

Intersections and Consequences of the Epistemology and Methodology used in Equity-Related Chemistry Education Research

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Abstract : The language of the statement “persistent achievement gaps between demographic groups” communicates much about the philosophies inherent to the author. In this synthesis of two flagship journals of Chemistry Education Research: Chemistry Education Research and Practice and the Journal of Chemical Education, the use and investigation of equity was examined by the language, epistemology, and methodologies of the researchers. Findings include a considerable increase in the use and investigation of equity in these journals following the years 2012 and 2020. While an increase in consciousness of equity was apparent, epistemologies were stagnated. The majority reflects a deficit-oriented perspective wherein deficits are attributed to students as a “lack of achievement” inherent to specific “demographic groups” and minimized as “gaps” rather than systemic inequities. The lack of epistemological progress may be the result of reading and citing literature within discipline-based education research, failing to acknowledge the efforts propagated for decades by equity theory advancement in disciplines of sociology and psychology. To envision liberated educational systems across the globe, one must first contend with the biases within.

Keywords : liberating education research, philosophy of research, synthesis, review

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