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## How teachers become leaders: an internationally validated theoretical model of teacher leadership development

Philip Poekert<sup>a</sup>, Alex Alexandrou<sup>b</sup> and Darbianne Shannon<sup>c</sup>

<sup>a</sup>Lastinger Center for Learning, University of Florida, Gainesville, FL, USA; <sup>b</sup>Freelance Academic, UK; <sup>c</sup>School of Teaching and Learning, College of Education, University of Florida, Gainesville, FL, USA

### ABSTRACT

Teacher leadership is increasingly being touted as a practical response to guide teacher learning in school improvement and policy reform efforts. However, the field of research on teacher leadership in relation to post-compulsory educational development has been and remains largely atheoretical to date. This empirical study proposes a grounded theory of teacher leadership development based on the lived experiences of self-selected teacher leaders in the USA, that have been explored and validated through further data collection with teacher leaders from England, Scotland, Wales, and the Republic of Ireland. The theory posits leadership development as an iterative and recursive, rather than linear, experience that centres on the construct of personal growth, but also includes the overlapping constructs of growth as a teacher, researcher and leader. Such growth is underpinned and guided by significant teacher development through various post-compulsory developmental activities. Teacher leadership development is situated within the context of the classroom, school and community. The interactions between teacher and context create feedback loops that either facilitate the achievement of specific impacts or challenge the teacher's further development. This study contributes a visual model of teacher leadership development to the field.

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### KEYWORDS

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leadership development;  
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## Introduction

The Organisation for Economic Co-Operation and Development (2015) and Schleicher (2016) highlight that in many nations, the current state of affairs in education is marked by both challenges and transition. In the USA, for example, there are policy efforts underway to (a) raise educational standards to ensure students are college and career ready by the end of compulsory K-12 education, (b) implement new assessments designed to measure students' success in achieving these rigorous standards, and (c) employ new teacher performance evaluation systems that are still in the process of being validated for widespread, high-stakes evaluation.

Similar efforts are being enacted and introduced in other nations. These are embodied in key legislation and policy strategies. In the USA, this comes in the form of the Every

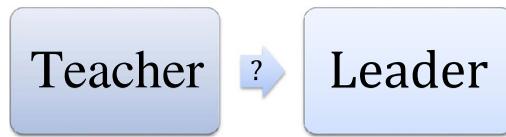
Student Succeeds Act of 2015 introduced and supported by President Obama (United States of America Congress 2015). In England, there has been the recent publication of the White Paper entitled *Educational Excellence Everywhere* (Great Britain Department for Education 2016) and in Scotland, the *National Improvement Framework for Scottish Education* (Scottish Government 2016). Whilst in the Republic of Ireland there has been *Ireland's Education and Training Sector: Overview of Service Delivery and Reform* (Department of Education and Skills 2015) and in Wales, the Welsh Government (2014) has introduced the Qualified for Life initiative which is an education improvement plan for 3- to 19-year-olds.

The common theme among these contemporary shifts is the contingency of their success on improved teacher quality. This theme is contested from different perspectives, such as creativity (Robinson and Aronica 2015); creating and developing a culture of thinking (Ritchhart 2015); 'building a better teacher' by examining how teaching works (Green 2014); and challenging what Christodoulou (2014) argues are damaging myths about education, such as teacher-led instruction being passive.

The above-mentioned initiatives, no matter how much they are contested, demand, as Schleicher (2016) and Levenson (2014) argue, an unprecedented human capital investment in the professional learning of teachers to help them (a) apply the new standards; (b) enact the instructional shifts embodied by the standards; and (c) understand the implications of new evaluation systems for students, teachers, and schools. Without such an effort to develop the capacity and quality of teachers, the feasibility of these policies becomes negligible, and the time and resources spent on their development will be wasted.

As highlighted in an international comparative context by Frost (2014) and the specific Dutch context (Snoek 2014), the question then becomes which approaches have demonstrated efficacy for significantly improving teacher quality in ways that align with these policy priorities. Alexandrou and Swaffield (2014) and Hilty's (2011) collections of international and US-based essays highlight how teacher leadership has gained increased attention among educational researchers and practitioners as a promising method for enacting school reform; namely because of teacher leaders' ability to facilitate broader professional learning within the school community.

Fullan (2007) posits that 'professional learning *in context* is the only learning that ultimately counts for changing classrooms' (p. 153), pointing to the need for contextualised and sustainable learning experiences that require intimate knowledge of the school and district setting – knowledge tacitly possessed by practising teachers (York-Barr and Duke 2004). The call for this type of learning is echoed in what other scholars refer to as job-embedded professional development (Darling-Hammond and McLaughlin 1995; Lave and Wenger 1991; Ross et al. 2011; York-Barr and Duke 2004) or professional learning (Webster-Wright 2009). Full-time classroom teachers are uniquely situated to test theoretical solutions in an immediate laboratory of practice (Harris and Muijs 2003, Frost 2014), while concurrently working to develop new perspectives and solutions to improve their schools and their own individual practice. Positioning teachers as the leaders of job-embedded professional learning catalyses their individual development as leaders among their colleagues, which in itself is a worthy outcome of professional development (Alexandrou and Swaffield 2014). Further, the subsequent enactment of leadership by these teachers contributes to further individual and community professional growth as they guide collaborative, contextualised



**Figure 1.** The ‘black box’ of leadership development. This figure illustrates the extant literature’s acknowledged need for, and difficulty in, acquiring an understanding of how individual teachers engage in the developmental process associated with leadership knowledge, skills and dispositions.

learning opportunities for their colleagues (Poekert 2012). Positioning teachers as leaders elevates their voice in ongoing reform and develops the knowledge, skills, and dispositions necessary for advocacy within and beyond their schools (Katzenmeyer and Moller 2009; Levenson 2014).

A common understanding of what teacher leadership is and how it should be operationally defined in the field is still in an early phase of conceptual development. In their seminal literature review on the concept of teacher leadership, York-Barr and Duke (2004, 288) highlight the importance of collaboration and connectivity as competencies of teacher leadership, stating:

Teacher leadership is the process by which teachers individually or collectively; influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student achievement.

What is absent from York-Barr and Duke’s conceptualisation is an understanding of *how* individual leadership development processes unfold and what critical experiences help to explain these desirable outcomes. Acute attention to the ‘emergent patterns of interaction within and between levels of activity that would constitute an explanatory theory of teacher learning as a complex system’ is necessary to discover how leadership development occurs (Opfer and Pedder 2011, 379). We concur, therefore, with Mayrowetz (2008, p.432): what is needed is not only a description of leadership capacity, but increased ‘attention on *how* educators learn to do leadership tasks well,’ which is precisely what this paper aims to contribute.

