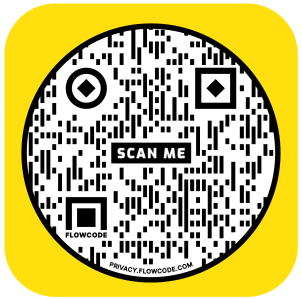
Alignment of Technology with Pedagogical Purposes During Online Course Design

Bohdana Allman
Brigham Young University
bohdana.allman@byu.edu

Questions • Comments



Nearpod Collaborative Board

Purpose of the Presentation

Q1

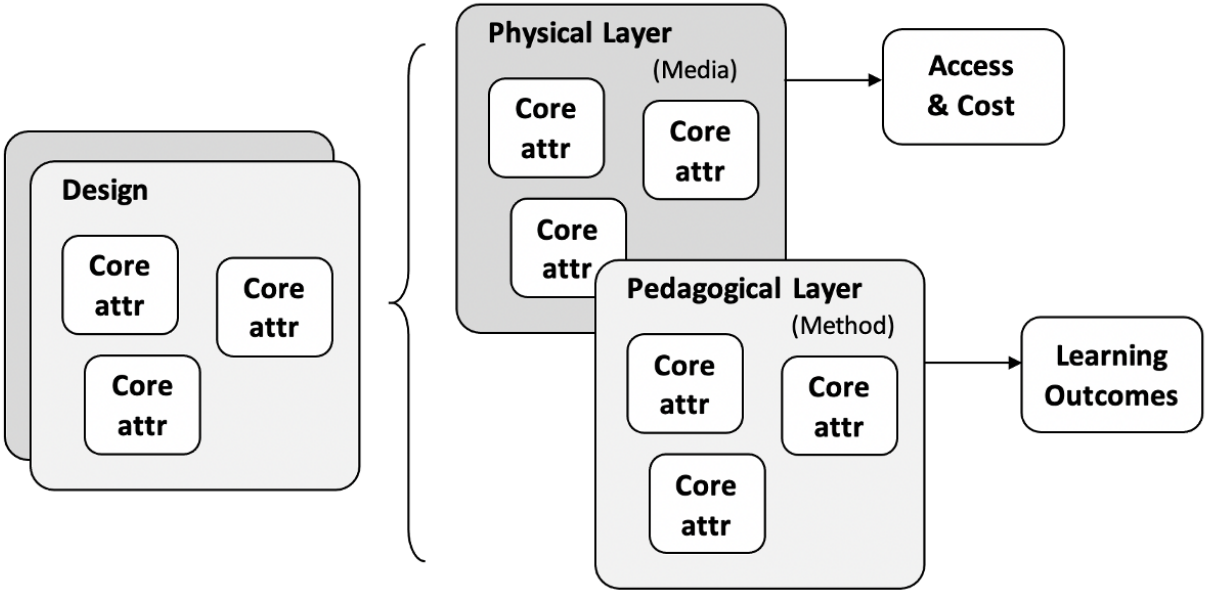
Questions • Comments

Nearpod Collaborative Board

"My course lacks interactivity and it has no point.
I assumed the software would take care of that!"

Simplified design layers model

Q2



Key Propositions

(1) Core attributes in the physical affect the potential for attributes in the pedagogical layer

(2) Physical attributes alone do not directly affect learning

(Graham et al., 2014)

Context of the study

- Six courses leading to TELL Endorsement
- Need for quality TPD that provides access to resources and offers greater flexibility
- Current technology offers many innovative ways for interaction, collaboration, coaching (critical for TPD)

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TEACHING ENGLISH LANGUAGE LEARNERS

