

Documenting Teachers' Institutional Reasoning Norms

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The National Council for the Accreditation of Teacher Education (NCATE, 2002) defines dispositions as “the values, commitments, and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student learning, motivation, and development as well as the educator’s own professional growth” (p. 53). This suggests that teachers need to develop dispositions that include an awareness of the powerful institutional contexts that affect their instructional practices. Thus, for teacher educators, this points to the importance of attending to teachers’ developing understanding of the relation between their instructional practices and the institutional context in which they work. The teachers’ changing views of the institutional context and how it supports or constrains their instructional practices is an important aspect of their learning and leads to a changing view of themselves as professionals. Against the background of a two-year study, I will present the rationale for focusing on what I term institutional reasoning norms. Institutional reasoning norms include the evolution of the teachers’ understanding of the institutional setting and its influence on the teachers’ instructional practices that are treated as legitimate or acceptable within the community. The interpretive framework that I propose for analyzing shifts in institutional reasoning norms therefore considers both the extent to which the teachers view their practices as shaped by the institutional settings in which they work, and the aspects of these settings that they believe they can change.¹

Study Background

The data for this study were collected during the first two years of a five-year collaboration with a group of nine middle school mathematics teachers who worked in five different schools in the Jackson Heights Public School District. This urban school district served a 60% minority student population and was located in a state with a high-stakes accountability program. The research team² began working in the district to provide teacher development in statistical data analysis at the invitation of the district’s mathematics coordinator who selected the teachers with whom the research team collaborated. The coordinator was interested in professional development focused at the middle grades since reform efforts there were proving to be problematic. In particular, the district had adopted a new mathematics curriculum, but a significant proportion of the middle school teachers continued to use the traditional textbook series as the primary basis for their instruction. During the first two years, working with the teachers, the research team conducted a three-day work session each summer as well as three one-day sessions during the first school year and six one-day sessions during the second school year. Specifically, the professional development focused on statistical data analysis and aimed to support teachers in: deepening their understanding of central statistical ideas such as distribution; making sense of individual students’ statistical interpretations and solutions; and adapting

instructional sequences developed in prior classroom design experiments to their needs and constraints (Cobb & McClain, 2001).

Focusing on Institutional Reasoning Norms

The rationale for documenting the evolution of institutional reasoning norms is two fold. First, the research team intended to investigate the institutional context in which the teachers worked from the beginning of our collaboration (Cobb & McClain, 2001). This was based on the philosophy that when making an attempt to support changes in teachers' mathematics instruction, the research team must first attempt to understand what mathematics instruction is for these teachers. Without understanding the teachers' conceptions, our collaboration is generally ineffective (Simon, Tzur, Heinz, Kinzel, & Smith, 2000). The research team must assume that all teachers' ideas are reasonable and useful from their perspectives (Simon, et al., 2000).

While working with the teachers, it became evident that the teachers' view of the institutional context and how it supported or constrained their instructional practices was also an important aspect of their learning. The teachers' perception of their institutional context affected their interactions within the group. In fact, the evolution of the institutional reasoning norms proved to be critical in supporting the teachers' deprivatization of their instructional practices and the evolution of the teacher group into a professional teaching community (Dean, 2005).

A second rationale for documenting institutional reasoning norms stems from a dichotomy in the literature. Franke, Carpenter, Levi and Fennema (2001) observe that one body of scholarship is concerned with the structural or organizational features of school and how changes in these conditions can result in changes in classroom instructional practices. This work implies the importance of analyzing the institutional setting of teachers' learning. A second, largely independent body of scholarship on teacher change focuses on the role of professional development in supporting teachers' reorganization of their instructional practices and their views of themselves as learners. This body of work involves the significance of documenting teachers' perceptions of the professional development setting, especially as it relates to their classroom practices. For example, Talbert and McLaughlin (1994) raise the issue of how the development of a professional teaching community is supported (or constrained) by the institutional setting in which it is situated. Analyzing teacher professionalism, Talbert and McLaughlin claim that strong teacher professional communities foster higher levels of shared standards for curriculum and instruction, provide evidence of a stronger service ethic in teachers' relations with students, and show stronger commitment to the teaching profession. As a result, Talbert and McLaughlin not only call for investigations of "how" professional teaching communities develop, but also for analyses of the role of the institutional context in supporting or constraining that development. More specifically, they ask

