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Spheres of teacher leadership action for learning

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This paper offers a conceptual model and rich narratives that describe the contexts in which teacher leadership emerges and the many ways that leadership is enacted. Drawing on qualitative case studies of seven Maine, USA schools, the authors found that teachers initiated their own professional learning efforts with the central goal of improving the conditions and outcomes of student learning. Teachers were leading through their strong commitment to continued learning, and by modeling a willingness to take risks, to collaborate and to question existing practices. Teachers often began with a focus on their own learning and classroom teaching and later moved into other leadership spheres where they collaborated with and influenced colleagues and other stakeholders on a wider scale. When they encountered conflict, teachers found they needed to build both interpersonal and intrapersonal awareness and skills. This study broadens conceptions of what constitutes teacher leadership and professional development. The work of teacher leaders results in teacher learning as well as improved student learning. The findings indicate that informal and formal, individual and collective teacher work all contribute to teachers' professional learning and significant change in schools.

Keywords: teacher leadership; leadership spheres; professional learning; professional development; distributed leadership

Introduction

This paper offers a conceptual model describing the different contexts within which teachers engage in leadership action to effect positive change in their classrooms and schools. The model builds on the theoretical framework of York-Barr and Duke (2004), in that the nine spheres comprising it provide a deeper understanding of the many ways teachers demonstrate leadership through their efforts to develop their own professional learning for the purpose of improving student learning. This model expands the traditional conceptions of teacher leadership and describes the dynamic and context-dependent nature of teacher leadership.

The broader literature on teacher leadership posits the notion that school leadership involves the interaction of all participants working toward a shared vision of quality learning for all students (Smylie and Hart 1999, Fullan 2004, Donaldson 2006, Muijs and Harris 2007). Thus, we sought to explore how teachers in various school settings engage in individual or collective leadership to advance their vision

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of school improvement. We found that teachers in our case studies demonstrated many of the dispositions or characteristics that have been linked with teacher leadership in the literature (Lambert *et al.* 1996, Barth 1999, Katzenmeyer and Moller 2001, Frost and Durrant 2003, Ackerman and Mackenzie 2006). That is, teachers were internally driven to expand their professional knowledge and skills, experiment, take risks, collaborate, seek feedback from colleagues and question their own or others' practices, all because of their strong interest in improving the conditions and outcomes of student learning. Some teachers focused on improving teaching and learning within their own classrooms, while others moved beyond their classrooms to influence broader change in their schools.

Research questions and methods

We explored several dimensions of teacher leadership through the following questions:

- What are the different contexts within which teacher leadership activity emerges?
- Who initiates and is involved in these different leadership activities?
- What are teachers doing and what is the scope and focus of their leadership activity?

For this investigation, we drew on qualitative data from two mixed-methods studies we conducted during the 2006/07 school year in Maine, USA. One was a study of leadership teams in two elementary schools and three high schools. Only one of these teams was a formal structure in the school; the others were *ad hoc* teams, initially focused on particular initiatives. Teachers enrolled in a graduate program for educational leadership served as researchers in their own schools. They interviewed 33 participants, 25 teachers and eight administrators, who were involved in formal or informal school leadership teams. They also observed and surveyed 23 of the teachers during their leadership team meetings. The teacher-researchers wrote analyses in collaboration with one of the authors of this paper.

Another source of data was a study of multi-grade grouping and other innovative practices in two middle schools conducted by one author of this paper. Data collection included interviews with school administrators (four), district superintendents (one), parents of students in multi-grade classrooms who were also school board members (five), and teachers (seven teachers in one school and nine in the other school), classroom observations and documents. Teachers were selected based on their experience with multi-grade teaching. The study also included survey items on a biennial survey of all public schools in Maine, USA, directed to school principals, to assess the prevalence of multi-grade grouping in classrooms in Maine (Fairman and Liu 2008).

Analysis of qualitative data for the two studies began with coding the interviews by hand for the study of teacher leadership teams and a combination of coding by software and by hand for the study of innovative, middle-level practices. Researchers wrote detailed case studies of teacher leadership within each of the seven schools.

For this investigation, we used the interview data and written case studies from the two studies. We explored our data with the goal of elaborating on the means, targets and outcomes of teacher leadership depicted in the York-Barr and Duke (2004) conceptual model. Through our data, we identified several distinct categories

or 'spheres' of teacher leadership activity and constructed analytical tables to describe the contextual factors we found, including such dimensions as who was leading, the scope and focus of leadership, what teachers were doing, and who initiated the leadership activity. From our findings, we developed a diagram and descriptions of each sphere (Fairman and Mackenzie 2010). To better illustrate the spheres, we wrote narratives of teacher leadership stories representing five of the schools in our seven case studies.

