

Self-Study Research: Surfacing the Art of Pedagogy in Teacher Education

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The term pedagogy has been appropriated in education discourse as simply strategies of instruction. This instrumental understanding of pedagogy has reified the term both in the vernacular of education and in research of teaching and teacher education, leading the scientific pursuit of pedagogy to exclude the relationship between pedagogy and pedagogue. Based on this concern, this paper will consider the artistic and relational dimensions of pedagogy in teacher education. Drawing on the perspective that pedagogy is akin to art, this paper seeks to sketch a more holistic understanding of pedagogy in teacher education. Afterwards, I suggest self-study of teacher education as a suitable epistemic frame to appreciate the artistry of pedagogy in higher education

Pedagogy in educational vernacular has gained currency as a substitute for methods of instruction or techniques of teaching (Loughran, 2006; van Manen, 1999). Based in part on the misperception that teaching is a technical activity, this instrumental understanding of pedagogy rationalizes and reduces the work of teaching to a universally applicable skill set. As a result, the scientific pursuit of pedagogy often excludes the intimate choices and interactions that ultimately constitute instruction. However, considering that teaching is a situated and reflexive activity requiring teachers' judgment in apprehending events of practice (Grimmett & MacKinnon, 1992), why curricular and instructional decisions are made are as much a part of pedagogy as the outwardly visible method or approach ultimately taken.

Returning to the etymological roots of *pedagogue*, one finds that the term refers not to a teacher, but a slave who cared for and accompanied a student to and from school (van Manen, 1994). From this perspective, pedagogy as the actions of pedagogues implies an inter-individual relationship, based on the concern of one for another. Moving this relational understanding of pedagogy into the realm of education, teachers stand in pedagogical relation to students. Placed in a position to lead students toward academic and personal growth, the very nature of teaching and pedagogic action is animated by continuous discernment and constant determination. In this sense, the "why" and "what" of pedagogy are fused together by the nature of the relationship between a teacher and student.

From this understanding of pedagogy, the relational and reflexive nature of teaching becomes apparent—behind every pedagogic action lays the intent of the pedagogue. Typifying the classic Cartesian dualism, pedagogy is as much about mind as it is about body. Like others who have noted that self cannot be separated from action (Bakhtin, 1981; Dewey, 1932/2005; Freire, 2007), van Manen (1999) perceives that “every little thing we do or do not do—in our interactions with [students] has significance. Why? Because as teachers we stand in relations of influence to our students...and we cannot claim ignorance of this fact” (p. 19). Thus, in any pedagogical relationship, separating act from actor is untenable.

In teacher education, there exists a similar valence. Loughran (2008) defines pedagogy in teacher education as “knowledge of teaching about teaching and a knowledge of learning about teaching and how the two influence one another in the pedagogic episodes that teacher educators create to offer students of teaching experiences that might inform their developing views of practice” (p. 1180). Accounting for the intersection of knowledge about teaching and moments when something pedagogic is expected of the teacher educator, pedagogy is as much interactive as it is deliberative. Given that students of teaching often learn as much from the experience of being taught as from the instructional strategies and theories they are prepared with, the practice of teacher education is a complex interaction between the “how,” “what,” and “why” of teaching teachers. Wilson (1990) describes the complexity of teaching teachers in the following manner:

My students learn as much from how I *act* as a teacher as they do from the content I provide. If I want them to understand the nature of pedagogical reasoning, for example, I can describe it but I also have to construct settings in which they engage in such reasoning and begin to develop the necessary skills. Moreover, if I do not model such reasoning, I may be undermining my own intentions. Simultaneously, I have to consider my own beliefs about teaching and learning to teach, in addition to my students' beliefs about teaching and learning to teach. I have to look in my own mirror, a difficult task in itself. Additionally, I have to model that mirror-gazing for my students, letting them watch me watch myself (emphasis in original, p. 8).

Illustrating the difficult negotiation of these competing and multiple dimensions in the education

of teachers, the authenticity of Wilson's attempt to unpack a pedagogical moment with prospective teachers is typically neglected in the literature on pedagogy in teacher education (Loughran, 1996). As Zeichner (2005b) laments in a recent review of teacher education research, "we know very little about the nature of instructional interactions between teacher educators and their students in teacher education classrooms" (p. 748). Although a host of scholars detail what goes on inside their teacher education classrooms, the interactive, interpersonal, and improvisational dimension of teaching teachers is often missing in research studies. Moreover, even when "pedagogy" in teacher education is discussed, the term is used as a substitute for method or technique (Grossman, 2005). Unfortunately, this limited understanding of the interactive nature of teacher education leaves a glaring gap in the mosaic of teacher education research.

