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Mapping the Terrain of Design Thinking Pedagogies & Outcomes

RSD9 2020

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ELON
UNIVERSITY

Research Question

How might
design and **systems thinking**
catalyze

inclusive, participatory, project-based
pedagogies that yield valued outcomes
across higher education?

Design Thinking?!

Reflexive

Relational

Embodied

Iterative

Viable

Builds capacities

Dedisciplined

Uniting ST-based Leadership and DT-based Community of Practice through Action Research: **Theory**

Systems thinking

helps identify the interdependent and interconnected agents with a shared goal or perspective within systems (Buchanan. 2019)

Design thinking

offers a micro-level perspective on the behaviors and dynamics of change agents (Lewis et al. 2019; McIntyre-Mills, J. 2010).

Service Ecosystem Design

Collective Awareness	Collective Change
Individual Awareness	Individual Change

Vink, J., Wetter-edman, K. & Koskela-Huotari. Designerly Approaches for Shaping Social Structures. Proceedings of Relating Systems Thinking and Design. RSD8 Symposium, Chicago, 2019.

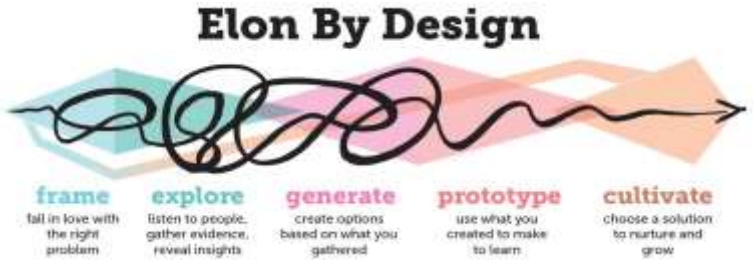
Institutional Context

- Mid-sized, private
- Liberal arts, Southern U.S.
- Leader in global, experiential ed
- DT Initiative
- 4 years later

2016
Launch

2017-18
Studio
Curricular Pilots

2019
Director
Catalyst Team
120 + 2k students



Elon By Design

Our Vision

Elon by Design sparks and sustains **intentional pathways** designed to resiliently address wicked problems and generate value for students, faculty, staff, as well as local and global communities.

The Center for Design Thinking operates as a ***nexus*** for designerly approaches to living and learning, as a radically collaborative, boundary-spanning organization.

Center for Design Thinking

We are enhancing...

Capacity

Foster the ability and confidence to respond to wicked problems with design thinking processes, methods and mindsets as they shape purposeful, impactful lives.

Experiential Learning

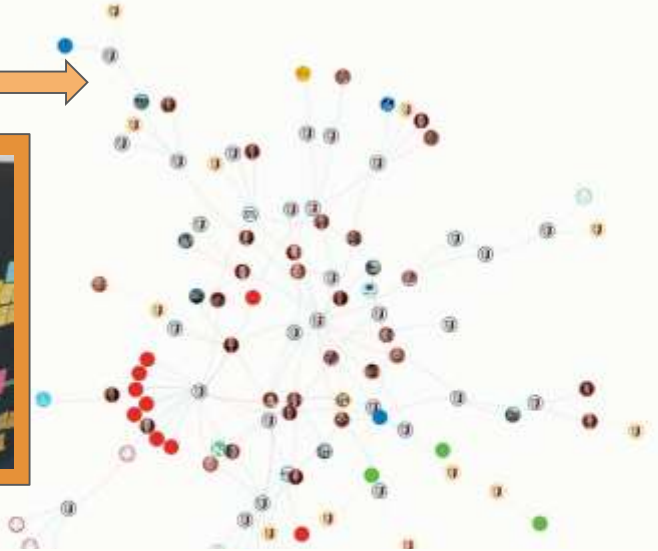
Infuse practical design thinking learning opportunities via workshops, programs, courses, research opportunities, internships and global experiences.

Real World Projects

Support and enhance a cross-sector, global practitioner network with projects where participants develop design thinking skills..

