ELON UNIVERSITY

Center for Design Thinking

Inaugural Design Forge 2018

Summary

Inaugural Design Forge 2018: **Introduction**

Elon By Design hosted **Design Forge: Design Thinking for Student Learning** on March 29 & 30, 2018 at the Center for Design Thinking at Elon University. Design Forge is an annual day-and-a-half event focusing on advancing design thinking in higher education. The 2018 Design Forge focused on this question: How might we create ways to use design thinking projects as project based learning?

Design Forge is part design sprint and part convening. Faculty, design practitioners, and others work together to launch new relationships and generate questions, resources, ideas, and frameworks that advance how design thinking contributes to student learning. 23 higher education and organizational leaders assembled for hands-on exercises, structured conversation and intense collaboration.

Among the Instituions Represented:

University of Notre Dame
Virginia Tech
Northwestern University
Vanderbilt University
Carnegie Mellon University
Boise State University
The Milken Institute
Claremont Colleges
Texas State University
Tulane University
Alamance Community College

The discussion, questions, dissecting ideas and presentations were designed to: 1) sketch a framework for design thinking projects tied to curricular learning outcomes; 2) lay the groundwork for a faculty toolkit for design thinking projects; and 3) pursue open questions that may support later design thinking scholarship, classroom application or contributions to practice.

Luke Jones from the College of Innovation and Design at Boise State University attended to experience what Elon has accomplished first hand, and to take ideas back to Boise State: "Seeing a university like Elon that is a forerunner in design thinking and how it brought people here as a convener and organizer of a national discussion is impressive."

During Design Forge, attendees discussed how to integrate design thinking projects into course curricula in a way that enhances how students learn from the iterative and innovative process. Discussion topics ranged from how to better understand students, to using design projects in industry, and to ways of connecting design project to course curriculum. The engagement was lively, thought-provoking and actionable.

At Design Forge, **Wendy Angst**, associate teaching professional from the University of Notre Dame, and **Claudia Roeschmann,** associate professor of communications at Texas State University, led a session to develop a shared understanding of tools and design methods to use before, during and after the desing thinking project. Desing Forge attendees filled in blanks on the template and offered their ideas and analysis, all of which were compiled and sent to the Design Forge group. The idea is to build a large database of tools for use in the field by instructors – tools that will improve the learning experience for students, and lead to greater understanding and involvement by professors in other fields of study.

Kevin Galloway, Director of Making at the School of Engineering at Vanderbilt University said, "as you go down a path you run into roadblocks or sections that won't work. Design thinking allows me to deal with the question 'What do I do with this fork in the road?' I now have resources to follow up on — books that were recommended and ideas about how to run different stages of design thinking. There is a lot of rich content here. A lot of content I can go back to for inspiration."

The first Design Forge at Elon revealed that design thinking leaders in higher education all face similar challenges. Coming together to ask more and better questions as they seek mutually helpful solutions is an essential step, and one that will continue as Elon's Design Forge continues to grow in the years to come. "It's a big deal to be able to come out here and connect. Especially a group this size is great for having some really good conversations," said **Timothy Moore**, Learning Experience Designer at Claremont Colleges.

Design Forge also offered participants the opportunity to get feedback from peers on their projects. Participants represented institutions such as the University of Notre Dame, Virginia Tech, Northwestern University, Vanderbilt University, Carnegie Mellon University, Boise State University, the Milken Institute, Claremont Colleges, Texas State University, Tulane University and Alamance Community College. "I want everyone to benefit immediately from their participation in the event," Dawan Stanford, Director of Design Thinking at Elon University and the organizer of Design Forge, said, "We want to pull together what we discuss here — what students show up with, what the learning journey looks like, what are the learning outcomes we're seeking, and what would go into an ideal toolkit for faculty," Stanford continued. "The idea is to share this with a broader community of folks — how we might use design thinking to improve student learning. I'm hoping to make these lessons available so that we're not just improving student learning at Elon, but we're improving student learning at universities across the country."

