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Teaching Systemic Design in the Context of Organizational Communication

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Relating Systems Thinking and Design Symposium
Oslo, Norway October 9-11, 2013

Organizer:

- two related cases of systemic design education and how their development and my research in related areas have been mutually informing
- I will start by describing my work context, then I will go back and forth between each case and my research
- I will end with thoughts on meeting complex challenges with complex inquiry, and perhaps how the field of communication might contribute

Context

- Ithaca College in Ithaca – upstate NY at south end of Cayuga Lake, across from Cornell
- residential college of about 6000 students with five schools: four professional schools in business, communications, health sciences and human performance, and music, along with humanities and sciences
- communications program in communication management and design

Context continued

- students preparing for positions in wide range of fields: training and development, instructional technology, corporate communications, public relations, employee communications, and event planning
- at the start and end of program, courses that address broader issues and integrate the fields
- one such at the beginning is systems thinking and design; one at the end is critical issues in organizations; I will talk about both

Systems Thinking and Design

- history: I developed systems thinking and design 15 years ago
 - a foundation prior to studying instructional design (Educational Technology/Instructional Technology) and corporate communication
 - was named “undisciplined and out of control” but curriculum committees had no sense of humor
- goals: intent is to help students
 - think holistically as they view circumstances in the workplace and world
 - to imagine and take meaningful action to improve those circumstances

Systems Thinking and Design

- a variety of components:
 - five units – systems and designs in the world, systems thinking, designing, systems design in the workplace, conscious evolution
 - wide range of resources, and short papers (summaries and links to experience; share insights, rich conversations)
 - learning activities in class (give examples
 - door knobs
 - good/bad designs
 - the wall

Systems Thinking and Design

components continued

- three challenges
 - redesign physical object
 - model a system from multiple perspectives
 - resolve a major social issue
 - each with rounds of critique/feedback; final challenge presented to guest panel
-
- outcomes: benefit in other courses; demand for course by other programs

my research

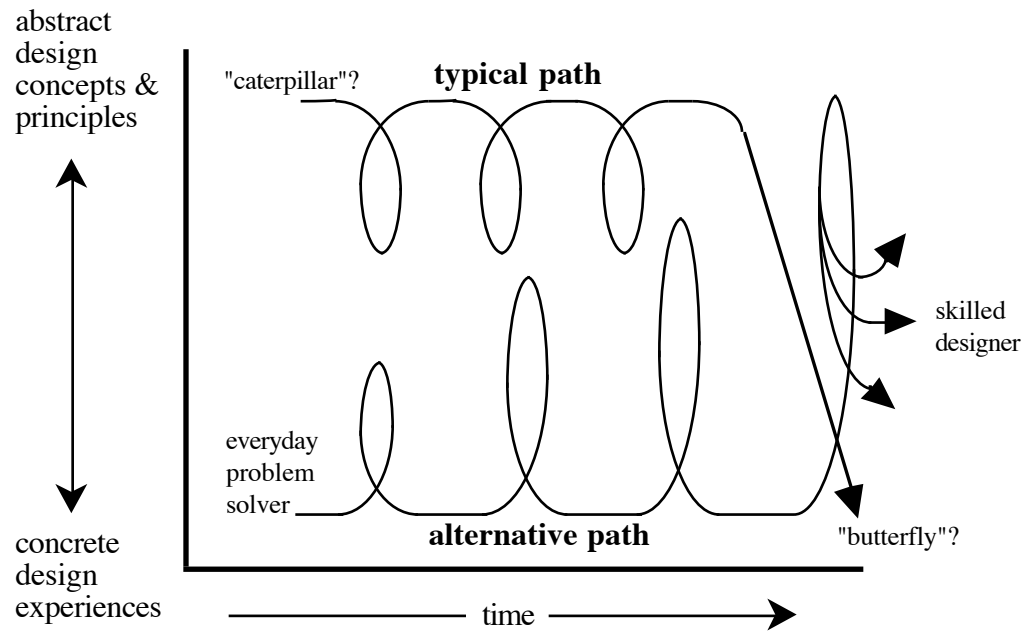
- important to realize that Educational Technology/ Instructional Technology and communication contexts have not truly embraced design and systems
- my approach is a departure from typical, teaching of instructional design (ID) as a systematic process; informed by ...
 - dissertation: problem solving in ID; expert/novice differences; ID as instance of design
 - design education: seeing ID as instance, studied design education approaches; just beginning to incorporate design studio

my research continued

- Powerful Learning Experiences: 15 years of studies on powerful/transformational experiences: learning by doing in authentic contexts, relationships (peers and mentor/teacher), reflection in and on action; but highly individual, resulting from interdependence on many factors that are unique to situation
- other lit on learning theory, e.g., constructivism; planned change – appreciating that change is possible (via starting small and concrete)

my research continued

- approach combines them:
 - focus on learning activities
 - reliance on peer support
 - shift in instructor role from content provider to problem-solving facilitator
 - build on learner's already sophisticated problem-solving abilities
 - moving from concrete to abstract [see figure on next slide]
- continual refinement: journal especially helpful