Based on this concern, I argue that in the search for pedagogy in teacher education we must not only focus on the observable dimensions of pedagogy, but also actively investigate the personal, relational, and improvisational dimensions of pedagogy in teacher education. Oftentimes, the artistry of the work of educating teachers is hidden in context, what is often archetypal in education research as pedagogy is also an interactive and relational act based on subtle judgments, and adaptive responses to unique situations. Thus, teacher education research must find ways to not only detail the results of these interactions, but also voice the motives, rationales, and reasons that guide and drive practice.

In the search for a more holistic understanding of pedagogy in teacher education, I attempt to answer Grossman and McDonald's (2008) call to draw on the vast resources of education literature to build a deeper knowledge base about the work of teacher education. In the following section I draw on John Dewey to sketch a broader understanding of pedagogy as artistic. Afterwards, I turn to the practitioner inquiry school of thought to argue that self-study as a research methodology can provide teacher education research an epistemic pathway to develop understandings of pedagogy in teacher education beyond its usual rendering as instrumental and technocratic.

Pedagogy as Artistry

Based on the notion that pedagogic action is reflexive and based on a normative consideration of the formative growth of another, pedagogy by definition is a creative endeavor.

Requiring knowledge about subject matter, students, and self (McDonald, 1992), pedagogy is shaped by deliberative and oftentimes, immediate reasoning. Because pedagogic reasoning demands imagination, intuition, and expression (Egan, 1992; Gitlin & Peck, 2005), pedagogy can be considered artistry. According to Dewey (1983):

If education is going to live up to its profession, it must be seen as a work of art which requires the same qualities of personal enthusiasm and imagination as are required by the musician, painter, or artist. Each of these artists needs a technique which is more or less mechanical, but in the degree to which he loses his personal vision to become subordinate to the more formal rules of the technique he falls below the level and grade of the artists. He becomes reduced again to the level of artisan who follows the blue prints, drawings, and plans that are made by other people (p. 186-187).

For Dewey, encounters with education and art reveal a similar experience—they enlarge the world in which we live in. Like art, pedagogy is making or doing, transforming media into medium (Dewey, 1932/2005). Much like the artist who turns pigments, clumps of clay or text into artwork, the pedagogue shapes the abilities of her or his students through pedagogic choices. Eisner (2002) suggests that the artistry of teaching is found in how teachers *craft* action—the rhetorical features of language, the skill displayed in guiding interaction, or the selection of an appropriate description of an apt example (p. 382). In these moments, the artistry of pedagogy is expressed.

Pedagogues also share aesthetic concern with artists. In the same manner that an artist carves a piece of wood or strokes a canvas in a certain direction, pedagogues are bound by virtue of the pedagogical relationship to shape the environment for the good of students. In art, Dewey (1932/2005) reminds us that “craftsmanship to be artistic in the final sense must be ‘loving’, it must care deeply for the subject matter upon which that skill is exercised” (p. 47-48). Likewise, pedagogic action should imbue a sense of love and care for students based on the pedagogue’s commitment to the academic and personal growth of students. Like the artist who “embodies himself in the attitude of the perceiver while he works” (p. 48), pedagogues shape their action based on their students’ point of view. As van Manen (1991) notes, like the jazz musician who

knows how to improvise by evaluating chord progressions and the cues of the rhythm section, teachers must also improvise the curriculum pedagogically by responding and acting in the best interests of students. Thus pedagogy is more than method or technique. Pedagogy is the constant production of an experience with students, an artistic expression framed by a normative concern for growth.