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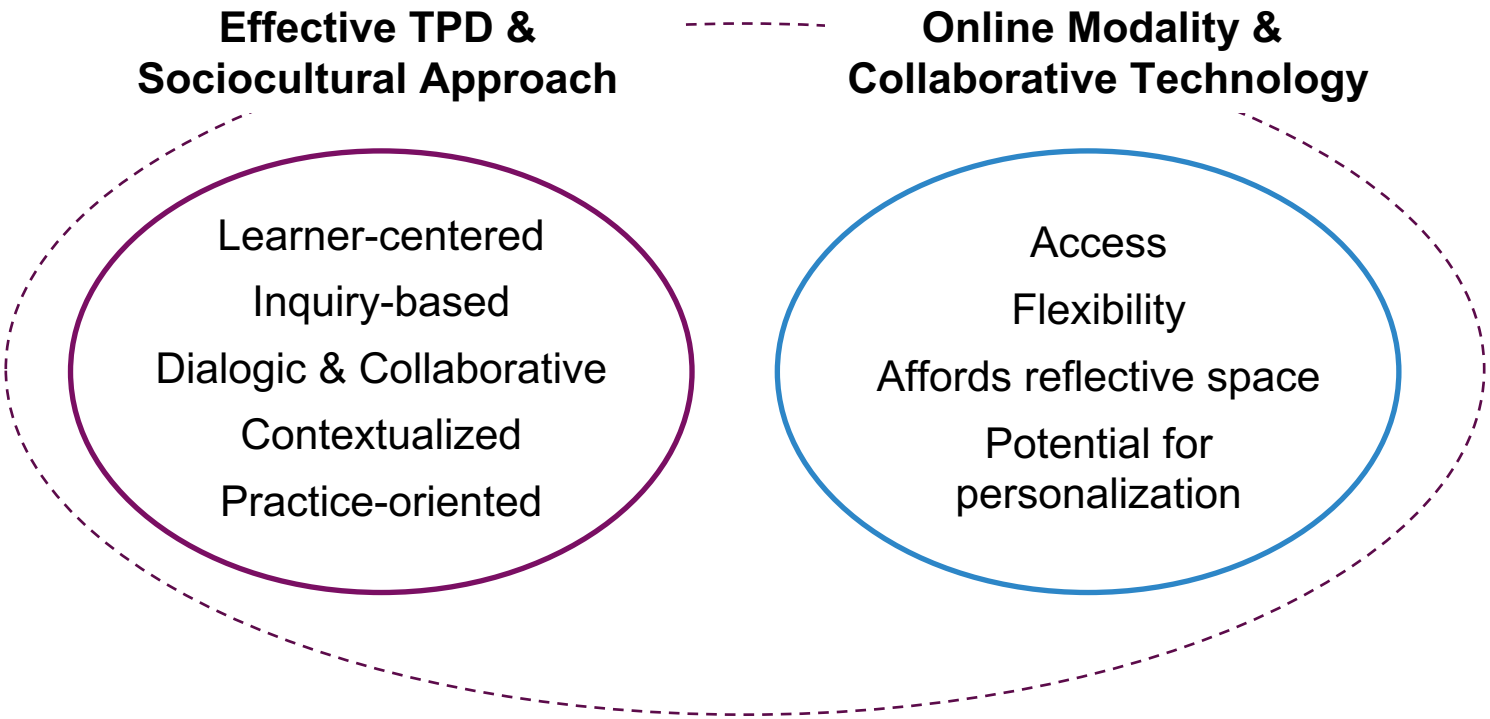
Context of the study – cont.

Q3



Purpose of the study

To explore the process of aligning technology with pedagogy during design of an online course to improve our own practice and to identify possible patterns and principles.

