

Developing Non-Positional Teacher Leadership of Formative Assessment Practices: Findings from the Teacher-Led Learning Circles Project

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Abstract

This article examines the development of teacher leadership through the Teacher-Led Learning Circles project, a professional learning and research initiative across seven countries: Brazil, Côte d'Ivoire, Ghana, Malaysia, South Korea, Switzerland, and Uruguay. Through targeted professional development over one academic year, the project advanced non-positional teacher leadership and confidence in four core formative assessment strategies as well as the embedded use of these strategies by teachers. Data were collected through multiple sources, including a teacher pre-survey ($n = 171$), a teacher post-survey ($n = 121$), a teacher codification framework questionnaire ($n = 113$), a local facilitator questionnaire ($n = 27$), a local union representative questionnaire ($n = 10$), a national researcher questionnaire ($n = 7$), and seven country profiles. Findings show that when teachers are supported, their influence grows, and formative assessment practices become more embedded and confident, highlighting the potential of teacher-led professional development for sustainable educational improvement.

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Cet article examine le développement du leadership enseignant à travers « Cercles d'apprentissage pilotés par les enseignant(e)s », un projet de formation professionnelle et de recherche menée dans sept pays : le Brésil, la Côte d'Ivoire, le Ghana, la Malaisie, la Corée du Sud, la Suisse et l'Uruguay. Grâce à un développement professionnel ciblé sur une année scolaire, le projet a permis de renforcer le leadership non hiérarchique des enseignants et leur confiance dans quatre stratégies d'évaluation formative fondamentales, ainsi que l'utilisation intégrée de ces stratégies par ceux-ci. Des données ont été recueillies à partir de plusieurs sources, notamment une enquête préalable auprès des enseignants ($n = 171$), une enquête postérieure auprès des enseignants ($n = 121$), un questionnaire sur le cadre de codification des enseignants ($n = 113$), un questionnaire destiné aux facilitateurs locaux ($n = 27$), un questionnaire destiné aux représentants syndicaux locaux ($n = 10$), un questionnaire destiné aux chercheurs nationaux ($n = 7$) et sept profils de pays. Les résultats montrent que lorsque les enseignants sont soutenus, leur influence s'accroît et les pratiques d'évaluation deviennent plus intégrées et confiantes, une conclusion qui souligne le potentiel du développement professionnel mené par les enseignants pour améliorer l'éducation de manière durable.

Keywords / Mots clés : teacher learning, professional learning, professional development, teacher leadership, leadership, assessment for learning, formative assessment / apprentissage des enseignants, apprentissage professionnel, développement professionnel, leadership des enseignants, leadership, évaluation pour l'apprentissage, évaluation formative

Introduction

It is widely understood that effective professional learning and the development of teacher leadership are central to supporting the development of the teaching profession collectively and the individual agency, professional identities, and work of teachers (Thompson, 2021). This is especially true in the context of two pressing challenges facing education globally. The first is a global crisis in the teaching profession manifesting in fewer people entering the teaching profession, increasing attrition, and concerns about working conditions and wellbeing (United Nations, 2024). The second is tackling inequities for student opportunities, experiences, and outcomes in learning and progression, especially following the ongoing impacts of educational disruptions during the COVID-19 pandemic (OECD, 2023).

This article draws on findings from a larger international research study for the Teacher-Led Learning Circles project providing professional learning to develop and advance teachers' leadership for the use of formative assessment practices. The Teacher-Led Learning Circles project was implemented in seven countries: Brazil, Côte d'Ivoire, Ghana, Malaysia, South Korea, Switzerland, and Uruguay. Teacher-Led Learning Circles is a professional learning and development model that engages groups of teachers and facilitators in sustained learning and discussion about an educational topic of collective interest and teacher leadership. The Teacher-Led Learning

Circles project provided facilitated professional learning and development over one academic year to advance teachers' leadership of educational improvement with a focus on increasing confidence in and embedded use of four core formative assessment strategies.

While the development of teacher leadership is considered desirable, the concept and definition of teacher leadership is multi-faceted and considered an umbrella term with multiple meanings (Harris, 2005). In this article, we focus specifically on findings concerning the development and enactment of non-positional teacher leadership. We define non-positional leadership based on Cordingley, Crisp, Johns, Perry, Campbell et al.'s (2019, p. 21) distinction between formal leaders linked to specific promoted positional roles, and broader teacher leadership of all in the profession:

Positional leadership based on authority conferred through an official position e.g., as a head of subject/department/phase, deputy, assistant head, or head teacher.

Non-positional leadership occurring when teachers make decisions and enable things to happen across groups of stakeholders based on their expertise, experience, and personal/professional goals and values.

Furthermore, Frost defines non-positional teacher leadership as “a set of assumptions, beliefs and values, central to which is the conviction that any teacher or other educational practitioner can be enabled to exercise leadership” (Frost, 2019, p. 4). We draw on these definitions to inform our conceptualization of non-positional teacher leadership.

Literature review

The following provides a summary of relevant research literature concerning teacher leadership, professional learning, and assessment for learning and formative assessment.