Conceptual framework

The impetus for our investigation began with our interest in York-Barr and Duke's (2004) review of 140 studies of teacher leadership covering a 20-year span. Their seven-part model, *Teacher Leadership for Student Learning* (York-Barr and Duke 2004, p. 289), describes a 'theory of action' for teacher leadership. Within this model, the foundations of teacher leadership come from the teachers themselves, the type of work they engage in together and the school context. Teacher leaders act in a variety of ways and roles with individuals, teams and the entire system with a focus on improving teaching and learning for students.

We saw that we could both broaden and deepen our understanding of the means, targets and outcomes of leadership influence depicted in the York-Barr and Duke (2004, p. 289) model, by elaborating the many ways we saw teachers in our case studies leading their schools toward improved teaching and learning. Thus, our descriptive model can be situated within the York-Barr and Duke (2004) theory of action for teacher leadership. Through analysis of our data, we developed the Spheres of Teacher Leadership Action for Learning model (Figure 1) that describes



Figure 1. Spheres of Teacher Leadership Action for Learning.
Source: Fairman and Mackenzie (2010)

Table 1. Descriptions of the spheres of teacher leadership action for learning.

Sphere	Description
A	Teachers decide to extend, deepen their professional knowledge and skills, show a commitment to engage in professional learning and improvement, and build professional expertise in preparation for making instructional changes in their classrooms (Lambert <i>et al.</i> 1996).
B	Teachers experiment, innovate and reflect on their beliefs as well as efforts to change practice in classrooms to improve student learning (Little 1990, Barth 1999, Cochran-Smith and Lytle 2001, Lambert 2003, Pavlou 2004).
C	Teachers share pedagogical views, instructional ideas and approaches to learning within the school (Silva <i>et al.</i> 2000, Harris and Muijs 2003, Lieberman and Miller 2004, Muijs and Harris 2006).
D	Teachers collaborate to experiment with new instructional approaches and curricular projects. They develop new work together, implement it and reflect on the implementation and impact on student learning (Wasley 1991, Harris and Muijs 2003, Muijs and Harris 2006, Yost <i>et al.</i> 2009).
E	Teachers work with and through various groups and relationships in the school to influence a change in norms, pedagogical beliefs and practices (Little 1990, Westheimer 1998, Silva <i>et al.</i> 2000, Darling-Hammond 2001, Greenfield 2005, Donaldson 2006, 2007, Muijs and Harris 2007).
F	Teachers question existing practices in the school, publicly advocate for change, build support for change and organize for school-wide change, thus building a foundation for distributed leadership capacity (Ogawa and Bossert 1995, Crowther <i>et al.</i> 2002, Spillane 2006, Frost 2008).
G	Teachers participate in planned school-wide improvement efforts, utilizing multiple leadership skills and focusing resources on shared goals (Frost and Durant 2003, Harris and Muijs 2003, Lambert 2006, Muijs and Harris 2007).
H	Teachers collaborate with the wider school community – parents and students – for school improvement efforts (Crowther <i>et al.</i> 2002).
I	Teachers share and present their work outside their own school, learning and stimulating change among other teachers; for example, through mentoring, presenting at conferences, professional organizations (Shulman 2000, Silva <i>et al.</i> 2000, Frost and Durrant 2003).

where and how teachers, individually or collectively, informally or formally, act and influence other teachers to improve student learning. In our view, leadership is a function, not a role, and many people are engaged in it (Leithwood and Riehl 2003, Fullan 2004, Hargreaves and Fink 2005, Donaldson 2006, Muijs and Harris 2006, 2007). Thus, we avoid using the term ‘role’ for what we saw; we prefer to describe what teachers were doing and where they were doing it.

We represent the spheres in a circle to depict the non-linear, non-continuous activity of teacher leaders. We see this as a three-dimensional model, where teachers move into and out of various kinds of leadership activity over the course of their careers. Table 1 describes the nature of leadership activity we observed within each sphere, citing the corroboration we found in the research literature.

Some observations about our conceptual model and the kinds of leadership activity we found in our seven case studies include the following:

- Teachers may work in one or more spheres at the same time.
- Teachers may move along the spheres in a linear fashion, from independent work to more collaborative and public work as they develop professional

expertise and confidence (Little 1990, Katzenmeyer and Moller 2001). Or, teachers may move among the spheres in a non-linear fashion, based on their own personal and professional circumstances, taking on leadership work as they are able and have time (Katzenmeyer and Moller 2001).