Methodology

Participants:

- Three professionals
- Combined ID & curriculum development experience and TPD and K-12 teaching expertise

Data:

- 20 hours of collaborative conversations recordings
- Related artifacts

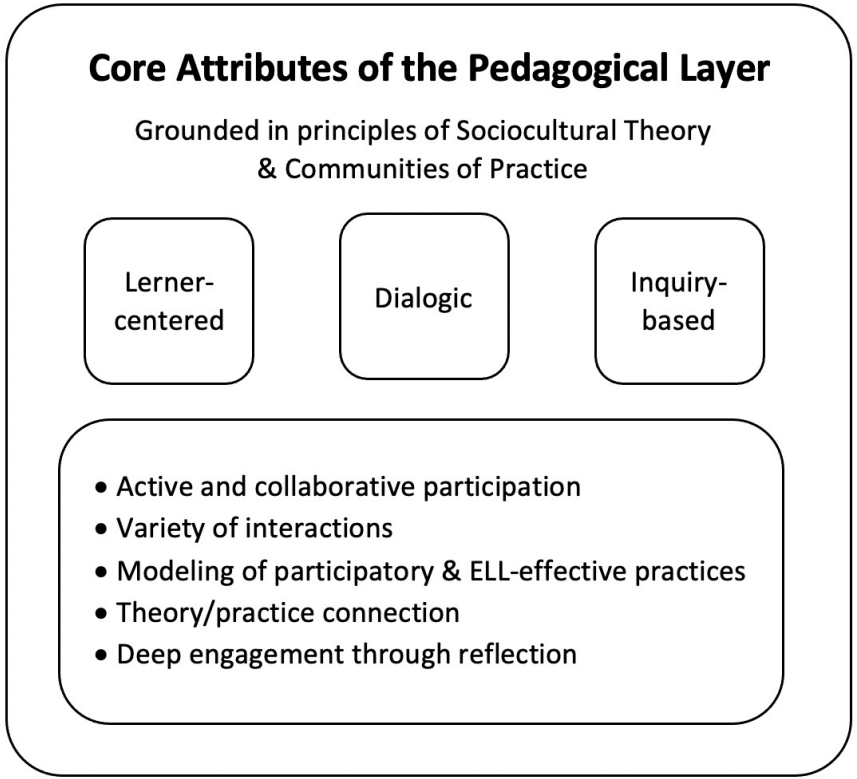
Methodology – cont.

Q4

Methods:

- Part of a larger DBR project
  (McKenney & Reeves, 2018)
- Self-study of Teaching and Teacher Education Practices
  (LaBoskey, 2004; Pinnegar & Hamilton, 2009)
- Data was analyzed using standard qualitative analysis steps
- Process tracing & constant comparative analysis techniques were used
  (Bennett & Checkel, 2015; Corbin & Strauss, 2008; Ryan & Bernard, 2003)
- Both similarity-based and contiguity-based relationships were explored
  (Maxwell & Miller, 2012)
- Trustworthiness: member checks, reflexivity, and negative case analysis
  (Lincoln & Guba, 1985)

