

# Reference

- Pea, R., & Linn, M. C. (2020). Personal perspectives on the emergence of the learning sciences: 1970's-2005. In *Frontiers in Education* (Vol. 5, p. 130). Frontiers.

frontiers  
in Education

CONCEPTUAL ANALYSIS  
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## Personal Perspectives on the Emergence of the Learning Sciences: 1970s–2005

Roy Pea<sup>1\*</sup> and Marcia C. Linn<sup>2</sup>

# Very Personal Experiences in the Development of Disciplines

## The Learning Sciences, and Quantitative Ethnography

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I am so excited by

● the emergence of QE as a new discipline because...

- I had great experiences in the last thirty years through the development of the Learning Sciences
  - international graduate student
  - postdoc, associate
  - professor

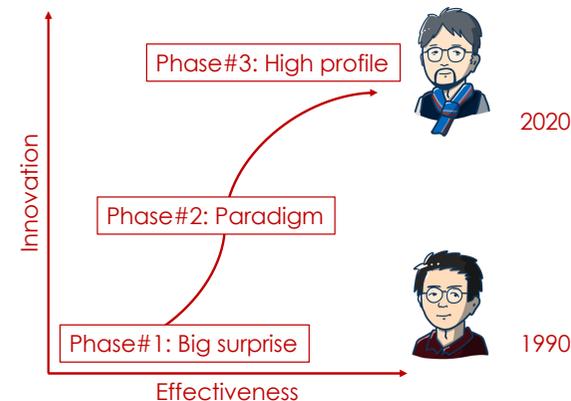
● Now I have again the chance to experience the emergence of a new field, quantitative ethnography as a senior scholar

● I love to see how young generation develops the field by facing their challenges



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Thirty years of the learning sciences from my perspective



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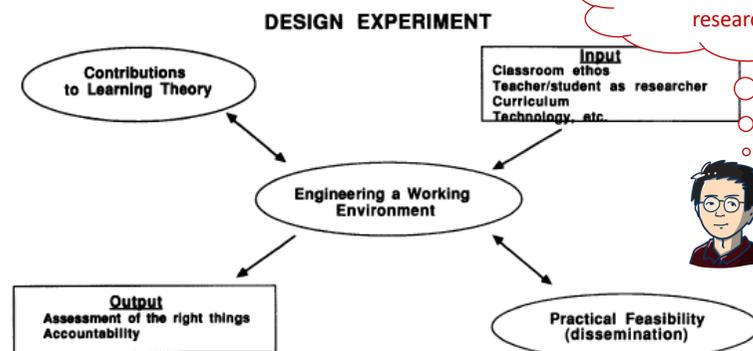
# Phase# 1: Big Surprise (fear?)

- “We deal with learning in the natural context”
  - Much more complicated phenomena
  - Collective rather than individual
  - Supported by technologies
- “I did not come here for the research like that”
  - I did not know anything about computers in ed.
  - I had never touched Mac and Unix system
  - I had no idea about how to use LAN-based learning environment, CSILE



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# Phase#2: Paradigm (early 90s)



Wow, big challenge in the educational research

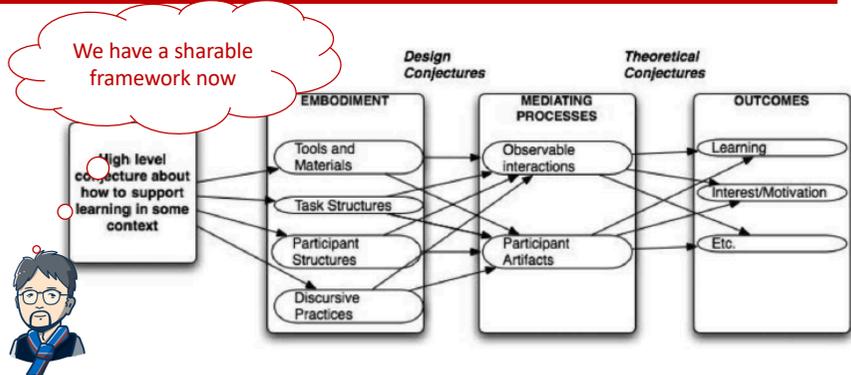
FIGURE 1 The complex features of design experiments.

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The journal of the learning sciences*, 2(2), 141-178.



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# Phase#2: Paradigm (2010s)



We have a sharable framework now

FIGURE 1 Generalized conjecture map for educational design research.

Sandoval, W. (2014). Conjecture mapping: An approach to systematic educational design research. *Journal of the learning sciences*, 23(1), 18-36.



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# Phase#3: High Profile



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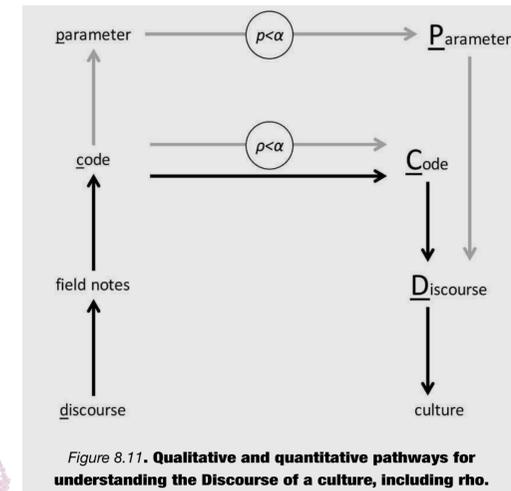
# What I See in QE



- So excited to see the emergence of another new discipline
  - I am approaching it as a senior researcher
  - I truly love to see how young people enjoy the challenges related to the phases I had experienced in the LS
- Also see differences between the emergence of the two disciplines
  - We are now in the totally digital age: the world is so flat
  - The QE community started as international
  - The paradigm is already there: David's book

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# QE as a Discipline for Me



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