Research Foundation

Lead Spark Team is built on a convergence of research from instructional improvement science, adult learning theory, and organizational psychology. Every structural decision from anonymous observations to 2–6 week cycles is grounded in evidence about how teachers actually develop new practices. This summary connects each platform feature to the research that supports it.

1. WHY COLLABORATIVE TEAMS? THE RESEARCH ON COLLECTIVE EFFICACY

Most professional development is delivered to individuals in isolation. Yet the strongest predictor of student achievement growth is not individual teacher skill. It is the shared belief of a teaching team that their collective effort will produce results.

> **HATTIE (2016)**
>
> Collective teacher efficacy has an effect size of 1.57. This is more than three times the average effect of any single educational intervention and more than twice the impact of socioeconomic factors on student outcomes.

Collective efficacy does not emerge from enthusiasm. It is built through shared experience with a common practice, public evidence of progress, and collaborative reflection on what is working. This is precisely what Lead Spark Team's improvement cycle creates:

- Teachers work on the same practice at the same time, building shared vocabulary and shared accountability.
- Evidence gathered through Learning Indicator Snapshots™ belongs to the team, not to individual teachers.
- Reflection meetings surface patterns across classrooms, reinforcing the belief that the whole team is improving together.

Research base: Hattie (2016) Collective Teacher Efficacy; Goddard, Hoy & Woolfolk Hoy (2000); Bandura (1997) on collective efficacy mechanisms.

2. PROBLEM-SOLVERS, NOT RECIPIENTS: CHALLENGE-FIRST DESIGN

Traditional PD presents teachers with a solution before they have articulated a problem. This sequence produces compliance, not ownership. When teachers are first asked to name a specific classroom challenge and then shown a research-based practice that addresses it, the motivational dynamic shifts.

> **ADULT LEARNING THEORY (Knowles, 1980)**
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> Adults are problem-centered learners. They engage most deeply when new learning is directly connected to a challenge they have already identified as real and urgent.

Lead Spark Team's Co-Creation Workflow operationalizes this: the principal identifies a challenge, shares it with teacher leads for input, and the team selects a practice together. Teachers arrive at the first PLC meeting already invested because they helped frame the problem. This is the mechanism through which implementation fidelity begins before a single classroom visit.

> **FULLAN (2007)**
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> "Ready, Fire, Aim" describes the most effective professional learning. Teachers need early engagement with the actual work before they can fully understand why a practice matters.

Research base: Knowles (1980) andragogy; Fullan (2007) Leading in a Culture of Change; Desimone (2009) on teacher professional development effectiveness.

3. LEARNING INDICATOR SNAPSHOTS™: OBSERVATION WITHOUT EVALUATION

The most common reason teachers do not implement new practices with fidelity is fear of being judged during the learning curve. When classroom observation is linked explicitly or implicitly to evaluation, teachers default to what is familiar and safe.

> **PSYCHOLOGICAL SAFETY (Edmondson, 1999)**
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> Teams that report high psychological safety take more interpersonal risks, share more information, and improve performance faster. Fear of negative judgment is the primary suppressor of learning behavior in professional settings.

Learning Indicator Snapshots™ are structurally designed to eliminate evaluation anxiety:

- No teacher names are entered. Classrooms are identified only as Class A, Class B, etc.
- Observers focus on what students are doing, not what teachers are doing.
- Data is aggregated to reveal team-level patterns, not individual performance.

- Results are shared in collaborative reflection, not in individual feedback meetings.

> **CITY, ELMORE, FIARMAN & TEITEL (2009)**
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> Instructional rounds that focus on student evidence rather than teacher performance consistently produce more candid, more actionable, and more improvement-oriented conversations.

Research base: Edmondson (1999) psychological safety; City et al. (2009) Instructional Rounds in Education; Danielson (2011) on separating formative and summative observation.

4. PRACTICE-FOCUSED COACHING PROMPTS: EXPERTISE WITHOUT CONTENT KNOWLEDGE

One of the most paralyzing beliefs for principals is the idea that they cannot coach a teacher because they never taught that specific subject. This belief is based on a false premise that effective instructional coaching requires content expertise. Research on teacher learning suggests otherwise.

> **KNIGHT (2007)**
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> The most powerful coaching questions are observable and practice-focused. Questions like "What did you notice students doing?" generate more reflection and more change than questions that require the coach to evaluate content accuracy.

Lead Spark Team's Practice-Focused Coaching Prompts are deliberately written so that any administrator, regardless of teaching background, can facilitate meaningful instructional conversation.

- **Practice-Focused (anyone can ask):** "What did you notice students doing during the task?" or "Where did students seem most engaged? What was happening then?"
- **Content-Specific (requires expertise):** "Was that the correct scaffolding for this standard?" or "Did you use the right questioning tier for this grade-level concept?"

This approach democratizes instructional leadership. A principal who came through school operations can facilitate the same reflective conversation as a 20-year veteran classroom teacher because the questions are anchored in observable student behavior, not subject-matter judgment.

Research base: Knight (2007) Instructional Coaching; Killion & Todnem (1991) on reflective practice; Gottesman (2000) peer coaching without evaluative feedback.

