Designing Courses for Learning at the Speed of Light

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Background

Many higher education institutions are creating fast-paced courses and programs (Rafferty & Lindell, 2011; Wlodkowski & Ginsberg, 2010).

Deep learning is a common goal of a variety of disciplines (Laird, & Garver, 2010; Laird, Shoup, Kuh, & Schwarz, 2008).

Focus of the Research

Deep learning requires more than just memorizing concepts (Biggs, Kemper, & Leung, 2001; Biggs 1987)

Accelerated learning is the most accessible learning path for working individuals.

Utilization of instructional design strategies

Theoretical Frameworks

INSTRUCTIONAL MODEL: SILBER'S PRINCIPLE BASED MODEL (2010)

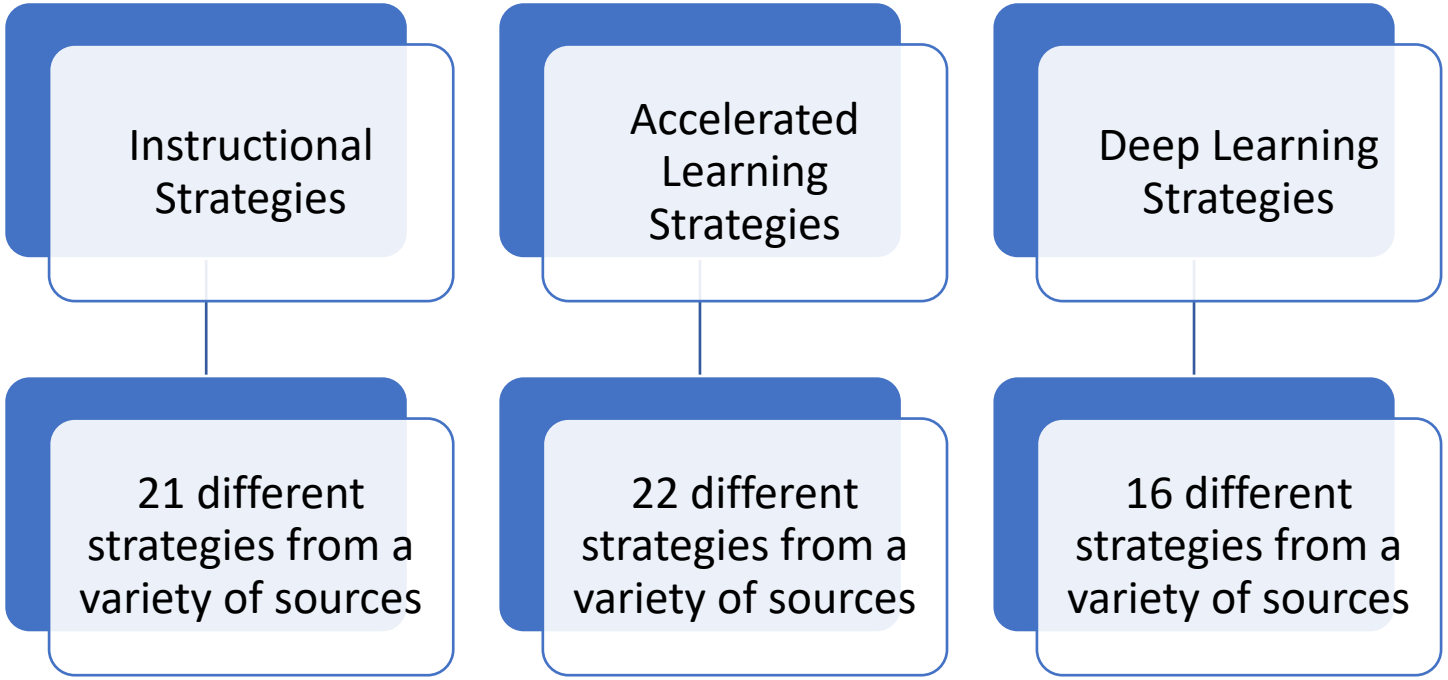
LEARNING THEORY – HEUTAGOGY

Key Informing Research

Christensen and Osguthorpe (2004) found that only about half of the instructional designers they surveyed utilize theories of learning and instruction during development

Soto (2014) found that 23% of educators utilize all components of an instructional design model when designing virtual instruction

Strategy Research



Research Problem

Existing literature establishes that deep learning occurs in a variety of disciplines and in accelerated courses that are designed with a variety of instructional strategies.

