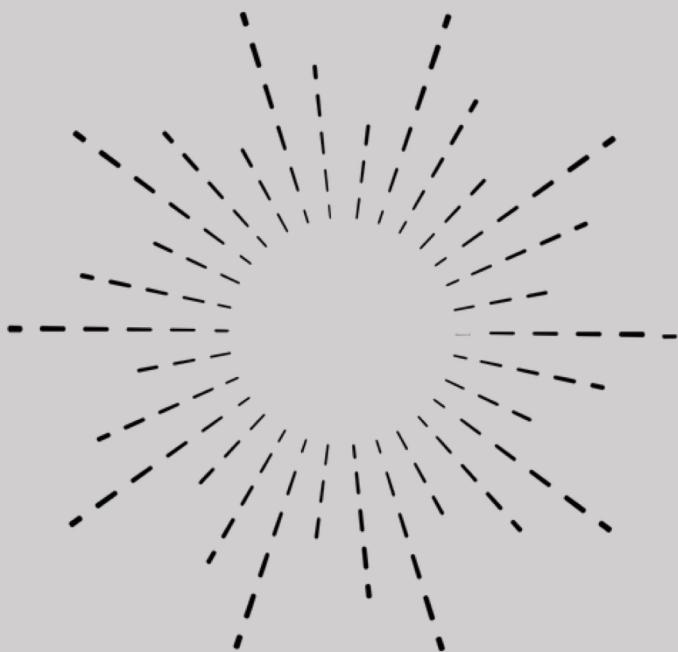


LEVERAGING TEACHER LEADERSHIP FOR INSTRUCTIONAL CHANGE

Resources for supporting standards-aligned math and science instruction via a teacher leader model



outlier

RESEARCH & EVALUATION
UCHICAGO STEM EDUCATION | UNIVERSITY OF CHICAGO

Overview

From 2016-2020, Outlier Research & Evaluation at UChicago STEM Education at the University of Chicago, in collaboration with the Consortium on School Research at the University of Chicago, carried out a mixed-method study to understand processes and outcomes associated with the Chicago Public Schools' (CPS) transition to the Common Core Standards for Mathematics and the Next Generation Science Standards. There were three primary study goals:

- 1) Describe the district-wide plans that CPS central office put in place to achieve the goals of the CCSS-M and NGSS;
- 2) Explain school-level variability in how the plans were implemented; and
- 3) Explore relationships between plan implementation, instructional change, and student achievement.

Teacher leaders were a key mechanism for CPS' transition. This report shares what the research team learned about how the district developed teacher leaders, the different actions teacher leaders took to support standards-aligned instruction in their schools, and the school-level factors that supported or inhibited their efforts. The study was focused in particular on understanding the experiences of teacher leaders working with students in grades 6-12.

Teacher leader data were collected as part of a larger data collection effort that included district-wide teacher, principal, and student surveys and principal and teacher interviews. This report shares findings from surveys completed by 707 math and science teacher leaders in the spring of 2018 and findings from in-depth interviews conducted with 16 math and science teacher leaders in the summer and fall of 2018.

Study findings outline **five methods of influence** used by teacher leaders to support instructional change in their schools and **five influential school factors** perceived by teacher leaders as the most important support or barriers to their efforts. **Teacher profiles** illustrate real examples of teacher leadership in action and show how different teacher leaders navigate the unique set of supports and challenges in their school settings. These resources may be used as tools for reflection and planning by teacher leaders, professional development providers, district staff, and others that seek to implement a teacher leader model as a mechanism to support instructional change.

This work is funded by the US Department of Education, Institute of Education Sciences (IES) # R305A1600162.

Suggested citation: Cassata, A. (2020). *Leveraging teacher leadership for instructional change: Resources for supporting standards-aligned math and science instruction via a teacher leader model*. Chicago: Outlier Research & Evaluation, University of Chicago. <http://outlier.uchicago.edu/outlier/resources/reports-and-papers/>

Building Teacher Capacity for Standards-Aligned Instruction

Between 2013 and 2017, the Chicago Public Schools offered a range of professional learning experiences supporting teachers in making instructional shifts that would enable their students to achieve the goals of the CCSS-M and NGSS.¹ By participating in district-led workshops, institutes, collaboration structures, and other specialized learning opportunities, teachers became sources of expertise among their colleagues.