We argue that current understandings of teacher leadership point to the need for improved theoretical models for the definition of teacher leadership and the experiences that underlie its development, which are currently masked by the focus on inputs and outcomes with little systematic process analysis, often making leadership development ambiguous as summarised by the diagram in Figure 1. Thus, heeding O’Brien’s (2016) clarion call for greater conceptualisation and theorization in the field of professional development and learning, the theory of teacher leadership development herein provides insight into how teachers develop leadership knowledge, skills, and dispositions. Each of these dimensions of teacher leadership provide the capacity to enhance the enactment of contemporary policies and the design of teacher leadership development programmes, which seek to improve teacher quality and optimal educational experiences for all children. We do not claim to know how *all* teachers develop – the process is unique to the individual – but we can glean new understanding through the study of individuals becoming teacher leaders to identify the *patterned* conditions and experiences, which set the occasion for the emergence of teacher leadership.

## The academic debate

There exists a great deal of literature on teacher quality and effective teaching, including (a) complete instructional frameworks, notably, Pianta, La Paro, and Hamre (2006); (b) collections of teaching strategies, such as those advocated for by Lemov (2010, 2015); and (c) research demonstrating the impact of effective teaching by numerous writers, such as Sanders and Rivers (1996), Day et al. (2007) and Green (2014). The apparent consensus among education and research scholars is that teacher quality is the single most important in-school factor contributing to student learning. Indeed, Fullan and Hargreaves (2012) make the case that this is the most abused finding in educational research, whilst Christodoulou (2014) takes this ‘abused’ finding further by identifying what she terms other ‘evidence-less’ myths such as teaching knowledge is a form of indoctrination.

Methods for improving teacher quality are also increasingly prevalent in the literature. Some of these methods include: an effort to identify the features of effective professional development that have an impact on teaching practice and student outcomes as highlighted by Garet et al. (2001) and Darling-Hammond et al. (2009); instructional leadership practices, notably by Knight (2007) and City et al. (2009); and teacher performance evaluation systems as investigated by Marzano (2013) and Danielson (2014). However, there is a critical need for enhanced understanding of how to make professional development mechanisms, with demonstrated efficacy in supporting individual teachers to improve their use of evidence-based practices, scalable for a system-wide effort. Indeed, it is this systemic approach to enhancing teacher quality that characterises the world’s most successful educational systems, such as Singapore and Finland (Fullan and Hargreaves 2012). Teacher leadership is one approach with empirical evidence demonstrating its viability as a solution for sustaining systemic teacher quality and school improvement efforts.

## Foundations of teacher leadership

Drawing on two decades of research beginning in the 1980s, York-Barr and Duke (2004) conceptualised a pathway through which leadership practised by respected teachers within appropriate conditions, enacted through appropriate means, and directed at appropriate audiences/targets can have measurable impacts on teaching practices and student outcomes. Drawing on research published since York-Barr and Duke’s seminal work, Poekert (2012) reinforced the conceptual framework and the approach’s impact on teacher and student performance. Simply put, both reviews of the literature demonstrate that teacher leadership serves as an effective form of professional development for oneself and one’s colleagues.

The literature describes the characteristics of teacher leaders as those who ‘assume a learning orientation in their work and demonstrate or are viewed as having the potential to develop leadership knowledge, skills, and dispositions’ (York-Barr and Duke 2004, 289). The work of teacher leaders is best summarised in MacBeath and Dempster’s (2008) five principles of the Leadership for Learning framework: (1) focusing on learning for everyone at the school; (2) creating and sustaining conditions that favour learning; (3) engaging in explicit, transparent, inquiry-based dialogue; (4) sharing leadership to allow everyone to influence school operations; and (5) maintaining internal and external accountability to examine how results match up with the school’s goals and principles. Concurrent with these principles, the conditions under which teacher leadership flourishes are described in the literature as:

professional trust (Smylie et al. 2007); perceived autonomy (Scribner et al. 2007); supportive administrators (Birky, Shelton, and Headley 2006); and time and resources, including structural or organisational resources, such as space to meet (Galland 2008).

### ***Means and targets of teacher leadership influence***

The teacher leadership literature further describes the means by which teacher leaders exert their influence, as well as, the targets of their influence. Teacher leaders exert their influence through formal and informal means, which are typically described as ‘strategies’ or ‘mechanisms’ which set the occasion for teachers to work side-by-side with their colleagues to build relationships and open lines of communication (Poekert 2012). In this way, teacher leaders demonstrate to their peers that they are a nonsupervisory, nonthreatening support, thus overcoming expectations of superiority or expertise that would make teachers less willing to work with teacher leaders (Mangin 2005). Once relationships are established, teacher leaders have the ability to engage in gentle ‘nudging’ toward instructional improvement (Ackerman and Mackenzie 2006).

The targets of teacher leaders’ influence are threefold: individuals, teams, and organisational capacity (York-Barr and Duke 2004). The influence that teacher leaders can have on individuals and teams is self-evident, however, the influence on organisational capacity can be less clear. One important study looked at Australian schools that employed formal teacher leadership roles as compared to schools organised around professional learning communities (Silins and Mulford 2004). They found high schools implementing professional learning communities activated teacher leadership in whole faculty activities, within committees or teams, and in individual, informal leadership among colleagues, more often as compared to schools using formal teacher leadership roles. These results suggest that teacher leadership has demonstrated the potential to improve organisational capacity, when supported by school policy. Under appropriate conditions, given appropriate resources, teachers can lead and their colleagues learn. However, perceptions of teacher leadership and its impact amongst fellow teachers, school leadership teams and policymakers are a significant factor in ensuring this is the case, as highlighted by Angelle and DeHart (2011).

### ***Outcomes of teacher leadership***

Leadership shared or distributed among teachers can lead to enhanced student performance. A study conducted by Leithwood and Mascall (2008) estimated the impact of collective leadership on student performance. Collective leadership was defined as the democratic distribution of influence and control among school administrators and teachers. A questionnaire designed to capture three aspects of teacher performance (motivation, capacity, and work setting), was administered to 2570 teachers across 90 elementary schools. Results were analysed using path analytic techniques, which document a significant effect of collective leadership, mediated by teacher performance, on student achievement as measured by standardised tests averaged over a three-year time period. The authors explained that ‘the influence of collective leadership was most strongly linked to student achievement through teacher motivation’ (p. 554), which suggests that teachers’ perceptions of collective leadership were related to their motivation, which in turn was related to improved performance

on average among students in the schools studied. In fact, this model accounted for 20% of the variance in student performance across schools.