Teacher leadership

Interest in the concept and practice of teacher leadership has grown, especially since the 1990s. However, there is a wide array of definitions of teacher leadership. For example Wenner and Campbell (2017) highlight variations between theoretically grounded conceptualisations and definitions that are more empirically derived from research. The lack of one agreed definition of “teacher leadership” can be problematic for shared understanding (Lieberman, Campbell, & Yashkina, 2017), but it provides scope for differing interpretations and applications to evolve. Overall, teacher leadership generally includes being defined as a process whereby teachers, individually or collectively, influence members of school communities within and beyond classrooms to enhance teaching and learning (Nguyen, Harris, & Ng, 2019; York-Barr & Duke, 2004). In a seminal review of the research literature, York-Barr and Duke (2004, pp. 287–288) offer the following definition: “We suggest that 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 learning and achievement.”

More recently, based on a systematic review of contemporary research literature, Nguyen et al. (2019, p. 71) conclude that teacher leadership a) has been conceptualized as a process of influence, b) is exercised based on collaboration and trust, c) operates within and beyond classrooms, and d) aims to improve instructional quality, school effectiveness, and student learning.

Teacher leadership can be enacted by all teachers, whether they hold formal school leadership roles or not. Positional leadership specifically refers to authority granted through a formal or promoted role, such as a deputy head teacher or curriculum specialist. Non-positional leadership, in contrast, encompasses decisions based on teachers' professional experiences and goals that support changes across groups of stakeholders (Cordingley et al., 2019). Central to teacher leadership, then, is teacher decision-making that exerts influence within and beyond school contexts.

Teachers draw on different sources of influence to enact teacher leadership. These sources include human, social, and decisional capital. Human capital refers to the expertise teachers draw upon to exert influence, while social capital encompasses teachers' professional relationships and networks that they can leverage to support influence (Nguyen et al., 2019). Teachers can also draw on decisional capital, which refers to their professional judgement, experience, and agency in taking action (Hargreaves & Fullan, 2012). Teachers' knowledge, skills, networks, and capacity to make decisions and take action all support teacher leadership.

Researchers have identified several benefits of teacher leadership for educational change. Benefits for the teachers who engage in teacher leadership include: enhanced knowledge and skills, improved instructional practices, increased motivation and job satisfaction, increased self-efficacy, and enhanced leadership identity (Campbell, 2018; Harris, 2005; Nguyen et al., 2019; Wenner & Campbell, 2017; York-Barr & Duke, 2004). When groups of educators engage in collaborative teacher leadership, they can support improved school cultures and collective self-efficacy. While teacher leadership is driven by teachers, actualizing its benefits requires governments and school cultures that support and enable teacher leadership.

A primary aim of teacher leadership can be to enhance student learning. By influencing the work of principals and teachers, teacher leaders can enhance pedagogical practices, which cultivate improvements in student learning (Nguyen et al., 2019; Supovitz, Sirinides, & May, 2010). Additionally, students can benefit from seeing teachers' enthusiasm, motivation, and innovative thinking. Collaborative teacher leadership can model democratic leadership processes for students (York-Barr & Duke, 2004).

This article situates the authors' conceptualization of teacher leadership by drawing on the four common hallmarks of teacher leadership identified by Nguyen et al. (2019, p. 71):

- a. Teacher leadership is a process of influence; b) teacher leadership is exercised on the basis of reciprocal collaboration and trust; c) teacher leadership operates within and beyond the classroom; and d) teacher leadership aims to improve instructional quality, school effectiveness, and student learning.
- b. In addition, this article is specifically focused on "non-positional leadership," which concerns supporting all teachers to develop their influence and impact

rather than focusing only on positional leaders in formal roles (Cordingley et al., 2019; Frost, 2019). It is this concept of non-positional teacher leadership that is central to the Teacher-Led Learning Circles project.

Professional learning

Continuous professional learning encompasses the learning and professional growth that in-service teachers engage in after their initial teacher education (OECD, 2019). Continuous professional learning includes formal, structured activities, such as professional development courses or workshops. Importantly, it also includes the processes that teachers engage in and enact in response to these activities, including reflection, collaboration, experimentation, and action in teachers' day-to-day work to adapt, apply, and continue professional learning beyond formal professional development events or activities (Cordingley et al., 2019).

Teachers' continuous professional learning and development is critical for supporting high-quality and equitable education (UNESCO, 2016). Research has indicated that continuous professional learning can facilitate improvements in teachers' self-efficacy and professional skills and practices, which in turn can support improvements in student achievement (Garrett, Zhang, Citkowitz, & BurrGarrett, 2021; OECD 2019; Sims, Fletcher-Wood, O'Mara-Eves, Cottingham, Stansfield et al., 2021). However, not all continuous professional learning is effective. Based on a literature review conducted by the authors on the Teacher-Led Learning Circles Project (see Campbell, DeLuca, & LaPointe-McEwan, 2022), six features of effective professional development were identified.

First, effective professional learning is linked to teachers' identified priorities for their work to support student needs, improve student learning, and enhance related student outcomes. Research has indicated that teachers are more likely to achieve and sustain their professional learning goals if they are aligned with classroom contexts and school priorities (Sims et al., 2021), and that teacher agency, choice, and voice can support effective professional learning (Taylor, Goeke, Klein, Onore, & Geist, 2011; Thompson, 2021).

Second, effective professional learning is differentiated for teachers' professional values, experiences, and work in their school and classroom contexts. Researchers have recognized that professional learning is potentially more effective when teachers have a range of types of professional learning opportunities (OECD, 2019) and when professional learning is tailored to teachers' classroom contexts (Campbell et al., 2017). Professional learning is also more effective when it is connected with teachers' values and experiences, which evolve over the course of their careers (Desimone, 2009; OECD, 2019).