Inaugural Design Forge 2018: **Participants and Agenda**

Wendy Angst
Associate Teaching Professional
University of Notre Dame

Liesl Baum
Associate Director of Strategic Initiatives
Center for Excellence in Teaching and Learning
Virginia Tech

Robert Calvey
Instructional Coordinator, Design for America,
Northwestern University

Kevin Galloway
Research Assistant Professor
Director of Making
School of Engineering
Vanderbilt University

Bruce Hanington
Associate Professor and Director of Graduate Studies
Carnegie Mellon University

Karen Hold
President
Experience Labs

Luke Jones
Faculty, College of Innovation and Design
Boise State University

Mali Locke
Director, Center for Strategic Philanthropy
Milken Institute

Timothy Moore
Learning Experience Designer
Rick and Susan Sontag Center for Collaborative Creativity (The Hive)
Claremont Colleges

Claudia Roeschmann
Associate Professor of Communication
Texas State University

Cordula Roser Gray
Professor of Practice – Architecture
Tulane University

Karen Tikkanen
Director Occupational Education
Alamance Community College

Yianna Vovides
Director, Learning Design and Research, CNDLS
Georgetown University

Elon University:

- Allison Bryan
  Director of the Curriculum Resources Center
- Robert Charest
  Associate Professor of Architecture and Design
- Alexis Franzese
  Associate Professor of Sociology
- Sirena Hargrove-Leak
  Associate Professor of Engineering
- Elena Kennedy
  Assistant Professor of Entrepreneurship
- Deandra Little
  Director, Center for the Advancement of Teaching and Learning
- Sean McMahon
  Assistant Professor of Entrepreneurship
- William Moner
  Assistant Professor of Communications
- Dan Reis
  Senior Instructional Technologist
- Dawan Stanford
  Director of Design Thinking

Design Forge 2018 Agenda

Day One

8:30–9:30	Breakfast
9:30–10:30	Welcome, Introductions, Project-based Learning Introduction
10:30–11:30	Empathy Map: Seeing the Learner
11:30–12:30	Design Thinking Projects — Learning Journey Map
12:30–1:45	Lunch & Stories
1:45–2:00	Stoke
2:00–3:15	Learning Outcomes Generator for Design Thinking Projects
3:15–3:30	Energy Break
3:30–4:00	What's the Better Future?
4:00–5:00	Hive Mind: Workshopping Peer Interests and Questions
5:00–6:30	Drinks & Conversation
6:30–8:00	Dinner & Stories

Day Two

8:30–9:30	Breakfast
9:30–9:45	Day One Overview & Stoke
9:45–10:00	A Practitioner's Thoughts on Design Projects in Industry
10:00–11:15	Design Thinking Toolkit Hack
11:15–11:30	Break
11:30–12:30	What questions must a toolkit answer?
12:30–1:00	Connecting to Curriculum
1:00–2:15	Lunch & Stories
2:15–2:30	Stoke
2:30–3:25	Asks & Commitments
3:25	Ending Stoke & Thanks

Inaugural Design Forge 2018: **How We Worked Together**

For Design Forge 2018, Dr. Stanford, created the two-day experience with participants, Elon faculty, and design-driven innovation thought leaders. Many people helped create and choose to the topic, activities, space design, food and refreshments, and energy stokes.