- Both individual effort within the classroom and collective effort demonstrate leadership and both influence change to improve student learning (Little 1990, Barth 1999, Lambert 2006, Mamoud 2010).
- Teachers or schools may pull in resources from the principal, district or other external sources, such as networks or experts, at any point to support their work within any of the spheres (Mattos 2011).
- Teachers may confront resistance or opposition from colleagues, administrators, or parents within any sphere. Teachers need leadership skills – interpersonal ability and intrapersonal awareness – to mediate conflict (Frost and Durrant 2003, Harris and Muijs 2003, Donaldson 2006, Frost 2008).
- In every sphere, teachers are leading because they are fulfilling tasks and influencing others with the primary focus of improved student learning. They do this by engaging in professional learning in many different ways (spheres). All teachers can be considered leaders (Frost and Durrant 2003, Muijs and Harris 2007, Mattos 2011).
- Teachers' internal commitment to improve student learning drives their efforts in every sphere. It propels them to engage in sometimes uncomfortable, difficult or risky work with others to bring about positive change.
- Sometimes teachers work in groups with teacher leaders, but they may not be leaders themselves in that their focus is not yet centered on improved student learning. Often this focus emerges as they engage in group tasks and share ideas.

Stories of teacher leadership within the nine spheres

The following narratives illustrate the spheres and describe the different contexts in which teachers initiated improvement efforts in their schools, the scope and focus of their efforts, their personal motivation to bring about change, the supports and challenges they experienced, and outcomes of the leadership activity. Throughout this paper we have used pseudonyms for the teachers and schools to maintain confidentiality.

Sphere A: teachers engage in learning about their practice

Tracy taught in a small Pre-Kindergarten to Grade Four school. Because of rapid turnover of teachers in her school, Tracy found herself the veteran teacher with only four years of experience. She was designated assistant principal although she received neither payment nor status for this job.

From the outset, Tracy was motivated to delve deeply into her practice and to learn as much as she could to improve her teaching, but worked on this mostly by herself without help from a principal who had a district-wide role as technology coordinator. Tracy sought support from the district curriculum coordinator, who helped her see connections to system-wide curricular goals. Tracy also enrolled in a graduate program in educational leadership. Her graduate work provided the primary stimulus for her professional growth as she was pushed to examine her

theories related to teaching, learning, and schooling, and to articulate her own platform of core beliefs. Tracy explained:

Fortunately for me I advocated for myself when I felt lost, and I also had support that I could seek elsewhere. I had a strong network of friends that I graduated with who were helpful in keeping me afloat, as well as some experienced teachers in other districts that I went to for ideas and advice.

Because of the sink-or-swim mentality of the district and high teacher turnover, Tracy felt alone in her efforts. However, her internal drive to find answers and support, coupled with the habit of reflective practice learned through her pre-service training and graduate work, provided a strong model for the other teachers in her building. Her awareness of her own professional growth led her to consider ways of sharing her knowledge of best practice with others.

Sphere B: teachers experiment and reflect

Donna and Sue taught on separate teams at their middle school, where each team had five teachers responsible for different core subjects. The two teachers discovered they shared similar pedagogical beliefs and began collaborating on some activities. Convinced that their fifth-grade and sixth-grade students would do better academically if they had fewer teachers during the school day, Donna and Sue began to pilot two self-contained classrooms. Reflecting on this experiment, the teachers realized the self-contained classroom limited opportunities for students to interact with a larger number of their peers. So Donna and Sue began mixing students across their fifth-grade and sixth-grade classrooms for some activities. Again, they reflected on the experiment and felt students benefited socially and academically from the structural changes they had made. They also decided to loop with their students, or remain with the same group of students as they progressed through the next grade level. After their students completed sixth grade, the teachers then ‘looped’ back to take a new group of students in the fifth grade. The teachers felt looping helped to strengthen positive relationships among students and between the teacher and students in the classroom, and allowed the teacher to focus on instruction more quickly in the following fall term as it was not necessary to spend time establishing classroom rules and routines, and relationships, or identifying students’ learning needs.

As a result of Donna and Sue’s experimentation, the school offered parents a choice between single-grade or multi-grade grouping and other teachers became willing to try mixing students across grades for instruction and the practice of looping. Donna described the wider impacts for her school this way:

It’s been a *huge, huge*, impact. ... we went to the two-person team, a smaller team. We’ve stopped doing the tracking. We stopped doing the departmentalized. We have teachers teaching out of their comfort zones.

The motivation for Donna and Sue’s innovations came from their own beliefs about teaching and learning and their informal discussions. They experimented with new approaches and reflected on the experience. Their willingness to take risks and significantly transform their team structure provided a powerful example of leadership and innovative practice that encouraged broader reforms in their school over time.

Sphere C: teachers share ideas with others, coach or mentor others

Although Tracy (described in Sphere A) felt she was not an expert teacher, she was concerned that the other young teachers in her elementary school felt isolated like she did. She took it upon herself to convene teachers from each grade level regularly to share problems in their practice, to align curriculum vertically, and to examine student work.