Findings I: Core Attributes

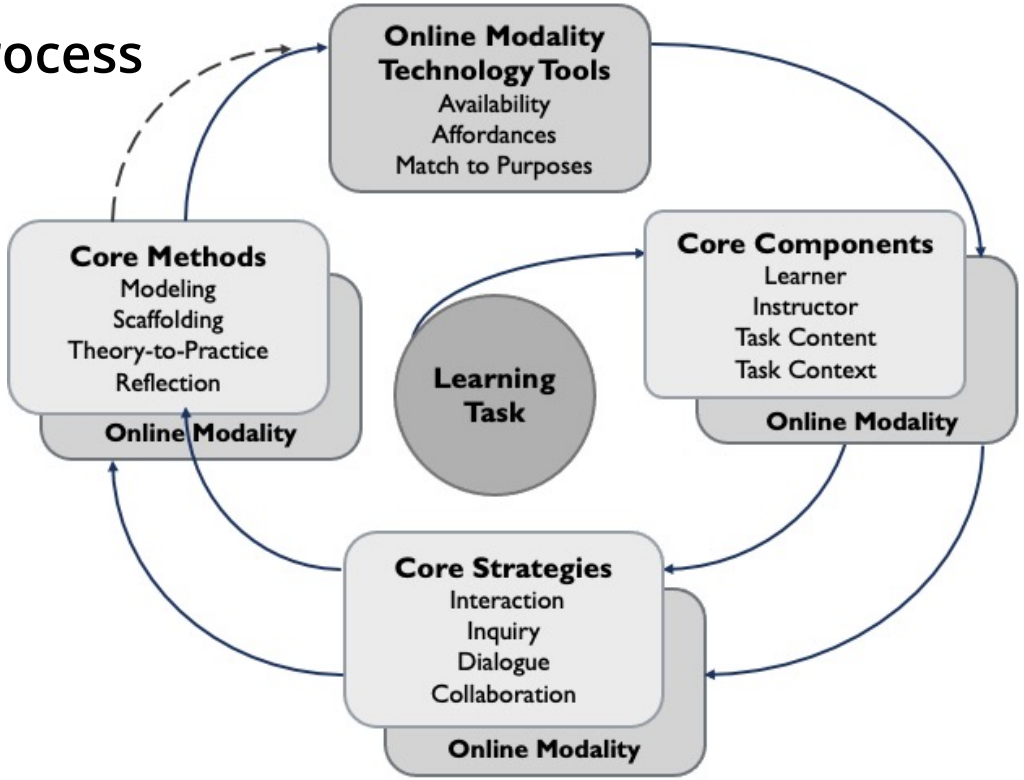


Findings II: Main Themes

Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6
LEARNING EXPERIENCE	**LAYERS**	**CORE COMPONENTS**	**CORE STRATEGIES**	**CORE METHODS**	**QUALITY OF THE DESIGN**
Desired Results Evidence of Learning Instructional Activities	Pedagogy Technology	Learner's Response & Needs Instructor's Response & Needs Task Content Task Context	Interaction Inquiry Dialogic Learning Collaboration	Modeling Scaffolding Theory-to-Practice Reflection	Instructor Support Course Feedback Course Evaluation

Finding III: Integration of themes

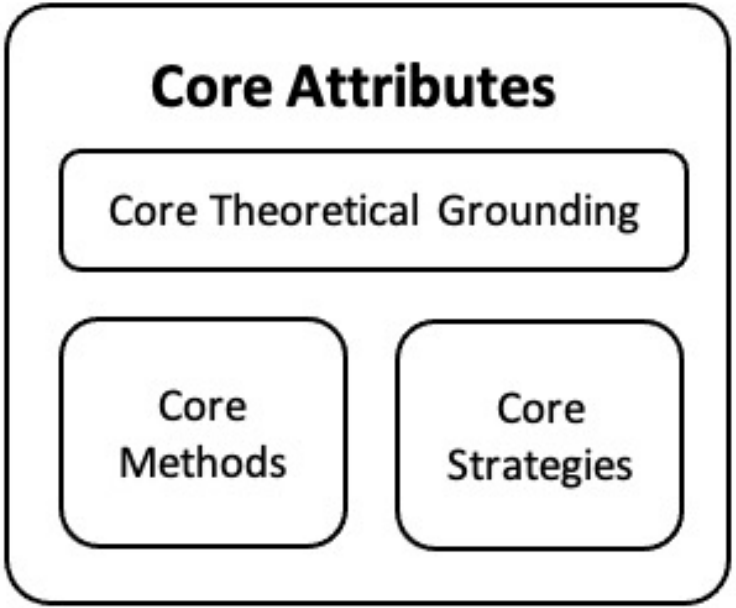
Representation of the design process



Contiguity-based relationships
(Maxwell and Miller, 2012)

