



# Discovery through Critical Thinking: What's trending in educational technology research?

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# Critical Thinking Descriptions

- The art of analyzing and evaluating one's thinking with a view to improving it (Paul & Elder, 2006)
- “A reasoned , purposive and introspective approach to solving problems or addressing questions, with incomplete evidence and information, and for which an incontrovertible solution is unlikely” (Rudd et al., 2000).
- “purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based” (Facione, 1990)

# Critical Thinking Abilities & Dispositions

- Asks relevant questions/Judges from facts (Ennis, 1987)
- Identifies the problem (Ennis, 1962)
- Distinguishes between significant and insignificant matters (Paul, 1997)
- Is open to consideration of new or conflicting information (Flores 2012, Paul 2005)
- Distances oneself from bias (Rudd, 2000)
- Recommends solutions (Ennis, 1987)

# Research Questions

1. From a dataset of 382 educational dissertation studies completed between 2004 and 2018, how many focused upon problems specifically related to technology, and how were they distributed year-to-year and among the college's departments?
2. Using the categorization system found in Baydas et al. (2015), how do our dissertation topics align with the research articles found in the *British Journal of Educational Technology* and *Educational Technology Research & Development*, 2002-2014?
3. How have our dissertation topics been trending over the 2004-2018 time period?
4. What specific topics or problems in online learning have been researched in the last 5 years of our dataset?

# Seven Categories from the Baydas Study

Learning approaches/theories

Learning environments

Educational technology research

Online learning

Assessment/evaluation studies

Instructional Design

Other

# Findings

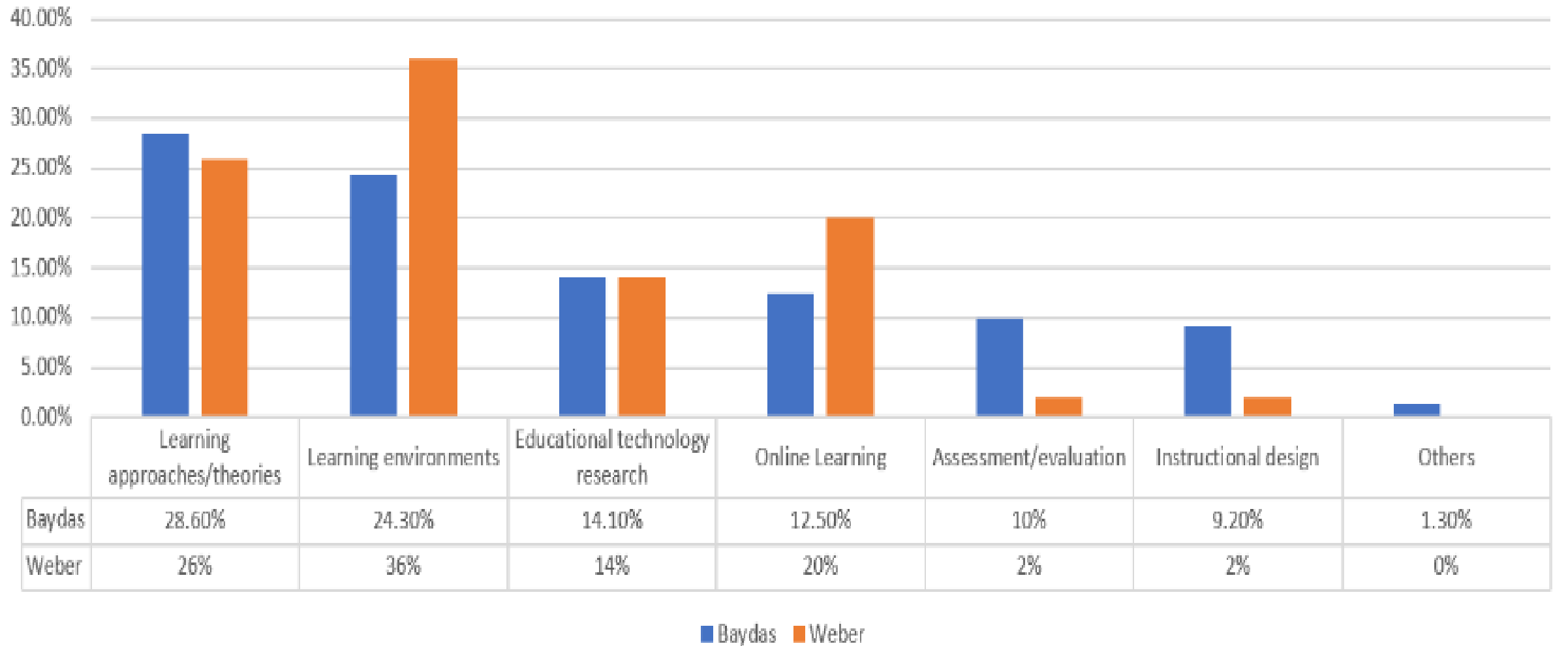
50 Dissertations with Educational Technology Topics, 2004-2018

