum, Instruction, and Learning Sciences with a specialization in Instructional Design and Educational Technology at Texas A&M University-Corpus Christi. Our university hasn't delegated specific guidance for AI use at least at the graduate level. Many of my professors encourage AI use and sharing how we are using it in any of our course projects, papers, etc.
    - Anne - might want to tap into huge ID/LD community and engage them more in conversations around LE and help them see value-add of what LE can bring to their practice. There's been some efforts, but other ways of engaging more IDs in our community?
    - Jim S - Wish from Google: would wish everyone ask Google's "Field CTO" Charles Elliot https://www.linkedin.com/in/charles-g-elliott/ to open source their "Analysis of Teaching Tool Usage" evaluation scripts. https://i.ibb.co/syjYFHj/Screenshot-2024-07-07-12-18-33-PM.png
    - Phil - Regarding AI - Supporting collaboration is a big opportunity, and seems to be getting ignored, relatively speaking.
    - Aaron - Get more of a voice and push on how and why tools work the way they do for the benefit of learning and learner

Links and Opportunities shared in Chat
- From Anne Fensie
  upcoming ID and AI in Higher Education August meeting:
  📅 **Date**: August 29th
  🕐 **Time**: 3-4 pm EDT
  💡 **Topic**: The Room Where It's Happening: Strategies for Making Sure Folx Are Part of the AI Conversation
  🔗 **Registration**:
  https://Rush.zoom.us/meeting/register/tJIufuisrDwsGNXcaorDKePPaNciZutJvAhf
  Description:
  In this session, our panelists will discuss the different considerations, strategies, and practices to consider in getting involved in the AI conversation on your campus. We recognize that many may be uncertain about where these conversations are taking place, how to join them, and how to make room for others. Our panelists will share insights, approaches, and questions they've been exploring to address these challenges.
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Jobs:

1) TSMC Arizona - Great opportunity but one minimum requirement filter "Bi-lingual in Mandarin Chinese & English"
   https://www.linkedin.com/jobs/view/training-promotion-specialist-2024-hc-at-tsmc-3993662554/

July 30, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Aaron Kessler, Renee Johnson , Henry Ryng, Lauren Totino, Jeanine A. DeFalco, Shira Fruchtman, Phil Vahey, Amy parent, LaTonya Motley, Skye Nguyen, Zarka Ali, Travis Falsted, Omotayo Olorunfemi, Mollie McCormick

Welcome and new member introductions:

Member updates:
1. P2247.4 Standard (https://standards.ieee.org/ieee/2247.4/10368/)
   a. Trying to give LE a framework for how to design and develop systems that have ethical compliance toward diverse populations
   b. Next meeting: see COMMENTS
2. Not strictly design-related, but I have a team pitch to SXSW EDU that will be voted on next month–may ask for your votes (Renee Johnson)

Agenda:
3) ICICLE Conference Recap
   a) Henry started using LEED! (Can check out LEED resources here)
      i) Thought: What might it mean to apply a different data structure to this "tool"?
      ii) ICICLE conference team used LEED!
      iii) Facilitates and interesting mindset shift on who, what, why you are collecting data - shared by Michael and his Team's use
      iv) Could be interesting to explore a "workshop" in implementing LEED
   b) Think about "collaborative" rather than "individualized" and "adaptive" when discussing learning development strategy (context- digital/technology)
   c) Alerted Gov MIG folks on the case study work we are doing in our SIG (Mollie)
   d) Interesting point surfaced- "Designing for scale from the beginning" -(Phil takeaway, possibly useful paper)
      i) Opportunity to acknowledge and understand different levels of scale along the process and across the decisions that get made
   e) Complexity and Messy themes resonated
      i) Appreciate having enough of an understanding to make it work
4) LE Case Guide update -
   a) Where we are now:
      i) Started putting together a framework for sharing via the LE process model
         (1) These are key parts we think people need to share out to capture LE in practice

          ii)   Evaluating some IP (intellectual property) elements before releasing

          iii)   Looking for a location and means for sharing

5) August meeting

Jobs:

July 24th ICICLE Conference Discussion and Sharing

Why are you interested in the Design for Learning SIG?
- Find new ways of doing and new ideas
- Interested in Design Decisions and how to bring into practice
- Inspiration
- Integrate LE into my program
- PhD student specializing in instructional design and educational technology; conducting design-based research
- Interested in practices and see what everyone is up to
- Apply design principles
- Making learning more effective
- How to apply process

June 25, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Lauren Totino, Jeanine DeFalco, Shira Fruchtman, Zarka Ali, Jim Salsman, Joann Kozyrev, Amy Parent, Aaron Kessler, Jodi Lis, Henry Ryng

Welcome and new member introductions:

Member updates:
        Zarka, Kala, and Michael - presented at ISTE - really good discussions for some groups, some valuable feedback on the activity, and other (not) - LE and where it fits with curriculum design and products.

        Jeanine - army research institute and solicitation for proposals on how to quantify AI ethics - United States Army Futures Command, Artificial Intelligence Integration Center Broad Agency Announcement for Basic, Applied, and Advanced Research
        The Army Artificial Intelligence Integration Center (AI2C) is seeking artificial intelligence research and development whitepapers and proposals in support of new technologies and
        translational research-based approaches that support the identification, alignment, and exploitation of basic, applied, and advanced research.

Agenda:
1) [ICICLE Conference](#) - Registration- https://web.cvent.com/event/105c0f71-6470-4512-9126-2bc9eb788f8d/regProcessStep1
   a) Request for Sunday - lay 70 power cords through rooms - 10-3 sunday reach out to Jodi
2) Preparing for conference - SIG "stories" - why others should join?
   a) In ICICLE, and this SIG in particular, we encourage newcomers to start applying LE practices and tools in their contexts. But that can be hard ("good in theory, hard in practice"/"easier said than done"). Design SIG gives you the support, community, and space to actually put those things into practice. You come with your context, you hear about other contexts and discuss, and you learn new things that you then bring back to your context. You're not just taking something that you learned about in the Toolkit or from other LE resources and trying it out on your own, you're doing it alongside a community of practice comprised of different perspectives. It's like an extra layer of support to all the new LE concepts you might want to start applying, plus you build toward things together. *(since I won't be able to come to this table at the conference to man the Students/Grads one, I wanted to share this here so please take pieces of it or not. - Lauren)*
3) Follow up from community call and Amy's work
   a) What is worth following up on supporting this to develop - leadership and guidance to think through these things
      i) Symptoms I don't have time or data to think through
      ii) - Aaron: "Change management"
      iii) Assessing and requiring proof of success to justify further purchase
      iv) Amy: Shifting to new instruments in L&D, in types of requests to move to new approaches of assessment and success metrics and different approaches
      v) Implementation plays a key role in measuring efficacy.. Implementation matters
      vi) Finding ways to use paradata to see
4) Moving forward post conference

Jobs:

Community Requests:

Links Shared:
● Here is the Stanford preprint I mentioned which does a good job of qualifying their effect distribution tails: https://osf.io/preprints/osf/qy8zd but wait for v2 before reading anything in to their overall conclusions please
●
May 28, 2024 - https://mit.zoom.us/j/99960999830

In Attendance: Jeanine DeFalco, Michael Jay, Lauren Totino, Avron Barr, Henry Ryng, Jim Salsman, Kevin Owens, Shira Fruchtman, Joann Kozyrev, Phil Vahey, Renee Johnson , Amy Parent, Jim Goodell, Zarka Ali, Jodi Lis, Henry Ryng

Welcome and new member introductions:
- Jim Salsman

Member updates:

Agenda:
5) [ICICLE Conference](#) - Registration open - https://web.cvent.com/event/105c0f71-6470-4512-9126-2bc9eb788f8d/regProcessStep1
6) Planning for June, July (post conference), and Aug meetings
   a) Share out the case study resources
   b) Reintroduce SIG coming off conference, including focus

Jobs:

Community Requests:
- Cite source when sharing Learning Engineering Resources
   - Ex. When mentioning toolkit, share link, reference page of resource as appropriate

Community Suggestions:
- Sounds like we might want to create some community and "branding" guidelines and best practices. I admit, I struggled with overwhelm of where to look when I first joined this community. (Renee)
- QUESTION: How do we help current roles (i.e. Instructional designer) understand Learning Engineering? How do we increase our reach?
   - We need to make LE part of more popular literature beyond academia. (Michael Jay)
   - I think using the LEP rep as a visual tool is not just for reporting out cases/stories but to actively help teams figure things out and unpack things. That can be a first step to understanding who you even need on your team - not just "I need a learning engineer." (Lauren T.)
   - As a group, talk about it more, more presentations, help build the foundational understanding (Zarka A.)