C4C… The Coalition for Change

Align initiatives across departments, academic centers, student organizations, and community organizations



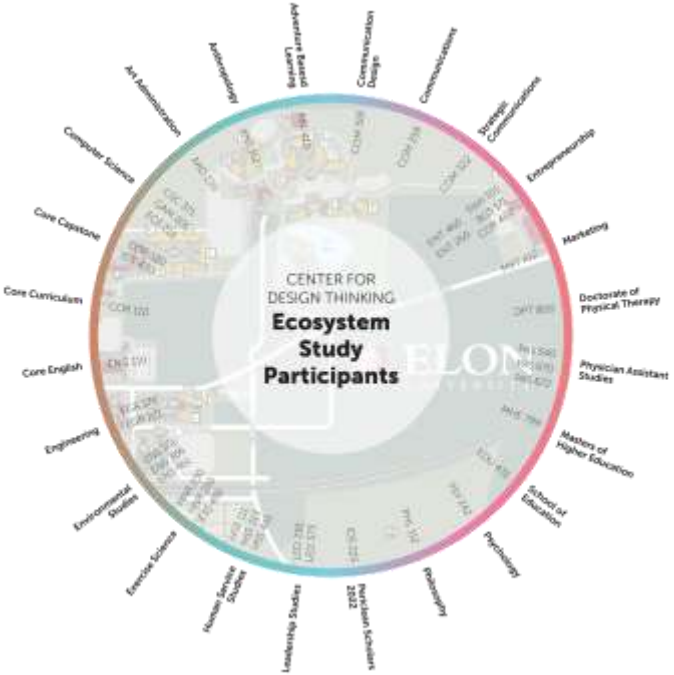
Ecosystem Mapping

1. **Practices**
2. **Outcomes**

35 Courses & Programs

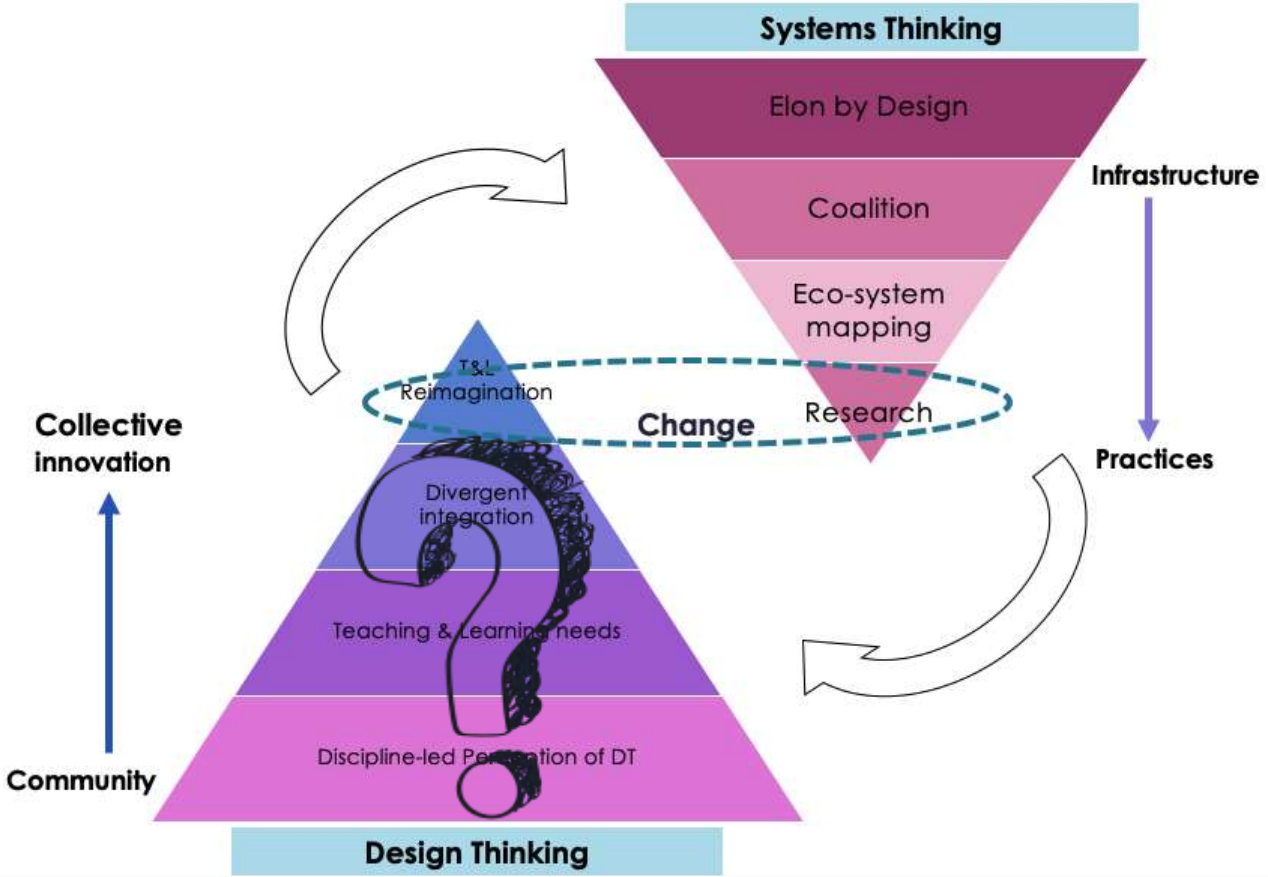
Model for a 2020-2025 cross-institutional study

