

BRAIN-TARGETED TEACHING: A TOOL FOR COLLEGE FACULTY?

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CV-RISER

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Today's Small Plate Menu

- **Bite of MBES**
- **Taste of Brain-Targeted Teaching (BTT)**
- **Sip of research about BTT at community college**
- **Micro-modeling a few BTT strategies**

What is Mind Brain and Education Science (MBES)?

- New field
- Nexus of neuroscience, cognitive neuroscience, social neuroscience, cognitive psychology, and educational neuroscience
- Purpose is to improve teaching methods and educational systems
- Focus on **how** people learn rather than what they should learn
- Broadly applicable to diverse learners across learning environments

What is Brain-Targeted Teaching

- Framework for teachers developed by Dr. Mariale Hardiman (2012)
- Consists of 6 Brain-Targets:
 1. Emotional climate
 2. Physical environment
 3. Designing the learning experience
 4. Teaching for mastery
 5. Teaching for extension
 6. Evaluating learning

Problem & Purpose

- **Problem Statement:** the limited integration of mind brain and education science (MBES) in community college faculty's pedagogy
- **The Purpose of the Study:** to examine the perceptions of community college faculty of Hardiman's (2012) Brain-Targeted Teaching (BTT) as a tool to facilitate implementing findings from mind brain and education science (MBES) into their pedagogy

Research Questions

RESEARCH QUESTION 1:

How do a select sample of community college faculty describe the changes they plan to make in their pedagogy as a result of participating in professional development that presents and models the BTT framework (Hardiman, 2012)?

RESEARCH QUESTION 2:

What is the perception of a select sample of community college faculty of the BTT framework (Hardiman, 2012) as a tool to facilitate the implementation of MBES into pedagogy in higher education?

Participants

- Study site was a small California community college in a rural setting.
- All 123 faculty at a small community college were invited to participate
- Twelve participants opted in. First come first served
 - 10 female, 2 male
 - 8 full-time, 4 part-time
 - 3 age 20-40, 7 age 41-60, 2 age 61-70
 - Career Technical Education, Arts & Sciences, and Student Services Divisions all represented
 - No beginning teachers but 4 new to teaching college
 - Taught face to face, online, and in nearby prison