Whether teachers were part of the CPS “Teacher Leader Programs” or participants in other professional learning offerings, they were expected to lead by making changes in their own instruction, then sharing what they learned by using formal and informal approaches to influence instructional change in their schools.

PD Experiences for Math Teachers	PD Experiences for Science Teachers
Available to particular teacher groups based on grade level, school leadership role, credentials, disciplinary content area, or instructional materials used	Available to particular teacher groups based on grade level, school leadership role, or disciplinary content area
<ul style="list-style-type: none">Workshops supporting the use of district-recommended, CCSS-aligned math instructional materialsWorkshops, courses, and institutes focused on high-quality, CCSS-aligned math instruction, planning, and assessmentProfessional learning communities	<ul style="list-style-type: none">Workshops to learn a process for evaluating instructional materials to determine their alignment to the NGSSWorkshops, courses, and institutes focused on high-quality NGSS-aligned science instruction, planning, and assessmentProfessional learning communities
Math Teacher Leader Program	Science Teacher Leader Program
Implemented in all CPS networks	Implemented in selected CPS networks
<ul style="list-style-type: none">2-3 teachers in all schools participate in 3-year math Teacher Leader Institute (TLI)In selected networks, schools of participating teacher leaders received coaching and facilitated collaboration structures	<ul style="list-style-type: none">2-3 teachers in selected schools participate in 3-year science Teacher Leader Institute (TLI)In selected networks, schools of participating teacher leaders received coaching and facilitated collaboration structures

¹ District-led professional learning opportunities supporting standards-aligned math and science instruction were identified through document review and interviews with 6 district leaders and 3 university partners who worked closely with central office staff to develop and implement the chosen approaches.

Achieving the Goals of the Standards: TL Perspectives

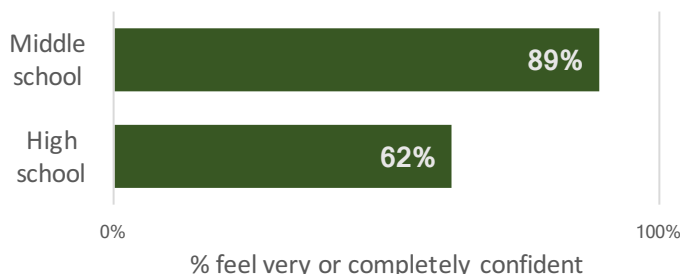
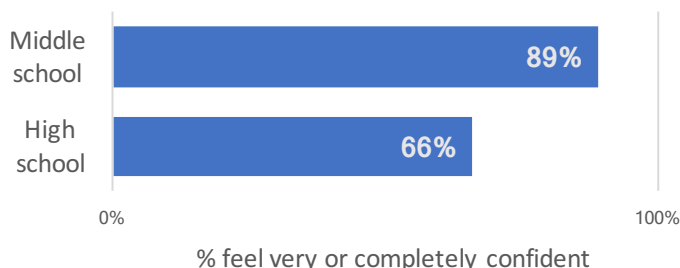
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Math Teacher Leaders²

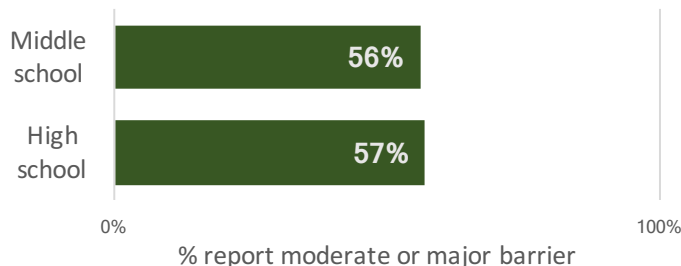
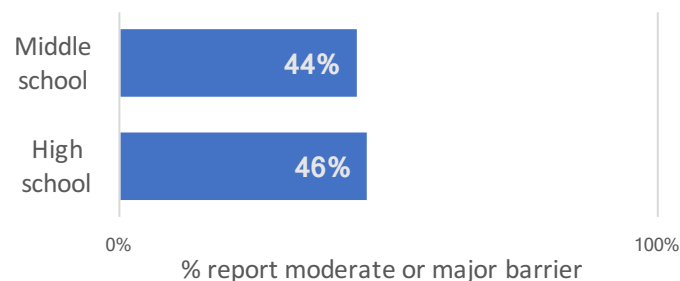
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Science Teacher Leaders²

