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Teacher Candidates Epistemic Reflexivity in the Elementary Classroom

Foss, J. A. Humanities, Social Sciences, and Education Department, University of Minnesota Crookston

Explicit focus on the nature of science (NOS) is useful for planning and designing science instruction (Lederman, Schwartz and Abd-El- Khalick, 2001). Content knowledge and knowledge about NOS support instruction through process focused inquiry. Opportunities to focus on process-oriented inquiry can support science outcomes such as scientific literacy, increased capacity for critical thinking, and understanding that there are trusted processes to obtain knowledge for “personal decision making” (National Research Council, 1996).

Teacher candidates learning elementary science methods as part of a baccalaureate teacher induction program engaged in **reflexivity** (Brownlee, Feucht, & Schraw, 2017), or a process of critical thinking about the nature of knowledge development in science to self-determine aims and processes that are useful to teach. This occurred through personal deliberations about pedagogy that aligns with a tenet of NOS as tentative but reliable.

Data was collected in Spring of 2022 to document the ways 4 candidates responded to a pre and post course engagement based on key concepts of epistemic reflexivity articulated by Brownlee, Ferguson, and Ryan (2017) and refined by Brownlee, Rowan, Ryan, et. al., (2019). This case study included candidates’ discernment about epistemic aims and reliable processes, deliberations about instructional decisions and the criteria candidates determined for evaluating these actions. The analysis (in development) allows for considering the extent reflexivity is useful for teacher candidates to align aims with a process-oriented inquiry.