Third, effective professional learning provides useful, research- and practice-informed, quality content relevant to identified professional needs. Researchers have noted that providing targeted and specific content to support subject, pedagogical, curricular, and assessment knowledge can support effective professional learning (Dagen & Bean, 2014; Desimone, 2009; Desimone & Stuckey, 2014; Garet, Porter, Desimone, Birman, & Yoon, 2001; Shulman, 1986).

Fourth, effective professional development supports evidence-informed active professional learning, inquiry processes, critical reflection, and collaborative professional learning to value and develop teachers' leadership and professional agency.

Effective professional development involves active learning (OECD, 2019), which can include teachers engaging in an inquiry process cycle, involving reflection and use of evidence of student learning to reflect on their progress in relation to their learning in professional development activities (Timperley, Wilson, Barrar, & Fung, 2007; Timperley, 2008). Collaborative learning that involves co-development, joint work, knowledge sharing, and feedback can support effective professional learning (Campbell et al., 2017; OECD, 2021).

Fifth, effective professional learning requires adequate provision of funding, time, and expert resources. Access to experts (e.g., coaches, facilitators) to support professional learning (Cordingley et al., 2015; Sims et al., 2021; Timperley, 2008), and adequate time out of the classroom—especially sustained over a long period to support cumulative learning (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009)—have been shown to foster effective professional learning. This requires access to adequate funding to support professional learning and development opportunities for all teachers.

Sixth, effective professional learning involves system, school, and teacher leadership prioritizing and supporting the importance of professional learning and development. School leadership, especially, plays an important role in valuing, supporting, engaging in, and modelling the importance of professional learning (Campbell & Osmond-Johnson, 2018; Cordingley et al., 2019; Crowther, Kaagen, Ferguson, & Hann, 2002; Hord, 1997; Robinson, Hohepa, & Lloyd, 2009; Sims et al., 2021). System leaders also have an important role in recognizing, valuing, and enabling professional learning and development, including provision of adequate resources (Campbell et al., 2017). Teachers themselves are also important in leading their own and their colleagues' professional learning for educational change and improvement.

Assessment for learning and formative assessment

Assessment for learning (AFL) is a deeply integrative assessment-driven pedagogical approach where teachers and students, acting individually or interactively, collect, interpret, and intentionally use information about student learning to make decisions that have positive impacts on teaching and learning (Laveault & Allal, 2016). While the terms “formative assessment” and “assessment for learning” are often used interchangeably, some have made a distinction between them; notably, that AFL encourages students to become more agentic in the assessment process as co-designers and users of assessment information to guide their own learning. Assessment for learning, therefore, emphasizes practices that invite or support students to generate feedback on their learning and the learning of others and make decisions about learning based on assessment information (Van Orman, Gotch, & Carbonneau, 2024). This article uses AFL throughout the literature review to align with contemporary understandings of assessment's role in learning; however, the term formative assessment is used in the methods and results as it was more broadly used internationally and more readily recognized by teachers participating in the Teacher-Led Learning Circles Project.

At its core, AFL is facilitated through four interrelated strategies based on continuous and ongoing gathering, interpretation, and use of evidence related to student learning (Lysgaht, O'Leary, & Ludlow, 2017, 2019):

1. Clarifying, sharing, or co-constructing learning intentions and success criteria with students,
2. Leveraging questioning and classroom discussion to deepen student learning and provide in-the-moment feedback for next steps,
3. Engaging in self- and peer-assessment practices to promote a community of learning, student ownership in learning, and learner agency, and
4. Providing ongoing feedback to close the gap between where the student is and their learning goals.

Together, these strategies enable students to understand where they are going in their learning (i.e., learning goals, success criteria), how they are going (i.e., their current progress in relation to those goals), and how to get there, via feedback from themselves, teachers, and peers. An essential goal of AFL is to develop students' capacities to self-assess and make informed decisions about their own learning (Panadero, Andrade, & Brookhart, 2018), making students central agents of their own learning (Andrade, 2019). Feedback generated from self, peer, and teacher assessments—in addition to strategic questioning, classroom discussions, and observations—is central to AFL as the primary mechanism whereby teachers and students make meaning of evidence of student learning and learning goals to help students close the gap between their current performance and goals (Yan & Carless, 2021).

The definitions and features of teacher leadership, effective professional learning and development, and AFL and formative assessment outlined in this literature review informed the design and development of the Teacher-Led Learning Circles Project (Campbell et al., 2022). The project, and the study reported in this article, drew on relevant research evidence to inform a design for professional learning to facilitate the development of non-positional leadership for leading changes in the use of formative assessment practices. By fostering the development of teacher-led innovations of practice, it was hoped that this would be more effective than top-down mandates for addressing systemic challenges (Hargreaves, 2004; Tschannen-Moran, 2009).

Teacher-Led Learning Circles project

This research was situated in the context of a three-year, international professional learning project, specifically the Teacher-Led Learning Circles project, to support teacher learning and leadership in formative assessment across seven countries: Brazil, Côte d'Ivoire, Ghana, Malaysia, South Korea, Switzerland, and Uruguay. Each country represented unique demographics, governments, educational policies, approaches to assessment, features of the teaching profession, teacher professional learning experiences, and classroom access to technology. Project participants included teachers, local facilitators, local union representatives, national researchers, international facilitators of the professional learning component, and international researchers. The project was led by Education International and funded by the Jacobs Foundation.