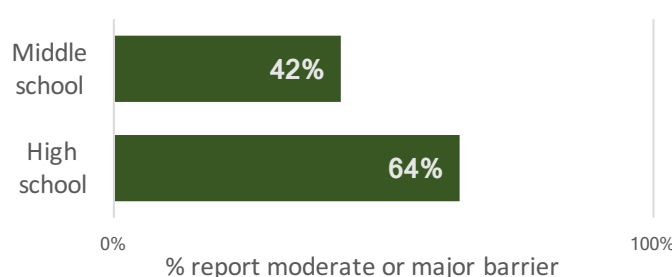
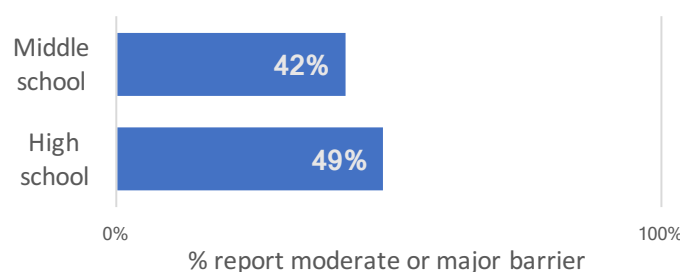
TL confidence in their ability to achieve the goals of the standards



TL perception that insufficient collaboration time is a barrier



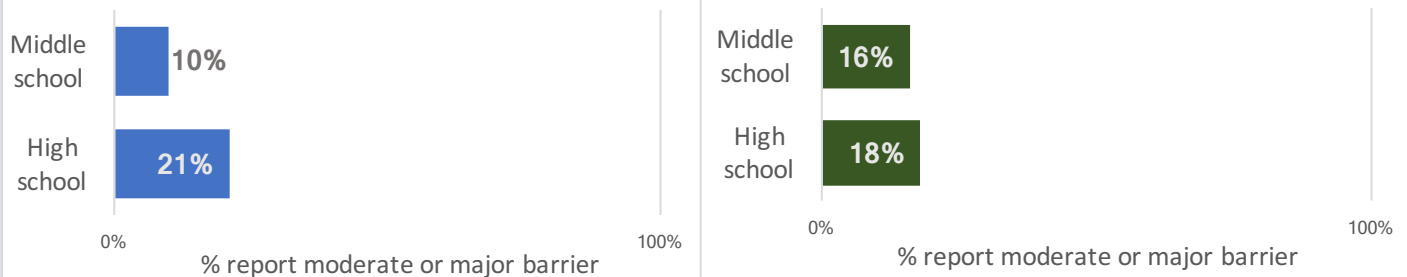
TL perception that too many competing job demands is a barrier



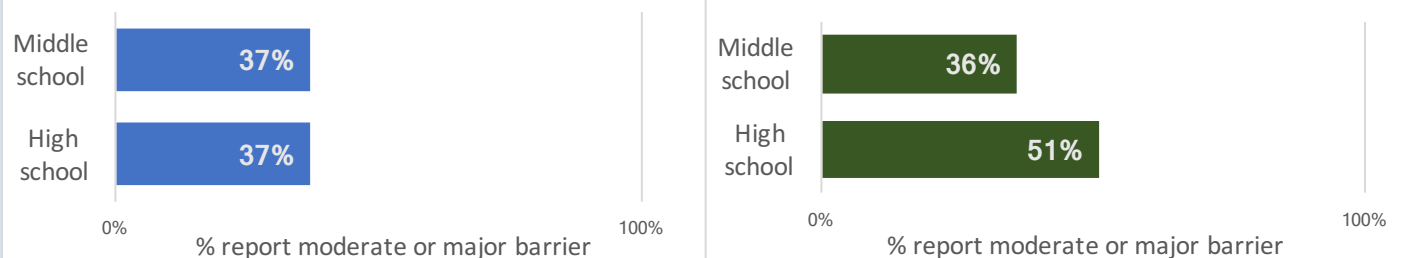
² Data reported by 707 teachers who self-identified as either math or science Teacher Leaders on the 2018 CPS *5Essentials* Survey. A total of 4110 math and science teachers completed the survey in 2018.

