TEACHERS' BELIEFS AS A TOOL TO EXTEND THE COGNITIVE EQUITY CONCEPT

Ana-Maria Haiduc, Ph.D. Student, Purdue University West Lafayette, ahaiduc@purdue.edu
Rose Mbewe, Ph.D. Student, Purdue University West Lafayette, rmbewe@purdue.edu
Signe E. Kastberg, Professor, Purdue University West Lafayette, skastberg@purdue.edu

Abstract

This research aims to extend the framing of the cognitive equity concept in teaching mathematics during the enacted phase of the curriculum beyond race and culture. Cognitive equity characterizes actions of teachers and curricula makers toward valuing differences in cognitive processes. Since beliefs influence teachers' actions, we investigate their ideas about valuing students' unique mathematical cognitive processes. Framing cognitive equity in teaching mathematics contributes to discovering teachers' equitable practices, thus revealing teachers' ways of making more inclusive cognitive curricular decisions. Future research could focus on framing cognitive equity in learning mathematics within the intended and implemented phase of the curriculum.

Theoretical Framework

Cognitive equity was introduced as a new way of understanding racial and cultural equity issues (Roth, 1995). The first studies revealed concerns about students' social development (Roth, 1995) and self-esteem when solving mathematics problems (Tharp & Lowel, 1995). Our study extends the cognitive equity concept in teaching mathematics beyond race and culture. Beliefs guide teachers to value students' mathematical cognitive processes (Louie, 2017). However, belief is a complex system, and some teachers' practices have unintentionally led to inequity in mathematics education. For example, equity obstacles related to achievement include a fast-paced environment (Boaler, 1997) or "gender inequity in favor of men in the inquiry-oriented instructional environments" (Reinholz et al., 2022, p. 218). Moreover, Tan and Kastberg (2017) raised concerns about children with dis/abilities not always having the opportunity to "build upon their existing ways of thinking mathematically" (p. 26). We add teachers' belief systems to broaden our understanding of cognitive equity in teacher education. The extension of the cognitive equity concept will unpack teachers' beliefs concerning their practice when valuing all students' cognitive processes. In addition to learning about teachers' equitable practices, valuing students' cognitive processes will inform curricular decisions to support reasoning differences.

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