[W]hat division of functions and roles is played in building teacher communities by the different levels of the system...? How does department leadership work to promote collegial trust and collective problem solving, for example, and what essential support is provided by district versus school administrators and staff? Can state policy and programs set the stage for, or facilitate, the development of local professional communities? What about outside organizations and networks? (p. 144)

Thus, Talbert and McLaughlin bring to the fore the importance of taking the institutional context into consideration when trying to understand the nature of teachers' development as they participate in professional teaching communities. The analytical approach of documenting institutional reasoning norms that I propose moves beyond these separate lines of work by focusing directly on teachers' interpretations and understandings while simultaneously treating those interpretations and understandings as situated in and at least partially constituted by the institutional settings in which they work (Cobb, McClain, Lamberg, & Dean, 2003).

Interpretive Framework

The interpretive framework I propose for documenting the teachers' understanding of the institutional context and its influence on the teachers' instructional practices focuses on analyzing normative practices. Methodologically, it is important to clarify that norms are identified by discerning patterns or regularities in the ongoing interactions of the members of the professional teaching community. A norm is therefore not an individualistic notion but is instead a joint or collective accomplishment of the members of a community (Voigt, 1995). A primary consideration when conducting analyses of this type is to be explicit about the types of evidence used when determining that a norm has been established so that other researchers can monitor the analysis. A first, relatively robust type of evidence occurs when a particular way of reasoning or acting that initially has to be justified is itself later used to justify other ways of reasoning or acting (Stephan & Rasmussen, 2002). In such cases, the shift in the role of the way of reasoning or acting within an argument structure from a claim that requires a warrant, to a warrant for a subsequent claim provides direct evidence that it has become normative and beyond justification. A second, robust type of evidence is indicated by Sfard's (2000) observation that normative ways of acting are not arbitrary conventions for members of a community that can be modified at will. Instead, these ways of acting are value-laden in that they are constituted within the community as legitimate or acceptable ways of acting. This observation indicates the importance of searching for instances when a teacher appears to violate a proposed communal norm in order to check whether his or her activity is constituted as legitimate or illegitimate. When legitimate, it would be necessary to revise a conjecture that a particular activity was normative whereas, when illegitimate, the observation that the teacher's activity was constituted as a breach of a norm provides evidence in support of the conjecture (cf. Cobb, Stephan, McClain, & Gravemeijer, 2001). Finally, a third and even more direct type of evidence occurs when the members of a professional teaching community talk explicitly about their respective obligations and expectations. Such exchanges typically occur when one or more of the members perceive that a norm has been violated.

Summary of Findings

The importance of focusing specifically on norms of institutional reasoning emerged in the course of collaboration with teachers and the concept proved to have considerable explanatory power and practical significance. The teachers' changing views of the institutional context and how it supported or constrained their instructional practices were important aspects of their learning. The analysis revealed that, initially, the teachers viewed the institutional setting as an object of frustration that was beyond their control. During the summer session at the end of our first year of working with them, the teachers were able to explain aspects of their instructional practices and the strongly privatized nature of their teaching based on their perception of the institutional context. In later sessions, teachers voiced the desire to make

changes in their instructional practices and the need for specific resources to do so. It became normative for the teachers to perceive of the institutional setting as something they could influence. This led to the co-creation of a conjectured learning trajectory for school leaders. The teachers' goal was to challenge the school leaders' view of mathematics teaching and learning and thus obtain control over essential resources needed to teach mathematics with a focus on student reasoning.

