

Preservice Elementary Science Teachers' Identity Development: Identifying with Images of Inquiry

Julie Smithey & Elizabeth A. Davis

University of Michigan ~ 610 E. University Ave., 1323 SEB ~ Ann Arbor, MI 48109-1259

Tel: (734) 615-3405, Fax: (734) 763-1368

Email: [jsmithey, betsyd] @umich.edu

Preservice elementary science teachers are in the process of developing identities as teachers; fostering positive identities as science teachers is an important goal of teacher education (Danielewicz, 2001). Elementary science teachers often do not have strong identities as science teachers, but teachers who do have positive perceptions of themselves as science teachers are more likely to focus on their students and their learning and less likely to limit the number and kinds of science teaching practices they use (Appleton & Kindt, 2002). Therefore, it is critical that elementary teacher educators help their students learn to see themselves as science teachers.

This study (discussed in more depth in a paper available at <http://www.umich.edu/~betsyd>) explores using written models of teaching to foster this identity development. As a part of a science methods class, preservice elementary science teachers were asked to react to reading two models of inquiry-oriented science teaching, or images of inquiry. These images were narratives describing teachers teaching particular lessons. One image was based on the preservice teachers' experience; Emily was a preservice teacher teaching her first science lessons. Another was designed to be a more experienced model, though still in preservice teachers' zones of proximal development (Vygotsky, 1978); Nancy was a fourth year teacher. Both Emily and Nancy were described as focusing on attending carefully to kids' science ideas in their teaching and planning. Preservice teachers read the images of inquiry and were asked with whom they identified and why. The preservice teachers' rationales for identifying with one of the models are analyzed.

These rationales fell into three categories: judgment of the image teachers' decisions (e.g. I relate to Nancy because I agree with what she did in this lesson), relating in some way to the image teacher (e.g. I relate to Emily because I would have done the same thing), and sharing common circumstances with the image teacher (e.g. I relate to Emily because we're both preservice teachers).

Half of the preservice teachers studied reported agreement with instructional decisions of the image teacher as the only rationale for identifying with them. The other half also considered issues of similarity of circumstance and whether or not they could relate to the image teacher. All but one of those who identified with Emily because she was a preservice teacher also identified with her for other reasons. However, simply sharing similar circumstances does not seem to be enough for most preservice teachers to identify with an image teacher.

Providing models of teaching that show exemplary teaching in the face of instructional dilemmas can help preservice teachers relate to the images of inquiry-oriented teaching. The results indicate that models of teaching should be crafted in such a way that encourages preservice teachers to relate to the models and agree with the decisions that they make as well as keeping the models situated for the preservice teachers.

Acknowledgments

This research is funded by a PECASE Award from the National Science Foundation, REC grant #0092610. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors.

Reference

- Appleton, K., & Kindt, I. (2002). Beginning elementary teachers' development as teachers of science. *Journal of Science Teacher Education*, 13(1), 43-61.
- Danielewicz, J. (2001). *Teaching Selves: Identity, Pedagogy, and Teacher Education*. Albany: State University of New York Press.
- Vygotsky, L. (1978). *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.