Links shared during call:
- Jim: Toolkit chapter (CC BY Jim Goodell) (includes official ICICLE definition) https://drive.google.com/file/d/1MxJ7dKCbVSgBpOYWM2pTU_AKKbHd3CLj/view?usp=share_link

- Regarding "aggrandizing" and increasing our efforts: I have been doing work for a couple of organizations on Field Building/Catalyzing. There is actually literature about this, and some best practices. I'm happy to discuss with anyone interested. (Phil V.)
  - For instance:
    https://www.bridgespan.org/insights/field-building-for-equitable-systems-change
- Learning Engineering can benefit from incorporating terms like Return on Investment (ROI), alongside instructional science principles and engineering design processes, to create, implement, and evaluate effective learning experiences. (Henry R.)
- The publications committee **may** provide assistance with preparing SIG, MIG, or member work for academic publications and yet the major effort would be getting documents out about LE for more general consumption. White papers, briefs, etc. Several organizations do these sort of less formal and more timely communications that make the concepts more accessible to a larger audience in a more timely manner. I'm working on such a piece with Project Unicorn on the nature of State Education Data, how it is collected and how it is used. The target audience is companies that are creating tools to support gathering and distributing this sort of data. The goal is to increase awareness and help companies ask informed questions. ICICLE is not an academic organization despite the fact that a lot of the existing members are academics. If learning engineering is to become part of how the broader learning community works we need to generate greater awareness and demand." (Michael Jay)
-

April 30, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Lauren Totino, Renee Johnson , Phil Vahey, Amy Parent, Anne Fensie, Michael Jay, Renee Johnson, Ian Gibson, Shira Fruchtman, Jodi Lis, Zarka Ali, Omotayo Olorunfemi, Kayla Morehead, Jeanine DeFalco

Welcome and new member introductions:

Member updates:

Agenda:
7) ICICLE Conference - Registration open - https://web.cvent.com/event/105c0f71-6470-4512-9126-2bc9eb788f8d/regProcessStep1
8) Updates and presentation on "Learning Engineering Case Guide"
Learning Engineering Case Guide

1. Provide a way for users to develop and build their own understanding of the work they have been doing using the learning engineering process as a starting point.
2. Provide the LE community a structure to share their work in a systematic way

- Phil - who are the "users"? How broadly are we defining that and who is it going to be useful for? What about people whose role is on the fence of doing this work?
  - Assumption: We don't think someone with no LE experience can fill this in, we do think someone with limited background can. But not none. Not point A in someone's journey
  - Michael - I see part of the real power is a common way to represent the work that is being done and facilitate comparison, contrast, and sharing.
  - Our goal is to be reflective but not necessarily instructive (which we have the Toolkit for)
    - Renee - More of a job aid or tool, not foundational
- Amy's example and thought process filling out the first iteration of the case template:
  - First leaned into describing the Challenge, and weaving in context around the challenge
  - Started to realize that parts of the challenge needed to be separated out - it initially was really long - allowing the template to let her pull it apart in succinct and concise "buckets" of thought
  - Then filled in what she knows about audience - a good amount of iteration occurred between Challenge, Sub-Challenge, and Learners boxes
    - Phil - some redundancy in Learner box - time constraints are also Context?
    - Anne - how did you figure out the needs of the personas? Or the context? Objective data that informed decisions
  - Next filled out Team roles - one of the easiest to fill out
  - How to concisely explain the gist of the solution - "gist' was a guiding primer because solution was massive and had to keep in mind the most important aspect of the design that related back to needs of learners and given how she articulated the challenge
    - While doing this, found self playing in the data space - Ex) needs analysis helped understand audience; history of working with clients; adult learning; practices from behavioral sciences/motivation; UX principles. These are all noted in the Decision Tracking space on the template
    - Constantly diverging/converging between challenge/sub-challenge and Decision tracking space
    - Michael - Interesting that you bring up the size of the solution. Our playing with this representation has focused on a set of much more specific design decisions. Let's discuss the 'Powers of 10' zooming up and down.
- Michael re: decisions - My team has been playing with this representation as well and found it difficult to focus on one smaller set of design decisions without feeling the need to bring in the larger causal chain. Maybe there should be a metamap in which a number of these (or parts of these) can be tied together.
- Anne re: format - If this is in a google slide format, additional design decisions could be literally layered on top of each other and to consume the whole thing, you would be in slideshow mode to move through the layers.

- Re: Decision Tracking boxes - it's rolled up from the more detailed tracking you may be doing (i.e., LEED)
  - Renee - coming from a researcher, this is reminiscent of conjecture mapping
- Michael - Is a phase another turn around the circle?
  - Maybe - it depends on the project and situation. In Amy's case I think yes.
- Jeanine - problem space is all barriers, limitations every step of the way; devising a solution is a barrier. Trying to a present a solution on enterprise level even just to suggest a design. A key element is being able to make decision within constraints
  - Amy - included a constraint as the influence to a key decision, even though she didn't agree - but tracked it to test if that was the right decision and the impact that it had
  - Aaron - unlike Amy's where the factors of the learners influence many key decisions, Jeanine's contextual factors are the ones dictating the key decisions. For you, the context box becomes really important to fill out. So you would fill it out differently
- Renee - Also reminds me a lot of DMAIC from Lean Six Sigma for process improvement.
- Anne - learning challenge is in center, but what about challenges of other factors (engineering = looking at whole situation). Where are the boundary conditions? With the resources, content, learners, etc. And how you solved for them in your context - will help readers understand it's not a one-size-fits-all solution for this particular challenge
- Anne re: Decision/Reason columns - I don't think that everyone is going to assume that "reason" should refer to constraints. They might be thinking of a justification based on the learning sciences or other factors for decisions. Maybe that should be made explicit.'
  - Maybe flip-flop the columns: first column is implementation challenge and the second column is the solution action.
- Renee - So, reflecting on chapter 8 where we have tools for understanding the challenge would help inform this broader context.
- Amy is still iteration it before it's a story she wants to tell - 3-4 iterations is where she may land when getting it done
  - Phil - Was it a useful thinking tool, or something you did because you needed to show someone?
  - Michael - Did you engage with any of the other people working on the project to complete this diagram?
  - Amy - acted as a strong reflection tool; "ah-ha" moments from sharing it. Made her highlight data-informed decision making. Biggest thing she will shift is decisions - but lots of value here. Making sure they get the challenge right and insisting they stay on the challenge and iterate as needed but keeping it front and center
- We will ultimately connect the Decision/Reason scaffolding to LEED tracking resources
  - Preprint on LEED tracking: https://osf.io/preprints/osf/5um8h
  - **Update - the paper has been published in JAID:
    Totino, L. & Kessler, A. (2024). "Why did we do that?" A Systematic Approach to Tracking Decisions in the Design and Iteration of Learning