Tracy acknowledged that she was inspired by her graduate courses on supervision and staff development, which gave her confidence that she was employing good practice by encouraging colleagues to spend time together in this way. But she also indicated that sharing ideas with colleagues fulfilled her need to have input from other teachers on her teaching methods and materials. She discovered, as many people do, how much she learned while coaching the learning of others (Zachary 2000). Other teachers told Tracy they would never have dared to open up to other teachers unless she had made it safe for them to do so by sharing her own questions about what she was doing.

Tracy's initiative, leadership and confidence were influential in developing her own and her colleagues' teaching practice as they shared student work across grade levels in structured conversations. By describing the group as a team, and having a dual focus on individual as well as team development, she tried to enhance the school's capacity for change.

Sphere D: teachers collaborate and reflect together on collective work

As they became more confident in their innovative practices, Donna and Sue asked other teachers in the seventh and eighth grades if they would collaborate with them on a new interdisciplinary unit of study. Students were mixed for this activity across the classrooms and two grade levels. Describing the effort she and Donna made to encourage other teachers to collaborate on the interdisciplinary activity, Sue said: 'We broke down all barriers. ... We rewrote our whole schedule, for comfort level, for some people who were not ready [to teach outside their subject area]'.

Donna and Sue's informal efforts to encourage other teachers to try an interdisciplinary approach, their willingness to collaborate, and their ability to work with administrators to remove obstacles like scheduling issues all paved the way for positive change to spread beyond their own classrooms. As a result, other teachers became more willing to use an interdisciplinary approach over time, and to collaborate with their colleagues.

Sphere E: teachers interact in groups and through relationships to re-culture the school

Martha works in a small middle/high school as the district librarian. She regularly participates in professional development activities focused on school improvement. Within her graduate program, she outlined her own leadership development plan centered around her learning needs and a goal to promote literacy instruction throughout her school. Martha knew that a substantial cultural shift was required for all teachers to accept responsibility for teaching reading.

During a summer institute, Martha found a vehicle for cultural change in the concept of 'colleague critic'. Inspired, she encouraged an informal group of colleagues from diverse instructional areas to meet monthly to share student work

and peer observation. The experience enriched their practice, mitigated isolation and offered an opportunity for positive interactions among colleagues.

The group urged Martha to approach the district administration about expanding this work. The superintendent offered a small stipend to encourage all teachers and educational technicians to participate in a Critical Friends Group. The initial group members became facilitators of the new district-wide groups.

Although Martha was initially reluctant to speak up and lead initiatives, her positive experience within a small, collegial group gave her the confidence to work toward district-wide change to expand literacy instruction. She focused on a goal she cared deeply about. Her efforts gave her visibility and credibility with teachers and administrators. Her quiet and informal leadership had the effect of changing the culture in her small school by opening doors to collegial conversations and greater collaboration around shared goals. Teachers increasingly talked about and understood that they had a collective responsibility for the learning of all students in the school.

Sphere F: teachers question, advocate, build support and organizational capacity

At Lakeview Middle School, a new principal and teachers collaborated on the transformation of their school. They shared and discussed research on middle-level reforms, visited other schools, and encouraged teachers to take on informal and formal leadership activity.

One major effort was moving from single-grade grouping of students to multi-grade grouping that combined sixth-grade, seventh-grade, and eighth-grade students in the same classroom. After piloting the new structure on a limited basis, teachers agreed to create teams that were multi-grade for most of the day. They observed that student behavior and classroom climate improved, so they decided to expand the number of multi-grade teams. To prepare for this shift, teachers continued to share readings and discussion, modeled practices during staff meetings, and observed colleagues' classrooms. Single-grade teachers felt this support was critical in helping them learn about and overcome their fears about trying something new.

The principal and teachers were surprised by strong opposition from a group of parents in one community. To build support for their reform effort, the principal and teachers made presentations to parents in each community, invited parents to visit classrooms, produced a video of classroom experiences, disseminated a monthly newsletter that included research on middle schools, and held informational public meetings at the school.

In faculty meetings, teachers discussed the challenges they faced in bringing about the desired changes and the impact of negative feedback from parents. They felt the positive climate of trust and collegiality in the school allowed teachers to confront the difficult issues and to build support and capacity for school reform that was based on a shared goal and a focus on student learning.

Sphere G: teachers engage in collective, school-wide improvement, focus resources, and distribute leadership

Aileen, an English teacher at Drummond High School, was a member of an *ad hoc* group of teachers who formed her school's leadership team, which was part of a broader collaborative of schools. The principal was an intermittent member of the

team, preferring to let ideas flow among the teachers. He trusted the group to help the school improve. Aileen described the team as being ‘outside the regular chain of communication’ and said this factor allowed the group to function more as a ‘think tank’. Teachers in the *ad hoc* group felt they had the freedom to think outside the box. Aileen explained: ‘... unlike other groups, it [the team] does not begin its discussions with “why not?”, but “what ifs?”’.