Elon, Duke, NC State, and UNC

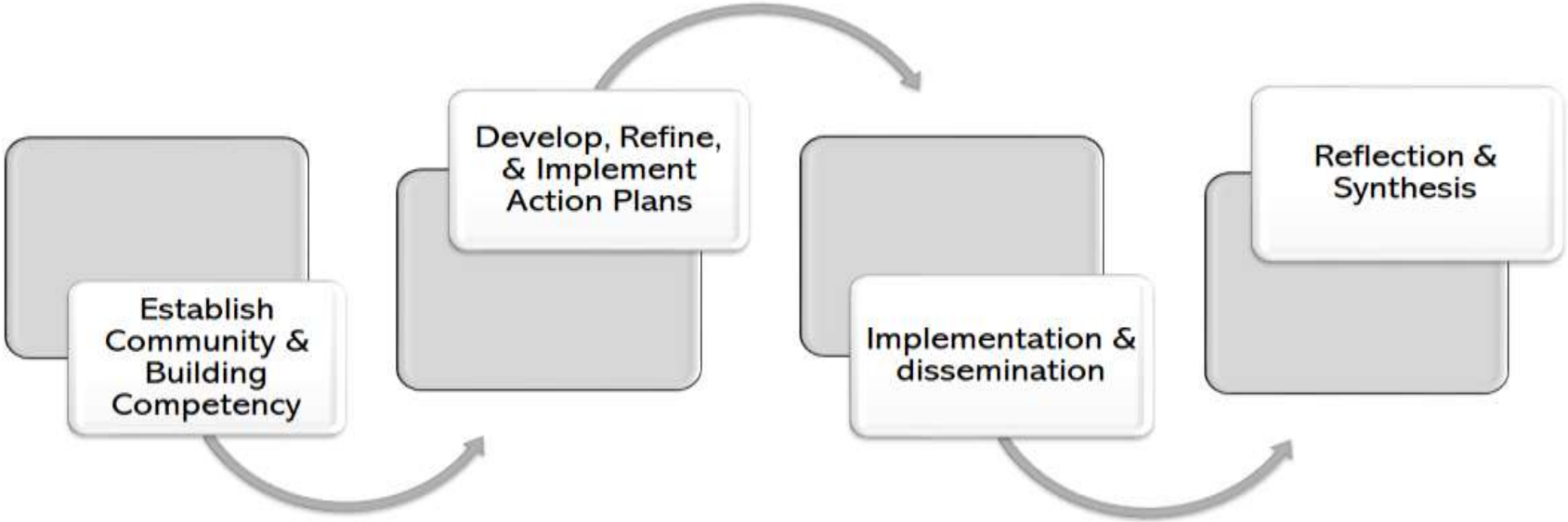


Situating Systems Thinking and Design Thinking

1. From *cross-* to *De-* discipline
2. ST & DT: from coalition to community of practice
3. How do we know if the "system" works and to what end it works?