Another study by Leithwood, Patten, and Jantzi (2010) further demonstrated the impact of collective leadership on student performance across 199 schools in Canada. Again, using path modelling techniques, the researchers examined the impact of collective leadership on student performance in mathematics and reading in grades 3 and 6. Results indicated a significant impact of leadership mediated by rational (i.e. knowledge and skill), emotions (i.e. learning conditions), and family (i.e. external factors). A notable finding documented that leadership had the most direct influence on organisation (i.e. culture, policies, organisational structures), yet organisation had no significant impact on student learning. Rather, leadership demonstrated an indirect impact on student achievement, mediated by the other variables. The overall model accounted for 43% of the variance in student performance among the 13,391 students.

Together, these studies, supported by work done by Alexandrou (2015) in Scotland, demonstrate how leadership enacted by teachers who possess certain qualities, given appropriate conditional supports, can utilise effective practices to influence individuals, teams, and schools which can in turn impact student performance. That is, teacher leadership is connected to teaching quality and student performance. Thus, understanding how teacher leadership develops becomes imperative to understanding how teaching and learning improve. And in this crucial period of transition in education, our understanding of this process is murky at best.

## Methodology

This study was conducted in three phases. First, individual interviews were conducted with teacher leaders in the United States and a theory of teacher leadership was developed. Second, the theory was validated through focus groups and member checking. Third, the theory was presented and validated within an international context. Each phase is described in detail.

### Phase I

The theory described below initially resulted from an internal investigation of the Florida Master Teacher Initiative (FMTI), a partnership between Miami-Dade County Public Schools and the University of Florida that was funded through an Investing in Innovation (i3) grant from the US Department of Education. The initiative sought to improve the quality of instruction and enhance student learning in the early childhood grades (PreK-3). FMTI programme elements were tailored to meet the needs of the population at multiple levels by (a) offering an early childhood specialisation within an established job-embedded graduate degree programme; (b) providing graduate students with school-based leadership opportunities to share innovative content and practices through inquiry-based, collaborative learning communities; and (c) supporting administrators in implementing a distributive leadership approach.

The objective of this qualitative, interview-based study (Denscombe 2014) was to understand the phenomenon of teacher leadership, in the context of the FMTI, as described by participating teachers during individual and group interviews. Of note, the established

relationship between the university and participating teachers was a critical foundation in our research process. It created a shared learning history among participants, and between the researchers and the participants, which collectively established a forum for honest dialogue.

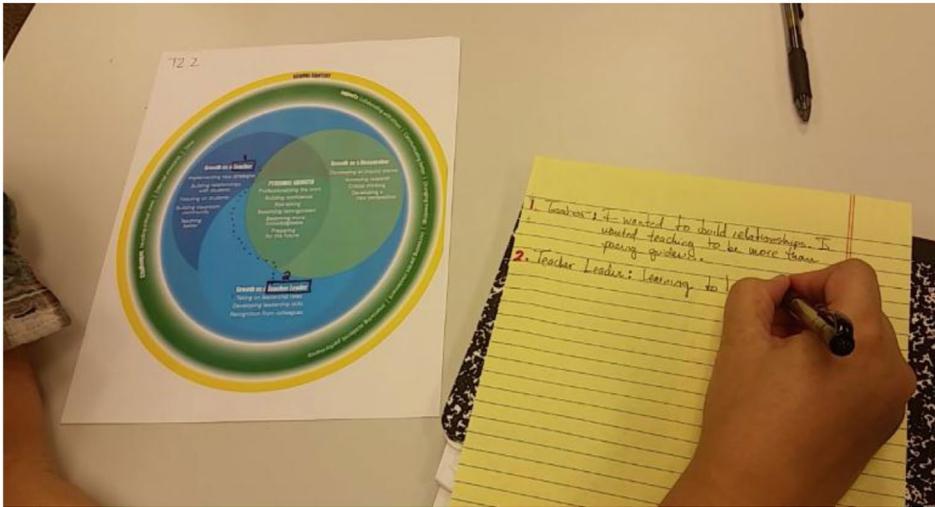
Participants were recruited based on their enrolment in a job-embedded graduate degree programme. Forty-nine of 50 teachers in the first two cohorts of the programme, representing 14 high poverty partner schools across the school district, consented to participate in individual interviews at the mid-point (1.5 years) of the graduate programme. Data were collected through audio-recorded, hour-long, semi-structured interviews conducted over the telephone by university faculty, staff, and graduate students. To protect the participants and ensure validity and reliability (Basit 2010), interviewers were not responsible for evaluating participating teachers' coursework at the time of the interview. Interviews were transcribed live in as much detail as possible. Interviewers returned to the transcripts immediately after the interview to add details missed during the initial transcription effort and to record anecdotal notes regarding the interview process (Basit 2010).

Analysis of the individual interview transcripts began with a grounded theory approach (Charmaz 2006). Due to the large amount of data, a random sample of three transcripts was read individually and openly coded, in an effort to identify an initial coding scheme. Open codes were discussed until agreement was reached and the remaining transcripts were divided and coded using the initial scheme. The constant comparative approach was employed, so that if additional codes were identified, we discussed their contribution to the overall coding scheme (Cohen, Manion, and Morrison 2011). We identified leadership development as the central concept and sought to understand its relationship to the subsequent categories (Brown 2013), resulting in a theoretical model demonstrating patterned connectivity among programme elements and experiences perceived by the teachers to be significant in their leadership development.

## **Phase II**

Focus group interviews were conducted to validate the model of teacher leadership development presented here. Heeding the advice and guidance of Basit (2010: p.104-105) in relation to the number and type of individuals invited to participate in these interviews, focus group participants included a purposive sample of teachers from both cohorts selected to maximise diversity of perspectives and backgrounds. The focus groups were conducted eight to 18 months after the date of the individual interviews for each participant, dependent on their cohort. The focus group procedure included a 1.5-hour long, artefact-prompted, semi-structured interview that was conducted in person. Our aim, as Basit (2010, 104) states, was 'to gather data which comprise congruent and contradictory views on the same issues from people gathered in the same place.' Data were collected through audio and video-recorded. These data were transcribed verbatim. In addition, a diagram of the teachers' leadership development process charted on the visual model (See Figure 2) and participant notes were collected.