The Search for Pedagogy

In searching for a way to account for the complexity of pedagogy in education research, one of the most important developments in advancing a more nuanced understanding of the work of teaching has been the practitioner inquiry movement (Bullough & Gitlin, 2001; Cochran-Smith & Lytle, 1993; Fecho & Allen, 2003; Lagemann, 2000). Surfacing the artistry of pedagogic work, practitioner inquiry exposes the idiosyncrasies and tacit understandings of educating others. As a research stance, practitioner inquiry in education seeks to generate knowledge based on the immediate relationships between students and teachers, and the broader implications of local cultures, schools, and communities (Cochran-Smith & Lytle, 2009). Adopted by many in teacher education to help prospective teachers become life-long inquirers about the nature of teaching by researching and reflecting on and about practice, practitioner inquiry blurs the line between practitioner and researcher. Drawing from the authority of experience (Munby & Russell, 1994), practitioner inquiry systematically explores local contexts as sites for inquiry. Conducting this kind of research in education produces an account of teaching and learning from the inside (Cochran-Smith & Lytle, 1993), opening up new ways of knowing and understanding the multifaceted and complex work of teaching.

Taking into consideration Grossman and McDonald's (2008) recent call for teacher education to reconnect with the rich resources of education research, practitioner inquiry in higher education, which usually takes the form of self-study research, can help shed light on the complex and interactive nature of pedagogy in teacher education. Self-study research affords teacher educators an opportunity to systematically explore the nature and practice of teaching teachers, providing a critical perspective on the practices and structures of teacher education. Broadly speaking, the aims of self-study research are twofold: personal and professional growth (Cole & Knowles, 1998; Samaras, 2002). As Loughran (2004) notes, self-study research seeks to explore questions of practice that are "individually important and also of broader interest to the

teacher education community” (p. 9). Providing an important methodological and epistemic pathway to understand pedagogy, self-study research is considered by Zeichner (1999) as the “single most significant development ever in the field of teacher education research” (p. 8).

Drawing on a range of qualitative modes of inquiry to theorize, collect, analyze, and represent findings, self-study research addresses a host of substantive issues in teacher education such as becoming a teacher educator (Cuenca, 2010; Ritter, 2009), making tacit understandings of teaching explicit (Berry & Crowe, 2006), or enacting program reforms in teacher education (Cochran-Smith, et al., 1999; Zollers, et al., 2000). Most self-study research is grounded in the belief that teacher knowledge is never fixed or finalized, but always in a state of becoming, thus worthy of investigation, exploration, and refinement. As Bullough and Pinnegar (2001) contend, “the aim of self-study research is to provoke, challenge, and illuminate rather than confirm and settle” (p. 20). Self-study research also serves to illuminate the “living contradiction” (Whitehead, 1989) between teaching philosophy and actual practice. By encouraging reflection on the role and responsibility of teaching teachers, self-study research promotes situated inquiry about practitioners’ assumptions about knowledge and reality (LaBoskey, 2004). Dinkelman (2003) believes that overall, the practical outcome of self-study research runs a gamut from helping teacher educators re-theorize the foundations of their work, to the simple “realization that a ‘look’ given to a student in class discussion can be threatening” (p. 18).

Epistemologically, self-study research is grounded in the postmodern understanding that self cannot be separated from research or practice (Cochran-Smith & Lytle, 2004; Cole & Knowles, 2000). Given that in a pedagogical relationship, separation between pedagogue and pedagogy is also indistinguishable, self-study research provides a natural pathway to explore and develop a deeper understanding of the deliberative and immediate reasoning that drives pedagogy in teacher education. In other words, self-study provides a formalized vehicle to surface the oft-muted or altogether ignored relational dimensions of pedagogy in teacher education research. Because teaching teachers requires “enacting practices that are sensitive and responsive to the affective needs, issues, and concerns in teaching and learning about teaching” (Loughran, 2006, p. 175), pedagogy in teacher education demands no less artistry, and contains no less mystery and complexity as any other facet of teaching.

Barriers to Surfacing the Artistry of Pedagogy

Despite the promise of self-study methodology to develop a deeper understanding of pedagogy and how pedagogic interaction colors the experiences of those in teacher education, the artistry of pedagogy is often discounted in education research. As Grossman (2005) notes in a recent review of pedagogy in teacher education, research literature focuses almost exclusively on pedagogy as approaches or instructional strategies. Subsequently, dilemmas *of practice in practice*, how interactions between teacher educator and student shape teacher learning, and attempts to forge deeper understandings of practice are aspects of research about teacher education rarely considered (Cochran-Smith & Lytle, 2009; Dinkelman, 2001; Johnston, 2006; Zeichner & Noffke, 2001).