Year 1 of the project focused on developing professional learning resources to guide project activities, planning for national and international data collection within the project, and training local facilitators and local union representatives. The Teacher-Led Learning Circles model is a collaborative professional learning approach

that was used to engage groups of teachers and facilitators in sustained learning and discussion about enhancing formative assessment practices and strengthening teacher agency in participating countries (Campbell, DeLuca, LaPointe-McEwan, Ceau, & Rickey, 2024).

International facilitators worked with the international project team and the international researchers to develop handbooks to guide local facilitator and teacher participation in Learning Circle activities. Learning Circles were designed to span one academic year (10 months), with seven two-hour workshops for all teachers in the Learning Circle, three one-on-one tutorials between the local facilitators and each teacher in the Learning Circle, and two network events with teachers across multiple schools (Campbell et al., 2024). The international researchers also conducted a literature review on developing teacher leadership and formative assessment practices (Campbell et al., 2022) to share with project participants and developed a research framework to guide project data collection at local, national, and international levels (LaPointe-McEwan, Campbell, & DeLuca, 2022).

Year 2 of the project focused on implementing Teacher-Led Learning Circles across the seven participating countries. In total, the project supported 21 Learning Circles with 167 teachers, 43 local facilitators, and 17 local union representatives.

Year 3 of the project focused on analyzing and codifying data collected during the first two years of the project to report on key findings about teacher leadership and formative assessment, both nationally and internationally.

Methods

The international research framework for the Teacher-Led Learning Circles Project was rooted in two overarching research questions about the Teacher-Led Learning Circles: 1) what promising teacher-led formative assessment practices were identified? 2) what professional learning and teacher leadership processes supported teachers' formative assessment practices? Additional sub-questions linked to each overarching research question were also developed. For a complete description of the overall project, see the Teacher-Led Learning Circles Project Research Framework (Campbell et al., 2022).

It is beyond the scope of this article to provide findings from the overall international research study. Instead, it focuses on the component of the second research question above concerning teacher leadership processes. We explore findings concerning how teacher leadership, specifically non-positional teacher leadership as a central feature of the project, was developed through professional learning and enacted in practice.

International data collection

A multiple methods research design was used to gather quantitative and qualitative data from project participants, including teachers, local facilitators, local union representatives, and national researchers. For this article, we draw primarily on data from non-positional teachers participating in the Teacher-Led Learning Circles project. In addition, we have also included data from other stakeholders (e.g., local project facilitators, local union representatives) who could provide additional

perspectives on non-positional teacher development. Five primary data sources were used: teacher pre- and post-surveys, a teacher codification framework questionnaire, the local facilitator questionnaire, the local union representative and national researcher questionnaire, and national reports. Each data source is described below and was used to respond to the research questions for this article. All data collection tools were discussed and negotiated among international research partners to ensure items reflected sociocultural and language differences, ensuring valid surveys and protocols use across study jurisdictions.

Teacher pre- and post-surveys

The teacher pre- and post-surveys gathered information about teachers' formative assessment practices, professional development experiences, and demographics at the beginning and end of their participation in the project (i.e., Year 2 of the project). Each survey included fixed-response items (33 on the pre-survey, 36 on the post-survey) and one open-response item. Both surveys were organized into three parts and were the same for all participants across the study's country contexts.

Part 1: Formative assessment practices. The first section of the survey was adapted from the Assessment for Learning Measurement Instrument, a validated instrument that has been used to study teachers' AFL practices (Lysgaht et al., 2017). It consisted of 20 fixed-response items on the teacher pre-survey and 26 fixed-response items on the teacher post-survey. Teachers were asked to report their **confidence** using formative assessment practices (*not at all confident to highly confident*) and the extent to which these practices were **embedded** in their classrooms (*never to embedded*) at the start and end of the project in four research-based formative assessment categories:

1. Learning intentions and success criteria
 - Teachers communicate the knowledge, skills, and concepts students need to learn and how students will demonstrate their learning.
2. Questioning and classroom discussion
 - Teachers facilitate questioning and classroom discussion to deepen student learning and provide in-the-moment feedback for next steps.
3. Feedback
 - Teachers provide ongoing feedback to close the gap between where the student is and their learning goals.
4. Self- and peer-assessment
 - Teachers foster students' self- and peer-assessment to promote community learning, student ownership in learning, and learner agency.

Part 2: Professional development and teacher leadership processes. The second section of the survey asked teachers to rate the extent to which their professional development experiences reflected the six qualities of effective professional learning and development identified in our literature review for the project (Campbell et al., 2022). Each survey consisted of six fixed-response items and one open-response item, which asked teachers to describe their professional learning goals related to formative assessment and teacher leadership.

Part 3: Demographics. The final section of each survey consisted of seven fixed-response items and asked teachers to share relevant demographic information, in-

cluding their country, years of teaching experience, level they currently teach, typical class size, school context, access to digital technology in the classroom, and how they have learned about formative assessment.

Teacher codification framework questionnaire

Toward the end of Year 2 of the project, teachers were invited to complete an optional, open-response Teacher Codification Framework Questionnaire to share one or two effective formative assessment practices that supported their students. The questionnaire was purposefully aligned with the four research-based formative assessment categories in the teacher pre- and post-surveys (i.e., learning intentions and success criteria, questioning and classroom discussion, feedback, and self- and peer-assessment) plus an “other” category.