Focus group data served to member check the theory of teacher leadership development. Data were coded according to the constructs contained within the model to verify the explanatory power of the theory. Adopting this approach enabled us 'to break down and deconstruct the data to make sense of them and then to reconstruct and synthesise data to



**Figure 2.** Teacher charting leadership development process.

consider the links, similarities and differences’ (Basit 2010, 189). In turn, this allowed us to identify discrepancies between the focus group participants’ lived experiences and the model. Researchers cross-referenced focus group perspectives with the original interviews and refinements to the language of the model were made.

### **Phase III**

We replicated this focus group interview approach with teachers in England, the Republic of Ireland, Scotland, and Wales. Focus group interviews were thus conducted among a group of self-selected teacher leaders from each of these countries. Our key aim was to represent a variety of teaching contexts and geographic locations to ensure that the model was robust and perceived to be valid across an array of teacher leader experiences.

In England, the teachers came from the Harris Federation of academy schools (similar to charter schools in the USA). They were based in the secondary sector, where through post-compulsory study they were training to be lead practitioners. This position can be regarded as a formal teacher leader position within a school with a particular emphasis on role modelling and working with all staff to continually improve the quality and standard of teaching and learning and student attainment (Harris Federation 2016).

In the Republic of Ireland, and Wales, the teachers came from both primary and secondary schools and were engaged in postgraduate study and professional development and learning activities at St Patrick’s College, Dublin City University, and the University of Wales, Trinity Saint David respectively.

In Scotland, the participants’ teaching context was different. These participants were from the Educational Institute of Scotland’s Union Learning Representatives. Union learning representatives (ULRs) are a relatively recent phenomenon. ULRs were established predominantly in the United Kingdom by British trade unions in the late 1990s as a component of initiatives designed to boost learning and professional development in the workplace. ULRs are trained and accredited unpaid lay representatives situated in workplaces,

including schools, colleges and universities. The Employment Act of 2002 recognised ULRs as a significant force in enhancing the learning, training and professional development of their work colleagues. This gave ULRs statutory recognition and protections as unpaid lay representatives, and has been reported on in greater depth elsewhere (Alexandrou 2007, 2010; Clough 2010). Teaching unions throughout the United Kingdom, as highlighted by Stevenson (2010) and Bangs and MacBeath (2013), introduced the concept of ULRs within their structures. Notably, the Educational Institute of Scotland (EIS), the largest teaching union in Scotland (Certification Officer 2015), adopted the concept of ULRs with significant enthusiasm and gusto.

As Alexandrou (2007, 2015) reported, a significant number of EIS ULRs have undertaken postgraduate study not only in relation to becoming an accredited ULR through a master's level training module but also through studying at master's level to achieve chartered teacher status (now revoked through new policy measures).

Having worked with the various groups of ULRs and teachers both in terms of post-compulsory studies and conducting research with them over many years, we were able to approach the groups in the various nations to recruit a group of three to four volunteers who were willing to consent to the focus group interview and validate the theoretical model of teacher leadership development. At all times we followed the ethical guidelines of the University of Florida as well as those of the British Educational Research Association (2011). Informed consent was sought and given; participation was voluntary; the participants could exit the process at any point they so deemed; and the confidentiality of the participants was ensured. What resulted from this process is the model of teacher leadership development.

### Data-based constructs of the theoretical model

The theoretical model in Figure 3 represents the relationship between seven key constructs essential to understanding the individual experiences and patterned process by which teachers describe their development. Each of these constructs was operationally defined through an iterative constant comparison method, during each new phase of data collection and analysis, in alignment with grounded theory (See Table 1).

Parallel to familiar ecological models (e.g. Bronfenbrenner 1979), our theoretical model of teacher leadership development situates the individual within a nested structure of broader contexts. Each layer of the environmental context (i.e. classroom, school, community) simultaneously presented opportunities for teachers to interact with people and artefacts, which could lead to (a) positive impacts, or (b) the opportunity to build stamina in working through challenges. Analyses of the data depict a qualitatively rich relationship between the frequent micro-interactions initiated by individual teacher leaders and the feedback received as a result of those interactions. Teacher leaders' developmental processes were not linear. Rather, it appears to be more iterative, characterised by interdependency between the individual teachers and the responsiveness of their work setting to the enactment of distributive leadership. Therefore, we contend the process of individual teacher leadership development to be contingent on the availability of feedback loops to nourish (a) personal development as a master teacher, teacher researcher, and teacher leader; (b) the capacity to impact the broader context; and (c) stamina in responding to challenges.

The constructs represented by the visual components of the theoretical model are discussed individually in the following sections. Readers are encouraged to view the