Participatory Action Research



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Mixed-Method Empirical Research

Survey

<u>9 Practices:</u>

"*Create prototypes of ideas*."

<u>45 Outcomes:</u>

"*Enhance ability to pivot*."

<u>Course Descriptors:</u>

"Explicit reference to DT in objectives?"

Interview

Aims

Definitions

Challenges

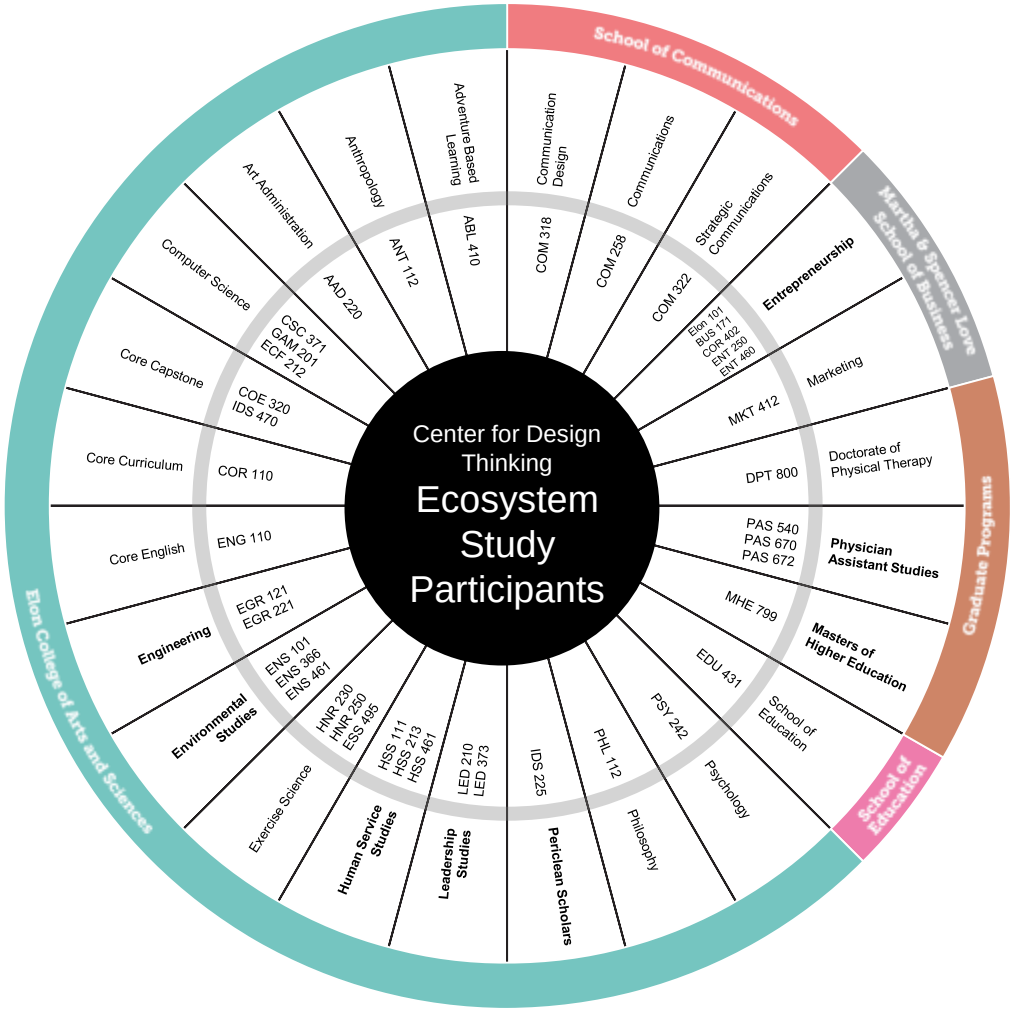
Benefits

Stories

Resources

Participants

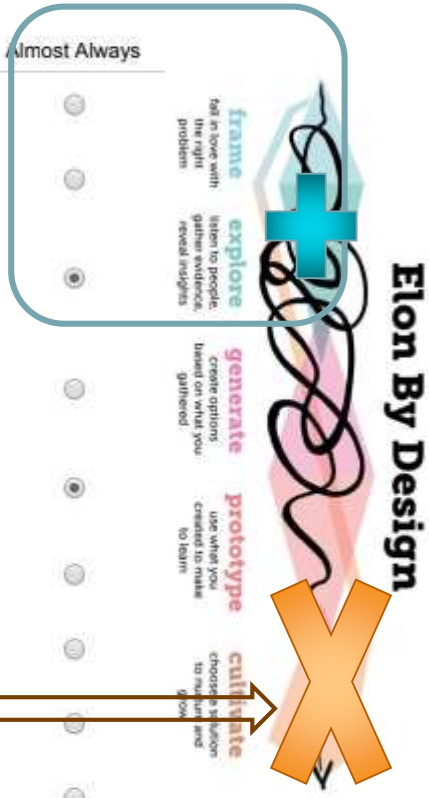
- Engineering
- Environmental Studies
- Leadership Studies
- Entrepreneurship
- Physician Assistant
- Periclean Scholars
- Human Service Studies
- Masters of Higher Ed



Quantitative Results

4. Section I: Pedagogical Practices. The following items relate to various practices that you may have implemented in your course. Please rate the extent to which you had **students** in the course you identified above...

	Never	Sometimes	About half the time	Most of the time	Almost Always
Work in teams that recognized diverse contributions	○	○	○	◉	○
Engage in active listening among team members in order to find shared meaning	○	○	○	◉	○
Engage in research using ethnographic tools (interviewing, observation, focus groups, journey mapping, etc.)	○	○	○	○	◉