Local facilitator questionnaire

At the end of Year 2 of the project, local facilitators completed a local facilitator questionnaire about their experiences facilitating Learning Circles in the project. This questionnaire included 14 questions about four topics: demographics (1 question), challenges and supports they experienced during Learning Circles (4 questions), effective formative assessment practices they identified during the project (6 questions), and how Learning Circles supported teacher leadership (3 questions).

Local union representative and national researcher questionnaires

At the end of Year 2, local union representatives and national researchers were asked to complete a local union representative and national researcher questionnaires. This open-response questionnaire included four questions about four topics: demographics (1 question), professional learning processes that supported teachers (1 question), promising teacher-led formative assessment practices (1 question), and lessons learned to inform successful implementation of Teacher-Led Learning Circles (1 question).

National reports: Country profile and final country profile

National researchers from each participating country submitted two reports to provide data for the international research and to summarize their country’s respective experiences in the project. *National Report Part 1: Country Profile* was a 10-page report created during Year 1 of the project, providing a review and analysis of existing policies, practices, and research on formative assessment in each country. *National Report Part 2: Final Country Profile* was a 25-page report created during Year 3 of the project. These final reports served as case studies for each country and included existing policies, practices, and research on formative assessment and the identification, codification, and description of effective formative assessment practices and findings linked to the project’s research questions (see Bordoli, 2024; Hasim & Alias, 2024; Kim, 2024; Koutou, 2024; Kwaah, 2024; Oliveira, Duarte, Clementino, Sálvio, Marques et al., 2024; Smit, 2024).

Table 1 provides a summary of all data sources included in the international research and the number of responses and response rates for each source. Teacher pre- and post-survey responses were high; 99 percent ($n = 171$) responded to the teacher pre-survey and 70 percent ($n = 121$) responded to the post-survey. Questionnaire re-

sponses were also high: 66 percent of teachers ($n = 113$) responded to the teacher codification framework questionnaire, 63 percent of local facilitators ($n = 27$) responded to the local facilitator questionnaire, 59 percent of local union representatives ($n = 10$) responded to the local union representative questionnaire, and 100 percent of national researchers ($N = 7$) responded to the national researcher questionnaire. In addition, all national researchers ($N = 7$) submitted their national reports: *National Report Part 1: Country Profile* and *National Report Part 2: Final Country Profile*.

Table 1: Data sources, number of responses, and response rates

Data Source	Total Responses	Response Rate
<i>National Report Part 1: Country Profile</i> A review and analysis of existing policies, practices, and research on formative assessment in each country.	7	100%
Teacher pre-survey A three-part survey focused on teachers': • Formative assessment practice (20 fixed-response items) • Professional development and teacher leadership processes (six fixed- and one open-response item) • Demographics (seven fixed-response items)	171	99%
Teacher post-survey A three-part survey focused on teachers': • Formative assessment practice (26 fixed-response items) • Professional development and teacher leadership processes (six fixed- and 1 open-response item) • Demographics (seven fixed-response items)	121	70%
Teacher codification framework questionnaire Optional open-response teacher questionnaire to showcase how formative assessment practices are supporting the students of teachers participating in the Teacher-Led Learning Circles project.	113	66%
Local facilitator questionnaire Open-response questionnaire about challenges and supports they experienced during Learning Circles, effective formative assessment practices they identified, and how Learning Circles supported teacher leadership.	27	63%
Local union representative questionnaire Open-response questionnaire about challenges and supports they experienced during Learning Circles, effective formative assessment practices they identified, and how Learning Circles supported teacher leadership.	10	59%
National researcher questionnaire Open-response questionnaire about professional learning processes that supported teachers, promising teacher-led formative assessment practices, and lessons learned to inform successful implementation of Teacher-Led Learning Circles.	7	100%
National Report Part 2: Final Country Profile Country case study reports that included existing policies, practices, and research on formative assessment and the identification, codification, and description of effective formative assessment practices and findings linked to research questions.	7	100%

Data analysis

Quantitative data (i.e., fixed-response teacher pre- and post-survey responses) were analyzed using descriptive statistics and independent sample *t*-tests to elucidate changes in teachers' formative assessment confidence and practice and professional learning experiences. Qualitative data sources (i.e., open-response teacher pre- and post-survey responses, questionnaire responses, and country profiles) were analyzed using an inductive thematic coding process (Patton, 2002) to identify trends in teachers' formative assessment practices and professional learning and teacher leadership processes. Each qualitative data source was coded independently to identify categories for each participant group (i.e., teachers, local facilitators, local union representatives, and national researchers). Categories across participant groups were then combined to identify themes related to formative assessment practices, professional learning, and teacher leadership processes.

Findings

Qualitative and quantitative data from Teacher-Led Learning Circles Project participants (i.e., teachers, local facilitators, local union representatives, and national researchers) were analyzed and triangulated to respond to the overarching research questions and, for this article, to zone into consideration of the development and enactment of non-positional teacher leadership through the Teacher-Led Learning Circles professional learning project. The findings are reported here, drawing on the perspectives across the types of participants to support and explain the findings.