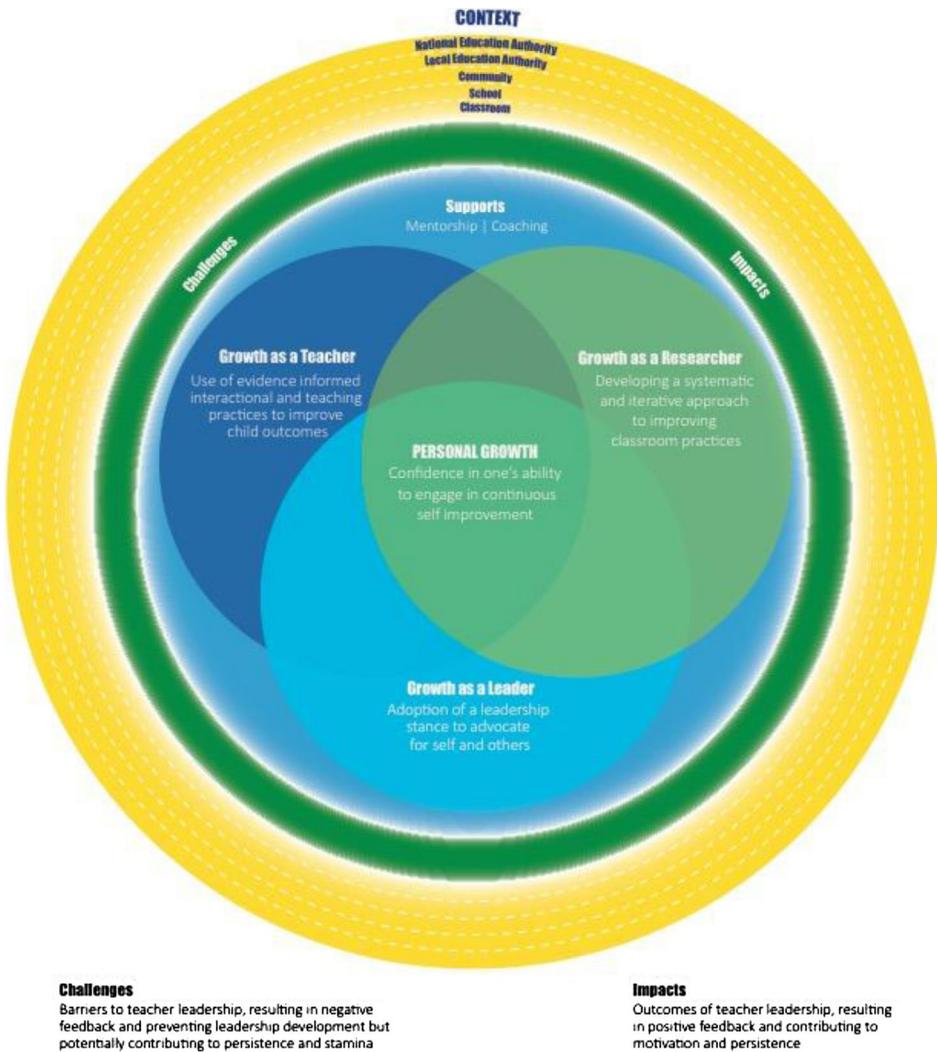


Figure 3. Theory of teacher leadership development.

developmental process from the teachers' perspective, where personal shifts reposition the teacher leader as a catalyst for change within his/her classroom, school, and community. Therefore, the findings move concentrically from the individual teachers' development. Feedback loops, which illustrate the power of successive micro-interactions discussed throughout, are representative, but by no means comprehensive. Each individual teacher experiences a similarly patterned, but unique developmental process.

### Individual core competencies

The individual core competencies are composed of four integrated constructs: growth as a teacher, growth as a researcher, growth as a leader, and personal growth. As depicted in the model these core competencies play an important part in the self-perception of leadership

**Table 1.** Teacher leadership development constructs.

Construct		Operational definition	Key terms
Individual Core Competencies	Growth as a Teacher	Use of evidence informed interactional and teaching practices to improve child outcomes	<ul style="list-style-type: none"> <li>• Implementing new strategies</li> <li>• Focusing on students</li> <li>• Building classroom community</li> <li>• Improving child outcomes</li> </ul>
	Growth as a Researcher	Developing a systematic and iterative approach to improving classroom practices	<ul style="list-style-type: none"> <li>• Developing an inquiry stance</li> <li>• Accessing research/theory</li> <li>• Critical thinking</li> <li>• Developing new perspective</li> </ul>
	Growth as a Leader	Adoption of a leadership stance to advocate for self and others	<ul style="list-style-type: none"> <li>• Taking on leadership roles</li> <li>• Having voice</li> <li>• Developing skills</li> </ul>
	Personal Growth	Confidence in one's ability to engage in continuous self-improvement	<ul style="list-style-type: none"> <li>• Build relationships with others</li> <li>• Professionalising the work</li> <li>• Building confidence</li> <li>• Risk taking</li> <li>• Becoming reinvigorated</li> <li>• Becoming more knowledgeable</li> <li>• Preparing for the future</li> </ul>
Contextual	Impacts	Outcomes of teacher leadership enactment, which result in positive feedback from the school and community context and contributed to participant motivation and persistence in the development of the core competencies	<ul style="list-style-type: none"> <li>• Collaboration and communication</li> <li>• Increasing parent involvement</li> <li>• Improved child–student outcomes, including academic performance</li> <li>• Recognition from colleagues</li> <li>• Interdependence</li> </ul>
	Challenges	Barriers to teacher leadership enactment, which result in negative feedback from the school and community context and prevent the development of the core competencies, but potentially contribute to the development of teacher leaders' persistence and stamina	<ul style="list-style-type: none"> <li>• Identification of colleagues with a shared vision</li> <li>• Time</li> <li>• Compliance with district and state initiatives</li> </ul>
	Context	The situated context in which the core competencies are enacted	<ul style="list-style-type: none"> <li>• School context</li> <li>• Community context</li> <li>• Standards</li> <li>• Evaluation</li> <li>• Accountability</li> </ul>

development. According to teacher participants, development in these areas in turn had tremendous influence on their most proximal interactions with their classroom, school, and community context. One US focus group participant responded to the model initially by discussing the connectivity between the core competencies:

Personal growth could not have occurred if any of the other three were not there. So that's important. It kind of like— It kind of puts everything together. It's like, you have achieved this personal growth because of your growth as researcher, and because of your growth as a teacher.

An Irish focus group participant validated the same connectivity: 'The diagram is very effective to show how the different areas are or appear to be interdependent on one another. I kind of noticed that there appears to be no rank order of importance given to the different areas.'

### **Growth as a Teacher**

Growth as a Teacher refers to the process by which teachers enhance their use of evidence-informed, interactional teaching practices to improve child outcomes. Participants described their development toward becoming *better* teachers as the implementation of student-centred instruction and new pedagogical strategies acquired in their professional development, coursework experiences, and classroom inquiries. While interacting with the theoretical model, one American focus group participant said:

I feel almost like a new teacher when I go in with my new strategies ... I know I've been doing something these past 18 years. But now, I'm going in and I'm building classroom community, and I'm doing all these things now that I don't remember doing before.

Teacher–student relationships and a feeling of community among students within the classroom are perceived as a continuous goal to be sought after and as an outcome of improved actions on behalf of the teacher.

Concurrent with the development of stronger interactional practices, teachers feel more confident in their ability and the ability of their students to adopt innovative teaching approaches. It is this confidence in one's instructional skill that gives the confidence and credibility to take on additional roles in a school. As a Scottish focus group participant noted:

I do think my job is to focus on the children and to make a classroom good and so that for me is the most important, and I kind of feel that now that I've got that hopefully well established; that's when I felt able to take on another role.

An Irish focus group participant confirmed the foundational role of teaching ability in the role of a teacher leader:

To take on a role as a teacher leader, you need to have confidence to be able to speak to your colleagues on what you're doing and that only comes ... if you are confident in yourself as a teacher, which comes I think through teaching experience and through upskilling.