Design education pathways

Critical Issues in Organizations

- history: four years ago an opportunity to teach senior capstone course, Critical Issues in Organizations
 - goals: made it into a bookend—an application of systemic design to issues facing organizations, using everything they have learned in the intervening years
- encourage habit formation—professionals not just practicing but using that practice to take on major issues and benefit society

Critical Issues in Organizations

- components:

- series of guest interviews (If you could speak with anyone in the world about the future of our field, who would it be?)

- teams select issues facing organizations and conduct a design inquiry—do research to understand *what is*, and design *what might be*

- examples from this semester: psychological fear in the workplace; impact of social media, particularly in hiring; glass ceiling for women; outsourcing to online (e.g., service interactions); virtual organizations and human needs

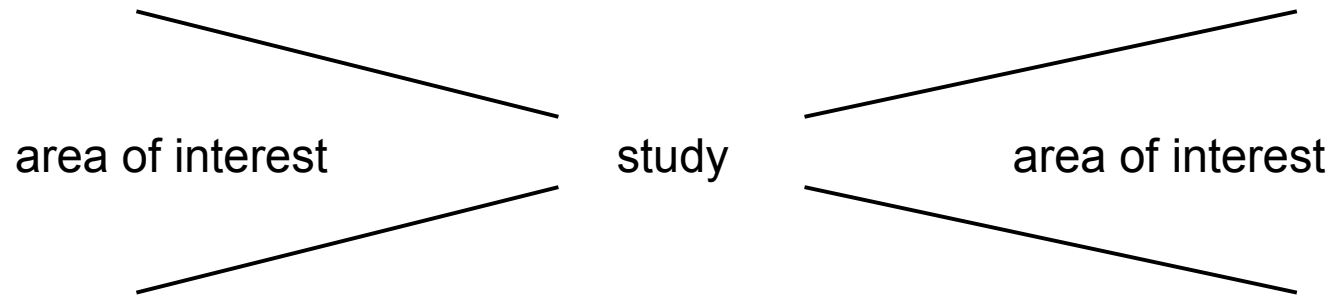
- great outcomes in terms of pulling everything they have learned in the program together

Design Inquiry

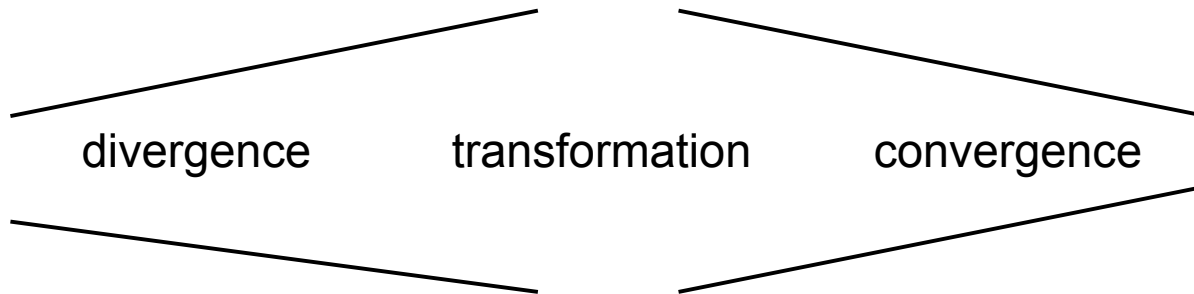
- of course, many ways that design and research have been related; my own version of this can be illustrated simply (see next two slides)
- attempting to not privilege one or the other (like Design-Based Research, or science policy)
- seeking more complex systems of inquiry for increasingly complex problems
- interrelated parts from different forms of inquiry, creating an inquiry system (see EDISYS figure three slides ahead)

General approaches of research and design.