Topic

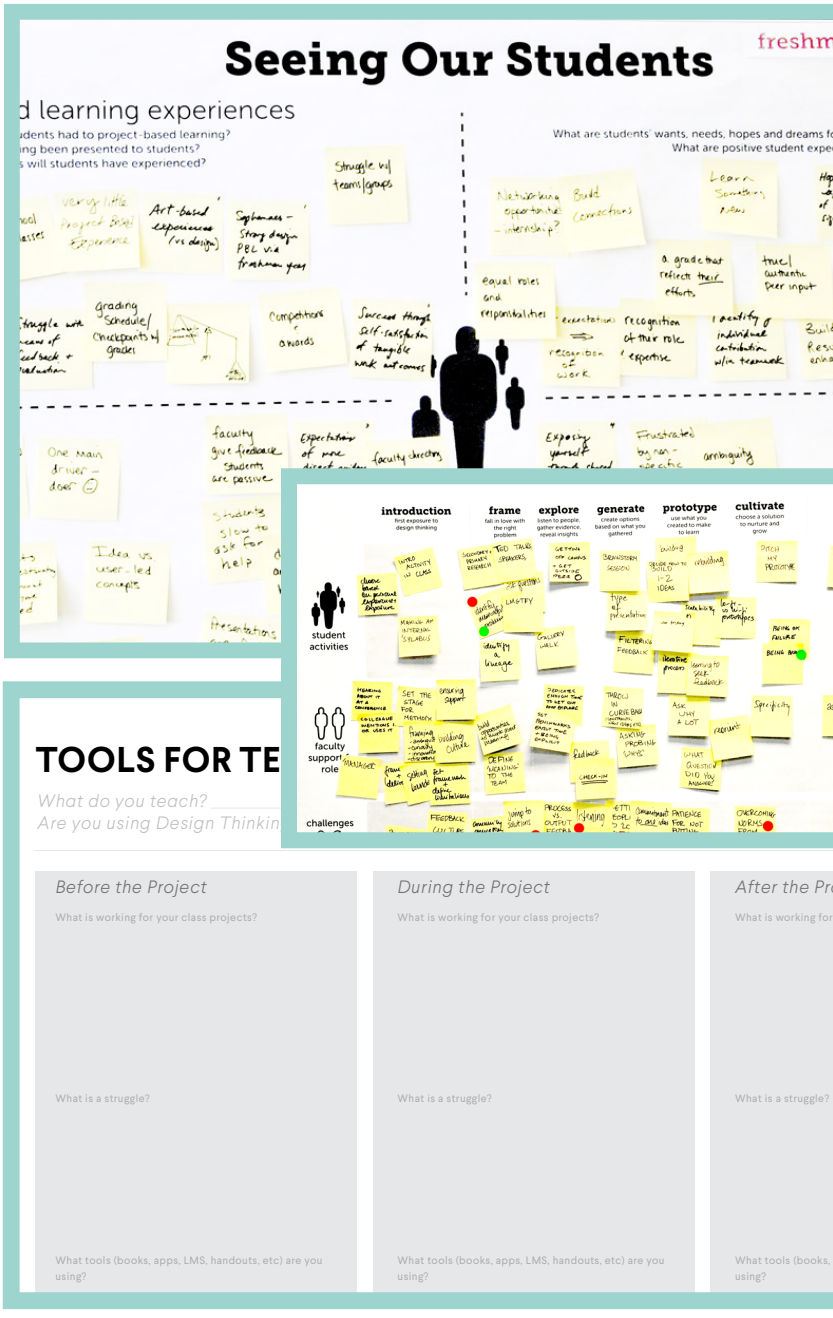
How might we create ways to use design thinking projects as project-based learning? This question became the focus of our work together to capture opportunities for students created by faculty outside design programs who incorporate design projects into their work. Many faculty members, after initial interest in design thinking, would struggle with where to start and how to create a learning experience for their students. The topic question opened a problem space shared by the attendees and collogues from other universities.

Activities

The conversations and activities were designed to capture the related teaching experience of the designers and practitioners in the room and generate new ideas. Each hands-on activity was designed to give everyone quiet space to think while leveraging the face-to-face interactions and conversation. Good food, snacks, a little dancing, and regular shifts between ways of working kept the energy going. To generate, collect and socialize ideas, we used sticky notes, letter-size workbooks, templates form 11x17 to 36x48 inches, and 4x8 boards. We took pictures of everything, entered the data and organized it in this document.

Space

Design Forge participants worked in pairs, in three small groups and as a large group. The Center for Design Thinking offered the portable walls, whiteboards and furniture our work required.



Top Right: Empathy mapping student experience. **Middle:** Learning Journey Map. **Bottom Right:** Toolkit building template created by Wendy Angst and Claudia Roeschmann