Experiences. The Journal of Applied Instructional Design, 13(2). https://dx.doi.org/10.59668/1269.15630

- Renee - embedded processes within a process (Russian doll effect). As an outsider, would need to know what those connected components are
- Zarka - starting with LEED tracking (2 boxes in the template) and starting building out from there - for work at ICICLE conference, will share there

Jobs:

March 26, 2024 - https://mit.zoom.us/j/99960999830
In Attendance: Henry Ryng; Lauren Totino, Shira Fruchtman, Amy Parent, Michael Jay, Phil Vahey, Nicole Pochinki, Joseph Olson, Jeanine DeFalo, Rachel Van Campenhout, Renee Johnson , Janet Kolodner, Joann Kozyrev, Adesola Ogundimu, Kayla Morehead, Rob Nyland, Henry Ryng, DJ Jaeger, Katherine McEldoon, Dina Kurzweil, Ian Gibson

Welcome and new member introductions:

Member updates:
Rob - learning symposium for Air Force, learning engineering and competency models
Jeanine - PAR 3396; 2247.4 ; submitted to DARPA, going to second round; The Frontlines of Artificial Intelligence Ethics: Human-Centric Perspectives on Technology's Advance
Michael - Submitted to Darpa competition, to second round - 5th time advancing -
Rachel - Vital source and acrobatic - building LE language back into role - building LE
team
Katherine - SXSW - education R&D and lots of sessions - got a website up
https://ies.ed.gov/ats-initiative/index.asp (grant comps in Ed R&D and LE)

Agenda:
ICICLE Conference -
A new way to capture and represent work/cases (CC - Jim Goodell, Lauren Totino, Amy Parent, Aaron Kessler)
Thoughts, feedback, reflections, etc.:
- Dina - really busy and confusing, a lot of info on page around the model, might not be helpful; what about breaking it out into sections and show smaller corners/looking at it from section to section. Ex) highlight 'Team' and zoom into its info
  - Whether paper-based or interactive media, it's a focused piece where you get similar types of info in each section
- Janet - agrees re: overload; also think about levels of specificity - some decision making and design is at different levels.
  - We do have a nested version with multiple LEPs in the works

- Rob in chat - I love this for scaffolding the learning engineering process. It seems like this could lend itself to a more fleshed out case study that can be published somewhere like the Journal for Applied Instructional Design.
  - Yeah, I don't know that this is a great presentation format. But I like it for metacognitive scaffolding.
    - Dina - RE: Metacognitive scaffolding - still cognitive overload the way it is shown.
    - Rob - Yes, overloading as a presentation format. But for the team doing it, I think it can help orient everyone to the LEP and where they are currently at.
- Amy in chat - I love the "thinking map" and connection making this elicits. So I think it may serve that purpose nicely.
- DJ in chat - I wonder if an interactive PDF might be a tidy digital solution
- Katherine in the chat - Love the goal of a high-level "quick hit" template for sharing examples of Learning Design/Engineering work. This is a great step!!
- Michael - likes the level of detail (high level perspective). We often focus on individual pieces and it actually all goes together. Each piece could have own document with own detail. The overall image is the vision.
  - Suggests "Business rationale" on outside (adding a bit more)
- Connecting multiple docs is the idea here - have contextual frame and then provide more detail on how it's situated
- Zarka - for someone new, might now be familiar with decision tracking (outside boxes). What comes first? How are decisions connected to the rest of the rep?
  - Level of scaffolding we need to build into having other use it
    - Making thinking visible as a cognitive process, what we were thinking when filling out the particular example
- Joann in chat - I think if the problem you are trying to solve is (and I am not sure I heard correctly): How can we gather LE case studies quickly and efficiently? If that is so, what I like about this diagram is it serves as a forcing function for consistency. Consistency is a powerful feature for making case studies valuable and also for building a common language and practice in a field.
  - Rachel - I completely agree. A motivating reason we asked presenters to use the process model at the last conference. Consistency 💯
  - We need the shared language and structure
- Katherine in chat - This diagram might be an intro or anchor diagram, and can be supported by a page or so of prose if needed.
- Rachel - diagramming out pieces of the process on whiteboard with team; something like this helps team start with big picture. Team exercise of capturing high-level. Could see using it while walking teams through what they need to consider, define, rationales, objectives, challenges, time and budget constraints, etc. Would've been handy 3 weeks ago!
- Renee in chat - But if it's not linear...? Would the starting point be the same for all cases
  - Teams have different starting points - dictates entry point into this work

- - Jeanine - My feeling is there is always a starting place, no? Even if it is just to identify the problem space.
  - Rob - I could see that you might be able to use it to correct a project going off the rails. Perhaps the team has come up with a design, but it needs to be adjusted. This could potentially refactor the approach.
  - Katherine - Start with the challenge - what are the target learning outcomes, what are the unique learner / contextual needs?
- Amy - I like how it can quickly "raise" all of team up to that higher level and out of functional unit thinking 🙂
- Phil - some aspects of the diagram that are stable (team, challenge), but could miss some of the iterative actions going on. How to represent other cycles of change more explicitly. Even LEED diagram part looks linear - how else to represent
- Michael - I agree that this can be both a starting point and "forcing function for consistency" yet needs to be seen as a working document to reflect the evolution of the context.
- Jeanine - re: indicating a starting point. Starts with identifying a problem to solve. If you don't have a solid core to go back to, affects the other pieces and affects when you come across something new that may alter the challenge. The chaos in LE is the decision making - who owns? Where is nexus?
  - Also think 3D? Different dimensions of a rep/image - hover over simple concept and give more info, drill down to get to specificity, see how nodes are connecting to other. More dynamic than 2D
  - Ian - Sounds like a topic map approach..?
- Rachel - That shared understanding across a diverse team has been critical in my work. Before us, teams were very siloed (I do X and only X and don't talk much to people who do Y except at hand-off). But having designers, engineers, etc all present to see these big picture components has helped everyone's quality of work toward that central challenge as well as cross-team collaboration in a much faster, iterative manner.
- Renee - Is the intent to produce a process template? Apologies if that's an obvious question. I'm still new at situating what this group has already done.
  - Jeanine - revisiting the purpose/why are we doing this? Guide teams on what has to happen/what could happen, and give us blueprint for what we need to consider when doing LE.
    - Also collective/shared community understanding of what's happening
- Katherine - Start with the challenge: how do we find a quick, light-touch way to share examples of learning design amongst ourselves? Let's work toward improvement, but also take the quick win and try out this rep - MVP mindset
- Jeanine - static space for a non-static process
- Rachel will test it out as a MVP with her example! Ditto Michael
- Henry - been prototyping a wireframing/architecture tool that stars with thinking about KPIs and stakeholders, assuming the learning solution is going to be

deployed in xAPI environment. It's a virtual flowcharting tool that lets you drill down to create analytics and dashboard out of KPIs and metrics. Could be used to create guardrails for team members, like IDs who need to work within context, etc.
- ○ Michael - I think that those who plan to use Henry's tool(s) would find this diagram useful in their planning.
- Amy - I am interested in seeing how this helps mature understanding of Learning Engineering with those who are new or operating in other fields or work flows (i.e, L&D silos). I see 'a-ha' moments with this
- Rob - going back to the "why" - how do we present to outside world what LE process looks like, diagram is good for "inside baseball". Written form that's directed to broader audience. Ideally it will bring rigor to our field - we are doing these projects, we have a methodological approach, we have evidence and data. Not a traditional research paper, but how our designs align with the challenge, the data we got out of it, and how the results feed back into process.
  - ○ Would propose taking and turning this into someone writing it out further - take process and translate it to broader audience
  - ○ Whatever methodological approach a team is taking would go where LEED boxes are in example
- Joseph - this is for a textbook chapter with additional context or more like a stand-alone graphic? sorry for a basic question
  - ○ Jeanine - Stand-alone that could be integrated into chapters and learning designs/architecture plans.
- Goal is to address challenge of trying to get cases to disseminate and giving the scaffolding to get started with that. Beyond that, hopefully will get in-depth cases after testing this lightweight starting point
- LEED tracking resources - pending JAID, but can send paper if reach out
- Katherine - My Pearson team used LEED Documents - spelled LEAD, Learning Experience Action Design. Diff acronym, same idea.