Identify a problem definition based on people's perspective rather than on theory or organizational perspectives alone	○	○	◉	○	○
Create a set of design criteria that described an ideal solution, based on research	○	○	○	○	◉
Create **prototypes** of their ideas (e.g., storyboards, videos, mock-ups, etc.)	◉	○	○	○	○
Move **multiple** ideas into prototyping and testing	◉	○	○	○	○
Receive **iterative** feedback from stakeholders outside of the class on their prototypes	◉	○	○	○	○
Execute real world projects to test the ideas	◉	○	○	○	○



Practices and Outcomes Relationships

Ethnography

Outcome:
Expanding relationships & resources

$r(31) = -.47$ $p=.003$

Design Criteria

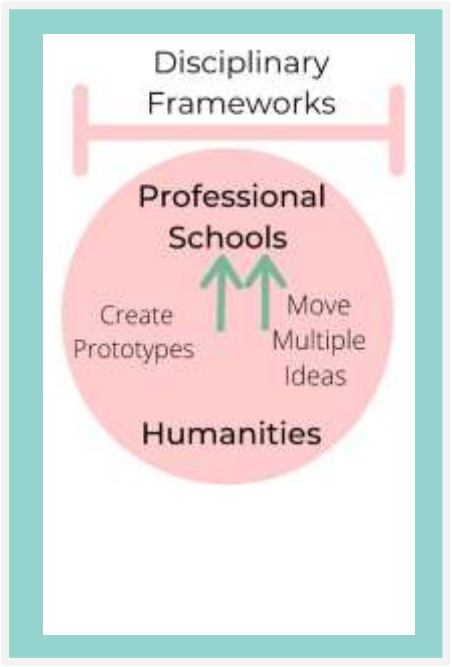
Outcome:
Trust building

$r(31) = -.31$ $p=.044$

Practices

Differences

- Disciplinary Frameworks
- DT Expertise



Qualitative Findings

Discipline-led Perception of DT	Two themes regarding how DT is defined across disciplines: similarity and differences.
Divergent Integration	Three themes regarding class activities, benefits, and disciplinary lens.
Teaching and learning needs	Students' resistance, class/academic structure, timing, and assessment

Discipline-led Perception of DT: two themes

Accessible & emergent process for *problem-framing and solving* across disciplines.