Team members described the group as feeling safe and they trusted each other enough to be able to speak honestly, yet they made decisions by consensus. One member described their interactions this way:

The team prides itself on being ‘out of the loop’ and independent of allegiances to any sub-group in the school ... Members of the team have had to develop a global concept of the school ... One member put it, ‘You have to put all your sacred cows out to pasture. That’s probably the toughest part.’

Members of the leadership team did not think of themselves as leaders; yet they acknowledged that the team was leading important change in the school. They felt their team was effective because of the strong informal leadership of the participants, a shared vision for improving the school climate, a high level of trust among members and a collaborative model of problem-solving.

This *ad hoc* group established student advisory groups where teachers remain with the same students through four years and launched monthly collegial lunches where teachers discussed issues of teaching and learning. These structural changes led to a cultural change at Drummond High School, such that teachers recognized the need to take responsibility for the learning of all students in the school. The cultural change was demonstrated when the teachers organized themselves into professional learning communities to explore instructional strategies to improve students’ literacy achievement and measure progress.

Sphere H: teachers collaborate with the broader school community, parents and students

Johnson High School was also part of the leadership team collaborative and, like Drummond High School, sought to create cross-grade advisory groups to promote a sense of responsibility to nurture younger members of the school community. The groups emphasize team-building and developed coaching skills.

Martha, whom we described earlier (Sphere E), was an inveterate collector of data in her school. She played a key role in helping her school’s leadership team collect and analyze data to evaluate the impact of the advisory groups. The leadership team was able to show how the new advisory groups were perceived by teachers, students and parents, and they were successful in countering the claims of teachers who tried to block the initiative. Having outcome data gave Martha the confidence to go to the school board and advocate for the continuation of the program and to request resources to support it. Martha collaborated with other teachers, parents, the principal and a faculty member from the university to plan a retreat and to write a grant proposal that was funded to support the advisory activities. The district committed to funding the program after the grant funding ended.

Parents appreciated that the grant also supported visits to colleges for high school students and meetings on financial planning for college. The school team

used their leadership to work with members of the broader school community to achieve a goal that centered on supporting students' learning and achievement both during high school and beyond. To advocate for and obtain the funding for the advisory program, members of the team had to draw on individual strengths and develop new skills, such as communicating about data, working in groups and grant writing.

Sphere I: teachers share their work outside the school or in professional organizations

At Donna and Sue's middle school (described earlier in Spheres B and D), only a couple of teacher teams made efforts to innovate and share their work with other teachers in professional circles beyond the school at first. Over time, more teachers began to experiment with new instructional approaches, and the school implemented professional learning communities to encourage the spread of innovative practice. The challenge for many teachers was developing sufficient confidence in their practice and finding time to prepare a conference presentation. The principal and district administrators supported teachers' participation in professional organizations by providing release time and travel money.

Donna and Sue's example and the encouragement from administrators helped to expand the number of teachers involved in sharing their professional work, to the point that more than one-half of the teachers attended and presented their work at a regional middle-level conference. Many teachers felt strengthened by the opportunity to interact with other professionals who shared their commitment to continuous learning and improved practice.

Discussion of teacher leadership dimensions

In this section, we return to the research questions for this investigation and discuss three dimensions of teacher leadership: the contexts in which leadership emerges; who initiates and participates in leadership; and the scope and focus of leadership activity. In a separate paper, we discuss other dimensions of teacher leadership we found in our case studies, including: supports and challenges; how teachers influence their colleagues; the impacts of teacher leadership; and how teachers understand leadership and their own work (Fairman and Mackenzie 2012).

The contexts in which leadership emerges

In their review of the literature, York-Barr and Duke concluded that some dimensions of teacher leadership have been well documented, while 'less is known about how teacher leadership develops and about its effects' (2004, p. 255). York-Barr and Duke found evidence in the literature that 'the emergence of leadership is fostered in the context of a learning community' (2004, p. 282), but they called for more empirical research to better understand, 'how the work of teacher leaders was situated ... and the specific improvement focus of the leadership' (2004, p. 291).

Across the nine spheres we identified, we found that teacher leadership emerged within many different contexts: individual and collective efforts; informal and formal actions; narrowly-focused and broader school-wide improvement efforts; a school climate of isolation and mistrust or one of collegiality, shared vision and

trust. Yet, a consistent factor across these different contexts was teachers' understanding that they needed to engage in professional learning in order to improve student learning, coupled with their strong commitment to their own professional development for this purpose (Pavlou 2004, Muijs and Harris 2007). We discuss the different contexts here.

Some teachers worked individually and in isolation to make improvements in their own knowledge, skills or classroom practice, while other teachers worked with colleagues and other members of the school community. Teachers working in isolation were often taking courses, reading informally on a topic to improve their instructional repertoire or experimenting with new practices. Teaching is lonely, so these teachers sought out like-minded colleagues to learn and experiment in tandem, and they also reached out to other educators through professional organizations and conferences for support and validation. For example, Donna and Sue sought collegial support through a summer institute at a local university and through regional teacher conferences where they presented their work (Spheres A and I).