Growth as a Teacher was consistently described as a simultaneous internal and external process, acknowledging that both the teacher and the signals she received from her students in response to her practices contribute to the increased likelihood that a high-quality learning environment would be established and sustained as well as increased confidence in one's professional abilities. A Scottish focus group participant took the external focus of Growth as a Teacher a step further and stated:

I think I've always seen that all as being more about trying to contribute to the culture of professional learning as an organization rather than particularly setting myself up or presenting myself to other people as being an expert, as being a master teacher. So for me, it's more about influencing the culture of professional learning.

In this view, Growth as a Teacher also means contributing to the profession, a key aspect of teacher leadership by any definition.

### **Growth as a Researcher**

Growth as a Researcher means adopting a systematic and iterative approach to improving classroom practices. An American interview participant succinctly described underlying processes associated with this core competency:

You look at your own teaching and figure out where to improve, use research and find things people have done. You try to improve your teaching, collect data as you do it so you can see whether you are doing it or not. I did an inquiry on peer teaching – tutoring, pairing students of different abilities low and medium, medium and high, so both get something out of it. Speed and accuracy of math facts went up as a result.

Teachers not only learn the process, they also acquire a critical inquiry stance, which empowers them to see the significance of their daily actions in the classroom and supports them in developing an informed new perspective. Teacher research means being honest about pedagogical strengths and approaching growth with determination and a belief that if a practice was not effective for their students they as an educational professional and the leader of their classroom knew how to respond. As one Irish participant explained:

I think to develop critical thinking, so when people come do the programs and you develop more of a critical eye, and you're able to say... 'Is that applicable in my context?' And I think that's where the researcher really benefitted me in my skill context.

Teachers also described the powerful validation found in sharing research aligned with their beliefs and the confidence that comes from feeling empowered by both literary and empirical classroom data. Teachers received feedback in the form of student development, and affirmations from colleagues and administrators, which motivated them to continue their work and to build capacity for strong instruction among their peers. This American focus group participant's comment was not unusual among the teachers who identified as leaders:

I'd like to think that my students had gained something over the years, but now it's like ... I know the effect that [my teaching] has on them. I can see – and that builds confidence in me. I try to build the same confidence in some of my colleagues.

The teacher inquiry process ignited collegial discussion at schools, characterised by appropriate conditions. It established a community ethos that supported the teachers in working with colleagues to access research, and to critically evaluate resources and pedagogical strategies as they applied them to their evolving practice. For one Scottish participant, it was this ability to critically evaluate his practice that led to his further development as a leader:

When I actually started doing the research and taking on the chartered [certified] teacher, and I started to realize – well I also realized that I knew a lot less than I thought I knew and there was a lot more to even learn, but that was part of that process. And at that point, you do start to grow – you don't just grow in the profession, you start to grow as a person. Your confidence starts to develop, and that's when it all starts to take off.

### ***Growth as a Leader***

Becoming a teacher leader is defined as the adoption of a leadership stance to guide collaborative professional learning and advocate for themselves and others. The word stance is one of significance here, as it was in teacher research (Cochran-Smith and Lytle 1999), because a stance represents how you view and interact with your world. Therefore, a leadership stance influences every micro-interaction a teacher engages in throughout his/her day and suggests they believe their decisions and actions can and will powerfully impact their students, colleagues, school and broader community context. As one Welsh participant noted:

Becoming a teacher leader, I think, is very interesting in that it overlaps with growth as a researcher, because through personal experiences of other people and the way you collaborate

will have an impact on your own leading and teaching, and being a facilitator has allowed me to grow by other people's experiences.

For many participants their perception of leadership changed dramatically as their teacher leadership stance emerged. Leadership became a part of who they were, rather than a title or role, as evidenced by the reflection of an American focus group participant:

I had the definition in my mind ... you're going to be an administrator or you're going to have a leadership role in the school, and then you're a leader. Otherwise, you're not ... I wasn't going to do any of those things ... It's amazing to me how my definition broadened, and I can see ways that I will impact other teachers ... I need to do this. I have something I can share as a researcher, as a teacher. The confidence, for me came from there.

An Irish focus group participant shared that even when there was an official role in her school, her leadership was sought after because of her expertise:

Even though there's someone in my school who's actually paid and has the official responsibility on paper to do the role, people will come to me now rather than that person, and it would just be kind of unofficially accepted that I do it in the school. I would see myself as a teacher leader in that sense, but I think without the kind of validation of the master's and the diploma, I think I'd be kind of a little bit unsure.

As alluded to in the comments of the Irish participant, a degree programme or other professional development programme offered many of the teacher leaders a structured opportunity for professional growth as a leader. Participation in such a structured system of support: (a) helped to shape how participants defined leadership; (b) celebrated what individuals had to contribute in their context; and (c) ensured participants had ample opportunity to build fluency in the enactment of leadership, with consistent feedback and support from their peers and mentors. Collectively these sources of feedback reinforce teacher leaders' self-efficacy and motivation to continuously develop their individual competencies and to cultivate the competencies in others.

### **Personal growth**

Personal growth is situated at the nexus of the core competencies. It is defined by participant data as confidence in one's ability to engage in continuous self-improvement. Personal growth represents the space in which participants' positive feedback was consolidated into new energy, motivation, and desire to continue leading. An Irish participant illustrated this definition well:

I would see areas of weakness in the school, and you take it on yourself to develop initiative. You know, at the start, I wouldn't have the confidence that my initiative was going to work, but now I would have that confidence, and it would make me more confident to take on a leadership role and to stay in my leadership role.

Concurrently, personal growth represents the vulnerability associated with enacting a teacher leadership stance, which at times requires teachers to reconcile with disappointments and challenges across the classroom, school, and community context.

Personal growth requires a new orientation toward the work that was reinforced by the knowledge, skills, and dispositions associated with being a master teacher, teacher researcher, and teacher leader. Focus group participants reported they had the potential to improve their practice and create stronger, more mutually beneficial interactions and relationships with students, colleagues, families and the community. Furthermore,

they perceived challenges as opportunities to persevere. Teachers reported a new-found strength to take innovative pedagogical and personal risks they would not have attempted in the absence of the confidence gained through their participation in a leadership development programme and the knowledge, skills, and dispositions the programme helped them to develop. An English focus group participant explained personal growth by stating:

The more you can sort of dare to change things within you and the way you teach and the way you personally grow in your teaching and teaching approaches, the more you dare to step into the other areas really.