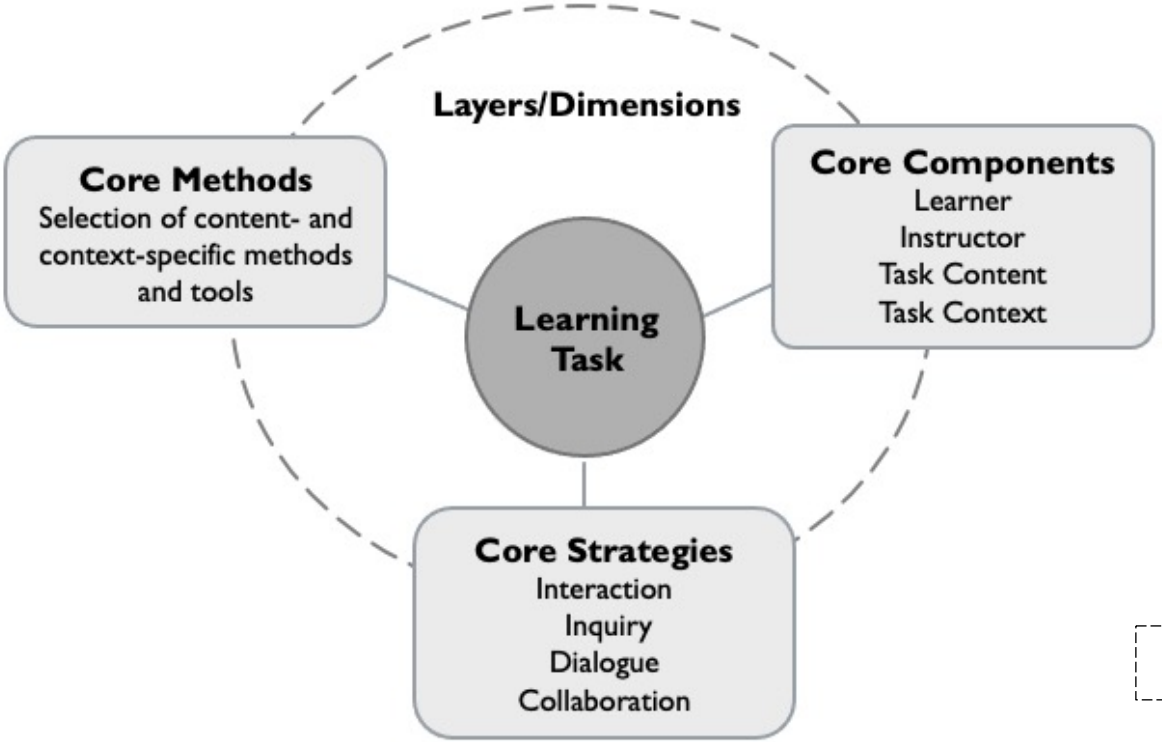
- Data's temporal and spatial proximity and sequences
- 'Actual' rather than 'virtual' connections of similarities and differences
- Require identification of relationships in its actual context

Discussion: Core Attributes



Design-level

Discussion: Pedagogical Intent



Task-level

Discussion: Alignment Process

Attention to Pedagogy

1. Identify core design attributes
2. Establish content, goals & acceptable evidence
3. Propose suitable learning experiences
4. Determine required affordances

Attention to Technology

1. Identify available technology & tools
2. Determine existing affordances

Alignment of Layers (Iterative)

1. Design the tasks and learning experiences attending to pedagogical intent
2. Adjust the tools to meet pedagogical needs and purposes
3. Evaluate against core attributes and available technology

Implications for practice

- Alignment of technology with pedagogy is possible and feasible
- Attending to the underlying pedagogical principles, along with purposeful use of innovative technology, may improve effectiveness of instruction
- Core attributes, pedagogical intent, and the proposed alignment process are potentially valuable guiding principles for design and development of technology-mediated instruction

Implications for research

- Self-study is an effective method to study collaborative design processes
- Highlights the importance of attending to contiguity-based and not just similarity-based relationships in qualitative analysis
- Suggests the value of reflective and collaborative design practices

Study limitations

- Study is exploratory and limited in scope
- Study is context-specific (TPD for EL teachers)
- Design processes differ across different groups

Future directions

- Explore the efficacy of pedagogical intent and proposed alignment process in designing other courses
- Investigate design practices and see how different designers use pedagogical intent and the alignment process in their work

Questions/Comments

Q5

Questions • Comments

Nearpod Collaborative Board

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