Achieving the Goals of the Standards: TL Perspectives

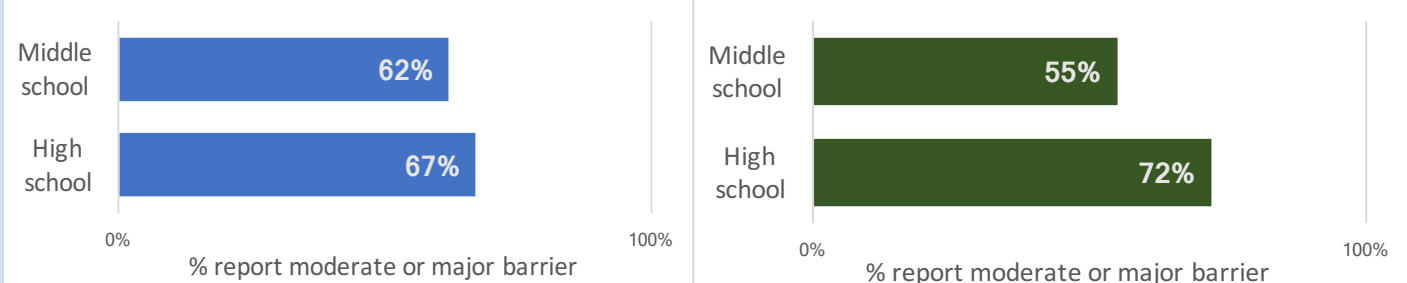
TL perception that lack of administrator support is a barrier



TL perception that accountability to unaligned tests is a barrier



TL perception that students' inadequate preparation is a barrier

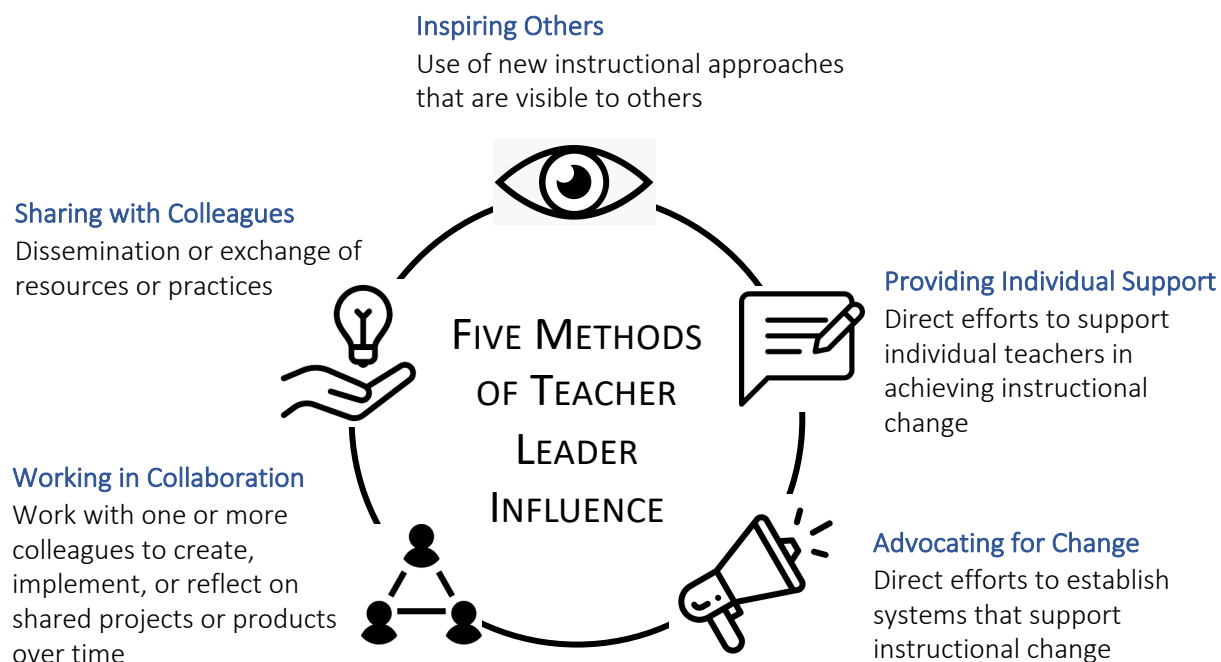


Over half of all math and science teacher leaders perceived **students' inadequate preparation** was a significant barrier to achieving the goals of the standards. In comparison, relatively few teacher leaders perceived lack of administrator support to be a barrier. **Insufficient collaboration time** was perceived as problematic for more science teachers than math teachers. Compared to other teacher groups, high school science teachers, in particular, experienced barriers related to **competing job demands and accountability to unaligned tests**.