Discussion

It is important to note that this institutional context is not atypical. We would conjecture that there will be conflict between teachers' perceived obligations and the goals of reform efforts. This indicates the importance of working to transcend the status quo. Thus, it is imperative to take account of and support the evolution of institutional reasoning norms. Given teacher educators' goal of supporting dispositions recommended by NCATE (2002), one of our primary concerns is to understand the context in which these teachers work with a view to supporting their learning.

References

- Cobb, P., & McClain, K. (2001). An approach for supporting teachers' learning in social context. In F. L. Lin & T. Cooney (Eds.), *Making sense of mathematics teacher education* (pp. 207-232). Dordrecht, The Netherlands: Kluwer.
- Cobb, P., McClain, K., Lamberg, T., & Dean, C. (2003). Situating teachers' instructional practices in the institutional setting of the school and district. *Educational Researcher*, 32(6), 13-24.
- Cobb, P., Stephan, M., McClain, K., & Gravemeijer, K. (2001). Participating in classroom mathematical practices. *Journal of the Learning Sciences*, 10, 113-164.
- Cobb, P., & Whitenack, J. (1996). A method for conducting longitudinal analysis of classroom videorecordings and transcripts. *Educational Studies in Mathematics*, 30, 213-228.
- Dean, C. O. (2005). *An analysis of the emergence and concurrent learning of a professional teaching community*. Unpublished doctoral dissertation, Vanderbilt University, Nashville, TN.
- Franke, M. L., Carpenter, T. P., Levi, L., & Fennema, E. (2001). Capturing teachers' generative change: A follow-up study of teachers' professional development in mathematics. *American Educational Research Journal*, 38, 653-689.
- Glaser, B. & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- National Council for the Accreditation of Teacher Education. (2002). *Professional standards for the accreditation of schools, colleges, and departments of education*. Washington, D.C.: Author.
- Sfard, A. (2000). On reform movement and the limits of mathematical discourse. *Mathematical Thinking and Learning*, 2, 157-189.
- Simon, M.A., Tzur, R., Heinz, K., Kinzel, M., & Smith, M.S. (2000). Characterizing a perspective underlying the practice of mathematics teachers in transition. *Journal for Research in Mathematics Education*, 31(5), 579-601.
- Stephan, M., & Rasmussen, C. (2002, April). *Classroom mathematical practices in differential equations*. Paper presented at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Las Vegas.
- Talbert, J. E., & McLaughlin, M. W. (1994). *Teacher professional development in local school contexts*. *American Educational Research Journal*, 32, 123-153.
- Voigt, J. (1995). Thematic patterns of interaction and sociomathematical norms. In P. Cobb & H. Bauersfeld (Eds.), *Emergence of mathematical meaning: Interaction in classroom cultures* (pp. 163-201). Hillsdale, NJ: Lawrence Erlbaum Associates.

Footnotes

¹Although this paper focuses on the importance of document institutional reasoning norms, it is situated in a larger analysis investigating the evolution and concurrent learning of a professional teaching community. Documentation of the learning of the professional teaching community was accomplished through the use of a method described by Cobb and Whitenack (1996) that was developed for analyzing longitudinal data sets of the type generated during design experiments. This method is a variant of Glaser and Strauss' (1967) constant comparative method and is specifically tailored to the systematic analysis of longitudinal data sets in mathematics education. A distinguishing feature of this method is that as new episodes are analyzed, they are compared with currently conjectured themes or categories. This process of constantly comparing episodes leads to the ongoing refinement of the theoretical categories that remain grounded in the data. As Glaser and Strauss note, negative cases that appear to contradict a current category are of particular interest and are used to further refine the emerging categories.

²Members of the research team included Paul Cobb, Kay McClain, Maggie McGatha, Teruni Lamberg, Jose Cortina, Jason Silverman, Lori Tyler, Qing Zhao, and the author.