Inaugural Design Forge 2018: **Learner Empathy Maps Data**

Project Based Learning Experiences	Action	Desires	Pains
Freshmen/Sophomore			
High school clubs/classes Very little project-based experience Art-based experiences (vs design) Sophmores - strong design PBL via freshman year Struggle with teams/groups Well-defined schedules, benchmarks Struggle with means of feedback and evaluation Grading schedule/checkpoints with grades Competitions and awards Success through self-satisfaction of tangible work outcomes	Challenges working in teams Inexperienced with teamwork One main driver - doer Faculty give feedback, students are passive Expectations of more direct guidance and feedback - "instructions" Faculty directing, Students following Moving on from research to action. Thinking --> Making Students underestimating the amount of time required Idea vs user-led concepts Students slow to ask for help Delayed and reserved/hesitation Looking for "right" and "wrong" answers Waiting for the answer Low enthusiasm when things get tough Hugh enthusiasm when things go well Presentations are PowerPoint and "business-y" Documentation and reflection "Pitching" their process Physical making/models Identifying failure	Networking opportunities - internship? Build connections Learn something new Hopes and expectations of solving significant problems "Making a Difference" Meaningful work Equal roles and responsibilities A grade that reflects their efforts True/authentic peer input Top-tier company Expectations --> recognition of work Recognition of their role and expertise Identify individual contribution within teamwork Portfolio building - resume enhancing Building a portfolio of work Resume builder	Exposing yourself through shared work - vulnerability Frustrated by non-specific outcome Ambiguity Having to compromise and negotiate and make decisions as a team Failed group dynamics Frustrated by lack of control that comes with group work Variability of projects and outcomes Resources to enhance work Concern over amount of work Bad experiences with group work Scheduling with team members Putting aside ego Insecurities about quality of work - solution and presentation Not getting it right the first time Balancing work-life - staying healthy Time commitment PBL = more time which is limited Concern about high stakes Grades Adjusting to shifting "landscape" of the course
Sophomore/Junior			
Spring semester sophmore at X university My spark was lit Strong endings I have had project work but not with as much structure as DT Divide and conquer practice Faculty guided, facts-based Undergrad research Project in class 1st time project Superficial beginnings strong endings All my classes do projects Here we go again PBL disciplinary methods Introduced Faculty-guided Passive lecture Passive reading Some exposure Early experiences Divide and conquer approaches Frustration Tools-based Modeling	Unwillingness/inability to do "small" projects You don't understand my generation Need to contextualize every activity Making connections in theory and practice Writing Visiting Maker Space Planning Students to faculty for answers F/s tension Courage to step out See thoughts in others ubuntu Applied methods Building things Energetic Supportive Consultant Coach Mentor Journal reflexes Emotional Sniping and griping Judgmental Actual progress Video Solve the world's problems Not willing to follow my dreams Visiting, building, planning	I hope I can do something meaningful but without any negative academic consequences I want to do something tangible that can contribute to my portfolio to get me a job Positive GPA I wish there was a roadmap Structure clear Fun to apply what has been learned Clear expectations Structured Assurance of good grade Good grades Positive effect on GPA I want everyone to do their part I want to make a difference Grand challenges Solve the world's problems Portfolio work Getting jobs/internships I want to make connections Exposure socially Contribute to entrepreneurial dreams Awards that might lead to internship	Ideas won't work They won't like/get it Checked out I do all the work Too many teammates Busy schedule Frustration with slackers How do I know if it's done? Ambiguous Messy No one right answer Life gets in the way Meeting with other students outside of class Is it good? Too creative More self-directed Is this meaningful? Nervous Timid about what they know I am starting to feel a part of it, but am nervous of the ambiguity I am very busy and it is difficult to meet with my teammates.

Inaugural Design Forge 2018: **Learner Empathy Maps Data** (cont.)

Project Based Learning Experiences	Action	Desires	Pains
Junior/Senior			
Group research projects, presentation, essay	Developing professional identities but still in transition	Job or a next step	Differing motivations
Specific project framework	Jump straight to solution	Step to the next thing	Differing end goals
Being a part of a club	Seeing others present	Feedback loops as productive mechanism	Concerns about evaluations/grading
Study abroad	Peer review	Make a contribution	Feedback is ambiguous and conflicting
Intro freshman course	Make	Make real changes to challenging situations	Discomfort with ambiguity
Gen Ed labs	Building mentoring relationships	Real-world application	No real outcome or testing
Individual research projects, presentation, essay	Curious where to go with energy	Real world outcomes	Neg: team dynamics, ambiguous, time line
Variable experiences	Desire for teacher shifting between guide --> facilitator	Real world resume skills	Lack of structure
Mixed bag	Focused on publicly available info	Things I can use later	They don't like our idea
In-class worksheets	Lasting impact	Tangible outcome I can see	Afraid to talk to people
Degree of exposure depends on program	Peer learning	Convincing people to use something	Individual ownership vs teamwork
PBL may have been presented in different ways	Remake	Something to be proud of	Frustrations with unsuccessful collaborations
Self-directed projects (maker)	Senioritis	Identity	Fulfilling grad requirements
Analogous team experience	Last big chance	Meaningful, deliverable	Just want to sit and listen
Science lab teams	Presentation + critique	Clear assessment of work	Balancing project with other demands
Lots of examples of outcomes that get press	External meetings	Ability to work well in teams	Fear of moving to the next step... do we have the right problem? do we have a good idea?
Divide and conquer	Rescheduling due to other life things (spring break, football, etc)	Direct skill application from prior years	Rejection: partner/client, team members, professor
Generally grade-focused	Hesitant to get started	Portfolio development	Being exposed as incompetent
	Rushing to the next deadline	A strong portfolio piece	Looking over-eager to peers
	Presenting to "teacher"	Hard skills that can be applied during an internship	Perfectionism - conflicting styles
	Pitching an idea	Show off unique skills	Bad team members
	Proximity to graduation matters	Connection to professional goals or interests	Poor team dynamic
	Setting a tangible end deliverable	A rubric of things to have	