Research



Design



Design-AND-Research

Design

immerse oneself in
situation

understand problem by
posing solutions

conceive and develop
ideas

transform ideas into
prototypes

try out prototypes

evaluate and select
idea(s) to fully develop

develop the design

argue for implementation

implement design

Research

explore area of interest

consider alternative
constructs & approaches

frame question(s)

select methods

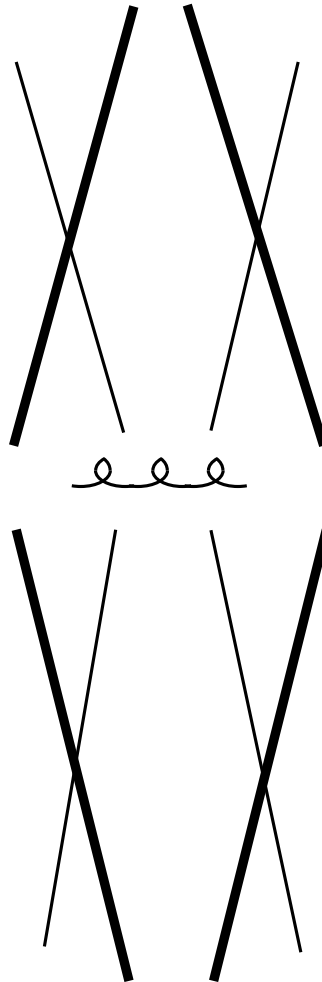
gather data

analyze data and
interpret results

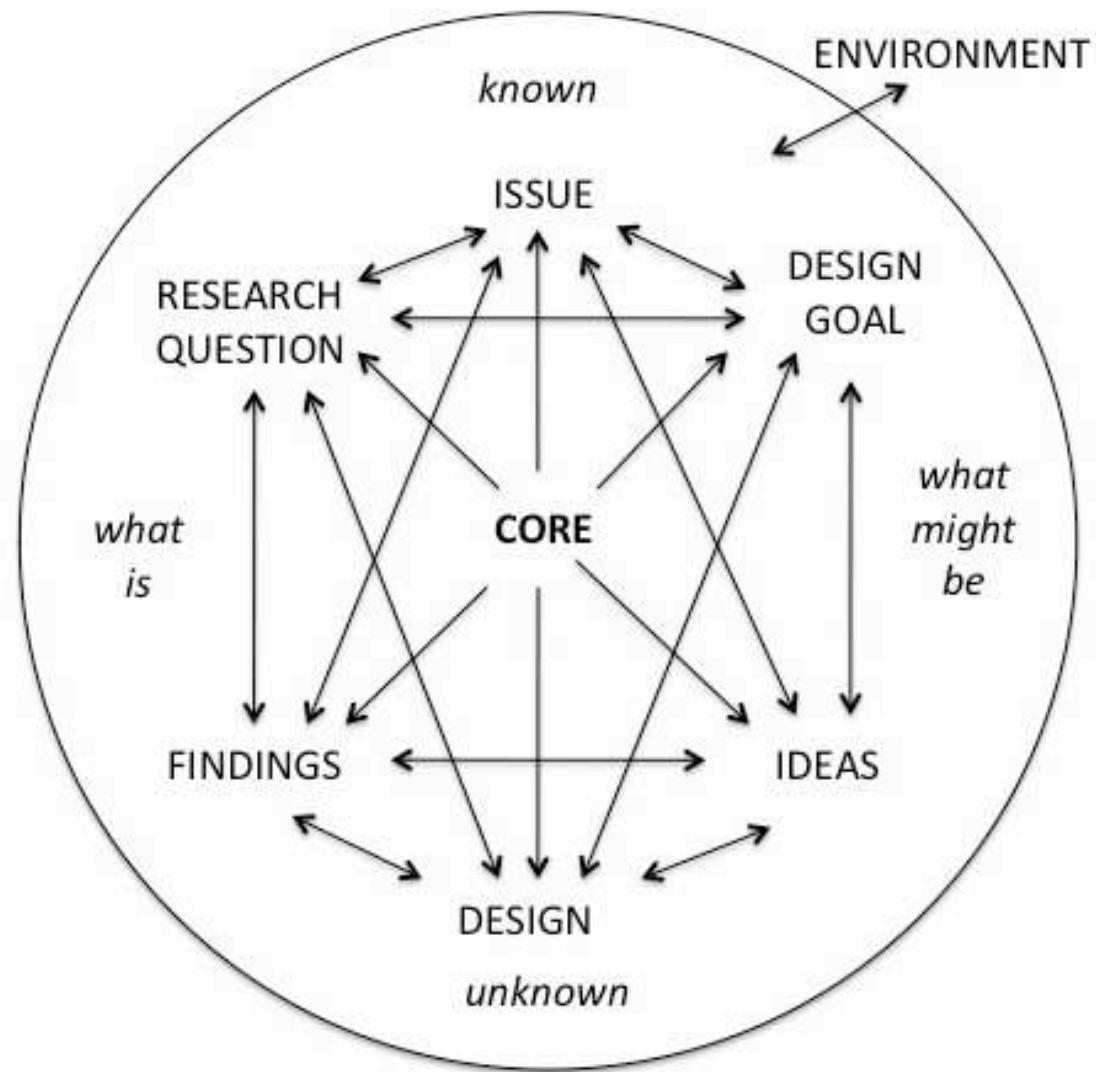
draw conclusions

write report

disseminate report



Enhanced Design Inquiry System (EDISYS)



Design inquiry continued

- how to do this? I prescribe no certain method; rather I spend time with each team every week, asking them questions, helping them continually advance; I also give them milestones and ask for progress reports that are designed to help each other (critique)
- as a means to enhance the inquiry, I've created a tool: EDISYS – key elements of research and design; questions that help to strengthen parts and relationships (share questions)

Questions to Strengthen Parts

ISSUE: The issue is clearly framed, that is, boundaries are clarified, particular aspects or things are selected for attention, and coherence is developed to guide further moves.

RESEARCH QUESTION: The question directly and in an unbiased manner focuses research on a key unknown(s).

FINDINGS: The findings clearly express something important and relevant that was unknown prior to research.

DESIGN GOAL: The goal clearly expresses the requirements of something of value that could be created through design.

ALTERNATIVE IDEAS: The ideas represent a wide range of possibilities.

DESIGN: The design is clearly described as a strategy, action, tool, or other form of intervention.

Questions to Strengthen Relationships

ENVIRONMENT \leftrightarrow ISSUE: The issue is important in the systemic environment.