Other teachers engaged in leadership activity within the context of collective and collaborative work. These teachers appreciated having the support of a small group or team to engage in professional learning, curriculum development or experimentation with new initiatives like student advisory programs. Members of the team valued the different skills and expertise that other team members contributed; they saw leadership as something that emerged naturally in response to the need to accomplish a task rather than something that was conferred formally on someone. Whether teachers led change within an isolated or collective context, they shared a strong desire to improve their knowledge and student learning (Little 1990, Barth 1999, Harris and Muijs 2003, Lambert 2005, Muijs and Harris 2006).

Teacher leadership emerged within both informal and formal contexts. Tracy met with her six teacher colleagues informally across grade levels to share ideas and improve curriculum alignment (Sphere C). Her effort increased teachers' sense of safety and openness with regard to discussing teaching practices and supported teachers in examining and developing their individual pedagogical beliefs. Donna and Sue invited their colleagues across two grade levels to collaborate on developing an interdisciplinary unit (Sphere D). Martha initiated an informal critical friends group to share ideas, reduce isolation and encourage a more collegial culture in her school (Sphere E).

While examples of formal leadership existed less often in our case studies, the school-wide improvement efforts and leadership teams sometimes produced formal leadership activity. The high school leadership teams worked both formally and informally to build consensus among teachers to obtain positive change in literacy instruction, teacher learning, and student support (Sphere G). Another formal context for leadership existed with teachers sharing their professional work with other educators through conference presentations and publication (Sphere I).

Other contexts for teacher leadership were narrowly-focused efforts and more broadly-focused school-wide improvement activity. Narrowly-focused efforts included teachers learning about a particular content area, instructional approach or grouping structure. For example, Martha's effort to increase attention on literacy instruction had a narrow focus. By contrast, the effort to initiate colleague critics groups school-wide at Johnson High School had the broad focus to improve collegiality, collaboration, teaching practices and student learning.

While much of the literature suggests that teacher leadership is more likely to occur and to flourish within schools that have a collaborative climate and culture of trust (Tschannen-Moran 2004, Donaldson 2006, Muijs and Harris 2006, Yost *et al.* 2009), we found teachers leading within schools that did not have a supportive or collegial environment. Three of the schools we studied had low morale, high turnover, lack of consistent principal leadership, low expectations for professional learning, and a fragmented approach to curriculum and instruction. Still, teachers worked within these challenging environments to strengthen their own professional knowledge, experiment with new practices, and collaborate with one or a few other like-minded colleagues who wanted to improve teaching, learning, and the school climate. These teachers persisted in their effort because of their strong desire to improve student learning. Over time, many of these teachers saw a gradual improvement in the school climate as a result of their efforts. They spoke of informally nudging their peers toward change and consciously avoided taking a more overt role leading change or presenting themselves as 'experts'.

In schools that had a collegial and collaborative climate, teachers felt more supported in their efforts to lead change efforts and were more willing to take risks. They felt it was safe to experiment and make mistakes. Two of the high school leadership teams and one middle school found that a high level of trust led to a shared vision that promoted a more collegial climate.

Thus, we saw evidence of teachers engaged in leadership activity within many different contexts. Yet, in all these contexts, teachers were able to effect positive school-wide improvements. This happened most often through informal activity, and it occurred more easily within a school climate of shared goals, trust, and collegial relationships than a climate where these conditions were absent. In schools having a collegial climate, more teachers were engaged in leadership and in a wider variety of leadership activity (Muijs and Harris 2006, 2007).

Who initiates and participates in leadership activity

Across all seven cases in our two studies, we found that it was primarily teachers, not principals, who initiated leadership action in the nine spheres. Teachers initiated both informal and formal activity, as well as individual and collective efforts, to improve teaching and student learning. In Spheres A through E, teachers often worked alone or with other teachers to initiate change, although many did have some support from their principals. In Spheres F through H, principals sometimes assisted teachers in getting the leadership activity underway, but the ideas and motivation for this effort typically came from the teachers' desire to improve student learning. Principals' involvement in these efforts was critical, as these spheres focused on school improvement efforts involving a broader range of stakeholders and participants from the school community. In three schools we studied, principals were not as engaged in supporting teachers' efforts because they were occupied with other duties, were responsible for multiple schools, or were preparing for a transfer or retirement.

We found that it was primarily veteran teachers who led improvement efforts. In particular, veteran teachers led efforts that involved collaboration (Spheres D through H). All but one of the teacher leaders in our seven case studies had taught for over 13 years at the time we interviewed them, although many of these teachers had initiated some leadership action after only a few years of teaching. One teacher,

Tracy, had taught for only five years before becoming a teaching-assistant principal in her small elementary school of seven teachers, but this was somewhat unusual among our cases.