Next steps:
- Amy, Aaron, Jim, Lauren will meet before next meeting to build out some of these scaffolds mentioned and working Google Slide format where those scaffolds are in there, reps are in there, and set it up so people can start trying it out
- Then brainstorm recommendations on how to improve/build it out further

Request by group: Overview of LEED
LEED - learning engineering experience (?) decisions
  -Track the decisions that informed the design
  - Data inputs that informed design and decision-make

Resources shared during this call:
- the book Jeanine was referring to is "The Frontlines of Artificial Intelligence Ethics: Human-Centric Perspectives on Technology's Advance"

- Jeanine: https://standards.ieee.org/ieee/2247.4/10368/
  - Working group: https://standards.ieee.org/ieee/3396/11379/
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February 27, 2024 - https://mit.zoom.us/j/99960999830

In Attendance: Dina Kurzweil, Aaron Kessler, Henry Ryng, Lauren Totino, Mei Mei, Jim Goodell, Kayla Morehead, Shira Fruchtman, Jeanine A. DeFalco, Katherine McEldoon, Michael Jay, Amy Parent , Renee Johnson, Samaa Haniya, Jodi Lis, Janet Kolodner, Ian Gibson, Brenda, Rob Nyland, Adesola Ogundimu, Zarka Ali

Welcome and new member instructions:

Member updates:
- Aaron New Pub - https://www.tandfonline.com/doi/full/10.1080/13540602.2024.2320155
- Jeanine - "Frontiers of Artificial Intelligence Ethics" getting translated
- Dina -
  - Animations
    - https://www.youtube.com/playlist?list=PLr4mqJimffIJDi6Eb5rlxkQ1iAGNhOsVa
    - Teaching w/Tech Brown Bags: https://www.youtube.com/playlist?list=PLr4mqJimffIJnHDvYURx2NZrBlpu-t-h1)
- Intro chapter of LE Toolkit is free open access–download here: https://www.taylorfrancis.com/books/edit/10.4324/9781003276579/learning-engineering-toolkit-jim-goodell-janet-kolodner
- Jeanine running - P3396 Recommended Practice for Defining and Evaluating Artificial Intelligence (AI) Risk, Safety, Trustworthiness, and Responsibility until 31 Dec 2027. https://standards.ieee.org/ieee/3396/11379/
- Katherine - IES potential new program "Seedlings to Scale", a learning solution development grant program. Reflections on public request for information (including ICICLE) - https://ies.ed.gov/director/remarks/01-23-2024.asp and https://the-learning-agency.com/insights/arpa-education-pilot-unpacking-public-reflections/
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Agenda:
Reminders:
- ICICLE conference proposals are due **Thursday (2/29)**!
- Share jobs and posts on LinkedIn (#icicleDesignSIG) and discord

Call to Action: Upload, bring your "pieces", ideas, cases, etc. to the next meeting that helps to demonstrate Learning Engineering in practice , leveraging learning design and learning sciences principles, etc.

- **Proposed Next steps:** Form teams during next meeting in February to bring these "pieces" together to share with community

Example Discussed:

Concreate example - early drafts of the process document - google docs and replace images so they aren't out in the world.

Contextualize them in the thoughts of iterative nature of the work

Limit sharing of original google docs -

Headers for the cases:

Next Steps: Who is willing to attempt filling in "template" with light touch headers
- Katherine
- Renee

Links shared during meeting
- Please provide input into the ICICLE Conference Timing and Coordination Survey: https://docs.google.com/forms/d/e/1FAIpQLSc8aQJXLJIFyKE-Axxd15hAZ83lj-gw_H4OY6K0oDHprACPog/viewform?usp=sf_link
- Katherine: https://ies.ed.gov/director/remarks/01-23-2024.asp
- Katherine: IES work https://the-learning-agency.com/insights/arpa-education-pilot-unpacking-public-reflections/
- Jeanine: Visually represent the "Physicalization" of the process ex/inspiration - https://dramatics.org/understanding-viewpoints/
- Meeting Chat Notes

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January 30st, 2024 - **https://mit.zoom.us/j/99960999830**

In Attendance: Aaron Kessler, Henry Ryng, Michael Jay, Kristin Torrence, Rob Nyland, Dina Kurzweil, Zarka Ali, Lauren Totino, Phil Vahey, Shira Fruchtman, Latonya Motley, Samaa Haniya, Kayla Morehead, Janet Kolodner, Katherine McEldoon, Jodi Lis, Amy Parent, Jeanine A DeFalco

ICICLE New name: International Consortium for Innovation and Collaboration in Learning Engineering

Welcome and New member Introduction (email if you would like)

Member updates:
- [Call for Vendors](#) -
-

Agenda:
- ICICLE conference Proceedings
- [ICICLE 2024 CFP](#)
- LE Primer
    - Learning Engineering is a process and practice that applies the learning sciences using human-centered design and engineering methodologies and data-informed decision making to support learners and their development. Website & Book definition - https://sagroups.ieee.org/icicle/
    - Infographic - https://sagroups.ieee.org/icicle/wp-content/uploads/sites/148/2023/01/LE-infographic.png
    - Things that need updating - https://sagroups.ieee.org/icicle/resources/

To be added

Learning Engineering Evidence and Decision (LEED) Tracker

Notes

Janet (examples) - writing a book with a bunch of examples - student examples, examples from industry, examples from work

Toolkit gives a lot of background, does not give a lot of content in LS or Design examples to do better job of design

Need to do better job of integrating design of LX with design of assessments and data collection

Phil - coming up to speed can be overwhelming - LE is so many things integrated - attempts to make clear data science - many many things - resources is list of references - have to know a lot of things - could be creating set and way of talking about different parts (e.g. have our resources categorized by the same terms used elsewhere, such as in infographics and diagrams)

Latonya - Interested in starting certificate program - credentials of LE - point to different schools that grant degree - what is the knowledge and skills - ccc sig is working on this!!! Go CCC SIG!!!

Dina - wondering if we need particular to address the ID question - Where are differences and being very direct about that could be helpful - need nod to other organizations doing this work - outside those active in

Henry - How about creating a community of practice by standing up a forum with topic areas and resources (https://xenforo.com/ seems solid) to have a curated forum

Kristin - Lot of rich content on pages - almost firehouse when trying to implement - net new resource is a getting started guide to show how to implement ways forward, what to processes and practices look like. "Getting Started Guide", baby steps into it

Aaron - we need stories behind the projects as well

Designing as the way we have got to this point has evolved over time -

Phil - really explicit in materials - LE is a team sport - Different set of capabilities -

CCC sig is working on Basic competencies for a LE team - from that point - if you are a LE what advanced set of competencies might look like AND roles that might exist

Jeanine
Mei Mei - https://www.designkit.org/resources/1.html use this as an example, building a website organized based on the LEP, with the clickable links of the specific tools for each process. Because a simple and straightforward interface is much easier for people to locate the tools and actually use the LE methods.

Discussion: Learning Engineering as a Team endeavor (and/or process) v Learning Engineer as a single person who has all the relevant competencies v Learning Engineer as a leader who understands how the components/aspects of LE come together and are relevant for the task at hand.

