OPENING POSSIBILITIES FOR RESEARCH IN TEACHER EDUCATORS' LEARNING

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ABSTRACT Based on our editorial work on the Sage Handbook of Research on Teacher Education (2017), this chapter addresses current research to extend the scope of teacher educators and their learning. Employing two kinds of scholarship, *integration* and *disruption*, helps us to discern different interpretations that guide understanding and developing learning in teacher education. By stretching the boundaries of teacher education we seek new understandings about how research can help us to develop new ways of engaging in teacher education. We conclude that research on teacher education is not about clear answers, solutions, or theories but to understand the complexities of how we are thinking about, and engaging in, the practices and policies of teacher education.

This chapter emerges from our editorial work together on the 2017 Sage Handbook of Research on Teacher Education (Clandinin & Husu, 2017). In editing the Handbook we worked with other scholars to review the wide ranging research in, and on, teacher education. As we looked across the chapters that reviewed the research literature in teacher education, we particularly noted interwoven ideas around who teacher educators were, the places where they were situated, and their learning. In this chapter, we take up those interwoven questions and address the identities and places of teacher educators in order to explore teacher educator learning.

The idea of stretching boundaries around who should be named as teacher educators is evident in earlier literature, such as Goodlad, Soder & Sirotnik's (1990) call to consider not only those who work in

faculties and colleges of education as teacher educators but also those who work in faculties of arts and sciences. Questions around the places where teacher educators are situated are also not new; they endure and have been taken up in diverse ways in the research literature (e.g. Ben-Peretz, 2001; Ducharme, 1996; Goodwin et al., 2014; Hadar & Brody, 2017; Loughran, Korthagen & Russell, 2008). Stretching the boundaries around places of teacher education was visible in Schön's (1987) work as he outlined the move of teacher education from apprenticeships in practice to the university with some opportunities to practice in schools and classrooms. However, the puzzles around place, and about who are teacher educators, have become more complex from those noted in the 1990s. Questions of who are the teacher educators are necessarily intertwined with questions of place and of temporality. We cannot separate the 'who' of teacher educators from the 'where' of teacher education (Clandinin & Husu, 2017).

We begin with a brief account of the learning of teacher educators as well as the ways teachers learn from diverse teacher educators. In so doing, we seek new understandings about how to educate teachers, and how research on teacher education can help us to see, and develop, new ways of engaging in teacher education. In their extensive review of teacher educators' professional learning, Ping, Schellings & Beijaard (2018) show that research on teacher educators' professional learning is a growing field of interest but one fragmented in focus. Their review indicates there is no clear essential knowledge base for teacher educators' work. Teacher educators undertake different activities from which to learn and generally experience the need to learn to do their

work better. Besides learning through academic engagement (conducting and reading academic research, or conducting practitioner research focusing on the improvement of their practices), teacher educators learn through their collaborative activities by discussing or exchanging ideas with colleagues, student teachers, mentors, and teachers at school. With this expansive view of the learning of teacher educators in mind, we turn first to our organizing structure for our review of the literature.

Reviewing the research literature: Scholarships of integration and disruption

As we reviewed research, some of which is included in the various chapters in the Handbook, we developed the possibility of seeing two kinds of scholarship at work in the field. One kind of scholarship was *integration* (Boyer, 1990), characterized as involving "doing research at the boundaries where fields converge … [It] also means interpretation, fitting research into larger intellectual patterns. (p. 19)" The scholarship of integration involves asking, "What do the findings mean?" (p. 19) in relation to other research as well as to fields of practice. Boyer's work drew our attention to the importance of attending, not only to lines or programs of research in teacher education, but also to the boundaries where the many fields that attend, even peripherally to teacher education, meet. Thinking with this kind of scholarship drew our attention to the importance of trying to create, or discern, larger intellectual patterns at work in research in teacher education.

Scholarships of integration offer us a kind of dual focus on attending to boundaries as well as on creating larger intellectual patterns.