Much of the disregard for a more holistic understanding of pedagogy in teacher education is based on the critiques of “insider knowledge” as a valid form of knowledge. Moreover, even some who accept practical knowledge as a distinct form of knowledge question the tenability of practitioner research a mode of inquiry that can accurately and objectively represent this knowledge (Fenstermacher, 1994; Huberman, 1996; Richardson, 1996). Rooted in the historical debate over what counts as legitimate knowledge, forms of practitioner inquiry such as self-study are often considered a lesser form of academic research. As one member of a group of self-study scholars recounts as she began her first academic appointment: “I felt silenced. I came to teacher education with good credentials. Yet, it quickly became apparent that my expertise would be irrelevant” (Arizona Group, 1995, p. 41). Gitlin (1996) suggests that historically, academics gain distinction by producing work that is removed from experience and practice. Therefore, practice-based inquiries are discouraged within university culture and silenced in education discourse.

Seeking to preserve the ideal that scientific knowledge is propositional, critiques of practitioner-based research claim that this mode of inquiry is not science, charging that knowledge produced by practitioner research holds no epistemic merit. According to Cochran-Smith and Lytle (2004), many challenge “the very notion that practitioners have the skill, distance, or the analytical capabilities to conduct research about their own work and in the context of their own professional contexts” (p. 626). Standing vanguard at the gates of postpositivist concern for validity, critics of practitioner inquiry suggest that the researcher (or researcher’s context) as object of study is incapable of being neutral and objective, invalidating any claims to producing legitimate scientific knowledge. Therefore, the interactivity of relational

phenomenon such as pedagogy is silenced in research because the intimate proximity between pedagogue and pedagogic object is too value laden.

In education science, recent efforts have been made by organizations such as the American Educational Research Association (2009) and the National Research Council (Shavelson & Towne, 2002) to formalize education research. Although there is a simultaneous centripetal and centrifugal tension to the question: what constitutes scientific research in education, the claims of these organizations, according to Howe (2009), appears to be a positivist throwback, a new scientific orthodoxy not radically different from positivist/experimentalist conceptions of education research. With principles that require replicable and generalizable results, this new orthodoxy marginalizes the search for the more nuanced relational and interactive dimensions of education (Tillman, 2009). Given that pedagogy and pedagogic interaction are vital in understanding the experience of teaching and teacher education, empirical pathways such as self-study that seek to investigate the situated nature of interaction are dismissed. Seeking to formalize education knowledge under a central, disciplined, and controlled epistemology (Freeman, deMarrais, Preissle, Roulston, & St. Pierre, 2007; St. Pierre, 2002), this narrow brand of education science is likely to continue to miss the interactivity of pedagogy.

Self-Study Research as a Frame for the Artistry of Pedagogy

Although the seduction of simplifying educative endeavors such as pedagogy into instrumental representations may be strong, the philosophical work of Mikhail Bakhtin (1981) reminds us that human action cannot be reduced into a series of instantiations. Laced throughout Bakhtin's writings is his fundamental concern with structuralist efforts to reduce humanity into a series of abstract generalities. Unlike many of his contemporaries who sought to model knowledge in the humanities after the hard sciences, Bakhtin constantly challenged attempts to generalize human existence. Based primarily on his belief in the *unfinalizability* of humankind, Bakhtin (1984) argued that humanity is constantly in a penultimate state because of its capacity to create, innovate, and change. He believed individuals possessed the ability to "render *untrue* any externalizing and finalizing definition of them. As long as a person is alive he lives by the fact that he is not yet finalized that he has not yet uttered his ultimate word" (p. 59). Therefore, quotidian existence positioned individuals in a constant process of becoming, rendering any efforts to reduce human action into instantiations of preexisting laws futile. He wrote, "man is

not a final and defined quantity upon which firm calculations can be made; man is free, and can therefore violate any regulating norms which might be thrust upon him” (p. 59).

