

What is Interdisciplinarity?

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What makes up a *discipline*?

Disciplinary Thinking

“Our colleges and universities, and to a lesser extent our elementary and secondary schools, teach us by word and deed that knowledge is divided into academic disciplines. The more schooling we have, the more entrenched our sense of disciplinarity can become”

(Lattuca, 2001, p. 1)

Disciplines

- A discipline includes three elements:
 - (1) an identifiable field of study
 - (2) the body of knowledge associated with the field of study
 - (3) a community of scholars who engage in specific fields of knowledge (Fuller, 2002; King & Brownell, 1966)
- Thereby both a cognitive construct and an organizational unit (Holley, 2009)

The Effect of Discipline

- Disciplines influence:
 - Faculty appointments
 - Hiring
 - Promotion and tenure practices
 - Teaching assignments
 - Student recruitment and enrollment
 - Accounting practices

Categorizing Disciplines

- Biglan's (1973) model focuses on three dimensions:
 - The existence of a disciplinary paradigm, or the "hard" versus "soft" nature of disciplinary knowledge (i.e., the degree of consensus among disciplinary members about epistemology, research methodology, etc.)
 - The focus on practical application of knowledge, or the "pure" versus "applied" character of the discipline
 - A concern with living objects of study, or a "life systems" versus "nonlife systems" emphasis

Paradigms, Epistemology & Ontology, Oh my!

- Ontology – the nature of being, existence, or reality
 - What can be said to exist
- Epistemology – the theory of knowledge
 - What is knowledge
 - How do we know what we know
- Paradigm – a worldview
 - *What* is to be observed and scrutinized
 - The kind of *questions* that are supposed to be asked and probed for answers in relation to this subject
 - *How* these questions are to be structured
 - *How* the results of scientific investigations should be interpreted
 - *How* an experiment is to be conducted, and *what* equipment is available to conduct the experiment (Kuhn, 1962)

Some Paradigms to Consider

- Positivism/Functionalism – there are stable, social facts emerging from a single reality
 - Positivist research attempts to explain, predict, control/intervene
 - Social constructivism – there are multiple realities, constructed through individual and collective perceptions
 - Constructivist research attempts to understand perspectives
 - Postmodernism – extends beyond constructivism, calling into question concepts like science, progress, and rationality. Suggests human experience is fragmented
 - Postmodernist research attempts to identify patterns of power and oppression (Bess & Dee, 2008)
- Pragmatism – using what is most appropriate for the context

“Simply bringing different disciplinary bodies of knowledge together does not create interdisciplinary scholarship”
(Holley, 2009, p. 6)

Definitions

- Cross-disciplinary engagement “focuses on problems with which no single discipline has the cognitive tools to grapple”
 - No integration of disciplines; “border crossing”
- Multidisciplinary efforts “require cooperation among scholars from two or more disciplines”
 - Each keeps own discipline, does not change or enrich other discipline
- Transdisciplinary work “considers the engagement of different academic disciplines and practitioners in solving real-world problems”

Interdisciplinary

“An adjective describing the interaction among two or more different disciplines. This interaction may range from simple communication of ideas to the mutual integration of organizing concepts, methodology, procedures, epistemology, terminology, data, and organization of research and education in a fairly large field...a common effort on a common problem with continuous intercommunication among the participants from the different disciplines” (OECD, 1972, pp. 25-26)

Summarizing Interdisciplinarity

- Interdisciplinary work, then:
 - Incorporates constant communication among entities
 - Requires a change in epistemological tools
 - Should change thinking about a particular phenomenon
 - Must impact the organization of the university
- “Ultimately, interdisciplinarity requires collaboration among individuals, artifacts, and cultures that have traditionally been separated by institutional structure” (Holley, p. 29)

Challenges to Interdisciplinarity

- Existing norms in U.S. universities.
 - Physically separated departments
 - Hiring and reward structures
 - Degrees and majors
- Prior socialization
 - Faculty are socialized early into discipline
- Epistemological differences
 - Shared ways of viewing the world, conducting research, and communicating
 - Existing bodies of knowledge resulting in curricula
 - Language, jargon, and symbols specific to knowledge

Considerations for Practice

- As you move forward in your interdisciplinary endeavors, consider the following:
 - First, come to consensus about topics, methods, and outcomes of the project – what is the goal of the work?
 - Second, develop information routines and communication strategies
 - Third, work toward common understandings through a shared vocabulary
 - Fourth, find a collaborative physical space in which to work