Not long into the process of studying the research reviewed in the Handbook chapters, we began to see a need to break away from those increasingly bigger and more inclusive pictures. We sensed the need to create a rupture (or a crack) in taken-for-granted ways of seeing teacher education and the research on it. We conceptualized a second kind of scholarship that we call a scholarship of *disruption*. Working with the idea of disruption, that is, of creating a rupture, crack or break, was inspired, in part, by Leonard Cohen's song Anthem and his words "There is a crack in everything. That's how the light gets in". We used the idea of a scholarship of disruption in the Handbook with the hope that we, and others, could discern, or possibly create, cracks in research patterns, traditions, and ways of seeing teacher education. We began to imagine disruption as a way to allow us to create a scholarship through which we undid previously unquestioned frames in order to attend to enduring puzzles in new ways, with previously unheard voices, and from contexts that could not be understood without new framings. We saw the importance of developing new concepts to disrupt those 'bigger pictures' dominating our thinking and ways of seeing and doing teacher education.

Following the Oxford dictionary definition of disruption, we use the concept to 'interrupt' or 'break the flow or continuity' of doing research in, and on, teacher education. While a disruption can be thought of as a negative experience, an experience of not fitting into expectations, and of being disturbed (Gans, 2016), we see it as having unexpected

consequences in that it creates a disjuncture that allows us to imagine what Maxine Greene (1995) called "otherwise", what is not yet known. Through deliberate reflection and inquiry within a scholarship of disruption, we may see possibilities for change and new understandings. Disruptions are, as we are using the concept, places of tensions, places that ask us to stop and inquire, to engage in wondering about what it means to engage in research on teacher education. As we attend to the boundaries where fields converge in scholarships of integration, tensions become inevitable. Rather than smooth them over, we see the importance of identifying tensions and using them as ways to disrupt the taken-for-granted, to see them as cracks or breaks that let us think and try anew.

We use these two kinds of scholarships, integration and disruption, developed for the Handbook, as the way to structure this chapter. While integration allows us to bring ideas together, an experience of disruption allows us to contemplate Dewey's idea of uncertainty (1929), and allows us to take an inquiry stance. What does it mean to be disrupted, recognizing that new things may be happening at research edges? What new understandings, decisions, and actions are made possible in the experienced and anticipated disruptions?

Sources indicating a need for scholarships of disruption

As we worked with what we might learn through both scholarships of disruption and integration for this chapter, we became attentive to the sources of disruption. Often, disruption becomes visible when choices

that once were successful are no longer successful (Gans, 2016). Put simply, sometimes it is important to disrupt something when you are doing the same things, in your own box, for too long. As we reviewed the research literature in teacher education, we saw much had changed in understandings of learning, of organizations, of knowledge. We saw that a different knowledge landscape (Clandinin and Connelly, 1996) was evolving, a landscape shaped by social media, technology and an increasingly global world shaped by dominant narratives of capitalism, development, and achievement. We saw the tensions created by these shifts and changes (Morris, 2016). We recognized that now may be a time for more attention to scholarships of disruption. After many successful years, research in teacher education may not meet current or future demands. Particularly we noted that research in teacher education needed to be more inclusive of other voices, ones outside our research and publishing boxes. We saw how crucial dialogue is.

The need for a scholarship of disruption does not mean that what we are now doing is a failure; rather it may signal that we have been satisfied with current research practices and inquiring into relatively stable research topics into what might have been effective in other times and places (Gant, 2016). For some time researchers in teacher education have continued a focus on using familiar methodologies, hearing familiar voices, framing research on familiar topics. A scholarship of disruption allows us to open new possibilities to better respond to changing circumstances and to changing research, policy, and practice communities as well as the changing knowledge landscapes in which children, families, teachers, and we all live.

The need for a scholarship of disruption also arises from inside sources in ways that we, together with our organizations, are not able to respond to situations and events that become visible. As children and families experience changing knowledge landscapes and, as technology and social media radically shift learning and living contexts, researchers can no longer proceed in what have been seen as normal or usual patterns. Small changes do not make the necessary change.

These sources for the importance of scholarships of disruption shape the need to attend to different people in different places as teacher educators and to see the interconnections among them. No one could build e.g. “constructivist-based teacher education”, or “care-based teacher education”alone. Multiple people working together are necessary. To do so, every teacher educator, within and outside organizations, are required to learn new knowledge and skills. We can no longer assume that teacher educators are teachers and faculty members positioned in universities. In a scholarship of disruption we open questions around who the teacher educators are and where they work in order to disrupt the taken for granted.