ISSUE \leftrightarrow RESEARCH QUESTION: The research question(s) focused attention on the key unknown(s) regarding the issue.

RESEARCH QUESTION \leftrightarrow FINDINGS: The methods measured what was intended and lead to valid/trustworthy answers to the question.

FINDINGS \leftrightarrow ISSUE: The findings offer new insights into the issue.

FINDINGS \leftrightarrow DESIGN GOAL: (a) The findings assisted in the identification of requirements for the design. (b) Requirements of the design are explicitly linked to research findings.

DESIGN GOAL \leftrightarrow ISSUE: Achieving the goal would resolve the issue.

DESIGN GOAL \leftrightarrow IDEAS: The goal inspired a sufficient range of ideas.

FINDINGS \leftrightarrow IDEAS: Ideas are related to findings in such a way that their strengths and limitations are obvious.

IDEAS \leftrightarrow DESIGN: The selected alternative has the greatest potential.

DESIGN \leftrightarrow DESIGN GOAL: The design satisfies the design goal.

DESIGN \leftrightarrow FINDINGS: Implementing the design would alter findings in the future.

DESIGN \leftrightarrow ISSUE: The design will resolve the issue.

DESIGN \leftrightarrow ENVIRONMENT: The design will have a positive impact in the systemic environment.

The Core

Worldview: What do you believe to be the nature of reality (ontological beliefs)? How do you assume humans come to know anything (epistemological assumptions)? To what types of actions, for example, inquiry methods, do these beliefs and assumptions lead (methodological choices)?

Values and ethical commitments: With respect to work in this area (e.g., in organizational communication and learning), what should be given priority and why?

Theoretical commitment(s): What theoretical lens(es) or way(s) of seeing have you adopted for this inquiry?

First Principles: What first principles of learning, instruction, performance, systems, and/or design do you seek to apply in this inquiry?