Disciplinary lenses heavily influenced perceptions.

Discipline-led Perception of DT: accessible & emergent process of problem-framing and solving

Professional School Professor
"So my understanding is it's loosely similar to our design approach but it's more founded in human centeredness."

Social Science Professor
"The process and the steps are very much similar to what we do with research all the time right? ... it's a little more of a personal lens. As opposed being theoretical."

Humanities Professor
"A lot of what you do in the design center has overlapping layers with what I am already doing in the classroom."

Discipline-led Perception of DT: Discipline lens

Social Science Professor

"We call it **piloting** instead of prototyping because in my world (and I'm using my social work world) that's the hat"

Professional School Professor

""Develop **tentative solutions & strategies** that you test out in **small scale, low stakes** ways to get a sense of their feasibility and then use that emerging data to drive the next wave of thinking and planning ."

Humanities Professor

"The prototype aspect is when they are starting to ask their questions and starting to do their **field work**".

Divergent Integration

Themes
The divergent integration includes the three types of class activities: • 1. Project planning and acceleration • 2. Game playing elements; • 3. Group discussion
Similar benefits with discipline-focused students' impact: failure
Levels of DT users: beginners, intermediate, experience, and implied

Teaching & Learning Challenges

Beginner	Intermediate user	Experienced user	Implicit
Students resistance	Students resistance	Students resistance	Students resistance
Timing	Timing	Timing	Timing
Traditional academic structure	Traditional academic structure	Traditional academic structure	Traditional academic structure
Assessment	Assessment	Assessment	Assessment

Teaching & Learning Needs

Resources	Beginner	Intermediate user	Experienced user	Implicit
Community support (training and network)	X	X	X	X
Financial support	X		X	X
Physical space	X	X		
Opportunity for students		X	X	

Limitations

Convenience

Self-report

Faculty perception

Next Steps

- Interview Analysis
  - Faculty Experience
  - Challenges & Resources
- Phase 2 - Student Perception
  - Cross-Institutional Study
  - Longitudinal Findings

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{Re}imagine. {Re}volution

Book Series with Peter Lang Series

"Schooling is not one thing. It is an "assemblage of machines" and, because of this, its "machinery" can be subverted in many ways"

La Paperson xiv

Higher Education and Civic Democratic Engagement: Exploring Impact

Book ideas? Proposals? Email: dlake@elon.edu

Design Forge

For: Educators, practitioners and thought leaders

About: a topic of interest to higher education,

Why: strengthen collaboration in the design thinking community & search for new opportunities for design thinking to enhance student learning

2018 — *DT project-based learning*

2019 — *learn and teach service design*

2020 — *student wellbeing and wellness*

2021 — *Place-making*

Opportunities

What might we each do to move **forward**?

What might we do **together**?

OBVIOUS

WILD

EXPENSIVE

BARE BONES

Opportunities

What might we each do to move **forward**?

What might we do **together**?

OBVIOUS

Idea

Idea

WILD

Idea

Idea

Idea

EXPENSIVE

Idea

Idea

BARE BONES

Idea

Idea

Emergent Strategy

Small is good, small is all.

Change is constant.

Move at the speed of trust.

What you pay attention to grows.

Strategies

Sustain engagement across borders

Critical hope in the face of the tragic

Radical Imaginaries

Relational Meliorism

Thank you!

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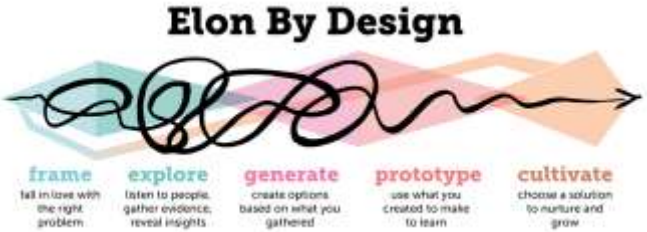

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