When we open the questions of who are teacher educators and where do they work, we see a landscape that might be best thought of as a kind of interconnected web. Educators never operate independently. At some point, knowledge and skills must be generated in ways that establish how individual skills and competencies are linked and how they work together. Teacher education requires shared knowledge and skills (Melasalmi and Husu, 2016, 2018) that conveys how pieces in systems fit together. It may be that these connective tissues, these

warps and wefts of complex weavings, are not visible and perhaps not developed in any way.

In summary then, in this chapter we take up a scholarship of integration as well as open up the possibilities for scholarships of disruption, scholarship that allows us to think about intellectual patterns that cut across a range of research as well as opening questions around which fields edge the field of research on, and for, teacher education. Working with two kinds of scholarship, integration and disruption, allows the possibility for making visible gaps, silences, omissions, and tensions. In this way perhaps we discern new ways forward for research in teacher education.

Scholarships of integration and disruption around who teacher educators are and where they work

Linor Hadar and David Broady (2017) highlight teacher educators' role in preparing the next generation of teachers as they "hold much responsibility for the success and quality of teacher education programs, and thus to the quality of teaching" (p. 1049). This has also increased research interest in teacher educators and on the processes of becoming a teacher educator, their role and educational practices, and their professional development.

While Hadar and Broady point out the importance of teacher educators, they mainly focus on teacher educators in teacher education institutions. However, as Murray (2017) noted, "teacher educators are not always a well defined or widely recognised group", something that

is “particularly evident when working transnationally” (p. 1017). Murray pointed out that the lack of a definition of teacher educators as “a stable, homogeneous and clearly demarcated occupational group” has “persisted over time and national contexts” (ibid). Ronnie Davey (2013) noted “the problems of identification and delimitation with respect to who is, and is not, a teacher educator have persisted to the present” (p. 21) with this ‘vagueness’ around definition increasing “in the last two decades because of moves to make in-school mentors more responsible for the preparation of future teachers in some jurisdictions, and an increasing reliance on casualised staff” (p. 20) to provide parts of teacher education programs.

Within a scholarship of integration teacher educators are most often seen as university teachers working in faculties of education and teachers and other people working in schools. In addition, and more recently, research has also focused on teacher educators as including communities of practice such as cooperating and mentor teachers, and school administrators. Some research also includes other student teachers as teacher educators (Korhonen, Heikkinen, Kiviniemi & Tynjälä, 2017; Lamb, 2015). Considerations within a scholarship of disruption of who teacher educators are stretch far beyond those in faculties of education and faculties of arts and sciences as well as beyond those in schools and classrooms. We do not intend to say that anyone or everyone is a teacher educator. While we want to consider those who are teacher educators in universities (faculties of education as well as those in faculties of arts and sciences) and teachers and those who work in schools, including mentor teachers, other student teachers,

and administrators, we also want to disrupt the boundaries around who are teacher educators.

While the boundaries around who are the teacher educators have begun to be more inclusive, questions of the learning of teacher educators are more often now being asked. Stefinee Pinnegar (2017) pointed out that "attention to the preparation and learning of teacher educators is a fairly recent topic" (p. 1011) in research in teacher education, noting that "just as teachers often assert they taught themselves to teach, most teacher educators would argue that they taught themselves to be teacher educators (see Arizona Group, 1995). While questions of preparation and learning of teacher educators are relatively new, scholarships of disruption are emerging with researchers opening up questions that disrupt these commonly accepted notions of who teacher educators are, and further complicate considerations of the preparation and learning of teacher educators.

