Examining First Year Science Teachers’ Beliefs About Culturally Relevant Teaching

Preethi Titu, Hillary A. Barron, Dr. Julie C. Brown

STEM Education Center, University of Minnesota, Twin Cities

Need for the Study
Teachers’ beliefs play an important role in how they encounter diversity in the science classroom (Harrington & Hathaway, 1995). Teachers’ beliefs have been shown to influence both what and how a teacher implements content and/or curriculum in a classroom (Roehrig, Kruse, & Kern, 2007).

Gay (2013) points out that in today’s classrooms, teachers are required to teach students who vary in culture, language, abilities and various characteristics. Hence it is imperative to examine the beliefs of first year secondary science teachers as they navigate what it means to use culturally relevant pedagogies in their classrooms.

Purpose of the Study
To explore inservice secondary science teachers’ beliefs about culturally relevant science teaching in their first year as a classroom teacher.

Research Question
The research question guiding this work was: **What are first-year inservice science teachers’ beliefs about culturally relevant science teaching?**

Context of the Study
- 1st-year science teachers (n=8)
- Enrolled in MEd program, required 9 credits which included
  - online induction course - improving teaching through reflective practice
  - Face-to-face course on equity and social justice
  - online action research course

Research Design
- A single embedded case study was employed (Yin, 2014).
- The study was contextualized within the induction course.
- Case - teachers (n=8) beliefs toward culturally relevant teaching.
- Each teacher represented a unit of analysis.

Data Collection
Two data sources were used to address the research questions:
1. Teacher responses during post-observation debrief conversations conducted twice during the year.
2. Semi-structured interviews conducted throughout the year.

Data Analysis
- Grounded theory techniques (Glaser & Strauss, 1967).
- Interviews openly coded to identify initial codes.
- 130 initial codes characterizing the words that the teachers used.
- Constant comparative methods (Corbin & Strauss, 2008) used to develop themes for interviews and as well as common themes (Miles & Huberman, 1994).

Findings

**Theme 1: Beliefs about what CRT is**
- Seeks to bring students’ backgrounds, lived experiences, and community connections into the classrooms.
- Building trusting relationships with students.
- Empowering students and creating opportunities for student agency.
- Sociopolitical consciousness an important part of CRT.
- Hard to incorporate CRT into some science content and in prescribed curriculum.
- Hard to know every culture and gauge whether CRT strategies are effective.
- Being there for their students to talk to.

**Theme 2: Beliefs about what aspects of CRT are difficult**
- Teachers come in with varied beliefs toward culturally relevant teaching.
- It is important for them to reflect on their beliefs to create successful opportunities for the students.
- Professional development and training is needed to support teachers and to help them implement strategies that work for all students.

Conclusions and Implications

This study was made possible by the National Science Foundation grant DUE-1540789. The findings, conclusions, and opinions herein represent the views of the authors and do not necessarily represent the view of personnel affiliated with the National Science Foundation.