Jobs

Call to Action: Upload, bring your "pieces", ideas, cases, etc. to the next meeting that helps to demonstrate Learning Engineering in practice , leveraging learning design and learning sciences principles, etc.

- **Proposed Next steps:** Form teams during next meeting in February to bring these "pieces" together to share with community

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November 28th, 2023 - **https://mit.zoom.us/j/99960999830**
In Attendance: Aaron Kessler, Dina Kurzweil, Lauren Totino, Kristin Torrence, Amy Parent, Zarka Ali, Albert ,Lisa Jones, Latonya Motley, Shira Fruchtman, Rob Nyland,Dan Belenky, Katherine McEldoon, Phil Vahey,Emily Schneider, Michael Jay, Ian gibson, Janet Kolodner, Jodi Lis, Kayla Morehead,

Welcome and New member Introduction (email if you would like)

Member updates:
- Learning Engineering Research Network (LERN) next week
-

Agenda:
- ICICLE conference Proceedings
- ICICLE 2024 updates

- LE Primer updates
  - Signing up for next steps
    - Dan - what are core of LS that we bring and set into the process - learning design principles are starting point
    - Janet - the how to's of addressing learners - the chapter of learning centered design does some of this work - putting together group on Re-usable, mergable, adaptable, and what they need are specifics - before Thanksgiving, component based research, composable pieces of design that you can grab and adapt (it's not that), design patterns and integrate well with and they talk about things and vocabulary and set of descriptors to specify the values and core ideas in any particular product design or research study, - difference is we need lots of examples and specificity
    - Michael - I find it useful to think of LE as a code of conduct. Wikipedia defines a code of conduct as "a set of rules outlining the norms, rules, and responsibilities or proper practices of an individual party or an organization." Maybe less rules than best practices which may vary in how they are expressed based on context.
    - Rob - I learned about Software Design Patterns in my python class this past week: https://en.wikipedia.org/wiki/Design_Patterns
    - Dina- the context is really important for putting together - we use a LE team to do x and y, Its not about a specific person but the approach and context.
    - Kristin - learning and design patterns that are based in context and
    - Minuque - As a learning scientist I am also an LD but many LDs don't have my cognitive science education background and many cognitive scientists don't have the LD background in terms of creating content items using ed tech. I would think an LE would have all of these skills and be able to look at the learning structure. This is what I am trying to do now, but struggling.
- December Meeting Plan
  - **Call to Action:** Spend 1 hr of time to put together a piece you think is needed as being part of the Primer
    - Adding this from the Zoom chat - if anyone else would find it helpful to start with the big-picture when thinking through this, feel free to see some of that initial brainstorming here (Lauren)
      - *Transferred it to this Google Slide since Jamboard is going away in 2024 (thanks for the reminder, Zarka!)

Will reach out

Links from today's meeting
- **https://ies.ed.gov/director/remarks/11-28-2023.asp** *- from: Katherine McEldoon*
- **Spreadsheet of LE Resources collected by Jodi Lis over time**

October 31th, 2023 - https://mit.zoom.us/j/99960999830

In attendance: Aaron Kessler, Amy Parent, Henry Ryng, Lauren Totino, Zarka Ali, Dan Belenky, Jim, Kayla Morehead, Rachel Van Campenhout, Kristin Torrence, Katherine McEldoon, Shira Fruchtman, Jodi Lis, Rob Nyland, Jeanine DeFalco, Lisa Jones, Michael Jay, Joann Kozyrev, Jeanine DeFalco, Babtiste Moreau, Dina Kurzweil, Monique Liles

Welcome and New member Introduction (email if you would like)

Member updates:
- AECT reflections
  - Learning Engineering Evidence and Decision (LEED) Tracker
- Dev Learn reflections
- Input Request on new IES strategy "Seedlings to Scale"
- OLC accelerate -

Agenda:
- ICICLE conference Proceedings
- LE primer update (competency work)
  - From Jodi - welcome to participate in skills and resources and potential co-lead for the Design Group, list of current topics and
  - How this connects with next steps in our work
- Aaron's Concern
- Requesting Action from this group -
  - Review materials (LE Resources and SIG Folder) for November meeting
  - Update resources/links/things (Below OR to SIG Folder)
  - The potential to build new member and outreach resources (with primer)

Updated resources/links/things:

- Request from The Learning Agency for abstracts on Facilitating Learning Science Research (due Nov 10th)

NEW: Jobs (full posts on LE Discord):
- MIT Open Learning - Data Scientist (Learning Analytics) - https://openlearning.mit.edu/about/jobs/data-scientist-learning-analytics
- MIT (term - grant dependent) Instructional Design Job - https://careers.peopleclick.com/careerscp/client_mit/external/jobDetails/jobDetail.html?jobPostId=28744&localeCode=en-us
- HJF - Evaluation Expert
  - https://careers-hjf.icims.com/jobs/3338/instructional-designer-evaluation-data-specialist/job

- Founding Learning Engineer for Quantum Leap education - https://www.quantumleap.education/joinus/founding_learning_engineer.html

  Links from Today's Discussion:
- LE Sample Job Responsibilities & Tasks & Competencies
- CCC SIG Resources Google folder
- LE Resources and SIG Folder

September 26th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Amy Parent, Jeanine A DeFalco, Rob Nyland, Zarka Ali, Danielle McNamara, Olorunfemi Omotayo, Jodi Lis, Tauren Totino, Joann Kozyrev, Shira Fruchtman, Janet Kolodner, Jim Goodell, Dina Kurzweil

Welcome and New member Introduction (email if you would like)

Member updates:
 AECT happening Mid oct - see August notes for various presentations
 Conversation at Air University this week about ASU partnership/Learning Engineering
 Rob Nyland, AECT 2023 Poster Presentation – Instrumenting Data to Facilitate Learning Engineering in the Global College of Professional Military Education

Agenda:
- What community output do we want to collate and share from our work this year?

Ideas to prompt our thinking
Data collection and understanding ideas of how we evaluate/explore designs - design a course
DDT - 3 by 4 d course
 Design environment - 3 assumptions (pedagogical, learner, domain specific)
  4 d printer (content, instruction, activity, assessment)
All related to design decisions - assumptions and content

Done by professionals who understand the Learning Sciences - we need it to be more scientific
-
Can we connect these decisions with what we wanted - decisions aren't made in vacuum
How will we know what is sufficient evidence that outcome was what we wanted (multi dimensional)-

Joann : WGU materials - 5 patterns and finding where they exist - Three different approaches to practices, 5 ****
 Pattern Categories: Practice, Maker, Inquiry and Analysis, Challenge,
 What to do with this?
- Instrumentation (i.e., pages)
- How do we look at the design through data?

- The pattern can be a "tag" you put on the course (attach design to the data)
  - idea of patterns as data / metadata tags for further iterative application and research!!!

What is the role of the learner in this?
- Active participant in this?
- Providing learner ability to provide input?

Here is example within context, domain, for certain learners…build a "tracing" of the design to the theory within this matrix > provides a foundation of what you can consider (output)

-Broader templated

-Backed by data, science, etc.

Expertise in Domain Knowledge, Expertise in pedagogy/andragogy, Expertise in Kind of Teaching

A. …. a guide to getting started? i.e., here are **types of conversations to have and questions to ask and logistics to work out** as you work your way around the context circle of the LEP, and these should get you primed to start integrating learning sciences principles into the design.
   a. acknowledge what is important.
   b. What is our priority and what will make the largest impact?
   c. What are the things we assume?
   d. what claims do you want to make
   e. what stage of learning is the learner at
   f. What design decisions am I making, is it going well, where
B. From Book: Learning Sciences Concept Categories.
   a. **Build additional tools or "mental models" to guide thinking** processes and tactics to consider?
   b. Provide **examples or cases to demonstrate use** of concept category(s) and learning science levers "pulled"?
      i. Create or improve the conditions for learning
      ii. Help learners understand new ideas
      iii. Help learners apply knowledge
      iv. Help learners build expertise
      v. Motivate learners
      vi. Measure learning and optimize feedback
C. From Book:Core Learning Science supporting Concept Categories (page 244 - 253)
   a. **Collate examples of how strategy used at different points in the learning engineering process** to address a learning science concept to support problem/challenge being solved for
D. Major update, breakthrough or addition to Learning Sciences to bring folks up to speed on and practices this apply to?