Katharine Payne and Kevin Zeichner (2017) highlight the need for research in teacher education to be conducted with families and community members and in community places. For them, families, community members, and community places are also teacher educators. Zeichner, an advocate for a kind of third space in teacher education, noted that *Teacher Education 3.0* is teacher education where the relational voices of families and community members are included both in the practices and policy discussions of teacher education (Zeichner, Bowman, Guillen & Napolitan, 2016). More than just naming families and community members as stakeholders in teacher education, Paine and Zeichner (2017) argue that

> teacher education needs to draw on the knowledge and assets of the communities and families that teacher education is preparing teachers to serve. Ignoring this knowledge denies access to beginning teachers of the contextual and cultural knowledge that is necessary for them to be successful in supporting student learning and development. (p. 1106)

Further they argue that *Teacher Education 3.0*

> necessitates the weaving together of knowledge from universities, schools, and communities. … maintaining separate spheres of knowledge risks the continued dominance of university knowledge over school and community knowledge …[and] ignores the need to come together around the common problem of educational equity and develop solutions that are mutually beneficial to children, teacher candidates, and the multiple institutions involved in teacher education. (p. 1107).

In their view, there is an intense need to engage in research to come to know more about the kinds of knowledge that lives in communities, families, and places. It is clear that they see families, communities, and other places, and the knowledge that lives in those people and places, as teacher educators. Payne and Zeichner (2017) and others (e.g. Ellis & McNicholl, 2015; Zygmunt & Clark, 2016) draw attention to the knowledge that lives in communities, families and places that needs to be brought into the learning of teacher educators, those in the universities, schools, and communities.

Beatrice Avalos (2017) also draws attention "to the opening of the traditional teacher education space to communities and indigenous groups not as participants to be referred to, or described, but as co-constructors in the preparation of teachers, the teacher education processes and their enactment" (p. 1084). Cook-Sather and Baker-Doyle (2017) speak about "invitations to the co-construction of work" (p. 359). While their focus is on positioning students as teacher educators,

along with Avalos, they are suggesting the need to disrupt the pervasive framings of who are teacher educators.

Madden and Glanfield (2017) suggest additional ways to disrupt the taken for granted framing of the places and people who are teacher educators. They open questions of indigenizing teacher education. In outlining a new pedagogical pathway, they draw on research

> situated within Indigenous communities and defined by the educative priorities of communities. Such a pathway could be named Indigenous community-driven (Eisinger & Senturia, 2001) teacher education…We imagine that there could be many new possibilities for researchers working with Indigenous communities to position themselves and their collaborative research within the field of teacher education. (p. 1160)

The move to decolonize teacher education through shifting the people seen as teacher educators and places of teacher education is consistent with larger international moves to decolonize many institutional and social practices, including research practices. These moves are occurring around the world and with increasing forcefulness (e.g. Connell, 2013; Pillay, 2017; Smith, 2013).

Hoekstra, Brekelmans, Beijaard, Korthagen and Imant (2009) and others (e.g. Jurasaite-Harbison & Rex, 2010; Kyndt, Gijbels, Grosemans & Donche, 2016) also open possibilities of who teacher educators are and the places of teacher education in their research on informal learning over the span of a teacher's career. For many years they highlighted the importance of informal learning as learning that is not organized and does not have set objectives or formal intentions on the learner's part: learning occurs at home, at work, in the community, via social media and so on. A wide range of people, places, and things can be

seen as teacher educators. As we widen our attention to take in what lives on the periphery of what we see as formal learning, we again see the disruption of smooth boundaries around questions of who are the teacher educators.

Michael Connelly and Jean Clandinin (Connelly and Clandinin, 1988), Freema Elbaz-Luwisch (2013), and Cheryl Craig (2009) also attended to ways teacher educators are educated by events and people in our lives over time, some of them in formal schooling situations but many of them in other educative but non-schooling or non-formal settings. As we broaden the boundaries around who teacher educators are, we also draw attention to the ways our autobiographical narratives of experience educate us as teacher educators (Lindsay et al., 2016) and shape our learning. By attending to prior and present professional and personal knowledge landscapes (Clandinin, Schaefer, and Downey, 2014) in which teachers, prospective teachers, and teacher educators live, the range of people, places, and things named as teacher educators is highlighted. Attending to familial and early learning also highlights the ways intergenerational social, institutional, and cultural narratives shape the learning of teacher educators.