Questions to Strengthen the Core and the Overall System

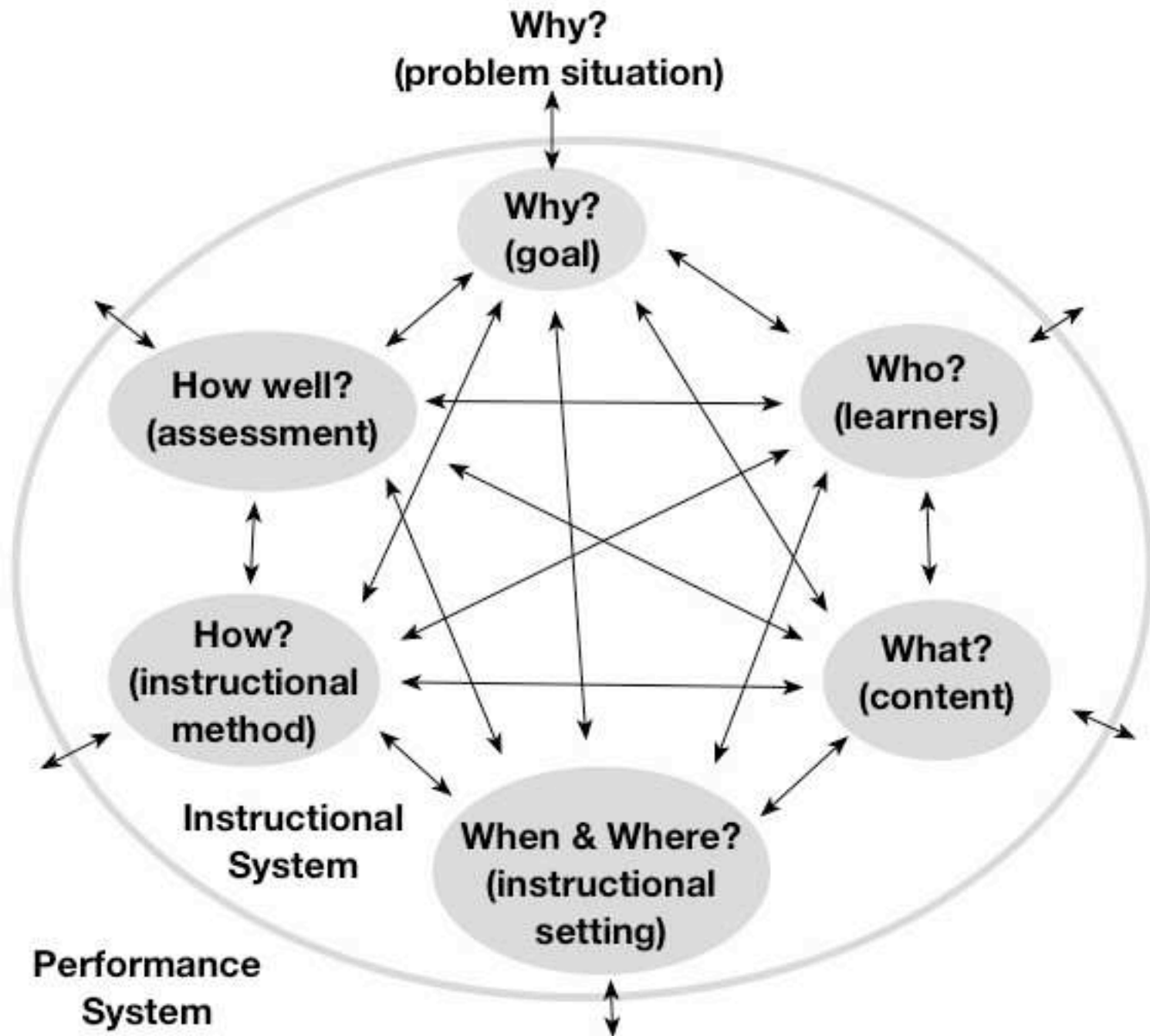
Core ideas and metaphors: What core ideas or metaphors underlie your design and inquiry?

CORE: Beliefs, assumptions, and commitments are clearly articulated.

CORE \leftrightarrow ELEMENTS: The elements and the system as a whole are coherent with core beliefs, assumptions, and values. (An example of this would be a consideration of methodology—a rationale for one's choice of methods that connects to epistemological assumptions.)