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August 29th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Michael Jay, Amy Parent, Jeanine DeFalco, Dina Kurzweil, Simon Hsu, Lauren Totino, Shira Fruchtman, Michael Pilgreen, Katherine McEldoon,Semaa Haniya, Jodi Lis,
Welcome and New member Introduction (email if you would like)

Member Updates:
1. Aaron & Lauren - AECT Conference, Mid Oct - Why did we do that? A Systematic Approach to Tracking Decisions in the Design and Iteration of Learning Experiences and LXD and LE: Emerging Perspectives and with Rob Nyland - Supporting Alt-Academic Careers
2. Lauren, Erin, Jodi & Anne - AECT - Transforming your Work in Education: An Interactive Demonstration and Simulation of the Learning Engineering Approach
3. Dina - AECT Conference - Reflections on the Year: How to Capture and Celebrate The Work of Instructional Design and Educational Technology Teams
4. Dina AECT Conference - Becoming a Learning and Instructional Design Technology Professional In Event: *GSA - Becoming a Learning and Instructional Design Technology Professional*
5. Dina - AECT Webinar - When: Wednesday, September 13, 2023 at 4:00pm EDT. Building Bridges: Faculty Support Partnerships for Empowering Higher Education Excellence. Register at: http://bit.ly/edhp-web3

Agenda:
1) Post conference thoughts 2023 ICICLE Conference
2) Sub-committee on reusable components (update) - On hiatus until Fall
    a) Feedback stronger motivation and inspiration from key notes and key speakers. Get participants rally and excited. Focus more on getting abstracts that are evidence based approaches.
3) Reduction of LE staff in higher education
4) Writing Cases Discussion
    a) Prompt: What are the prompts we build to support thinking and working processes?....
    b) Showcasing prompts for those who are new, been in the field for a while, community approach of learning engineering,
    c) What is an Interdisciplinary approach? What does that look like? How? When?
Katherine:
        1) Widen the tent, bring in UX designers, product developers, research professors. "You do LE too, even if you don't call yourself a LE". Focus more on the process as an
DATA-DRIVEN HUMAN-CENTERED INNOVATION PROCESS (for human and learning outcomes)

2) Back to Aaron's original Q around how to organize examples. Index by: 1) Place within LE process, 2) Outcomes (hard and soft), 3) learner segment, 4) content area

2) Shout the bottom line value louder, with urgency. Better, more effective learning experiences faster, with fewer mistakes along the way. If we don't do this, X. When it's done well, Y.

3) LE is about the context in which those tools are being used and the mindset about improving learning and what we do in LE

June 27th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Rachel Van Campenhout, Amy Parent, Shira Fruchtman, Lauren Totino, Michael Jay, Danielle McNamara, Dan Belenky, Jim Goodell, Dina Kurzweil

Welcome and New member Introduction (email if you would like)

Member Updates:
6. Aaron Kessler - Presenting on LE at Online Learning Summit - https://digitaleducation.leeds.ac.uk/online-learning-summit-2023/
7. Rachel - https://adelesmolansky.com/aied23-edi-edtech/#/
8. Jim - IEEE LTSC sessions at AIED as well & Symposium on healthcare simulations and using the US military using LE in simulated training

Agenda:
5) 2023 ICICLE Conference Updates
6) Sub-committee on reusable components (update) - On hiatus until Fall
7) Writing Cases Discussion
   a) Prompt:

Jim - starting at the highest level - what stage of learning is the learner at (complete novice through to expert looking for new ideas)

Dan Belenky - what claims do you want to make. Starting at the outcomes and thinking about how much learning/engagement/other thing are moved through the work.

Aaron - What are the things we assume? Where is our starting point around the assumptions we have around starting point of learning?

Amy - What is our priority and what will make the largest impact? Easiest for people to lean into the least impactful work vs. the harder decisions about the right content or approach.

Dina - Getting people to acknowledge what is important. General clients have poor understanding to engage in LE work, lots of education and hard conversations are way to build understandings that all for harder work to be done.

How to get people move off what they know or "like"?

Getting away from intuition to research based guidance - understanding cases, learners,

What are the constraints we need to work within?

Lauren - Although examples/models are not a) always readily available and b) don't apply to all contexts, I find it helpful to try to drive evidence-based strategies home to instructors by showing existing examples from their peers. More likely to be swayed by them than me...

Buckets?
- **Clients**
    - **Power Dynamics**
    - **Constraints**
    - **Common understanding**
- **Team(s)**
    - **Power Dynamics**
    - **Constraints**
    - **Common understanding**
- **Learner**
    - **Stage/level**
    - **Power Dynamics (maybe not here)**
    - **Constraints**
- **Project**
    - **Need**
    - **Logistics/timelines/reviews**
    - **Goal**
    - **Management**

What helps prioritize design decisions - especially in a case where a lot of decisions are being made? Fronting ones backed/influenced by the learning sciences, by constraints, data/evidence, what else? And where do the learning sciences play in to decisions made primarily based on some other influence like a constraint?

Michael - Just thinking… maybe thinking about how success will be measured by others to make sure you have those data and reporting are part of how the solution is architected.

Dina - start off simple with client; learners, introducing teams and skills, what's the goal of the project, timeline, expectations for client. Need to start talking about these things initially or will need to backtrack. Get this info before diving deeply into the learning sciences - because goals, team, etc. impact learning sciences decision-making.

Then, understanding these "basics" first can uncover other sources of influence in your design beyond the learning sciences or constraints. Ex.) MIT work on TA training, basic uncovering of logistical/learner needs led to a pathway of interviews which helped inform

specific decisions and was cited as such in tracker. Takeaway - if logistics were not uncovered may not have gone down the interview pathway

[Afterthought from Lauren - Back in February's meeting (pg. 7 of this doc), we were talking about Katherine's Learning Design Principles and how to get started using them/knowing what a starting point could be for integrating them in design. I wonder if the "buckets" above - and anything we create from this? - could serve as a guide to getting started? i.e., here are types of conversations to have and questions to ask and logistics to work out as you work your way around the context circle of the LEP, and these should get you primed to start integrating learning sciences principles into the design.]

May 30th, 2023 - https://mit.zoom.us/j/99960999830
In attendance:
Aaron Kessler, Kristin Torrence, Rachel Van Campenhout, Lisa Jones, Dan Belenky, Shira Fruchtman, Danielle McNamara, Jodi Lis, Jeanine DeFalco, Katherine McEldoon, Amy Parent, Michael Jay

Welcome and New member Introduction (email if you would like)
        Samaa Haniy -
Member Updates:
1. Rachel Van Campenhout - Book accepted for publishing - congrats!
2. Aaron Kessler - Kicking off new project - focus on innovation in educational technology
3. Michael Jay- Opening up interest in helping out with conference 2024!