While current research does not expressly note the importance of understanding students, children, and youth as teacher educators, we see that by stretching the boundaries around who counts as teacher educators, there is an important research gap around including people positioned as students, children, and youth who need to also be considered as teacher educators (see e. g. McDonald, Bowman and

Brayko, 2013; Rudduck and McIntyre, 2007; Thiessen and Cook-Sather, 2007).

In line with this, Kelchtermans & Vanassche (2017) emphasize constant negotiation between teacher educators, student teachers, and students with whom they work. They underscore that learning to teach

> requires value-laden choices, ethical judgement, personal commitment, and care from the part of the teachers or educators. It is about doing justice to the educational needs of the children and youth that have been confined to their care and for whom they feel responsible. (p. 441)

However, teachers differ in their views and commitments of the best interests of their students (Tirri & Husu, 2002), and thus educational practices involve issues of influence, power and negotiation.

Learning of Teacher Educators in Multiple Places

As we considered the possibilities for scholarships of disruption that were beginning to be visible in our review (Clandinin & Husu, 2017) of research in teacher education, we saw the importance of attending to the ways teacher educators learned wise practices, and learned to create spaces for those learning to be teacher educators to study research, to engage in autobiographical reflective and reflexive work, and to try out ideas of what might be possible. We saw the importance of more intentionally including the knowledge of communities, children, and youth in teacher education by inviting others to see themselves as teacher educators, not in order to assimilate other knowledge in a scholarship of integration but to start to change teacher education in significant ways.

By including others, and other communities, as teacher educators we begin to make the complexities of knowledge visible, to open it to inquiries that lead us to question what we know, how we know, and what kind of spaces are necessary in order to sustain ourselves in teacher education. However, this is not work that can be undertaken lightly, easily, or quickly. It is difficult work that asks each of us to attend carefully to questions of who are teacher educators, and how do they work with, and engage with, those learning to teach as well as to consider their own learning as teacher educators.

Place is inextricably intertwined with consideration of questions around those who teacher educators are. In our review of research in the Handbook, we most commonly saw the place of teacher education as in university classrooms, and schools and school classrooms. Research highlighted that teacher educators worked, sometimes collaboratively, sometimes less collaboratively, in the university and in the schools.

However, there is also an emerging scholarship of disruption around place. Sometimes what we see as a scholarship of disruption around place is connected to the calls made by Payne and Zeichner (2017) and others around who teacher educators are. Craig Deed (2017) draws on a metaphor of 'school-lessness' that "broadly references learning environments that are representative of the affordances of digital spaces, including openness and the individualization of learning" (p. 1087). Deed reviews research that shows the ways that "digital technology fragments and intensifies the contextual milieu of teacher preparation and expands the scope and reach of teacher educator work and identity into different learning

environments beyond the formal structured campus experience" (pp. 1087-1088). By including virtual learning places, Deed opens up other questions around places in research in teacher education, ones that increasingly shape practices in teacher education.

In opening up questions around the places of teacher education, Sean Lessard (2014) engaged in research focussed on the lives of Indigenous youth. By attending to the youth and their families' lives, he showed that shifts in places of teaching, from urban centers to reservation places, and including families and communities and places as teacher educators, that more educative spaces for Indigenous youth are created. In doing so, teacher educators found ways to both acknowledge and honour the youths' experiences within their communities and to make visible the importance of place as an educative agent in teacher education.

Claire Desrochers (2017) also highlighted the importance of place in considerations of the learning of teacher educators. She worked with preservice teachers in afterschool places as preservice teachers took courses at university. Each different place (with the youth in after school programs and in university courses) "created a learning space that had contextual, relational, and temporal qualities that combined to create an educative experience" (p. 75). Desrochers described the pre-service teachers' experiences in the after school program as "dispositioning contexts", "qualitatively different from traditional field placements"(ibid.). She noted that the "youth club setting was also unique in that it provided an opportunity to engage with children in a context that was neither like home, nor like school…Situated

somewhere in between what education students typically experience as theory-driven teacher education classrooms and practice-driven practicum settings, the youth club provided a learning space where [the student teachers] could engage with children from diverse backgrounds as children, and not as students" (p. 77).