For other participants the confidence was subtler, but they felt the skills they had acquired such as how to access and use research, how to engage others in conversation, and how to build a logical argument that could be applied beyond coursework to solve real-world dilemmas and problems of practice. One American teacher explained her personal growth as the development of new skills for addressing challenges. As she interacted with the theoretical model where growth, leadership, and research intersect she said:

I know if I have this resource to back me on these particular things, that it'll be beneficial to us in the end, and it helps me get some more ideas. Maybe this won't work, maybe this will work; let's look at some scenarios that other people have already looked into. I guess I am becoming more knowledgeable.

Perhaps most significant within these passages is how the teachers articulate the ways in which their micro-interactions collectively represent impactful experiences. In both situations, the teachers concluded by stating how they developed both confidence and knowledge.

Several participants also noted that they felt the knowledge and skills learned through becoming a teacher leader supported them outside of their immediate classroom and school context. For example, some took on more active roles in the teachers' union, some stepped up in their faith communities, while others used their growth to advocate for children; as this Irish teacher leader explained a new role she took on in working with teacher candidates:

I'm speaking to the students in postgrad today, talking about how important it is for them now that they are upskilling and finding out the rationale behind why we do what we do, and the pedagogies and theories, whatever, that they are now in a place to become the advocates for the children that they're learning about.

Teachers repeatedly reported an increase in confidence gained through their work in each of the four competencies: Master Teacher, Teacher Research, Teacher Leader and Personal Growth. The data suggests it was the interdependency of their classroom, school and community experiences across these core competencies, which heightened their self-efficacy as professional educators and teacher leaders who could initiate meaningful change. And the circular shape of the visual model helps to depict the interdependency of the core competencies and the constant movement among them by teachers developing as leaders, as one Scottish focus group participant reflected on the data gathering process:

When I was doing that plotting thing, it was like a circle for me. Because I started off to be a better teacher, then I became a better person and a teacher leader, and I feel being a teacher leader made me want to do more to be a better teacher again. So I feel it's a circular model.

## Context

The development of teacher leadership knowledge, skills, and competencies occurred for our participants within an applied context. The enactment of leadership was contingent on having others to lead. Furthermore, when teacher leaders are in the process of acquiring new knowledge, skills, and dispositions they required supportive contexts. Contexts, which both set the occasion for the enactment of leadership and provided teacher leaders with frequent opportunities to interact, gain feedback, foster self-confidence, and develop fluency in leading. An English participant observed simply: ‘The school context has affected your challenges and the impact you can have, and it affects all the kind of growth that you can have, and the challenges and your impacts will affect your growth.’ A Scottish participant shared more specifically about her school context and described how a change in school culture dramatically changed the perception and enactment of teacher leadership at the school:

The last two years, we have had a change of the senior leadership team, we’ve had a change of head teacher, and I think within the school, the culture has shifted so actually teacher leadership is no longer seen as being something that only those people that did if you were kind of brown-nosing to the boss; I think it’s not something to be ashamed of anymore. I think that’s a positive thing.

Across all study participants, the forms of feedback provided had the potential to encourage the teacher to (a) sustain the continued development of their growth, (b) to persist and build stamina in response to challenges, and (c) in some rare cases repeated negative feedback attenuated teacher leadership development.

## Impacts

Making an impact in the classroom, school, or community was an outcome of teacher leadership enactment. These proximal outcomes also played an important role in the continuation of the development process. That is, positive feedback from the school and community context contributed to participant motivation and persistence in the development of the core competencies. For example, one American interview participant shared how she established many new formats for colleagues to interact with others in her school community – formats that had previously not existed. She said, ‘I’m facilitating meetings and PLCs and the Teacher Fellows [teacher research community]. So my colleagues feel comfortable coming to me with anything ... like issues or problems or questions that they have.’ Teacher leader participants reported these micro-interactions associated with positive impact feedback occurred with other individuals and among groups.

Developing relationships was a common impact described across the four core competencies of Growth as a Teacher, Growth as a Researcher, Growth as a Leader, and Personal Growth; however, participants noted, the relationships that supported their development, and inspired them to lead through advocacy, were also an outcome of their willingness to step out and engage with the classroom, school and community. For example, one US participant shared how significant relationships were to her definition of leadership and how she enacted it, stating:

I think also that is part of being a good leader – knowing that we’ve learned so much. Knowing when to facilitate, not necessarily taking the lead, but knowing how to facilitate ... Kind of just stepping back and planting the seeds. Then watching it grow. I think that’s a part of being a leader.

The teacher leaders we encountered consistently sought opportunities to engage and encourage others, building capacity within their school community through gentle nurturing, as highlighted by the participant's reflection. The positive feedback received from multiple micro-interactions with people in all layers of the work context affirmed the teacher leader as an individual and as an important agent of change.

A primary goal of teacher leadership in any form is the improvement of child outcomes. In reviewing an earlier version of the theoretical model which explicitly stated the development of student relationships as a key outcome of teacher leadership, an Irish participant reminded the research team of the centrality of academic performance in asking: 'It's just kind of vague when you're mentioning relationships with students; that's kind of one aspect of your focus. Why mention that but not mention academic outcomes?' Indeed, teachers and schools are in the business of learning. Thus, this important reminder centres our focus on the essential goal of teacher leadership: learning.

## Challenges

Challenges are inherent to the change process; for many participants, teacher leadership development represented a change in their self-perception and their actions. Therefore, we defined the challenges construct as: barriers to teacher leadership enactment, which resulted in negative feedback from the school and community context, which prevented the development of the core competencies. However, for some teachers, challenges also presented a productive tension, rather than a barrier, contributing to the development of persistence and stamina when addressing dilemmas.

The most often cited barrier to leadership development was time. Between professional and personal commitments and responsibilities, it is simply challenging to keep up with the increased responsibilities of leadership. When pressed for time, teacher leaders retreated to focus on their core function as a teacher. One Irish participant explained in stating:

It's a massive thing. I suppose for me as a mother of a young child as well, trying to study and upskill myself, and a lot of that involved three or four in the morning jobs, because I had to do all the other home stuff as well, and that's like when you're trying to – you take on extra responsibilities as a teacher leader in school, you have to. You have to be prepared to do that, and that means time outside of school, because ... first and foremost, you are a teacher. You have to meet the needs of the students.