Professional learning for non-positional teacher leadership

This section focuses on findings related to the Teacher-Led Learning Circles project's professional learning design and processes for developing non-positional teacher leadership. Using data from the teacher pre- and post-surveys, participants' professional learning and development experiences before and after the Teacher-Led Learning Circles Project were compared to illuminate how the project may have facilitated the development of non-positional teacher leadership. The authors analyzed these data at the item level, rather than factor level, to highlight changes in teachers' ratings of each of the specific professional learning and development experiences, rather than broader underlying constructs. Teachers' ratings of the extent to which their professional development experiences reflected the six characteristics of effective professional learning and development (see Campbell et al., 2022) were high at the beginning of the project, with mean ratings ranging from 3.45 (SD = 1.26) to 4.29 (SD = .85). Despite these initial high ratings, teachers' ratings for five of the six characteristics increased after participating in the project (see Table 2). Teachers reported a slight decrease in only one characteristic: "was supported by school leaders." These trends suggested that teachers' previous professional learning experiences generally aligned with research-based characteristics of effective professional learning and development, and that the Teacher-Led Learning Circles Project further enhanced their professional learning experiences across most characteristics.

Table 2: Pre- and post-teacher survey mean ratings for qualities of previous professional learning and development experience

Items (Question 9-Pre vs. Question 10-Post) Scale: Not At All (1), A Little (2), Moderately (3), Somewhat (4), Highly (5)	Pre-Survey Mean (SD)	Post- Survey Mean (SD)
Was linked to my professional priorities to support my students' learning.	4.29 (.85)	4.49 (.76)*
Was differentiated to include consideration of my professional learning and development experiences and the context I am working in.	3.80 (.99)	4.06 (.94)*
Provided useful, relevant content linked to my professional learning and development priorities.	4.04 (.95)	4.24 (.83)
Involved inquiry and collaborative professional learning to develop my professional expertise.	3.96 (1.00)	4.16 (.99)
Provided funding, time and expert resources to enable me to participate in professional learning and development.	3.45 (1.26)	3.66 (1.29)
Was supported by school leaders.	3.60 (1.24)	3.58 (1.38)

Notes: Not all participants responded to these items on each of the surveys. Pre-survey $n = 165$ – 167 non-positional teachers; post-survey $n = 119$ – 121 non-positional teachers. *Difference in means is statistically significant ($p < .05$). Source: Campbell et al. (2024).

Independent samples t -tests (assuming unequal variances) comparing the mean ratings for all six characteristics from the pre- to post-survey indicated that two increases were significant:

- “was linked to my professional priorities to support my students’ learning” increased from 4.29 (SD = .85) to 4.49 (SD = .76); this difference was significant at $t(267) = -2.069$, $p = .039$; and
- “was differentiated to include consideration of my professional learning and development experiences and the context I am working in” increased from 3.80 (SD = .99) to 4.06 (SD = .94); this difference was significant at $t(255) = -2.231$, $p = .027$.

We used an independent sample t -test because not all participants completed both surveys, meaning that we could not use a paired t -test.

These significant increases suggested that the Teacher-Led Learning Circles project was more connected with participating teachers’ professional learning priorities and offered more differentiated learning opportunities to suit their individual needs as compared with their previous professional learning and development experiences. These findings establish the context of teachers’ experiences in the project and suggest these aspects of professional development as helpful in supporting their non-positional leadership—as articulated in the qualitative data.

How teachers developed non-positional leadership was primarily evident in the study’s qualitative data. Analysis of qualitative data from the teacher surveys, local facilitator questionnaire, local union representative questionnaire, and national researcher questionnaire offered insights into how participation in the Teacher-Led Learning Circles supported teacher leadership from various stakeholder perspectives. Teachers emphasized the role of collaboration in facilitating teacher leadership. Collaborating with other teachers to learn and share formative assessment practices

helped them develop their confidence and use of formative assessment, which teachers perceived as enhancing teaching and learning in their classrooms. The local facilitators played a central role in fostering teacher leadership. They reported that the project provided a safe space for teachers and facilitators to develop trusting relationships, which supported the development of collective knowledge among the participants over time. These trusting relationships allowed discussions about teachers' experiences with formative assessment to become richer and more open. The local union representatives and national researchers emphasized the central role of the local facilitators, noting that they provided essential guidance for the learning activities and created a safe space to foster teacher reflection and open discussion about teachers' assessment dilemmas, challenges, and decisions. Local facilitators, union representatives, and national researchers highlighted resources they were provided to facilitate the Teacher-Led Learning Circles as helpful for fostering professional learning and teacher leadership. These resources included a facilitator's handbook, a participant's guide, and a literature review developed by the international researchers focused on formative assessment and professional learning and development (Campbell et al., 2022).

Teachers also experienced challenges related to the professional learning and development process itself. Facilitators noted that the professional learning activities were time-consuming and left limited time for discussion. Additionally, many facilitators reported wanting more guidance on formative assessment and how to most effectively use the professional development tools. Facilitators stressed the need to tailor professional learning materials to align with participants' contexts and needs and that the resources could have been more practical in some instances. The mode of professional learning, which sometimes involved teachers collaborating online from great distances, also presented a challenge. Facilitators noted that internet connectivity issues sometimes made discussion and collaboration difficult. To address these challenges, facilitators noted that more practical tools (e.g., peer observation frameworks) and guidance through mentorship programs and cultural competency training would have been helpful.