The finding that it was primarily veteran teachers who were leading in these schools suggests a relationship between teacher career stages and leadership (Drago-Severson 2004). This finding has implications for the professional development teachers need at different points in their career to satisfy their learning needs and move them further on their own developmental continuum (Drago-Severson 2004). More research on this relationship could help us understand which teachers might be ready to take on more challenging leadership efforts and what barriers need to be overcome to help them assume leadership earlier than they typically do. Katzenmeyer and Moller (2001) have described several personal and professional factors that influence teachers' decisions about the timing and scope of their leadership activity.

Examining our interview data, we noted a pattern where teachers talked about being focused on their own learning and classroom practice through informal efforts earlier in their careers. They then expanded to collaborative efforts, school-wide change and more formal leadership later in their career when they felt more solidly grounded in their beliefs and practices, more self-confident to share their ideas, and were trusted and respected by their colleagues. Other scholars have noted this pattern (Little 1990, Lambert *et al.* 1996).

Many of the teacher leaders we interviewed moved through the nine spheres in a somewhat linear fashion, implying a developmental progression, while other teachers moved in and out of the spheres depending on the opportunities, needs and goals arising in their schools. At Johnson High School, Martha moved from an informal group of colleagues discussing teaching practice to the more formal, school-wide colleague critics groups. She then shifted to an informal group of teachers and parents to write a grant proposal. Martha responded to the opportunities to lead and stimulate change when they occurred and moved in and out of different leadership spheres.

Further, we saw that some teacher leaders were working in multiple spheres simultaneously. For example, teachers were continuing their own professional learning, sharing ideas with colleagues, working on school improvement efforts through informal groups and formal teams, and sharing their work with others outside their school.

Thus, we saw that leadership activity was most often initiated by veteran teachers and that teachers typically moved through the leadership spheres in a linear and step-wise manner, although not always, based on their personal and professional circumstances (Katzenmeyer and Moller 2001). Some teachers worked in many or all nine leadership spheres over their careers, while others worked in only a few spheres.

Scope and focus: what teachers are doing within the spheres

The number of people involved in leadership activity varied across the nine spheres and was directly related to the focus and scope of the activity. 'Focus' refers to the targeted area(s) or goals for improvement and 'scope' refers to how broadly teachers sought to effect change.

In Spheres A and B, individual teachers, and occasionally small teacher teams, were focused on improving their own knowledge and/or experimenting with new

curricula or instructional approaches within the narrow scope of their own classrooms. To support these goals, teacher leaders were engaged in ongoing professional learning and development through graduate programs, summer institutes or informal professional reading (Sphere A). Tracy, Donna and Sue gained important insights through their graduate coursework that pushed their thinking about their goals for teaching and learning and new ways to deliver curriculum and instruction. In Sphere B, teachers developed and implemented a new curriculum unit, tried using an interdisciplinary approach or changed the way they grouped students. Donna and Sue tried using interdisciplinary units and mixed-grade grouping. Thus, teachers working within Spheres A and B typically had a more narrow improvement goal focused on one aspect of their learning or teaching and the scope of their activity was also narrow, centered on individual classrooms rather than school-wide change.

By contrast, teacher activity in Spheres C through E represented a broader focus for improvement and also a wider scope across multiple classrooms in the school. In these spheres, teacher leadership action involved groups of teachers sharing ideas about practice, mentoring and coaching, collaborating, and reflecting together. These efforts focused on a broad range of areas, such as curriculum, instruction, assessment, school structures or culture. Efforts to discuss problems of practice through the colleague critics groups at Johnson High School were intended to foster a more collegial culture and willingness to share ideas across all teachers in the school.

Spheres F through I involved teachers interacting with the largest number and most diverse range of people both inside and outside the school. Activity in Spheres F through H often focused on the broadest scope of school-wide change efforts that required teachers to interact with diverse stakeholders including administrators, teachers across the school system, parents and others. Teachers at Lakeview Middle School discovered that they needed to communicate more effectively with parents and other community members in order to expand a successful pilot. A network for school leadership teams provided opportunities for teachers and administrators to interact across schools in their region and to involve other stakeholders in school improvement. Sphere I involved teachers sharing their work on a broader scope with other educators outside their own school system.

Thus, as we look across the nine spheres, we see a continuum of teacher leadership from a narrow focus of improving a teacher's learning and practice within the limited scope of one classroom to broader goals of improving teacher and student learning school-wide through the collective work of multiple stakeholders.