Inaugural Design Forge 2018: **Learning Journey Maps Data**

Freshmen / Junior / Senior

	Introduction	Frame	Explore	Generate	Prototype	Cultivate	Lead
Student Activities	Intro Activity in Class Choose bored our personal experiment exposure Making an internal "sylabus"	Secondary primary research TED Talks speakers Ask questions LMGTFY Identify meaningful problem Identify a lineage	Getting off campus and get outside peer O Gallery walk	Brainstorm session Type of presentation Filtering feedback	Building Rebuilding Decide how to build 1-2 IDEAS Scalability User testing Iterative process Learning to seek feedback	Pitch my Prototype Being O.K. w/ failure Co-tri Co-Tri-ti Prototypes Being *BRAN*	Facilitating problem solving w/ group Model curiosity
Faculty Support & Role	Hearing about it at a conference Set the stage for methods Ensuring support Colleague mentions or uses it Manager Frame and deadline Setting boundary Set framework and defile limitations Framing -ambiguity -curiosity -innovation -discovery Building culture	Build opportunities to think about meaning	Define 'meaning" to the team	Dedicates enough time to out and explore Set benchmarks Early time & being explicit Feedback Check in	Throw in curveballs (constraints new ideas, etc.) Asking probing "Whys"	Ask "why?" a lot What question did you answer	Reorient Specificity
Challenges	Building culture Feedback culture	Community conviction and context Jump to solutions	Process vs. output feedback Listening Don't use discovery	Commitment to one idea Letting people to xxxx feedback	Patience for not putting yourself in it?	Overcoming norms from other colleagues	How to deal with roles
Opportunities		People out of their comfort zone	Modeling the right activity How to give feedback for all	Surfacing road blocks	See what doesn't work		Develop a leadership ladder

Inaugural Design Forge 2018: **Learning Journey Maps Data**

Freshmen / Sophomore

	Introduction	Frame	Explore	Generate	Prototype	Cultivate	Lead
Student Activities	Situate self w/in the environment Get outside! e.g. fieldtrip Overview of the whole process (Start to finish) Syllabus Bootcamp Deep Dive Design Sprint Shopping Cart Video =| Workshop on DT during summer internship Design Sprint as part of course	Research, topic interview, storytelling & develop user profiles How to do ethnog. Summary Persona Self-discovery exercises What are your passions? Finding Framing? Design Brief Situate self w/in the problems (define lens) Client presentation What is the right design ques? • Slaps stats • Customer discovery. Market analysis. • Students vote from a list of challenges & corresponding sponsors	POV Fieldwork – empathy getting outside yourself UNI Framework IRB Approval Ethnography tool introduction Design ethnography Practice ethnography & refine Pattern identification	Ideation Co-Design w/ people: stockholders/users Pitch Critique Training/boot camp on effective presenta-tions	Intro to Methods Rapid Design Charette Use skills built in class to build prototypes	Product- svc-experience Co-creation Ghost deck for client Invest & Come to an idea, Iterate & refine Push Cart Constraints Vote Seek sponsor feedback	Team management Time management Motivation
Faculty Support & Role	Facilitate student "mixer" or speed dating Baseline of "instruction" Ideally, fac/staff helps student reflect on learning (guide) Facilitator Fac/support as coach/ expert Strategies on dead space and learning pauses	Discovery exercises self-reflection Secure project & scope it Faciliator Provide variety list of HCD challenges	Protocols interview techniques (From HCD) Provide Frames & examples "Light" research methods Strategies for moving from QA to discovery	Facilitate Guidance on facilitating workshops-Pilot! Strategies for peer Stakeholder critique Modeling effective critique Outside experts business/industry	Faculty as motivator. Think > Make! Provide ideas/material to students to explore as they prototype	Reinforce the idea Selection methods Guide & motivate	Back Off, be there to support
Challenges	Over caring ambiguity Is fac/staff sufficient versed DT? How are internships supported pre/post experience? Is reflection Right fit of sprint	Helping flexible vs "save the world" Right Fit project to class/time Finding challenges that are double in semester	Asking the right questions Unfamiliarity discomfort w/ human re searched face – face	Making useful	Perfectionism Finding the right level of facility	Assessing scope & feasibility of solutions Timeframe	Race "damage" if done poorly
Oppor-tunities	C: Students feel rushed O: Low Risk/Low time commitment Satisfying enough ex-perience for student How synthesize learning	Working on something come about	Feedback Learning about others finding empathy!	Assessing options Balancing your ideas w/ user input	Comfort with "mess"		Peer monitoring Amazing change if done well – visible change