In attempting to extract generality from humanity activity, Bakhtin also believed that the “eventness” (*sobyiinost'*) of an activity is lost. Viewing nature as “full of event potential” (p. 81), Bakhtin saw every act as particular, open to unforeseen possibilities, incapable of being harnessed by any effort to “transcribe” human action. Because pedagogy is reflexive and interactive (van Manen, 1999), efforts to derive universally generalizable verity about the nature of pedagogy are untenable. In many respects, pedagogy is a continual dialogue shaped and reshaped in the context of the pedagogical relationship. Yet, in reducing the work of teaching and of pedagogy into a series of reproducible instantiations as much of teaching and teacher education pedagogy research literature suggests, the observable and empirical transcriptions of pedagogy such as a catalog of approaches or strategies are mistaken with the live entity that is pedagogy.

As a methodology grounded in interrogating the inner sanctum of pedagogic choice, self-study research provides an epistemic pathway in teacher education research to generate new understandings of pedagogy and pedagogical moments. Recognizing that pedagogy requires subtlety, nuance, and is a dynamic and symbiotic process, self-study research is an apt methodology to frame the artistry of pedagogy in teacher education. Furthermore, in acknowledging that pedagogy and pedagogic practice is intertwined with the becoming of teacher educators, self-study research can provide an account of the authenticity of experience. Providing a platform to understand how subtle judgments are made in the unique circumstances of teaching teachers about teaching, self-study research not only reveals contextualized knowledge about self and local, but also provides “knowledge of the educational landscape” (Clandinin & Connelly, 2004, p. 597). In this manner, publicizing the responses to and dilemmas, issues, and tensions *of* pedagogy in teacher education can advance a collective conversation about the aesthetics of pedagogic action.

Although the vulnerability of surfacing inadequacies, shortcomings, and problematizing practice place teacher educators in compromising positions, teacher educators, like teachers are bound by pedagogical relationship with their students. Therefore, the interactive and interpretive dimension of teaching teachers and the imperative facing teacher educators of preparing teachers for the intellectual work of educating others demands normative consideration and inner

exploration about the nature and impact of instructional strategies and subjective understandings about teacher education. As Segall (2004) argues, broadly conceived, pedagogy is inherent in any action that “organizes someone’s experience as well as organizes that someone to experience the world in a particular way” (p. 494). Therefore, the pedagogy and pedagogic actions of teacher educators are not excluded from inquiry, interrogation and development. Shaping the worldviews of teachers through pedagogic choice, the pedagogy of teacher educators is a necessary piece to help understand the puzzle of teacher education.

Conclusion

In this paper I have made a case for pedagogy in teacher education as more than approaches or instructional strategies in teacher education settings. Considering that the nature of the pedagogical relationship between teacher educator and student demands a commitment to the growth of that student, pedagogy demands artistry. However, in the pursuit of pedagogy, positivist conceptions of scientific research in education have muted the deeper and implicit understandings of the interactive and deliberative nature of pedagogic action. Yet, in transcribing and finalizing the artistry of pedagogy into instrumental approaches and strategies—the only value free conceptions of pedagogy possible—education research stifles access to the moments and deliberations that in many ways are the essence of pedagogy.

For teacher education research, self-study provides portraits of pedagogy that are vital in constructing an understanding the dynamism of teaching teachers. In capturing the phenomenon of pedagogical moments or interrogating pedagogic acts, self-study research provides a needed glimpse into the veiled pedagogical understandings of teacher educators. Given that the pedagogy of teacher educators is directly correlated to the experience of teacher education (Zeichner & Conklin, 2008), awareness of deliberative and immediate pedagogic reasoning through self-study provides multiple vantage points that can advance a more holistic understanding of pedagogy. Seeking to surface pedagogy through self-exploration, self-study research provides an appropriate methodological and epistemic frame to appreciate the aesthetic and artistry of pedagogy in teacher education.