Agenda:
1) ICICLE Conference Update
        a) 2023 ICICLE Conference **-**
                i)
        b) SIG events/gathering at Conference -
2) Sub-committee on reusable components (updates)

a) Meeting June 20th
b) Looking for examples of what a reusable learning component is
   i) Building definition and a template
3) Writing Cases Discussion:
   a) Prompt suggestion: Why is working with others so hard?
   b) Range of motion example - extended reality designers - argument about fidelity and clinical fidelity -

April 25th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Olorunfemi Omotayo, Lauren Totino, Lisa Jones, Tom Reeves, Dan Belenky, Corey Brady, Jeanine DeFalco, Kristin Torrence, Janet Kolodner, Toni Shub, Danielle McNamara, Gautam Yadav, Michael Pilgreen, Amy Parent, Bror Saxberg, Jodi Lis, Kevin Owens, Shira Fruchtman, Michael Jay, Henry Ryng, Katherine McEldoon, Dina Kurzweil

Welcome and New member Introduction (email if you would like)
   Corey Brady - corey.brady@vanderbilt.edu
Member Updates:

Agenda:
4) ICICLE Conference Update
   a) 2023 ICICLE Conference **- submission deadline May 1st**
      i) Active Learning Sessions
      ii) Show and Share Sessions
      iii) Technology Showcase
   b) SIG events/gathering at Conference - more once full schedule of events is released - planning some kind of gathering (set location and time and just have folks come hang out)
5) Sub-committee on reusable components (updates)
   a) Reusable / Adaptable Design Patterns SIG Meeting notes
   b) Focus on learning from doing and reusable and adaptable design for that, either online or in person and combination of things. Meeting is set for May 9th. Tuesday afternoon from 2-3pm ET.
   c) Patterns at levels - curriculum, experience (whole class), and components of experiences
6) Writing Cases Discussion:
   a) Suggested Prompt (Huge thanks to Amy for helping me think through this!!): Share a specific decision you made recently , or are in the process of making, that is guided by learning science.
      i) What was decision to be made (i.e.,What will be more impactful: x ,y, or z)
      ii) What key variable (s) were present that forced the need for a specific decision (approach, strategy, etc.) based in learning science?

iii) What, in your experience, did you already know that told you this was something were a specific decision based in learning science was needed? How did you know it was a decision juncture point?

iv) Addition: Why did xxx design this in the way they did and how did I use it for something else.

v) Dina: Not everyone has strong theoretical or research background. How do we provide PD or other opportunities to share and understand what we are talking about. (Lauren: The theme is "grounding theory in practice," so maybe a crash course in some of the theory? so then participants can take full advantage of the stories about practice in the other sessions)

Toni Shub - If they are putting in input and get strategy as output, they aren't necessarily getting the why - read aloud, conflict resolution…sitting to much and why is saying not enough opportunity to geet up. How can we bring in narratives to inform teacher/educators and act upon those pieces in real time. - Corey Brady - responsive to prompt that reflecting and articulating decisions and interpretive frame is not automatic - when you provide decisions support assumes understanding of teacher understanding and strategies might connect. - Teacher can fail as being responsive - Janet - conceptual change literature and something else comes to the front in moments when other actions are desired.

Knowledge verification - self validate own perceptions of knowledge - alternative perspective taking - forces them to get them out of rut and change - Learning by doing and how we construct knowledge and explore those and creativity to think more expansively.

Design challenge is to figure out how do you design learning communities so that people will keep coming back and keep encountering those things that move them in new directions or experiences and have more chances to change action/knowledge.

Ask ourselves: What design decisions am I making, is it going well, where

Dan Belenky - To Aaron's point and to what others have said; we should take an applied behavioral science approach as well. What are the inhibiting pressures (to adopting the solution/using LS) and how do we lower them, and what are the encouraging pressures and how do we increase them? For the teachers, the students, and other stakeholders.

Challenge with designs it is hard to make sure what we are attending to and what theory is driving some of these pieces.

March 28th, 2023 - https://mit.zoom.us/j/99960999830

In attendance: Aaron Kessler, Amy Parent, Rob Nyland, Toni Shub, Danielle McNamara, Dan Belenky, Toni Shub, Kristin Torrence, Katherine McEldoon , Lisa Jones, Rob Nyland, Lauren Totino, Thomas Reeves, Michael Jordan Pilgreen, Shira Fruchtman, Jennifer Chien, Omotayo Olorunfemi, Joey, Jodi Lis

Welcome and New member Introduction (email if you would like)

Member Updates:
- Aaron and Emily Presenting workshop in Learning Engineering in CEEA-ACÉG conference 2023
- TD at work Guide - Kristin Torrance, Published in April! - 5 models for data driven learning
- Thomas Reeves: Conducting Educational Designing - 3rd Edition has been requested

Agenda:
7) Advance copy of Janet's upcoming JLS article
8) ICICLE Conference Update
    a) 2023 ICICLE Conference **- submission deadline May 1st**
        i) Active Learning Sessions
        ii) Show and Share Sessions
        iii) Technology Showcase
    b) SIG events/gathering at Conference - more once full schedule of events is released - planning some kind of gathering (set location and time and just have folks come hang out)
9) Sub-committee on reusable components (updates)
    a) Reusable / Adaptable Design Patterns SIG Meeting notes
    b) Next meeting April 4th @ 2pm ET (tentative)
    c) kristintorrence@gmail.com
10) Writing Cases Discussion:
        New Folder to share Cases
        WHY Cases? Help model and show how learning science and engineering is put into practice
    ● Is there a connection to the conference "show and share" that can focus effort and motivation to build out case?
    ● What is the intended outlet for these use cases? Should we define?
    ● How might we leverage and connect to the work Katherine did ?
        ○ "matrix in" how/what leveraged to solve learning problem or strategy decision?
    ● Do we, as a group, take individual contributions, identify themes…apply to scale
        ○ Output = this is how I could leverage x in my situation which is similar.
    ● Align with Reusable Learning Component framing - this group is taking on a smaller piece of this work, but it should roll up into a larger organizing frames, so we can learn as a profession better, faster.

5.. Learning Engineering Action Pods (LEAP)- Daniell McNamara
Ex. aI not a LEAP but a repository for Teachers is a LEAP
- Working on how to form a LEAP, team , and team processes that go into it
- Focus is in Academic Context (looking for feedback on application here rather than a model)

February 28th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Dina Kurzweil, Lauren Totino, Amy Parent, Katherine McEldoon, Thomas Reeves, Ian Gibson, Kevin Owens, Rachel Van Campenhout, Shira Fruchtman, Janet Kolodner, Rob Nyland, Toni Shub, Lisa Jones, Jodi Lis, Michael Pilgreen, Michael Jay, Arun, Kristin Torrence

Welcome and New member Introduction (email if you would like)

Member Updates:
Rachel - book chapter coming out in Springer "Educational Data Science" that bridges work she has been doing - Giving examples of educational data science wrapped in Learning Engineering and within Learning Engineering Process (LEP).
Also - ISLS acceptance on design!! Focused on student progress features and text book questions generation.