Inaugural Design Forge 2018: **Learning Journey Maps Data**

Sophomore / Junior

	Introduction	Frame	Explore	Generate	Prototype	Cultivate	Lead
Student Activities	75 – min module Intro to DT Gift – Giving Who is IDEO? EXAMPLES OR DT IN ACTION? READING CASE STUDIES Learning what design thinking is	Design brief to guide team Research plan Brainstorm Skills inventory (Student) Superpowers Google Searches	Empathy Map Interviewing Stakeholders	Trigger questions Mind map Crazy eights sketches Scamper Analogies Brain writing circle Franken Ideation Couse Mapping	SAP prototype scene 3-minute videos Napkin pitch	Storytelling or pitching idea Retrospective	Risk DT  learn time
Faculty Support & Role	Fundraising Sponsorship Setting up celebrity panel of judges Sprint Leader Resources Videos What's the point?	2nd day research observation interviews How to talk to strangers seeing like an Anthropologist Business idea for Do-Good Challenge	Connecting to campus partners	Structure Reflection prompts Guidance Idea huff sheets Crazy Challenges	What went well What didn't go as well Plan Can't stop start "Stress-testing" idea		Connecting to incubator
Challenges		Researching other than Google	Figuring out what has to be part a good solution "What does it mean?" Linking research to idea			Creative vs. project driven	
Opportunities	What can I do with this?	Team formation					

Inaugural Design Forge 2018: **Toolkit Session Outputs**

What is working?

Before	During	After
Strong theoretical basis	Faculty music feedback	Process reflection
Academics outcomes	Check Ins	Collaborative grading
Meaningful projects with real clients	Moments for participants reflection relate to their work	Prototype deliverable
Identifying sponsors clients	Peer Feedback	Final presentation
Scoping projects	Bringing in a client once a month for feedback review	Portfolio page deliverable
Developing relationships with clients	Sequential & co-teaching (i.e., varied voices and expertise)	Final pitch to CEO
Setting fundamentals knowledge	Non-extrinsic motivators	Reflection
Building community	Group camaraderie	Student reflection
Build culture, encourage curiosity, intellectual risk, meaning	Students excited to apply K & S to serve	Statement of accomplishment
Build familiarity across class, personality, work habit, skills	Final presentations for partners focused on user journey	Summary debrief
Course memory history, ethnography	Students required to meet with sponsor	Exit survey of skills, self assessment (Google forms)
Collaborative planning with team teachers	Cusr deadlines (earlier is better)	End of course survey
Organizing via Google slide decks	Meeting reseller milestones	Pitch night celebrity judges
Abundant resources	Really good ethnography	Useful artificials (website, products,proposals, etc.)
Worksheets PDF, AI, INDD	Fieldwork! e.g short research immersion	Present on campus, community
PP slides teaching notes	Built in "day act"	
Assignment prep ahead of time	(Get out of the classroom)	
Tic-toc	Flexibility for students (they have several weeks to change / Switch)	
Assignment prep ahead of time	Budget for teams	
Video prep to help	Lots of show not tell	
	Coustant regular feedback	
	Small wins	
	Start, stop, continue	
	Peer assessment	
	Coaches to help students teams	
	Intensional stokes	
	Journals	

What is struggle?

Setting expectations with sponsors clients	Getting students ready to listen	Artifacts
Need more variety of industry examples	Bringing skepticals / convincing	Connections to incubators
Layout timelines	Finding a common time for giving group feedback	Is this it (Where to not)
How to scope class	Assessing student work	Transfer/knowing now/what transferred
Funding (I hate fundraising)	Running with first Idea	Assessment styles inconsistent
How to structure course content in relation to DT process	Not doing multiple attention	Discipline to storytell
Appropriate scoping of projects	Training students to properly uncover good vs. bad use examples wrong	One pager
Narrowing topic to something team enjoys	Push outside comfort zone	Getting proper documentary from team
Clearly defining partner expectations and timeline	Some students struggle with experimenting to test ideas to learn needs insights	Grading: it's subjective
Identifying community partners	Having case studies real world examples	Iterating every year
Defining context	Resistance to complete process steps	Lack of pride in artifacts
Building trust	Old habits of group work	Keeping the project sponsor involved
Securing fieldwork views	Building students capacity to manage group dynamics	Project retirement
Guest speakers	Fostering group + interdependence	Are we delivering enough to the project sponsor
Budgeting cost	Some student teams don't get	little happens
Finding group projects for students	Maintaining scheduled syllables responding to students	Students spinning out. Not shelving the project
Determining something meaningful to work on	Group meeting time	
Getting students who are excited	Getting some students to put the time in	
	Groups working in different paces	
	Team Contracts	
	Feedback rounds with persons and with client	
	Time Management	
	Making choices decision making	
	Documentation	
	Recitation Coach	
	Need for resilience	
	Competing demands on time	
	Students' motivation	
	Faculty motivation	
	Momentum	

Inaugural Design Forge 2018: **Toolkit Session Outputs** (cont.)