References

- American Educational Research Association. (2009). Standards for reporting on humanities-oriented research in AERA publications. *Educational Researcher, 38*(6), 481-486.
- Arizona Group: Guilfoyle, K., Hamilton, M. L., Pinnegar, S., & Placier, P. (1995). Becoming teachers of teachers: The paths of four beginners. In T. Russell & F. Korthagen (Eds.), *Teachers who teach teachers: Reflections on teacher education*. London: Falmer Press.
- Bakhtin, M. M. (1981). *The dialogic imagination: Four essays* (C. Emerson & M. Holquist, Trans.). Austin: University of Texas Press.
- Bakhtin, M. M. (1984). *Problems of Dostoevsky's poetics* (C. Emerson, Trans.). Minneapolis: University of Minnesota Press.
- Berry, A., & Crowe, A. (2007). Teaching prospective teachers about learnign to think like a teacher: Articulating our principles of practice. In T. Russell & J. J. Loughran (Eds.), *Enacting a pedagogy of teacher education: Values, relationships, and practices*. London: Routledge.
- Bullough, R. V., & Gitlin, A. (2001). *Becoming a student of teaching: Methodologies for exploring self and school context*. . New York: Garland.
- Bullough, R. V., Jr., & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher, 30*(3), 13-21.
- Clandinin, D. J., & Connelly, F. M. (2004). Knowledge, narrative, and self-study. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (Vol. 1, pp. 575-600). Dodrecht: Kluwer Academic Publishers.
- Cochran-Smith, M., Albert, L., Dimattia, P., Freedman, S., Jackson, R., Mooney, J., et al. (1999). Seeking social justice: A teacher education faculty's self-study. *International Journal of Leadership in Education, 2*(3), 229-253.
- Cochran-Smith, M., & Lytle, S. (1993). *Inside/outside: Teacher research and knowledge*. New York: Teachers College Press.
- Cochran-Smith, M., & Lytle, S. (2009). *Inquiry as stance: Practitioner research in the next generation*. New York: Teachers College Press.

- Cochran-Smith, M., & Lytle, S. L. (2004). Practitioner inquiry, knowledge, and university culture. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (Vol. 1, pp. 817-869). Dodrecht: Kluwer Academic Publishers.
- Cole, A., & Knowles, G. (1998). The self-study of teacher education practices and the reform of teacher education. In M. L. Hamilton (Ed.), *Reconceptualizing teaching practice: Self-study in teacher education*. London: Falmer Press.
- Cole, A., & Knowles, G. (2000). *Researching teaching: Exploring teacher development through reflexive inquiry*. Boston: Allyn Bacon.
- Cuenca, A. (2010). In loco paedagogus: The pedagogy of a novice university supervisor. *Studying Teacher Education, 6*(1), 29-43.
- Dewey, J. (1932/2005). *Art as experience*. New York: Perigee Press.
- Dewey, J. (1983). *Middle works of John Dewey: 1923-1924* (Vol. 15). Carbondale: Southern Illinois Press.
- Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education, 54*(1), 6-18.
- Egan, K. (1992). *Imagination in teaching and learning: The middle school years*. Chicago: University of Chicago Press.
- Eisner, E. W. (2002). From episteme to phronesis to artistry in the study and improvement of teaching. *Teaching and Teacher Education, 18*, 375-385.
- Fecho, B., & Allen, J. (2003). Teachign inquiry into literacy, social justice, and power. In J. Flood (Ed.), *Handbook of research on teaching the English language arts* (2nd ed., pp. 232-246). Mahwah: Lawrence Erlbaum.
- Fenstermacher, G. (1994). The knower and the known: The nature of knowledge in research and teaching. In L. Darling-Hammond (Ed.), *Review of research in education* (Vol. 20, pp. 3-56). Washington, DC: American Educational Research Association.
- Freeman, M., deMarrais, K. D., Preissle, J., Roulston, K., & St. Pierre, E. A. (2007). Standards of evidence in qualitative research: An incitement to discourse. *Educational Researcher, 36*(1), 25-32.
- Freire, P. (2007). *Pedagogy of the Oppressed*. New York: Continuum.

- Gitlin, A. (1996). Gender and professionalization: An institutional analysis of teacher education and unionism at the turn of the twentieth century. *Teachers College Record, 97*(4), 588-624.
- Gitlin, A., & Peck, M. (2005). *Educational poetics: Inquiry, freedom, and innovative necessity*. New York: Peter Lang.
- Grimett, P. P., & MacKinnon, A. M. (1992). Craft knowledge and the education of teachers. *Review of Educational Research, 18*, 385-456.
- Grossman, P. (2005). Research on pedagogical approaches in teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 425-476). Washington, D.C.: American Educational Research Association.
- Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal, 45*(1), 184-205.
- Howe, K. R. (2009). Positivist dogmas, rhetoric, and the education science question. *Educational Researcher, 38*(6), 428-440.
- Huberman, M. (1996). Focus on research moving mainstream: Taking a closer look at teacher research. *Language Arts, 73*(2), 124-140.
- Johnston, M. (2006). The lamp and the mirror: Action research and self studies in the social studies. In K. C. Barton (Ed.), *Research methods in social studies education*. Greenwich: Information Age Press.
- LaBoskey, V. (2004). The methodology of self-study and its theoretical underpinnings. In J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (Vol. 1, pp. 817-869). Dodrecht: Kluwer Academic Publishers.
- Lagemann, E. C. (2000). *An elusive science: The troubling history of education research*. Chicago: University of Chicago Press.
- Loughran, J. (2006). *Developing a pedagogy of teacher education: Understanding teaching and learning about teaching*. London: Routledge.
- Loughran, J. J. (1996). *Developing reflective practice: Learning about teaching and learning through modelling*. London: Falmer Press.