Conclusions and implications for professional development

This investigation corroborates and elaborates on several components of the York-Barr and Duke (2004) conceptual model for teacher leadership by exploring and expanding the means, targets and outcomes of teacher leadership. Our description of leadership spheres illustrates more fully what individuals are doing, who initiates and participates in leadership activity and why and how their work relates to the improvement of teaching and learning in schools. We seek to broaden the understanding of the complexity of teacher leadership and highlight the importance of teachers' collective work (Westheimer 1998, Lambert 2003, Muijs and Harris 2006, 2007, Fullan 2011), while showing how the independent work of teachers also contributes to important changes in schools (Little 1990, Lambert *et al.* 1996, Barth 1999, Cochran-Smith and Lytle 2001, Mamoud 2010).

Our Spheres of Teacher Leadership Action for Learning model (Fairman and Mackenzie 2010) attempts to capture all of the ways teachers, whether they recognize their work as leadership or not, work alone or with other teachers to engage in professional learning and take action toward improving student learning. As our findings indicate, there are variations and shades of gray in all of the real-life representations of the model. But we consistently found that teachers were internally motivated to engage in continued professional learning and initiated this effort because of their strong desire to advance student learning. Teachers' leadership activities were grounded in their focus on students' needs and emerged in a somewhat organic or informal way as teachers searched for practical means to tackle issues of concern in the classroom or school. Thus, our conception of teacher leadership is centered on teachers' commitment to learn for the purpose of enhancing student learning.

Teacher leaders in our case studies did not wait for their administrators to direct their learning or school change; they initiated their own learning and improvement efforts. Most often they engaged in informal rather than formal learning that centered on teachers' questions about curriculum, practice, school structures and climate. Teachers' learning extended beyond content and pedagogy: they reflected deeply on their beliefs in relationship to their teaching; they learned how to create safe environments in which to share ideas with colleagues; they honed interpersonal skills and intrapersonal awareness; and they developed skills in communicating with other stakeholders. All of these leadership activities constituted meaningful professional development for teachers that resulted in positive changes in their classrooms and schools.

Findings from this study can inform the efforts of school districts and higher education to provide professional development that is meaningful to teachers and better supports their focus on student learning. Professional development also needs to prepare teachers to communicate and work effectively with others in their school community. For example, professional learning opportunities for teachers should encompass not only curriculum and instruction but also leadership skills, such as facilitation, active listening, conflict resolution, and opportunities for reflection on their work with others (Harris and Muijs 2003, Ackerman and Mackenzie 2006, Muijs and Harris 2007). Further, professional development providers also need to take into account where teachers are in their professional careers and their readiness to assume different levels of leadership, providing encouragement for teachers who may be reluctant to share their learning and expertise more broadly with others.

This study suggests that teachers have made some strides in overcoming the isolation, autonomy, and 'presentism' of teaching that Lortie (1975) described. Yet, teachers are still very much focused on the students in their classrooms at the moment. School improvement work requires an ability to view student learning more broadly and over a longer period of time, coupled with a sense of professional responsibility for the success of all students in the school. Also, it necessitates attention to the climate and culture of the whole school community. We saw teachers who had developed this broader view through their informal leadership work, while other teachers participated in leadership activity but continued to focus their effort on their own classrooms. While administrators have an important role to play in supporting and encouraging change in school culture, our findings suggest that teachers themselves may be best situated and are intrinsically motivated to lead this work.

Re-culturing goes beyond structural change (Fullan 2001). We caution administrative leaders to take note of the caveats of such scholars as Hargreaves and Fink (2005) who note that the term ‘professional learning community’ is the vision and the ethos of schools holistically engaged in improving learning. It cannot be imposed to realize the desired effect. Administrators need to participate with teachers in creating a climate where teachers lead, formally and informally, as both critical peers and caring and creative co-learners.

The findings of this study indicate that teachers continue to be reluctant or ambivalent about being regarded as ‘leaders’, in that they did not want to take on formal titles of leadership and seemed to prefer working through informal channels to effect change. Some recognized that their work was leading change in their schools, but others did not really understand the leadership potential in their work, and just saw it as being ‘what we do’. Labeling the work teachers do as ‘leadership’ may, in fact, discourage teacher involvement in leadership activity because teachers’ conception of leadership comes from a more traditional model of formally designated roles and specific responsibilities and because of the persistence of egalitarian norms in teaching.

Principals and other administrative leaders can help teachers overcome these barriers by promoting a vision of all teachers leading improvement in many different ways, valuing and recognizing teachers’ efforts and fostering a culture where administrators and teachers demonstrate a commitment to professional learning and shared leadership, where educators move fluidly among the roles of leader and supportive follower according to needs and expertise. This dance represents the true spirit of collaboration. Hargreaves and Fink say: ‘At their best, professional learning communities embody the most positive features of distributed leadership, bringing the energy and ability of the whole community forward to serve the best interests of all students’ (2005, p. 128).

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