What is struggle?

Before	During	After
I D E O U Canvas Field guide Liedtka, Ogilvie, Brozen Designkit.org Field guide to human centered design Switch (Heathrow) Good + Bad Project scope Scoping Checklist Examples Students,Timelines/recruting materials pitch DFA Students Mindset C.Dweck IDEO Sprints Knaaps Sprints book Google drive Scrum Trello Basecamp Asana	Concept mapping Google slide decks Live demos Make tools prototyping materials critical response process llif lemon Each project gets a budget ($20) sketchbook/ Journal video trade show Unpacking interview structure opp statement and POV statement Adobe connect for virtual crit sessions Ringer crystal ball wild cards Metaphor cards Adobe kickboy Idea-U AEIOU worksheet Hacking to for journal Material on loft. io/guide Luma Institute Innovating for people In person large group chokins and sharmy Instrumental assignment/ milestones Extreme user poster break up letter Team Meal Tell me story Nupkin Pitch Canva Protobot cards Scamper Podcast (observation) Sy Partners feedback guide Team health Buy,bring,build Sap prototype scenes Journey map	AACIL peerival nubnic Video story Story/Storyboarding Ted X organizer (for presentations) Written/reflections/prompt Slack for communicating Next steps

Missing from Toolkit Sessions Output Poster:

- The right audience
- Stoke
- Pitch Techniques
- Platform to share resources
- List of key buzzwords
- Compelling proposals – consistent language
- Marketing to students
- Course descriptions
- Catalog
- Website
- What Skills does industry recognize as valuable?
- Facilitator's guide
- Process guide
- How to facilitate meeting/process
- Exemplars
- Work products from successful/unsuccessful / from many disciplines
- Rubric examples
- Things to know/remember
- Overview of how people learn
- Research on its efficacy
- Who is active? Contacts
- Best practices connected to learning theory
- "Tic-toc" Examples

Must-Haves:

- Toe-dippers
- Mini modules for faculty
- What discipline? Arts? Science? Des? Bus? Cam? +++
- How much time is available?
- Need easy ideas
- Need advanced ideas
- How much prior research is done?
- Is it time to be creative?
- Client & Community partner strategies
- Assessment data for admin (1)
- Univ. leadership buy-in (2)
- Student buy-in
- Advanced topics beyond
- Mindsets:
  - Build a lot
  - Resiliency Resources
  - Decrease in perfectionism
  - Productive failure
  - Combating hopelessness
  - Growth mindset
  - Doer/maker mindset
- Training trainers
- Faculty buy-in