- Loughran, J. J. (2004). A history and context of self-study of teaching and teacher education practices. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (Vol. 1, pp. 7-40). Dodrecht: Springer.
- Loughran, J. J. (2008). Toward a better understanding of teaching and learnign about teaching. In M. Cochran-Smith, S. Feiman-Nemser, D. J. McIntyre & K. E. Demers (Eds.), *Handbook of research on teacher education* (3rd ed., pp. 1177-1182). New York: Routledge.
- McDonald, J. P. (1992). *Teaching: Making sense of an uncertain gift*. New York: Teachers College Press.
- Munby, H., & Russell, T. (1994). The authority of experience in learnign to teach: Messages from a physics method class. *Journal of Teacher Education, 4(2)*, 86-95.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education* (2nd ed.). New York: Macmillan.
- Ritter, J. K. (2009). Developing a vision of teacher education: How my classroom teacher understandings evolved in the university environment. *Studying Teacher Education, 5(1)*, 45-60.
- Samaras, A. (2002). *Self-study for teacher educators: Crafting a pedagogy for educational change*. . New York: Peter Lang Publishing.
- Segall, A. (2004). Revisiting pedagogical content knowledge: The pedagogy of content/the content of pedagogy. *Teaching and Teacher Education, 20*, 489-504.
- Shavelson, R., & Towne, L. (Eds.). (2002). *Scientific reseach in education, Report of the National Research Council's Committee on Scientific Principles in Education Research*. Washington, DC: National Academy Press.
- St. Pierre, E. A. (2002). "Science" rejects postmodernism. *Educational Researcher, 31(8)*, 25-27.
- Tillman, L. C. (2009). The never-ending educations cience debate: Im ready to move on. *Educational Researcher, 38(6)*, 458-462.
- van Manen, M. (1991). *The tact of teaching: The meaning of pedagogical thoughtfulness*. Albany: State University of New York Press.
- van Manen, M. (1994). Pedagogy, virtue, and narrative identity in teaching. *Curriculum Inquiry, 24(2)*, 135-170.

- van Manen, M. (1999). The language of pedagogy and primacy of student experience. In J. Loughran (Ed.), *Researching teaching: Methodologies and practices for understanding pedagogy*. London: Falmer Press.
- Whitehead, J. (1989). Creating a living education theory from questions of the knin, 'How do I improve my practice?'. *Cambridge Journal of Education, 19(1)*, 41-52.
- Wilson, S. M. (1990). The secret garden of teacher education. *Phi Delata Kappan*.
- Zeichner, K. (1999). The new scholarship in teacher education. *Educational Researcher, 28(9)*, 4-15.
- Zeichner, K. (2005a). Becoming a teacher educator: A personal perspective. *Teaching and Teacher Education, 21(2)*, 117-124.
- Zeichner, K. (2005b). A research agenda for teacher education. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 737-760). Washington, D.C.: American Educational Research Association.
- Zeichner, K., & Conklin, H. G. (2008). Teacher education programs as sites for teacher preparation. In M. Cochran-Smith, S. Feiman-Nemser & D. J. McIntyre (Eds.), *Handbook of research on teacher education*. New York: Routledge.
- Zeichner, K. M., & Noffke, S. E. (2001). Practitioner research. In V. Richardson (Ed.), *Handbook of Research on Teaching* (4th ed.). Washington, DC: American Educational Research Association.
- Zollers, N. J., Albert, L. R., & Cochran-Smith, M. (2000). In pursuit of social justice: Collaborative research and practice in teacher education. *Action in Teacher Education, 22(2)*, 1-14.