Integrating Computational And Digital Literacies In Teacher Education: Understanding Pre-Service Teachers Beliefs, Values and Attitudes

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Context

Study 1: CITE Faculty

Beliefs & Values of CDLs for preservice teachers
- Enhance teaching across subject areas
- Support their critical thinking and problem-solving skills
- Promote equitable teaching practices
- CTs may exacerbate inequities.

Study 2: Teacher Candidates

- Understanding CDLs
- Attitudes toward CDLs
- Beliefs & Values reflected in artifacts

Research Questions

1. What are preservice teachers' attitudes and self-efficacy beliefs about integrating CDL into their teaching?

2. How do preservice teachers use CDLs in their teaching and/or planning for teaching?

3. How are preservice teachers' beliefs and values about CDL reflected in the design of their own K-12 classroom artifacts?

Data Sources

1. Pre/post survey
2. CDL Rubric
3. Interviews

Pre/Post Survey

Distributed to 88 students enrolled in four courses taught by CITE faculty at the beginning and end of the semester.

Likert scale and open-ended questions addressing:
- Beliefs and Values related to CDLs
- CDL-related self-efficacy

Findings:
- Increase in pre-service teachers' positive belief about the value of CDLs
- Increase in pre-service teachers' CDL related self efficacy beliefs

CDL Rubric

- Adapted from Bouck, E.C., Sands, P., Long, H., & Yadav A. (2021). Preparing special education preservice teachers to teach computational thinking and computer science in mathematics. Teacher Education and Special Education. DOI::10.1177/088846421992376376

- To analyze preservice teachers' artifacts created in courses taught by CITE faculty
  - Integration of Computational & Digital Literacies (CDL) in <u>Subject Area or Learning Goal</u>.
  - Accuracy and Context of CDL
  - Use of CDL vocabulary
  - Integration of Digital Tools
  - Use of CDL concepts and/or practices to motivate student learning.
  - Overall quality of the artifact/lesson design

Findings in process

Interviews

- Recruited from four Classes taught by CITE faculty
- Five interviews completed
- Coding and analysis just getting started

Challenges

Recruiting interview participants!