Inaugural Design Forge 2018: **Learning Outcome Data**

Frame	Explore	Generate	Prototype	Cultivate	Lead	No Category
Go "sit in the coffee shop" meet people where the problem is	Discover a person's or a thing's deeply felt problems	Sketch several solutions to the problem statement	And employ prototyping strategies for building out potential solutions	Analyze feedback received from peers, users, prof.	Develop expertise	SWBAT- Identify points of failure in their process & generate action steps to overcome
To apply the design thinking methodology to a course - provided challenge and understand has it could be more broadly applied to other challenges	SWBAT - Interpret stakeholder & input to make design decisions	Predict pitfalls + opportunities for a group of solutions	Articulate why design decisions were chosen over others	And categorize feedback into new questions/directions.	Employ DT in non-design situations (or aspects of DT) Yes, and offer tools & resources easily adapted to	Yes + re-evaluate outcome
Prepare and adapt for external changes/ opportunities Yes, and be able to articulate how you evolved the project	Rewrite their problem statement based on user data	Use design criteria & research to generate ideas	Build + test sample prototypes and create new ideas based on feedback and evaluate prototypes based on our testing	Defend design decisions made	Facilitate a group feedback session	SWBAT Devise a communication plan across team members Yes + evaluate their own performance against said plan
Scope an appropriate project within constraints and future requirements from interviews and research	Yes, and be able to present these findings	Learn to revise and rewrite	SWBAT construct prototypes based on "x" needs	But also understand the importance of 'critique'	And divide tasks as a team	Apply a design process to multiple scenarios regardless of disciplinary training
Compose a design brief including design constraints	Yes + devise/revise design	Present key concepts to users	Develop a trial and error-based approach	Illustrate their process	Define personal skills that can add to a team	
Students will be able to describe design thinking	Challenge expectations (expected outcomes)	Appraise/provide feedback to peers/teammates	Identify ideal output scenario (presentation)	And present key discovery back to the stakeholders	Communicate	
Create an efficient research plan	Discover the unknown during the process	Collect feedback and generate next steps	See what exists, modify, and improve	Students will explain the goal of each phase of DT	Know your role in a group - know your strengths and weaknesses	
To describe design thinking tools and frameworks for each phase of the project - and be able to apply those tools	Create design criteria from research	Develop a list of design constraints based on user input	To have better conversations	Yes, and its relationship to the process	Facilitate a group decision	
To understand the "why" behind human behaviors	Estimate impacts - yes, and provide a business case	Generate many possible solutions to the problem statement	And re-evaluate prototype II...	Construct a story blueprint to share their work with an audience	Formulate appropriate feedback for others	
Discern what is an appropriate design thinking project	Interview and observe others to gather qualitative data... and feel comfortable with pivoting if original challenge changes	Student will be able to see connection of theory to real world + examples so theory + example + practice	Assemble and disassemble	Is it worth the $ you're spending on your ideas	Get down to business	
Students will be able to observe a situation, set baseline, draft a goal/ define human behaviors to understand potential unmet needs	Express the advantages of user empathy in design - yes, and use humans needs to define and design	Generate ideas that links research and human needs to a solution	Relate feedback to their own project maybe?	Sketch an action timeline	Know how to implement seek opportunities	
Create a project management plan	To better address issue	Describe the process and relate the solution back to the client/customer	Revise prototypes based on direct feedback	Yes, to accurately define scope and limitations	Lead a design session with peers	
Identify key issues	Synthesize qualitative data to define an unmet need	Build on initial idea or restate	Create simple prototypes from ideas	Modify a project plan to appropriate project outcomes	SWBAT demonstrate connections between process and outcomes	
SWBAT apply qual. interview technique to design challenges	Construct interview guides - yes, and practice the interview before finalizing	Prepare ethnography studies to capture feedback from key stakeholders and conduct studies with sensitivity, compassion, empathy	Defend decisions based on data - and re-formulate	Move the idea into a place where the impact is visible	SWBAT describe their process and identify critical decision points - yes, and communicate why they made those decisions	
Develop understanding of human needs to define a problem	Describe when one research approach is/isn't appropriate	Use design criteria and research to generate ideas	Students will devise a plan to learn through prototyping	Reflect critically on process and refine ideas	Students will have the creative confidence to lead a design session	
For demonstrable basic understanding of the design phases	Discover collaboration as an asset	Brainstorm ideas	Test ideas for success - yes, and use the test results to redesign in an iterative process	And develop what critical reflection entails	Apply DT principles to lead a design session	
SWBAT research existing work and articulate new ideas	practice effective tools for interviewing - among a variety of stakeholders	Ya through equitable exchange	Detach themselves emotionally from ideas in order to test what as to be true for idea to be a good solution	Change the focus	See value in there being multiple perspectives present	
Get out and go see! Experience!	Generate a list of design criteria to guide project development	SWBAT collaborate with peers through idea generation	Recognize when and how interpersonal dynamics encourage or inhibit creativity	SWBAT use DT to build new skills through projects - yes, and will be able to Identify, define, rank those skills	Assess progress at each stage	
SWBAT categorize ideas based on perceived value/ relevance	Synthesize research and identify problem spaces - and identify if problems have design potential - and move thoughtfully through the DT process	SWBAT breakdown instructor and peer critique to refine design	Refine a prototype based on design criteria and research - yes, and something about feedback/crit.	Apply a core set of design methods - yes, and to complex challenges	Seek opportunity in iteration	
yes and identify tools that can be used for each phase	Students will be able to move observation points, move bias	Students will employ a study framework	Identify cognitive bias in their work	Students will immediately return/utilize DT practices in future projects	SWBAT iterate, iterate, iterate	
	Practice making and deriving meaning from observation	Interview and observe others and gather qualitative data	Students will be able to create simple and complex prototypes from ideas	Model DT practices for projects/problems across/ in other courses	Feel/experience the connections	
	Construct a personal profile	Change who you are - ask the janitor	Sketch plausible design intents- yes, and get user feedback - and iterate based on user feedback	Describe how DT can be used to approach projects in other courses	See it through someone else's lens	
		Yes and clarify intent of project		Summarize design intent - yes and do this in a way that is grounded in user research	To have a rough answer to the right question rather than a detailed answer to the wrong questions	

Elon By Design's Design Forge creates a space where universities and designers build relationships and concepts that help advance how design thinking and service design contribute to student learning and higher education innovation.

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