What Lessard and Desrochers show fits with what Oyler, Morvay and Sullivan (2017) report, that is

> how teacher educators move teacher education from inside the walls of universities and classrooms to teacher education that is in the world—and not just in the world, but designed to act upon the world and leave it changed by enacting pedagogies of teacher social actions (p. 232).

These shifts in place also occur as teacher educators move outside school and university places in experiential learning sites and to work with pre-service and practicing teachers in art galleries, museums, community settings, and outdoor locations. What is remarkable is the ways that shifting the place of teacher education outside schools or university settings opens up other ways to compose relationships among people and to open new possible questions about social relations and the learning of teacher educators. Different places also work in agentic ways, that is, as active participants in teacher education. Anne Edwards (2017) argues that

> if agency is understood in terms of the part it plays in student teachers' learning, we might clear up some of the misconceptions that inhibit the development of the teacher education needed for the twenty-first century. The argument will centre on the learning dialectic between person and practice or culture, where individual and collective shape each other and where the professional knowledge and values embedded in practices are important. (p. 269)

While we still engage in teacher education in schools and in universities, the places where teacher education occurs are shifting if we are attentive to a scholarship of disruption. The importance of being able to imagine otherwise will, of necessity, ask us to be ready to find ways to engage spaces in the middle, spaces where light makes visible what was unseen or as yet unknown or unknowable.

Spaces of learning in teacher education

In the Handbook, we wanted to keep our focus on teacher educator learning as well as on how they worked with teachers to create situations for them to learn professional knowledge and skills during the formal years of teacher education, and to develop their professional competencies during their careers. Using different theoretical frames as connective tissues we aimed to come to grips with how a particular theoretical frame drives research tasks, positions research in different contexts, and brings a different set of interpretations to understand and develop those areas of learning in teacher education. As we reviewed chapters, we were reminded that keeping our research focus only, and too closely, on the learning of children in classrooms keeps hidden the central importance concerning the learning of teachers and teacher educators. We saw that too close a focus on K-12 classrooms as the major sites of learning and students as the only learners was problematic.

Grossman and McDonald (2008) highlighted the importance of considerations of what counts as the field of research in teaching, and

what counts as the field of research on teacher education, as well as how the two research fields are positioned in relation to each other. Often research (just) explores the factors (outside teacher education) and how those factors may influence teacher learning in teacher education rather than researching what constitutes teacher learning during teacher education. As Russ, Sherin and Sherin (2016) argue, perhaps we should concentrate more on researching "entities that change with learning and the processes that result in those changes" (p. 392). Would that help us see how "different entities and processes [in teacher education] are involved in [teacher] learning and [how] those entities and processes interact with each other in complex ways [in teacher education]?" (ibid.) We became convinced of the need for clarity around what is research on teacher education.

While we intended to keep what counts as research on teaching and research on teacher education separate, we wondered if it is important to consider other fields of research, which also converge at the boundaries with research on teacher education. What becomes visible if we loosen the tight coupling between research on teaching and research on teacher education, and begin to consider other fields of importance in research on teacher education?

A scholarship of disruption in understanding teacher educators' learning

As Auli Toom, a Handbook Section Editor noted, while it is now broadly accepted that teachers are the most important influence on students'

learning (e.g., Hattie, 2012; Sanders & Horn, 1998), and that teacher quality is a key determinant to successful student learning, it is surprising that there does not exist more research focusing on the learning or the assessment of the learning of core competencies – in a wider sense - during teacher education (Struyven & De Meyst, 2010; Toom, 2017). Without close attention to teachers as learners across the continua of teacher education we may fail to recognize the importance of creating schools and classrooms as sites for teachers' continuous learning.

Student teachers, in part, learn in the context of the teacher education programmes in which they are involved. The ways in which teacher education is organized and the pedagogies and assessment practices (Shavelson, 2013) that are used in the programme influence the capabilities with which student teachers enter the teaching profession (Toom, 2017). This implies that we must pay close attention not only to teacher education curriculum but also to pedagogies of teacher education.

Juanjo Mena (2017) noted that how learning to teach and educate is best accomplished and supported, is, in part, a question of pedagogies used in pre- and in-service teacher education. He underlines the task of pedagogies of teacher education to "organize knowledge, skills and experiences in order to understand practice" (p. 509) and to take up challenges in learning teaching in teacher education.