To facilitate professional learning for teacher leadership, the facilitators recommended fostering trusting, collaborative relationships among participants (e.g., creating a safe space for discussion, encouraging participation from all group members) and focusing on teachers' needs and interests (e.g., adjusting learning based on participants' feedback, use discussions with participants as entry points for professional development). Facilitators also provided advice for teachers to get the most out of the professional development program: actively engage in professional collaboration and commit to changing formative assessment practice. Facilitators noted ways to gain institutional support, which centred on communicating positive impacts publicly and actively engaging key stakeholders (e.g., inviting administrators to collaborate with teachers).

Non-positional teacher leadership in practice

This section focuses on findings concerning how non-positional teacher leadership was enacted in practice through the Teacher-Led Learning Circles project. Specifically, given the focus of the Teacher-Led Learning Circles project on teachers' confidence in

and use of formative assessment, our findings focus on how non-positional leadership was enacted to develop and implement formative assessment. Qualitative data from the teacher codification framework questionnaire and the open-ended question in the teacher post-survey provided insights into the impacts teachers perceived when they developed their leadership to influence and enhance formative assessment practices in their classrooms and schools. In the codification framework, teachers reported promising formative assessment practices they learned through engaging in the Teacher-Led Learning Circles project and described the perceived benefits of these practices.

Non-positional teacher leadership was developed and exercised in several ways. Teacher participants actively shared and modelled formative assessment learning and experiences with colleagues. They also provided mentorship to colleagues who were less experienced in formative assessment. When asked how the project supported their professional learning goal(s) related to formative assessment and teacher leadership, a teacher from Malaysia reported: “I can take on leadership roles within the project, facilitating discussions, sharing best practices, and providing support to colleagues. This collaborative approach fosters a culture of continuous improvement and shared responsibility for student success.” Teachers engaged in joint projects with colleagues focused on developing their formative assessment practices. Seeing the benefits of their professional learning in their own classrooms, teachers extended their teacher leadership by sharing formative assessment practices with colleagues and school leaders not involved in the project. Teachers felt that this sharing and discussion led to enhanced use of formative assessment across their schools. A teacher from South Korea reported that they were “committed to spreading this approach and convincing colleagues of its value.” Local facilitators noticed and described this emergence of teacher leadership among the participating teachers as their confidence increased over time.

Teachers highlighted numerous benefits to student learning that resulted from promising formative assessment practices that they tried implementing. These benefits included: a) enhanced student learning and performance, b) confidence and self-esteem, c) metacognitive development, and d) learner agency. For example, teachers in Brazil, Côte d’Ivoire, Ghana, South Korea, and Uruguay all described similar process-oriented peer assessment practices focused on students providing each other with feedback on their thinking processes. Teachers perceived that these practices helped students develop their capacity to articulate their own thinking, making it visible to themselves and their peers, so that they could engage in metacognitive monitoring and control more effectively. A teacher from Brazil pointed out that “those practices (peer-assessment) provided more student autonomy, confidence, self-control and control of their actions as students.” As another example, teachers in Ghana, South Korea, Switzerland, and Uruguay felt that co-developing rubrics with students and supporting students in using them to self-assess enhanced students’ confidence and participation in learning activities. A teacher from South Korea explained that “it allowed students to see where they were at in each class and know if they had any gaps. They used it as a way to self-evaluate for the next class.”

In addition to benefits for students, teachers perceived various benefits for their own teaching practices. Teachers noted that formative assessment supported criteria-

driven learning, increased their knowledge of students' performance levels, enabled responsive instruction adapted to students' strengths and needs, and informed constructive feedback to progress students' learning. For example, teachers in Malaysia and South Korea developed entry and exit ticket practices to assess students' knowledge before and after a lesson. They reported that this practice helped them to monitor student learning and guide their teaching and inform feedback to support students' learning. A teacher from Malaysia explained that "these assessments provide real-time feedback, helping identify gaps in understanding. By promptly addressing misconceptions and adjusting instructional strategies, teachers create a more responsive learning environment." Similarly, teachers in Brazil, South Korea, and Switzerland invited students to maintain self-assessment journals to document their learning throughout learning episodes. These journals provided opportunities for teachers to provide formative feedback based on ongoing records of students' learning and thinking. A teacher from Brazil explained that "the children themselves also observed their progress on a daily basis, and many of them were aware of their evolution and were excited when they discovered they were progressing in writing and reading."

In addition to these benefits, teachers noted improvements in their classroom cultures when they began implementing new formative assessment practices. Improved classroom cultures manifested in the form of more frequent collective learning, the emergence of growth mindsets, and enhanced relationships between teachers and students. For instance, by using collaborative feedback practices, teachers in Malaysia, South Korea, Switzerland, and Uruguay cultivated ongoing dialogues about learning, encouraging questioning and peer and self- feedback. The teachers reported that students began to view learning as a collaborative process through engaging in these practices, and saw their peers as sources of feedback, increasing the amount of feedback and perspectives they could draw on to support their learning. A teacher from Malaysia said that "this dynamic feedback loop fostered a continuous improvement mindset among learners, encouraging them to refine their digital creations based on constructive input."

Beyond the classroom, local facilitators reported in the facilitator questionnaire that they observed positive impacts that mirrored those reported by teachers. Local facilitators highlighted enhanced student learning and performance, including increased student engagement, motivation, and confidence; enhanced student agency and autonomy; greater student metacognition; and increased student comfort with the use of learning gaps and mistakes as opportunities for learning and growth. The facilitators also reported that new formative assessment practices contributed to more positive learning environments characterized by student-centred and collaborative learning. As noted above, teachers and facilitators both reported increased collaboration with colleagues and school leaders focused on enhancing student learning via formative assessment practices.

