

**TELLING OTHER PEOPLE'S STORIES:
KNOWLEDGE PRODUCTION AND REPRESENTATION
LESSONS**

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This paper raises epistemological questions which have to do with how we know one another. These questions are directed towards inquiry, and ask how knowledge of other people is constructed and circulated. I begin by looking at how the scientific model stakes out certain rhetorical spaces for establishing credibility and for gaining acknowledgment, noting how our current research models limit and regulate epistemological legitimacy. In the second section I introduce poststructuralist ideas of knowledge as a useful way of dealing with intersubjective arrangements in which cognitive resources and positions of authority and expertise are unevenly distributed. The claim is that inquiry informed by these ideas necessarily invokes political deliberation.

INTRODUCTION

Posing one of the most provocative questions in the field of educational inquiry, Patti Lather asks: "How does a researcher work to not see so easily in telling stories that belong to others?" (1994, p44). Framed within the context of a contemporary interrogation into modernist descriptions of reality and truth, the question presents to those of us working in mathematics education an abrupt challenge to the way we have always done things. It invites an investigation of conceptual issues concerning what it means to know others and tell their mathematical stories. In doing so, it moves us from a preoccupation with what ideal researchers ought to do, opening up a space less comfortable than the certainties and absolutes of our research practices and all the relationships within those practices.

Certain principles have always guided our practices. The science from which those principles are derived has played an important role in cultivating the means by which those of us doing research might be empowered to make the classroom and the wider communities of knowers, a better place. *That* science claims to produce "paradigmatic instances of the best knowledge possible, for everyone, in all circumstances" (Code, 1995, pxi). I question those claims. Within the terms of the disintegration of the classical *episteme* of representation, I investigate the implications of that crisis for the gathering and analysis of qualitative data. My

purpose is to encourage a move away from the desire to establish true and accurate accounts about others and suggest how we might rethink our practices to accommodate an awareness of the limits of knowing. This question is not to anticipate the end to representation *per se* and abandon wholesale engagement, but to draw on the Derridean (1976) realisation about the end of 'pure presence', in order to suggest a transformed discursive practice.

The discussion is in two parts. First I revisit the research traditions which occasion most of the investigative work in the field. I look at how we have constructed mathematical knowledge of other people, noting how our current research models limit and regulate epistemological legitimacy. What obtains from this critique is the opening of a rhetorical space for more sophisticated analytical tools. In the second section I present a theoretical justification for a form of research which demands attention to negotiations among people who are intersubjectively constituted. In this practice the researcher assumes a self-reflexive stance, asking questions about the methodological implications for the way reality is understood and represented. This is the point where the interest moves from establishing truth onto an understanding of how meaning is produced and created and in how these productions factor into larger decisions concerning power and privilege.

HISTORIES OF RESEARCH PRACTICE

Research is about making a difference through science. Central to this taken-for-granted understanding, is the modernist belief in the perfectibility of society. If it is the modernist gesture of progressive change by which science is circumscribed, then it is this same science which came to be responsible for the administration of that progress. Foucault (1972) has provided a full conceptual articulation of how science, invested with multiple interests of regulation and redemption, became an important social force. Although twenty-first century science has long since located itself beyond the modernist project, the ideas of truth to which that project subscribes still play a major role in the structure and process of education. By creating a regime of order which organises and regulates our practices of inquiry, this particularly powerful discourse occupies a standard-setting position, determining what counts as valuable knowledge and who has access to the production, the distribution, and the legitimation of that knowledge. Research in mathematics education, as one of these practices, is complicit within this regime of truth.

Fundamental to this regime is a grand design of systematising and tidy partitioning, which lends coherence of the advancing of a universal explanation

of the world. From this perspective, patterns of an individual's life reveal observable facts, and hence are able to be classified, categorised, and ordered systematically and linearly as, using Foucault's (1972) term, positivities. These facts can then be interpreted. Indeed it is a principal concern with an interpretation of gathered data which enables one to discover the truth in human terms, and by this means to normalise experiences (for example, stages of mathematical development), understandings and even our desires, with a view towards a definitive order upon which judgments can be substantiated.