Trekles and Sims (2013), Tatum (2010), and Laird and Graver (2010) recommend researching instructional strategies to promote deep learning.

Study Foundation

Purpose

- Build consensus of strategies

Questions

- Which strategies?
- How do expert instructional designers decide on strategies?

Research Design

ONLINE, MODIFIED DELPHI TECHNIQUE (KEENEY, MCKENNA, & HASSON, 2011)

BUILD CONSENSUS AMONGST EXPERTS (DALKEY & HELMER, 1963; HSU & SANDFORD, 2010; KEENEY ET AL., 2011; VON DER GRACHT, 2012)

Methodology

Population

- IDs of accelerated online learning environments

Sample

- 14 ID Experts
- 5+ years of practical experience
- 3+ accelerated course
- No AECT collaboration with researcher

Delphi Instrument

Demographic Questions

4-point Likert scale statements

Beliefs about effective instructional design strategies

Instructional design strategy selection for deep learning

Instructional design strategy selection for accelerated learning

RQ 1:

Which instructional design strategies do expert instructional designers utilize to promote deep learning in accelerated online learning environments across various disciplines?

Results

	Effective ID Strategies
Round 1	21
Round 2	43 (+ 22)
Round 3	81 (+38)

- **Consensus**
- 59 (72%): IQD ≤ 0.50

- **Removal**
- 22 (28%): IQD > 0.50

Design Considerations

- ARCS Model
- Intrinsic motivation
- Activate prior knowledge
- Activate cognitive structures
- Organized Simple to Complex
- Construct meaningful explanations
- Application
- Practice Activities
- Bridge knowledge and practice
- Use appropriate tasks Discovery learning
- Utilize problem-solving activities
- Alignment

RQ 2:

How do expert instructional designers decide which instructional design strategies to utilize to promote deep learning within accelerated learning environments?

Results

Deep Learning

- Consensus
  - 30 (59%): IQD ≤ 0.50
  - 14 original statements
  - 16 additional statements
- Removal
  - 21 (41%): IQD > 0.50
  - 8 original statements

Accelerated Learning

- Consensus
  - 21 (70%): IQD ≤ 0.50
  - 13 original statements
  - 8 additional statements
- Removal
  - 9 (30%): IQD > 0.50
  - 3 original statements

Deep Learning Removal – Original

Stating learning tasks (Abdelaziz, 2012; Trekles, 2013).	Example Demonstrations (Abdelaziz, 2012; Rowland & DiVasto, 2013; Trekles, 2013).	Summarizing learning (Abdelaziz, 2012).	Using Simulations (Ioannidou, Repenning, Webb, Keyser, Luhn, & Daetwyler, 2010; Wlodowski & Ginsberg, 2010).
Specific Topical Readings (Joo, Andres, & Shearer, 2014).	Concept Mapping (Pudeklo, Young, Vincent-Lamarre, & Charlin, 2012; Stewart, 2012).	Theory Based Materials (Reinfield, Aeschbacher, & Rotterman, 2012).	Self Assessments (Wlodkowski & Ginsberg, 2010).

Summary Deep Strategies

- Use a variety of materials and activities
- Describe goals that make connections and use high cognitive levels to instructional strategies
- Utilize a variety of group activities without instructor monitoring
- Purposeful sequencing to allow learner to make correct assumptions
- Create a holistic course
- Utilize multimedia purposefully for cognitive activities
- Ensure all course elements are aligned

Accelerated Learning Removal – Original

The use of fostering a feeling of connection among students promotes accelerated learning (Wlodkowski & Ginsberg, 2010).

The use of formative assessments promotes accelerated learning (Wlodkowski & Ginsberg, 2010).

Summarizing learning units promotes accelerated learning (Wlodkowski & Ginsberg, 2010).

Summary Accelerated Strategies

- Use self-paced individual activities
- Asses prior knowledge
- Clear guidelines and expectations
- Use scaffolding, examples/models
- Add time guidelines for course activities
- Variety of materials
- Utilize concept maps
- Formative assessments
- Deep learning strategies

Interesting Findings

01

Deep learning strategies are effective for accelerated learning

- Summarizing was removed from both deep and accelerated

02

Disagreements about time guidelines

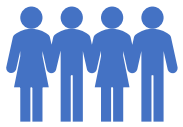
03

Instructor facilitation is important

04

Use of examples and concept maps helps with accelerated but not deep

Future Research



Gather responses from a larger population

Examine consensus strategies across different disciplines and population of learners.

Quantitative comparison studies

Application of guidelines

Thank You

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