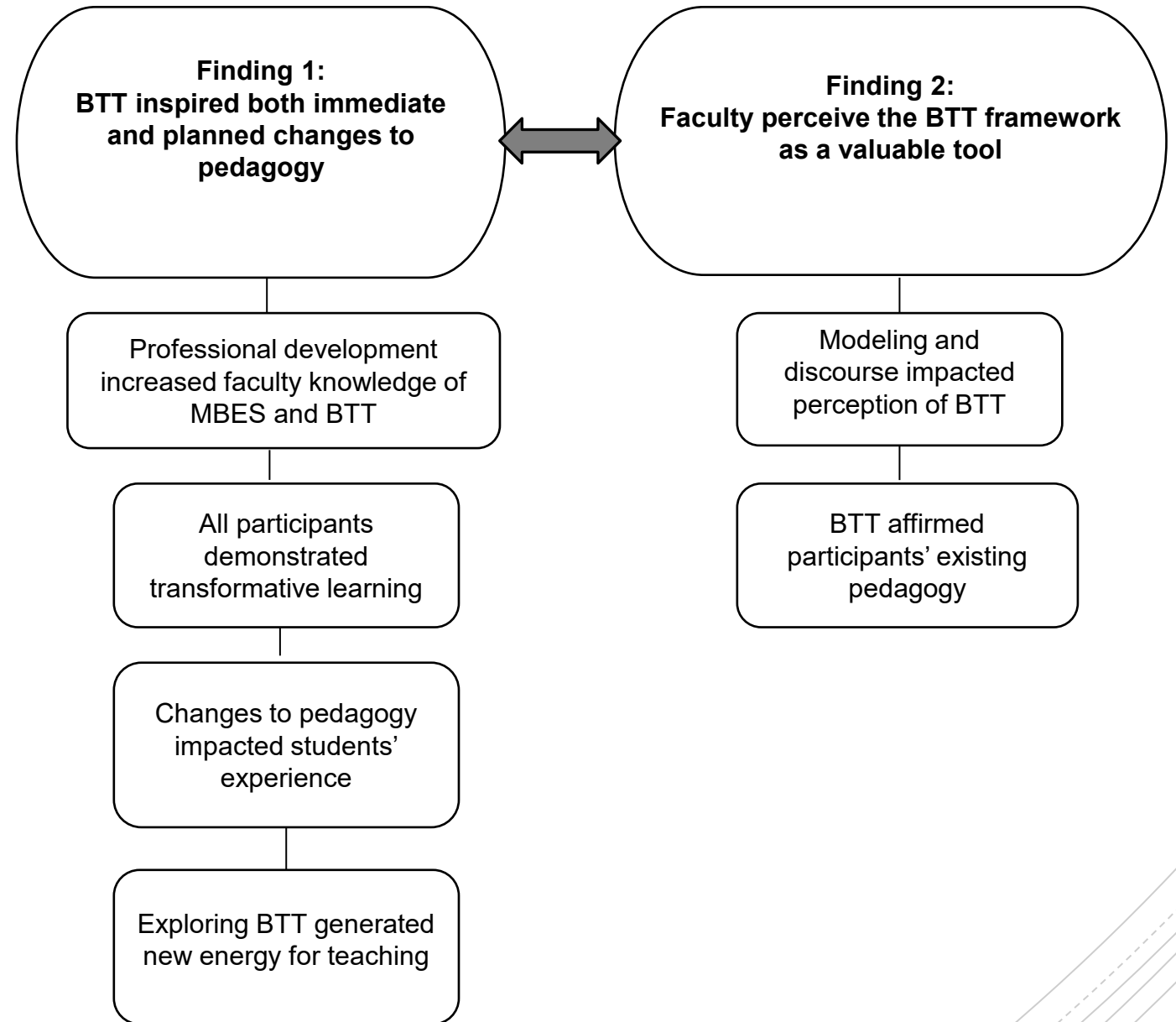
Data Gathering Techniques

- Participants took part in a six-session professional development experience called a Teaching Lab (TL). The TL presented and modeled Hardiman's (2012) BTT Framework
- Seven anonymous online surveys administered through Research Electronic Data Capture (RedCAP) before, during, and after TL
- Observation protocol for TL session

Data Analysis & Themes

- Iterative analysis and coding
- Research memos to document process particularly bias
- Mezirow's Transformative Learning Theory (1991; 1997)
 - Critical reflection
 - Revising frames of reference
 - Implementing change
- Other themes emerged
 - Energy/renewal
 - Positive student responses
 - Affirmation of practice

Findings



Limitations

- **Small study at a single college**
- **Anonymous surveys were important to mitigate potential bias but limited the researcher's ability to analyze data in relationship to demographics**
- **BTT TL designed for this group of faculty and evolved to meet the needs of the group**

Implications

- Affirms Parr's (2016) findings that professional development about BTT leads to changes in pedagogy
- Affirms both Mezirow's Transformative Learning Theory (1991; 1997) and Hardiman's (2012) BTT Framework
- Provides data in response to Whitman & Kelleher's (2016) question about what type of professional dev leads to implementation of MBES - model the information and provide opportunity for discourse

Conclusion

- Hardiman's (2012) BTT Framework has value as a tool to support faculty in implementing MBES in their pedagogy

References

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Parr, T. (2016). *A brain targeted teaching framework: Modeling the intended change in professional development to increase knowledge of learning sciences research and influence pedagogical change in K-12 public classrooms*. Retrieved from ProQuest Dissertations Publishing. (ATT 10245471)

Whitman, G., & Kelleher, I. (2016). *Neuroteach: Brain science and the future of education*. Lanham, MD: Rowman & Littlefield.

I would love to hear from you! You
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To access the full study:

<https://dune.une.edu/theses/289/>