To engage the idea that it is possible to make a difference through systematic order is to make an assumption of a coherent and transparent reality which awaits expression. This scheme of things is the site *par excellence* of a metaphysics of presence: reality is attributed evidential status as if it were existing 'out there' waiting to be captured (Walshaw, 2001a). Since seeing is the origin of knowing, reality assumes a fixed character, exhibiting certain qualities regardless of who is observing. Knowers are interchangeable spectators, abstracted from the particularities of their circumstances; objects of knowledge are separate from knowers, functioning as inert items in the observational knowledge-gathering process. This conceptualisation of the autonomous knower prompts and sustains a belief in the existence of a universal, homogenous and 'essential' human nature which allows those doing research to put themselves in another's place and know his or her circumstances and interests in exactly the same way as she or he would know them. The researcher's role then is that of disembodied arbiter of knowledge – one who can bestow authority and credibility onto the experiences of others and provide access to truth and certainty.

These ideas are still current, informing conceptions in both quantitative and qualitative approaches of what it means to know and what it means to know others. Both subscribe to a set of assumptions to the effect that knowledge is made by the abstract, interchangeable individual whose stories have been spoken from nowhere and everywhere. What emerges from this is a staging of truth, in which the concepts of objectivity and abstraction play a central role.

This is not in any way to suggest that all research is premised on notions of abstraction and universality. Some theorists, working to escape from the logic of the abstract, 'generalised', disengaged individual of the Western tradition, have argued for the concept of difference (for example, Bishop, 1988; Carraher, 1988; D'Ambrosio, 1985; Lave, 1997; Nickson & Lerman, 1992; Restivo, 1992). In their discourses, categories which have traditionally been regarded as commonplace in mathematics education are reordered and in the process common arguments about knowledge and its transference are undermined. In this way these theorists are able to demonstrate how the concepts and categories

fundamental to an epistemology of mathematics derive their authority and value from what is repressed and excluded.

Difference carries infinitely rich connotations and continues to be harnessed to a wide variety of political and cultural projects. But aren't those who articulate the construction of difference and the reification of voice situated both within and against established traditions for doing research? Popkewitz (1997) sets forth a similar criticism of the construction of difference in contemporary social and educational theory. He argues that "the concept of voice maintains the very rules of 'sameness/difference' that it seeks to violate" (p25).

Recently the same kinds of arguments about the complicity that goes hand in hand with the concept of difference have been levelled at the reconstructionist feminist project (Walshaw, 2001b). Isn't the theorising of women's mathematical experience not, in a very real sense, entrapped in the very logic which it seeks to subvert? Doesn't the method of feminist resistance (for example, Becker, 1995; Burton, 1995; Damarin, 1995) work within established frames by reinscribing that which it is resisting? By reconstructing the language and reversing the binaries standpoint feminism remains imprisoned within modernity's parameters - parameters which have the effect of masking a complicity in structures of power and privilege.

Talk about the celebration and elevation of female difference bypasses the problematic of representation, and those questions which relate to social reality, to institutions and to power remain fully imperceptible from these standpoints. Clearly, the epistemic project needs to be conceptualised quite differently from one contained within a master discourse which obscures intersubjective negotiations of mathematical learners, teachers, and researchers of differential power and privilege. It needs to be superseded with a new set of perspectives, more in keeping with the unpredictability of our contemporary way of life.

RETHINKING RESEARCH

Whereas qualitative research moves forward positivist conventions of how we go about reality construction, poststructuralism offers an interrogation about those very practices, exposing the inadequacy of objectivist epistemologies. In claiming redundant a theory of knowing organised around uncontaminated situational exigencies, poststructuralism registers a realisation that modernist values, assumptions and explanations are no longer adequate nor desirable when we try to make sense of our contemporary world. Poststructuralist ideas then become key resources for showing how the conventions of research practice are mapped in such a way as to preclude it from even and equitable possibilities of establishing credibility. It offers those of us committed to understanding the

epistemic implications of knowing others well, a potential vantage point from which to rethink the way we do research. At the same time, however, this theorising elicits highly charged reactions precisely because there is so much more at stake derived from an interrogation about the limits of knowing than the existence or non-existence of a 'correct' research procedure.