My research continued

- idea for EDISYS came from my research on systemic relations: extended dissertation, seeking how experts instructional designers think about problems; much more sophisticated relationships than suggested by systematic models (see systemic relations figure on next slide)
- along with EDISYS, attempting to encourage construction of design cases; lack of precedent in educational technology – International Journal of Designs for Learning

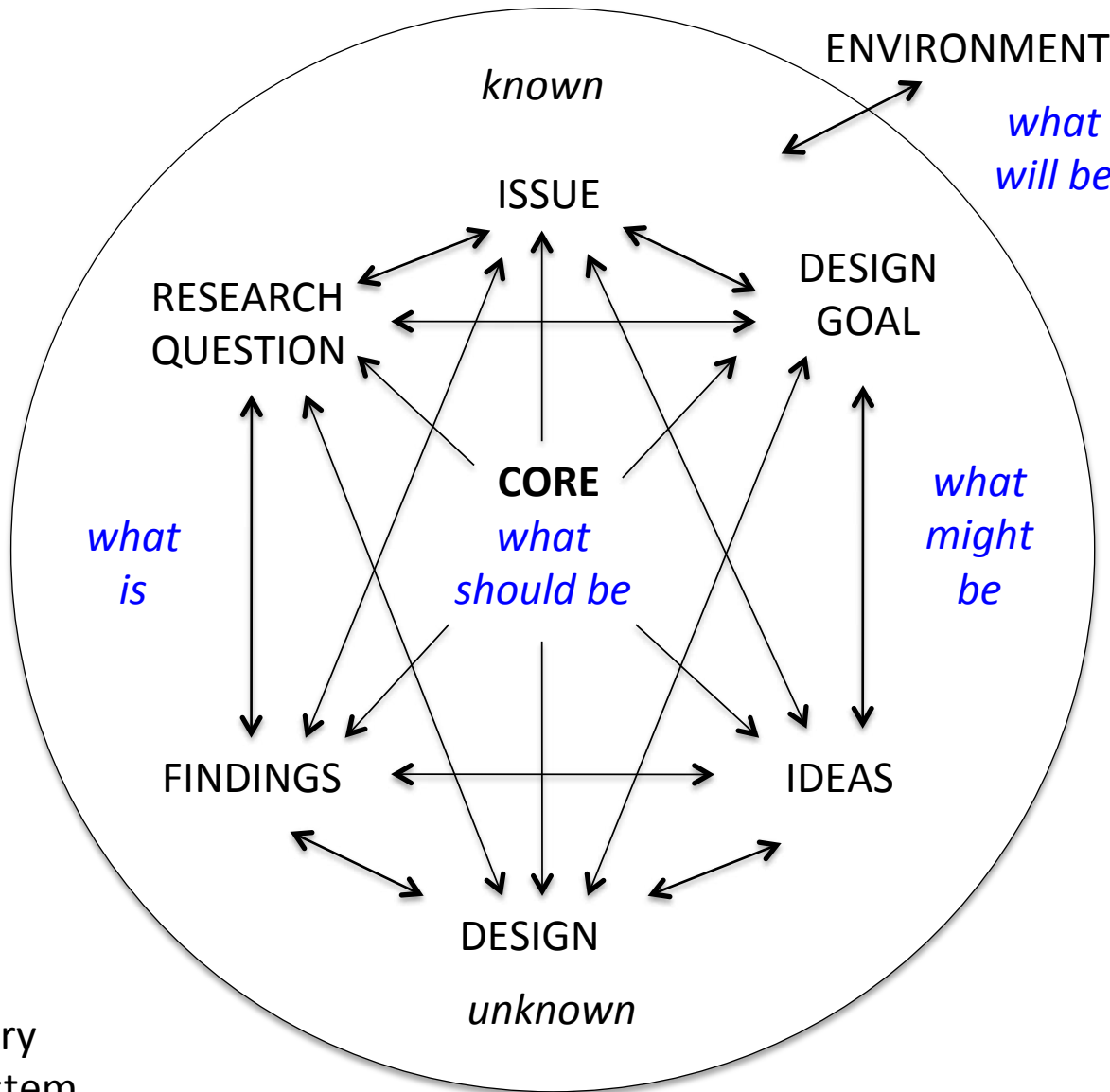


Where is this leading?

- EDISYS may be too simple; considering Evolutionary Inquiry System (see next slide): philosophy, politics, design, science {requisite diversity (Deetz): “increased complexity of the problem requires increased diversity”}
- likely involves formation of new language; powerful concepts, relationships, negotiation of meaning, systems; here communications has something to offer
- complex challenges require complex inquiries; hopefully this work is contributing, at least at the level possible with undergrads moving into the communication profession

Evolutionary Inquiry System - integrating four forms of inquiry

fundamental question	what should be	what is	what might be	what will be
object of inquiry	values	natural world	artificial world	power
basic process	reflection	analysis	synthesis	evaluation
focus	problem	problem	solution	solution
outcome	criteria	theories	options	strategies
discipline	philosophy	science	design	politics



Evolutionary Inquiry System

sources

Design inquiry

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