We know many researchers are working to engage in a scholarship of disruption. However, as we completed the Handbook, we were somewhat surprised that, while many authors espouse a more critical

edge, there appear to be few examples of living critical edges in teacher education practices. This can be described as 'talking the talk' (Cochran-Smith, 2004), that is, we more often 'talk' about conceptual ideas and beliefs being disseminated, rather than 'walk' with those ideas.

However, it is clear that there is a developing scholarship of disruption emerging in which teacher educators, in multiple places, work together with student teachers and students to make a difference in their learning (see e.g. Ishimaru & Takahashi, 2017; Ma, 2016; Morris, 2016). For example, Oyler, Morvay and Sullivan (2017) draw attention to studies where teacher education is undertaken for social action. They explore how students, teachers, teacher educators, and nonprofit leaders – all moved by their own critical consciousness – forge unique relationships that exceed the typical school-university partnerships. It is teacher education that works toward building critical consciousness that enables teachers to integrate activism into their work and identities as teachers.

Payne and Zeichner (2017) show ways that communities can be part of teacher education by together seeking solutions to social justice problems affecting students, teacher candidates, schools and communities. They advocate 'third spaces' where unofficial spaces in interaction with official spaces and discourses are included and supported. They note barriers that make this move a difficult one, but also show ways in which co-working towards a more relevant teacher education can take place. Many researchers encourage us to move towards broader understandings of teacher learning over time, and in and out of formal learning places.

In this emerging scholarship of disruption, the fixed settings of 'Who are the key learners in teacher education' and 'Where and how are learners learning' are being recalibrated. Researchers are demonstrating the importance of studying teacher learning during teacher education and, in so doing, search for new pedagogical tools and methods to support this broader attentiveness to learning. There are searches for new directions that can help us attend in multi perspectival ways in which children, youth, teachers, and teacher educators are all understood as learning simultaneously, albeit with different contents, different learning goals, and different future-oriented trajectories. In this way, perhaps we can make connections between the multiple ways in which learning is occurring and the multiple people who are learning in teacher education research.

As we completed the Handbook we acknowledged that research in teacher education will not be able to offer explanatory and predictive theories. Teacher education is a web of highly complex social phenomena and it cannot be studied within a conventional meaning of the word 'science'. Research in teacher education is not done in order to build and develop theories, but to contribute shared understandings that will help "in clarifying where we are, where we want to go, and what is desirable according to diverse sets of values and interests" in our societies (Flyvbjerg, 2001, p. 167). This requires constant re-examination of our basic premises in, and for, teacher education.

We take up Flyvbjerg's point, as we understand that what we are trying to do in research on, and for, teacher education is not to arrive at clear answers, solutions, or theories but to understand the complexities

of how we are thinking about, and engaging in, the practices and policies of teacher education. It is research, understood as searching again, through these complex phenomena that allow us to come to new insights and, perhaps, to wiser practices.

Gathering Thoughts

There is a rich field of research in teacher education that becomes visible when questions around who counts as teacher educators, and where are the places of teacher education, are opened. More inclusive boundaries disrupt how teacher education has been conceptualized. “There is a crack in everything. That's how the light gets in” wrote Leonard Cohen. As we thought about cracks that allow light in, we were drawn to the importance of questions such as “I wonder why”, “I wonder how”, and “I wonder what if”. Wonders draw forward imagination and curiosity more than evidence and certainty. These wonders turn our minds to those inquiry edges, to what happens when “the light gets in” through an emerging scholarship of disruption.

When we discern larger patterns in what we know so far, we see the importance of a scholarship of integration. But perhaps wondering will turn us more to a scholarship of disruption, to the ‘what ifs’, the whys and the possibilities of imagining otherwise. Wonders that cause us to evoke our imaginations leave open the necessary troubling questions in teacher education that emerge in a scholarship of disruption. This is not an easy thing, this openness to otherwise. And yet it is this that will move us forward, will help us see what moves us to

new possibilities, will help us learn more about what we do not yet know about research in teacher education.

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