Poststructuralism is an intellectual movement informing a constellation of theoretical positions ranging from phenomenology to deconstruction. Each of these discourses takes as its founding principle the disintegration of the classical episteme of representation. Read within those terms, poststructuralists maintain that, irrespective of our efforts to contain it, knowledge will always escape our grasp. Couching their work in a language which destabilises and challenges, poststructuralists historicise our 'safe' and 'true' understandings, offering critical interrogations of familiar ideas of knowing, description, and the rational subject. Through these interrogations they expose the limits of knowing, encouraging a scepticism about the possibility of true and accurate research findings, and, moreover, about the very possibility of knowing others and telling their stories.

Questioning the operative logic in contemporary research - an assumed homology between observation and knowledge - poststructuralists argue that representation can no longer be considered a politically neutral and theoretically innocent activity. Their work is not an argument for relativism, but a claim that representation is necessarily always partial, historically specific and interested. What this invites is a new understanding of how we go about reality construction.

A poststructural inquiry redeploys the meaning of research to offer "less false stories" (Harding, 1991) and to enable concrete social changes. Premised on the essential indeterminacy of human experiencing, these inquiries explore how knowledge production and its legitimation are historically situated and strategically practised. Mindful of the problem of unmediated access to a *transparent* mathematical reality, poststructuralists consider the problem of access to a mathematical reality from the perspective of local and marginalised practice. However, unlike in our research traditions, the intent is not to seek common denominators and homogeneous networks of causality and analogy in specific mathematical practices. Nor is it to promote a list of determinations and categories such as those of gender, race, or ethnicity. Rather a poststructural approach proposes an understanding of the categories by which mathematics education is organised as historically emergent rather than naturally given; as multivalent rather than unified in meaning; and as the frequent result and possible present instrument in struggles of power. Within this proposition reality emerges as fluid in nature, forever in process, continually being reshaped by the

changing categories individuals use to understand themselves, others, and the spaces they share.

A recognition of unstable competing realities points towards a different research practice. Relativising the status of all truth claims requires “changing the subject” (Henriques et al., 1984), shifting the emphasis from the learner as the site of original presence, to a decentred, relational complex process. Actualising the site of this different research practice demands attention to how the researcher is also implicated (Britzman, 1995). If there is no “view from nowhere” (Haraway, 1988), and if representation must pass through the filter of the researcher’s discipline, biography, and social determinations, such as race, class, gender, ethnicity, and so on, then the researcher’s knowledge of mathematics education always privileges particular interests. If reality is understandable only through the use of the abstract categories which the researcher employs, then those very categories researchers are productive of shifts and movements themselves. Following from this, the researcher becomes with the learner and the teacher, a key player in the production of educational knowledge.

In Foucauldian work the claim is that *all* categories and concepts of practice are the effects of specific relations of power, all producing some dissonance between and within the individual. Inquiry derived from Foucauldian ideas (for example, Klein, 2000; Walshaw, 1999) investigates the power relations which make a focus on the production of mathematical knowledge both possible and an effective tool of subversion. This form of inquiry draws attention to lived moments of practice where cognitive resources and positions of authority and expertise are unevenly distributed to inform, constrain, and implicate mathematical work. By attending to these concerns and to the broader historical contexts of mathematical experiences, Foucauldian ideas then become a productive means to account for different degrees of coherence between subject positions and mathematical practice. They become a key resource for unmasking the ways in which the teaching and learning of mathematics is intimately tied to the social organisation of power.

CONCLUSION

Opting out of the impossible, yet nevertheless seductive, desire for coherency, and the impulse to access the ‘truth’ in mathematics education, the poststructural research project pushes the traditional boundaries in terms of how we know others and how we tell their stories. Concerning itself less with establishing researcher authority, and more with questioning the very construction of that authority, the investigation advances claims of multiple and contradictory positionings. It questions conventional constructions of objectification in order to take into account competing stories working through and against the stability of

meanings, identities, experiences, the treacheries of language, and the conceptual order constructed by all those involved in the research. But far from dismissing observation *per se* the intent is to query the uncritical appropriation of our conceptual categories and the logic we deem necessary to access 'reality'. Such an appropriation has everything to do with the power of the science, on which research is based, to disengage itself from contradiction, disunity, and multiplicity.