Katherine - Pearson Learning Design Principle Summary Reports are published

Agenda:
11) Writing Cases Discussion:
New Folder to share Cases

12) ICICLE Conference Update
a) 2023 ICICLE Conference
i) Things are starting to move fast on quotes and registration pages and site up and running ASAP. Week or two
ii) Call for proposals on different session types.
(1) Still going to be presentations and activity
(2) Also going to have Show and Share type of presentations focused on using LEP to build common language and understanding of work. Shorter sessions throughout the conference. Working on grounding theory and practice. Will be compiling them into some form of conference proceedings
(3) Reviewing vendors for participation
(4) Sharing and attending!!
b) SIG events/gathering at Conference

13) Checking in on Learning Design Principles and community next steps
    a) [Evidence about learning](#)
    b) Ideas are here and can fill in
    c) 11 literature reviews are still coming
    d) How do we connect this with the LE process - Previously done outcomes definition process to LG to Learning Pattern to Design Principles to represent in pattern. Connecting through instrumentation and data collection but need to populate examples of how this has been done. "Library of inspiration". Examples that can fit in frame. Organized under "The Big Ideas" of each principle.
        i) Aaron question: one specific place to start?
        ii) Janet - reusable learning components - need indexes – interested to help if there's need (Arun)!
        iii) Amy - problem tied to leveraging self regulation and changing device practices (if/then) as they engage in work. Output circulates back to the learner - Have problem, here is solve for, here is engineering process to anchor (design), what instruments can we put into practice and lessons to teach others.
    e) Rob - connecting outcomes to metrics into the way we design. Designing assignments and considering the outcome you wish to achieve.
    f) Katherine - important to index on outcomes, and backward design to use to get you to that point. Impact sections reflect this (i.e. outcomes). Those that help you persist allow you to have a starting point. Ok, if you are expecting to move on persistence these are ways you can measure them (conceptually, other metrics, guidance on xAPI interoperability) -
    g) Aaron, where and how do we provide professional autonomy and expertise in addressing the needs of learners in context?
        i) Index or start guide or Case Library (grounded in different cases in how different examples have been carried out - lessons are patterns you can pull out of that are can be applied to different cases - data indexing
    h) *? - Increase the cadence of meetings to move the work forward (or probably have separate meetings with interested folks)*

January 31th, 2023 - https://mit.zoom.us/j/99960999830
In attendance: Aaron Kessler, Amy Parent, Lauren Totino, Henry Ryng, Rob Nyland, Katherine McEldoon, Bror Saxberg, Dan Belenky, Avron Barr, Michael Jordan Pilgreen, Michael Jay, Omotayo Olorunfemi, Jodi Lis, Priscilla Cancar, Toni Shub, Janet Kolodner, Kevin Owens, Shira Fruchtman, Arun, Kristin Torrence, Dina Kurzweil

New Agenda and requesting EDIT access:

Welcome and New member Introduction (email if you would like)

Member Updates:
1) Aaron - Reminder Lauren & I presentation on LE at MIT:
    ▶ xTalk, Nov. 17, 2022, Using Learning Engineering to Improve Instruction at MIT
        2023 Festival of Learning - [Festival of Learning](#)

2) Janet Kolodner: Students using conjecture maps in design and presenting on this, specifically how helps them make assessment and measurement easier for them - 2/10 from 1-3PM ET
3) Rob Nyland - Jim G went and chatted with director and seeing some movingment

Agenda:
14) Writing Cases Discussion:
            [New Folder to share Cases](#)

15) ICICLE Conference Update
        a) https://sagroups.ieee.org/icicle/2023-icicle-conference/

16) Presentation by Katherine [Pearson Learning Design Principles Preview](#). Following up on the community call - next steps for work. *Pearson made an initial investment that we are now obligated to pick-up and take the distance!*
        a) Publication Update: 14 Summary Reports and 11 Lit Reviews on Pearson.com
        b) [Refresher](#) and initial thoughts on community use
            i)   [Link to WIP Summary Reports](#)
        c) [Design thinking ideation session](#) on potential use cases
            i)   Conversation to be continued next session

Aaron: How do we provide examples beyond just the Pearson context, so they can find footholds here? How can these guide different decision nodes along an instructional path?

Rob: (paraphrased by Aaron) How do we instrument and explore data to get at these assumptions - Can we connect these with other data and decisions processes.

Amy: How might this work expand out to different contributors, like what Dan was saying (I think). If you are making visual/layout decisions, if you are making data call decisions/design, if you are making deployment/implementation decisions… etc.

What is a design decision for builder/designers and where do they live for implementation
From Jodi:
        A plan is to collect resources for the petals of the flower in LE toolkit and link/upload them to ICICLE site. This work, of course, is perfect for many of the petals. If people have ideas for other resources, please share.

Kristin: Giving L&D groups the ability to understand how to share worth/ideas/information and targeting those who can use these ideas now to amplify their own work. Storytelling to the right people. Is there an opportunity for knowledge share about storytelling of value for buy-in?

Kristen/Rob/Amy - How can we think about ROI beyond learner outcomes? Learner outcomes (distal) AND what? What nearer term learner experience variables should we be looking for and measuring to collect as evidence of effectiveness?

From Bror: List of organizations who should/would want hear about this:
    Gates
    Carnegie learning
    NNERPP
    Spencer Foundation

Lauren:
And looking at it from the perspective of supporting burgeoning new Learning Engineers/newbies in the field (biased because of my SIG!). Janet can attest to this - in grad school, it was a real challenge getting used to how to be informed by the literature in my design work, and I was always looking through the literature for what was applicable to real design work. So Katherine, what you've created is going to be extremely helpful to those who are new to/interested in being practitioners and/or navigating their student experiences.

Rob: Yes, the translation work for practitioners is real. We are encouraged to stay up to date with the literature, but our field is so broad that it makes it difficult to do that.

Bror: Many business problems have learning science solutions. Could we create a collection of "What business problems does this solve for me"?
Sometimes what seem like business solutions are actually counter to good learning practices. Could we compile a list of MYTHS?

Michael Jay: Unfortunately this is often the course that important work that has longer term implications takes (i.e. don't contribute to the next quarterly number). Another important aspect of having this tightly knit ICICLE community!

Jodi/Bror/Michael: Could ICICLE host this and serve as a 'neutral' party with a strong LE bias. ← *Yes please, we cannot count on these being hosted on the Pearson website in perpetuity.*

Aaron: Rachel at Acrobatik – CROSSOVER – how do we merge bits and pieces?

Amy: LOVE the idea of the Decisions that have to be made. Who typically has to make those decisions – graphic desiger, data calls. Is there a way to use this (or something similar) to anchor all these decision nodes? Give them tangible decisions points. Broadly, how could we link these in to a PROCESS?

_____

FROM LAST MEETING OF 2022

Member Updates:

4) Aaron - Considering submission to ASEE for workshop or Panel
5) Janet - design templates that follow the structure of other engineering - making this a sub-group Sign Up! - following google group idea from Bror - what are design patterns we integrate and define in a way that are useful.
6) Kristin - ELearn podcast - speak as follow to DevLearn - AR and VR?? -
7) Kristin - TD magazine - Modeling Article in Discord - evidence centered design - fall upgraded to TD at work - 6000 words article, building on some things and other models - 1st draft posted on discord - Audience is novel and just learning

Agenda:

17) Writing Cases Discussion:

New Folder to share Cases

Reviewing Amy's Case

Aaron - How do you/we tell the story of how this is communicated with decisions makers, executives, investors?

Trying to serve different people - directors "show me the slide" one slide and summarizing the one story -

Indexing and summary points are easy for those to understand - these "corporate audience, here are the learners, here is who was involved"

Complexity goes beyond d to deid we do it!! f

What are the categories we can use for eesEeeetsfds84714444 14de

Recognizing success

Assessing effectiveness (learning, capabilities)

Working group members:

Moving documentation forward

18) The SIG in the New Year
19) ICICLE Conference Update
    a) Meet on monday and discussing nature of engagement at conference and supporting community.
    b) Possibility of thematic was walk through the conference (assessment and design others). Learners are human and not just engagement that matters and the sometimes the opposite is true :)

    c) Potential for multiple keynotes and topics and panel discussions. Opportunity for show and share sessions (design stories) or other sets for themes -
        i)   This year is about taking the emergent pieces from last year conference and moving it forward.
    d) Preplanning for 2024 - about getting ahead and taking up 2023 things that can't move forward.

20) January: Presentation by Katherine [Pearson Learning Design Principles Preview](#)

            Qs: What to share, where to share?

            Let's record the session (with permission) High Level Summaries of the ideas and are motivated to engage with it, still anchored in big ideas -

FEEDBACK REQUEST: Welcome feedback on Learning Design Principle SUMMARY REPORT - they are in the folder - [here](#), [Please drop in feedback HERE](#)