Other barriers to development were associated with policies, people and resources. Despite feeling empowered to ignite proximal change, participants lamented not understanding the motivation behind contemporary education policy or how to change it. A US focus group participant responded stating: 'I think when teachers find their voice, policy will be affected, and I think it's just something that's unfortunately missing.' The teacher leaders who participated in both the interviews and the focus groups continued to hold policy as a distal factor, despite interacting with the implications of policy decisions on a daily basis. It is evident teachers' comfort level with discussing policy remained unidimensional and largely negative. Unfortunately, teacher leaders' expert knowledge of enacting policy will not influence what is being asked of educators at a national or state level until accessing, understanding, and responding to policy is better integrated into the definition and enactment of teacher leadership.

Additional barriers were more often identified by teachers as being proximal; that is, they felt they could name the source of the barrier and in many cases knowing the parameters of the challenge enabled them to develop an approach to deconstruct it or bypass it. An American participant pointed to the challenges component of the theoretical model and spoke to the need for a shared vision of instructional improvement:

My school culture has been a big barrier, because everyone is an island. It's really difficult to find someone who wants to collaborate ... The school culture is ... 'I need to do this, because if I don't do this, I'm not going to get the scores that are going to impact my [teacher] evaluations.'

She shared how the absence of colleagues with a shared vision made it more difficult to stay motivated, because she did not have people to collaborate with. Despite this setback, however, this teacher also noted that by expanding the teacher inquiry group at her school to include pre-kindergarten teachers she was able to locate previously untapped capacity. She was able to establish new relationships and grow her teacher research collaborative to ten people. They met on a regular basis to share their systematic teacher research and how it was impacting student outcomes.

The core competencies contributed to the teacher leaders' development of key knowledge, skills and dispositions that facilitated their ability to maintain developmental stamina when addressing challenges. They now have the tools to work through issues and to problem-solve how to meet their personal, student, school and community needs with the resources available – an essential dimension of what it means to be an effective leader.

## Discussion

These findings suggest that when teachers are provided with a supportive environment, a cohesive professional development programme and the opportunity to lead, they can play a central role in school improvement, which can include operationalizing the policy efforts aimed at improving teacher quality and student outcomes. In this paper, we have presented a framework to make sense of the transformative experiences, which contributed to the perception of leadership development professed by our participants. We are thus responding to the call of Mayrowetz (2008) and a review of the literature on teacher leadership by Poekert (2012), which points to a need for empirical research, not only describing the characteristics of effective teacher leaders, but also questioning what facilitates their development – a need that aligns seamlessly to the aims of this study.

We have found that in order to achieve movement from teacher to leader, teachers need support and regular opportunities to develop the knowledge, skills, and confidence to have a voice that makes the greatest impact on their context. What is more, the skills that teachers develop through these iterative feedback loops is a broad skill set that can be adapted to many different positions within their school and community, rather than a narrow focus on a particular role or initiative. Further, there must be recognition that while highly patterned, the process of leadership development is unique to the individual. As a Scottish focus group participant noted, 'it's kind of recognising that there might be some fluidity in which some people will grow in different areas at different times.' This is essential because such a process of leadership development embodies true capacity building in that teachers develop sustainable leadership skills among individual participants who can be responsive to the changing winds of educational initiatives. It is never certain what the next policy initiatives will be.

This study contributes to the understanding of leadership as a stance rather than as a formal position or role within a school. In fact, we would suggest that recent conversations in the literature over the distinctions between formal and informal leadership are unproductive. What truly matters is the value of an individual's leadership as perceived by other members of their community. Whether or not the teachers are formal or informal leaders within their schools, what is most essential is that they take a leadership stance that is responsive to the needs of their students and motivates their colleagues toward improving their performance.

Further, this study contributes to the field a map that visualises teacher leadership as an instance of emergence, or organised complexity, rather than a linear causal process and a framework of interrelated constructs that provide a vocabulary for describing the patterned experiences of teachers developing as leaders. To understand how teacher leadership emerges within the context of a school environment given the right catalysts and conditions allows other would-be school reformers insight into both (a) how programmes can be engineered to introduce new opportunities and ideas with the potential to catalyse teachers' transformations into leaders; as well as (b), how emerging teacher leaders' subsequent interactions with their colleagues (both teachers and administrators) can give rise to a new school context by developing new patterns of interactions and thus creating a new emergent system, a community of practice (Wenger 1998), much like introducing new DNA into cellular systems can cause changes in the tissues they compose and reproduce. The journeys of teacher leaders can be understood as additional examples of emergence in the way that Johnson (2001) described as local interactions leading to global structure.

Finally, this study demonstrates that complexity theory can be practically applied to the field of teacher education research. Moving away from a linear and sequential conceptualisation of leadership development does not mean that educational research will be hopelessly lost in an abyss of overwhelming complexities. Rather, understanding leadership development as an instance of emergence allows us to treat it with 'the appropriate appreciation of uncertainty, complexity, and unpredictability (Cochran-Smith et al. 2014). Additionally, the methodology of process tracing seems to be appropriately suited for delving into instances of organised complexity. We agree with Hall 2000 (in George and Bennett 2005, 206) that "process tracing is a methodology well suited to testing theories in a world marked by multiple interaction effects, where it is difficult to explain outcomes in terms of two or three independent variables – precisely the world that more and more social scientists believe we confront."

We seek to become part of a movement of educational researchers that treat teacher leadership development and teacher education at large with the appropriate levels of complexity and unpredictability in conducting ecologically valid empirical research. While the reader will be the ultimate arbiter of the study's usefulness, we believe we have provided a framework that can be employed in future teacher leadership development research, and we hope that the study will give rise to new interactions that simultaneously articulate and propagate new emergent systems.

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## Notes on contributors

*Philip Poekert* is the assistant director of the Lastinger Centre for Learning at the University of Florida. His work centres on the development and evaluation of job-embedded professional development and graduate education programmes focused on teacher leadership as well as other innovations to improve teacher quality.

*Alex Alexandrou* is a freelance academic and has gained considerable experience in developing and evaluating educational leadership and professional development programmes. Alex has been observing and researching the development of teacher leadership for more than a decade as part of an ongoing project investigating teacher leadership in alternative contexts.

*Darbianna Shannon* is a doctoral candidate in Curriculum and Instruction with a specialisation in early childhood studies, at the University of Florida. Darbianna's areas of research include evidence-informed professional development and practice-based coaching in early care and education settings.

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