Additionally, impacts on teacher leadership were related to enhanced cultures of collaboration and cooperation in schools. Teachers engaged in more collaboration and sharing within their schools, and in some instances, the project encouraged the creation of joint projects between teachers. Increased confidence gained during the project encouraged teachers to take on a leadership role with peers. Participating

teachers sometimes acted as leaders in improving the overall school culture and leading change within their respective context. This collaborative work led teachers to identify solutions to issues within their contexts and lead change in their school communities. For example, in Malaysia, teachers' use of formative assessment provided data used to inform school goals and decisions. Further, teachers and facilitators reported enhanced mentorship as a result of the project, with more expert teachers mentoring newer teachers, and modelling and workshops specifically designed to promote formative assessment in schools.

Conclusions and discussion

Education systems around the world are facing the dual challenge of: 1) a global crisis in the teaching profession manifesting in fewer people entering the profession, increasing attrition, and concerns about working conditions and wellbeing (United Nations, 2024); and 2) the importance of improving students' learning experiences and tackling inequities for students' opportunities, experiences and outcomes, especially following the ongoing impacts of educational disruptions during the COVID-19 pandemic (OECD, 2023). While addressing these challenges requires a wide range of approaches, this research focuses on the evidence from the Teacher-Lead Learning Circles project, which focused on providing effective professional learning to develop non-positional teacher leadership for confidence in and use of formative assessment strategies and practices to support students' learning.

Drawing on a review of research literature (Campbell et al., 2022), the authors identified that effective professional learning:

- Is linked to teachers' professional priorities to support their students' learning,
- Is differentiated to include consideration of teachers' professional learning and development experiences and the context they are working in,
- Provides useful, relevant content linked to teachers' professional learning and development priorities,
- Involves inquiry and collaborative professional learning to develop teachers' professional expertise,
- Provides funding, time, and expert resources to enable teachers to participate in professional learning and development, and
- Is supported by school leaders.

Encouragingly, teacher participants in the Teacher-Led Learning Circles project reported improvements in five of these six features, including statistically significant gains from pre-surveys to post-surveys in responses for "was linked to my professional priorities to support my students' learning" and "was differentiated to include consideration of my professional learning experiences and the context that I am working in." However, of concern, a slight decline in experiences of professional learning being "supported by school leaders" was reported. While teacher leadership can be led with, by, and for teachers themselves, the active engagement and support of formal school leaders can be beneficial in ensuring a school culture and community that enables and embraces teacher leadership (Campbell & Osmond-Johnson, 2018). In the context of our focus on teachers' non-positional leadership, it is important to note that support from positional leaders in formal roles, including school

leaders, is desirable to ensure teachers are supported to influence changes within and beyond their classrooms.

Qualitative evidence from the Teacher-Led Learning Circles international research study indicates the importance of creating a safe, trusting space for teachers to collaborate, engage in open discussion, and share their learning about formative assessment and the practices they develop. The use and expertise of local facilitators was beneficial in enabling this safe learning space, plus the use of expert resources to inform the understanding of, and confidence in, formative assessment concepts, strategies, and practices. Both collaborative professional learning and a focus on teachers' needs were considered important. Given that our research questions were primarily addressed via qualitative data, our findings reflect the project stakeholders' (i.e., non-positional teachers, local facilitators, local union representatives, national researchers) perceptions of how teachers developed and enacted non-positional teacher leadership—and some mechanisms whereby this leadership shaped student learning. Variations within and between local contexts are important to consider and, therefore, caution is required in wider interpretations and applications of these findings.

With regard to the enactment of teacher leadership, our findings add further evidence to the features of teacher leadership identified in Nguyen et al.'s (2019, p. 71) systematic review of empirical research which concluded that:

- a) Teacher leadership is a process of influence; b) teacher leadership is exercised on the basis of reciprocal collaboration and trust;
- c) teacher leadership operates within and beyond the classroom;
- and d) teacher leadership aims to improve instructional quality, school effectiveness, and student learning.

Through the facilitated professional development over one school year and the opportunity to try out formative assessments in their classrooms, reflect on these experiences, and further develop their teaching, the Teacher-Led Learning Circles project resulted in statistically significant gains in participating teachers' confidence in and embeddedness in practice of formative assessment. As non-positional teacher leaders, without formal leadership roles, the teachers developed and exercised their leadership influence through modelling and sharing their formative assessment practices, by engaging in and providing mentorship, and, in some cases, expanding their influence beyond their classrooms, for example in supporting school improvements, a collaborative school culture, and participating in regional or national networks. Mutual collaboration and trust were crucial both in creating and sustaining the Learning Circles as a safe space for authentic professional learning. The teacher leadership developed also involved expanding teachers' willingness to foster collaborative cultures within their classrooms and across their schools. Finally, the teacher leadership fostered through the Teacher-Led Learning Circles project had a central focus on improving instructional quality specifically in formative assessment to support school improvement and student learning. Participants in the Teacher-Led Learning Circles reported improvements in teachers' teaching practices including increased knowledge of their students' performance informing constructive feedback and adaptations in instructional strategies. Vitaly, this resulted in reported benefits for students' learning and performance, confidence and self-esteem, metacognitive

development, and agency. The findings from the Teacher-Led Learning Circles study indicate that developing and supporting teachers' non-positional leadership can be powerful for both the teachers involved and the students they work with.

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