5. 2–6 WEEK CYCLES: THE SCIENCE OF RAPID FEEDBACK LOOPS

Annual PD calendars create a structural problem: teachers implement a practice for months before receiving any evidence of whether it is working. Without rapid feedback, it is impossible to refine implementation or maintain motivation.

> **WILIAM (2011)**
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> Feedback that arrives too late to influence the next attempt is not instructionally useful. The same principle that applies to student learning applies to teacher professional learning. Frequent, specific, and low-stakes feedback accelerates growth.

The 2–6 week improvement cycle compresses the traditional improvement timeline, allowing schools to complete 6–18 cycles per school year versus 1–2 traditional initiatives. This frequency produces three compounding benefits:

- Teachers can course-correct based on real evidence while the practice is still fresh.
- Multiple cycles build a repertoire of 6–18 research-based practices annually rather than depth in just one.
- Short cycles create natural celebration points that sustain motivation across the year.

Research from improvement science supports this structure. The Plan-Do-Study-Act (PDSA) framework, foundational to the Carnegie Foundation's improvement networks, demonstrates that shorter cycles with faster data produce superior implementation fidelity compared to long, linear rollouts.

Research base: William (2011) Embedded Formative Assessment; Bryk, Gomez, Grunow & LeMahieu (2015) Learning to Improve; Langley et al. (2009) The Improvement Guide (PDSA cycles).

6. TEACHER CONFIDENCE SURVEYS: MEASURING THE LEADING INDICATOR

Traditional school improvement data, such as test scores and observation ratings, is lagging data. It tells you what happened months after the instructional decisions were made. Lead Spark Team's pre/post Teacher Confidence Survey captures a leading indicator: how confident does a teacher feel implementing this practice right now?

> **BANDURA (1997)**
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> Self-efficacy, the belief in one's capacity to execute a behavior, is the strongest psychological predictor of whether an individual will attempt a new skill, persist through difficulty, and ultimately achieve proficiency. Low confidence predicts avoidance; rising confidence predicts increasing implementation fidelity.

The survey is intentionally brief (2–3 questions, 5-point scale) and taken at the start and end of each cycle. Critically, it measures confidence in implementing the practice, not teacher performance, preserving the psychological safety that makes honest responses possible.

When confidence scores rise from Week 1 to Week 6, principals have leading evidence of successful implementation before any student outcome data is available. When scores remain flat or decline, the team has an early warning signal to diagnose barriers and adjust support.

Research base: Bandura (1997) Self-Efficacy: The Exercise of Control; Tschannen-Moran & Woolfolk Hoy (2001) on teacher sense of efficacy; Guskey (2002) on measuring professional development outcomes.

7. DISCOVERY BEFORE DELIVERY™: HOW TEACHERS ACTUALLY LEARN

The most common failure mode in professional development is presenting teachers with a fully-formed practice and expecting them to implement it. Research on adult learning consistently shows that understanding precedes application but experience must precede understanding.

> **DISCOVERY BEFORE DELIVERY™ SEQUENCE**
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> Teachers experience the research-based practice as learners first, reflect on the experience, connect it to their own classrooms, and then plan implementation. This mirrors how students learn best and ensures teachers understand the practice from the inside out.

This approach is grounded in several converging research traditions:

- Constructivism (Vygotsky, Piaget): Knowledge is built through active engagement, not passive reception.
- Experiential Learning (Kolb, 1984): Adults learn most durably through a cycle of experience, reflection, conceptualization, and application.
- Cognitive Load Theory (Sweller, 1988): Presenting strategy and content simultaneously overwhelms working memory; staging the experience first reduces load and improves retention.

When a principal facilitates a PLC using Discovery Before Delivery™, they do two things simultaneously: help teachers learn a practice and model the kind of inquiry-driven facilitation they want teachers to use with students.

Research base: Vygotsky (1978); Kolb (1984) Experiential Learning; Sweller (1988) cognitive load; Darling-Hammond et al. (2017) on effective professional learning design.

8. BUILDING PERMANENT CAPACITY: THE ALTERNATIVE TO CONSULTANT DEPENDENCY

Each component of Lead Spark Team is designed to answer a single question: after we stop using this platform, do teachers have more capacity than before? Most professional

development fails this test. External consultants deliver expertise without transferring it. One-time workshops produce temporary behavior change.

> **ELMORE (2002)**
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> "The only way to improve schools at scale is to make the work of improvement a part of the daily professional culture of schools, not a periodic event delivered by outsiders."

Lead Spark Team operationalizes this principle by structuring improvement as something principals and teachers do together, repeatedly, with tools that become more familiar with every cycle. By the end of Year 1, a school has completed 6–18 improvement cycles. Teachers have a shared vocabulary for research-based practice. Principals have developed facilitation skills they can use without any platform.

That is the definition of permanent capacity. And it is the core promise of Lead Spark Team.

Research base: Elmore (2002) Bridging the Gap Between Standards and Achievement; Darling-Hammond (1997) on sustainable school improvement; Fullan (2010) Motion Leadership.