All research, even that named as qualitative and couched in the language and rhetoric of postpositivist discourse, operates within certain codes and conventions. The question raised by poststructuralism is not the existence of such commodified complicity, but the conditions of its deployment, and its effectivity. In drawing attention to the categories we construct and their derivative conceptual order necessary to access truth, we need to think about the way in which the political impinges upon and infuses all of our thinking and acting about research. The question we should be asking is not 'is this research objective enough', but rather 'if this research is authenticated and validated, what motivates its deployment? What are the political effects?'

REFERENCES

- Becker, J. (1995). Ways of knowing in mathematics. In G. Kaiser & P. Rogers (Eds.) *Equity in mathematics education: Influences of feminism and culture*. London: Falmer.
- Bishop, A. (1988). *Mathematical enculturation: A cultural perspective on mathematics education*. Dordrecht: Kluwer Academic.
- Britzman, D. (1995). The question of belief: writing poststructural ethnography. *Qualitative Studies in Education*, 8 (3) 229-238.
- Burton, L. (1995). Moving towards a feminist epistemology of mathematics. *Educational Studies in Mathematics*, 28, 275-291.
- Carraher, T. (1988). Street mathematics: What do they tell us about coming to know mathematics? *Educational Studies in Mathematics*, 37, 121-143.
- Code, L. (1995). *Rhetorical spaces: Essays on gendered locations*. New York: Routledge.
- Damarin, S. (1995). Gender and mathematics from a feminist standpoint. In W. Secada, E. Fennema, & L. Adajian (Eds.) *New directions for equity in mathematics education* (pp. 242-257). Cambridge: Cambridge University Press with the National Council of Teachers of Mathematics.
- D'Ambrosio, U. (1985). Ethnomathematics and its place in the history and pedagogy of mathematics. *For the learning of mathematics*, 5 (1), 44-48.
- Derrida, J. (1976). *Of grammatology*. Baltimore: The John Hopkins University Press.

- Foucault, M. (1972). *The archaeology of knowledge and the discourse of language*. (A. Sheridan, Trans.). New York: Pantheon.
- Haraway, D. (1988). Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies*, 14, 575-599.
- Harding, S. (1991). *Whose science? Whose knowledge?: Thinking From Women's Lives*. Milton Keynes: Open University Press.
- Henriques, J., Hollway, W., Urwin, C., Venn, C., & Walkerdine, V. (1984). *Changing the subject: Psychology, social regulation and subjectivity*. London: Methuen.
- Klein, M. (2000). How active involvement in learning can preclude meaningful engagement: Contributions from Foucault. *Pedagogy, Culture and Society*, 8 (1) 69-83.
- Lather, P. (1994). Textual strategies and the politics of interpretation in educational research. *Australian Educational Researcher*, 21 (1), 41-62.
- Lave, J. (1997). The culture of acquisition and the practice of understanding. In D. Kirshner & J. A. Whitson (Eds.), *Situated cognition: Social, semiotic and psychological perspectives* (pp. 17-35). Mahwah, NJ: Erlbaum.
- Nickson, M., & Lerman, S. (Eds.) (1992). *The social context of mathematics education: Theory and practice*. London: South Bank Press.
- Popkewitz, T. (1997). A changing terrain of knowledge and power: A social epistemology of educational research. *Educational Researcher*, 26 (9) 18-19.
- Restivo, S. (1992). *Mathematics in society and history: Sociological inquiries*. Dordrecht: Kluwer Academic.
- Walshaw, M. (1999). *Paradox, Partiality and Promise: A politics for girls in school mathematics*. Unpublished doctoral dissertation, Massey University, New Zealand.
- Walshaw, M. (2001a). The question of knowing others: Doing research in mathematics education. *Philosophy of Mathematics Education Journal*, 14, <http://www.ex.ac.uk/~PERnest/pome14>.
- Walshaw, M. (2001b). A Foucauldian gaze on gender research: What do you do when confronted with the tunnel at the end of the light? *Journal for Research in Mathematics Education*, 32 (5), 471-492.