22 from EDUCATIONAL LEADERSHIP

17 from TEACHER EDUCATION

11 from EXCEPTIONAL EDUCATION

## JOURNAL TO DISSERTATION COMPARISONS

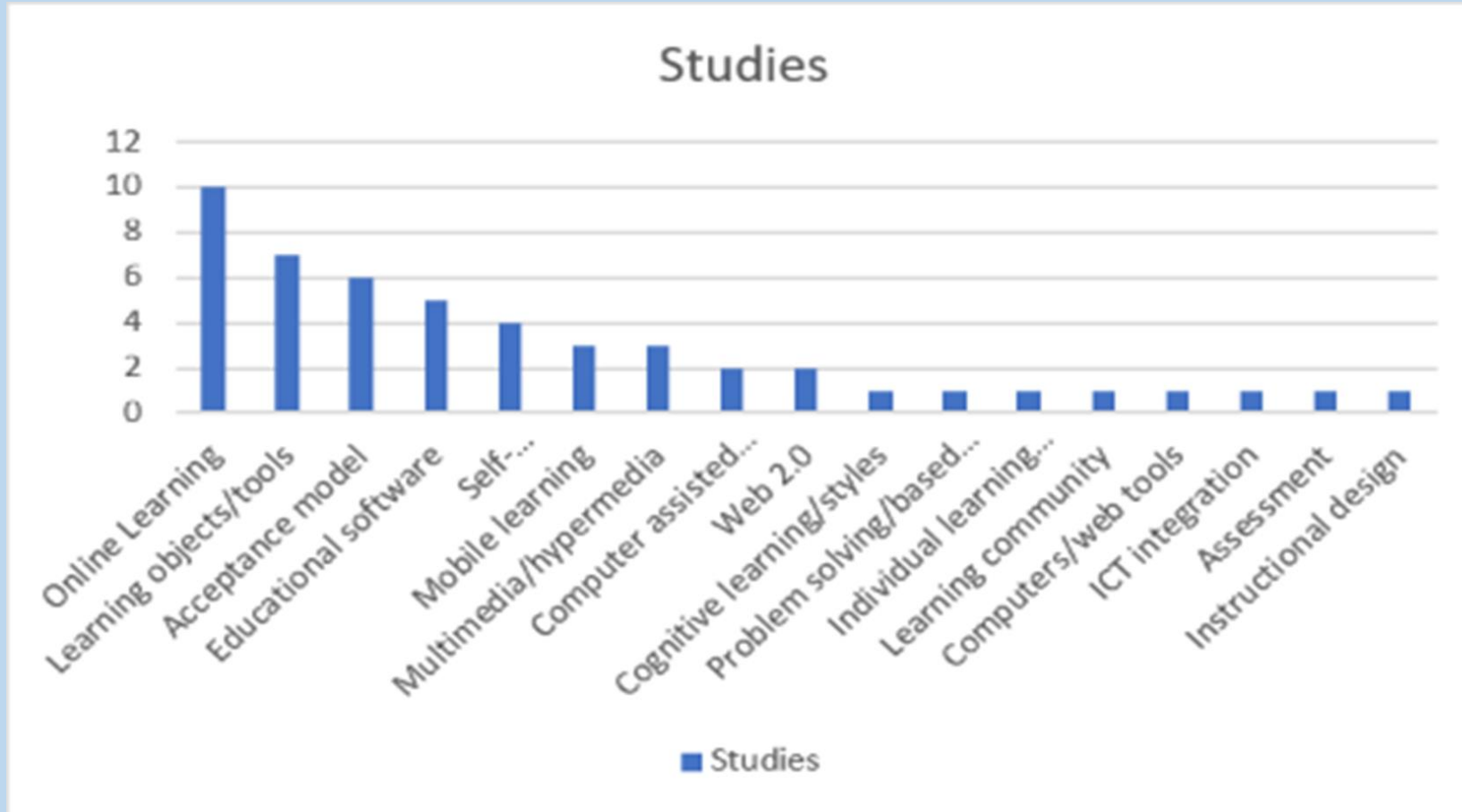


# 5-Year Trending Segments

- INCREASED INTEREST IN LEARNING APPROACHES IN THE LAST 10 OF 15 YEARS
- LEARNING ENVIRONMENTS PEAKED 2009-2013, THEN FELL BELOW 2004-2008 LEVEL
- ED TECH RESEARCH ROSE IN 2009-2013, BUT FELL SLIGHTLY 2014-2018
- ONLINE LEARNING STUDIES SAW A SLIGHT INCREASE IN 2014-2018



# Topical Distribution of Technology Studies



# Sample of Online Learning Dissertation Problem Statements

2007: The problem is that the explosive growth of virtual high schools throughout the country is occurring without an appropriate determination of their ability to change basic pedagogical principles, their viability for longevity, their ability for replication, their acceptance in the mainstream educational arena, their impact for improving practice in education and their effectiveness in terms of student learning.

2011: The problem is we do not know how faculty are prepared to teach online.

2012: Currently, the researcher could not find any studies on professional learning communities that are situated within the completely virtual environment. Also, the researcher could not find any studies in the K-12 online environment related to virtual learning teams.

2014: While there is currently little available research on effective instructional practice in the virtual K-12 environment, there is even less research on virtual K-12 leadership practice.

2016: Full time virtual school education lacks a measurement tool that accurately measures effective virtual teacher practice. K-12 virtual school teachers perform skillsets that are similar to teaching in a traditional K-12 environment.

# Final Comments

- Our sample is too small to make generalizations
- Online education appears to be a “hot topic” among doctoral level researchers
- A knowledge base on online education is growing, but research needs to expand beyond issues within instructional practice
- Critical thinking is key to selecting research topics that are of benefit to education and society

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