What kind of **TEACHER LEADER** are you?

In 2018, the research team interviewed 16 math and science teacher leaders working in 4 elementary schools and 12 high schools across the Chicago region to understand the strategies they used to influence the instructional practices of other teachers in their building and the ways their efforts were shaped by school-level factors. Interviews were retrospective and focused on events and experiences between 2013 and 2017.

Qualitative analysis identified **five methods of influence** that teacher leaders used to varying degrees and in different combinations to support standards-aligned instruction in their schools.



The teacher leader sample included 7 math teacher leaders and 9 science teacher leaders. Some held instructional leadership roles in their school such as department chair or course team lead, while others were part of teacher-led vertical committees focused on instructional leadership. All were full-time classroom teachers and served students from grades 6-12.

School Supports and Barriers to Teacher Leader Influence

Five categories of factors emerged from interviews as key influences on teacher leader action. Teacher leaders perceived that the presence of dedicated collaboration time, school administrator support and advocacy, trusting and supportive staff relationships, knowledgeable colleagues, and staff commitment to the change effort provided optimal conditions supporting their ability to influence standards-aligned instruction, while the lack of these supports led to roadblocks.

	Supports	Barriers
Dedicated collaboration time	<ul style="list-style-type: none"> ✓ The school provides dedicated time during the school day for teacher-led teams and committees to regularly meet. ✓ The school has established structures for peer observation and feedback. 	<ul style="list-style-type: none"> X The school does not provide allocated time during the school day for teachers to engage in collaborative work, or allocated time is not sufficient to complete the work that is needed. X There are no established structures for peer observation and feedback.
School administrator support and advocacy	<ul style="list-style-type: none"> ✓ Administrators intentionally schedule time for teachers to receive school-based professional development and engage in collaborative work. ✓ Administrators meaningfully contribute to teachers' collaborative work around standards-aligned instruction ✓ Administrators support teacher leaders' professional growth. 	<ul style="list-style-type: none"> X Administrators do not schedule enough time for teachers to engage in professional learning or collaborative work. X Administrators do not consider standards-aligned instruction as high priority and are focused on other instructional issues. X Teacher leaders are left to "fend for themselves."
Trusting and supportive staff relationships	<ul style="list-style-type: none"> ✓ Teachers routinely engage in ongoing communication in and outside of structured meetings. ✓ Classroom instruction is open and transparent. ✓ Teachers regularly exchange ideas and resources in formal and informal settings, including on their own time, if necessary. 	<ul style="list-style-type: none"> X Teachers' work is more independent than interdependent. X Teachers do not routinely observe one another's instruction or communicate about their teaching. X Teachers only discuss instructional issues during mandated, structured time.
Knowledgeable colleagues	<ul style="list-style-type: none"> ✓ The teaching staff is familiar with standards-aligned instruction. ✓ Teachers have already begun making instructional shifts in alignment with new standards. ✓ Teachers are engaged in school initiatives that support standards-aligned instruction. 	<ul style="list-style-type: none"> X The teaching staff is unfamiliar with standards-aligned instruction. X Teachers have not yet begun making instructional shifts. X Teachers feel overwhelmed by the new standards and associated changes in practice.
Staff commitment to the change effort	<ul style="list-style-type: none"> ✓ The teaching staff is eager to try new instructional approaches that support standards-aligned instruction. ✓ Teachers believe that teaching in alignment with the new standards will improve student learning. 	<ul style="list-style-type: none"> X The teaching staff does not consider the standards-aligned instruction as high priority. X Teachers do not wish to devote their time to a change effort. X Teachers feel uncomfortable making changes in practice.

Practical Implications

In supporting standards-aligned instruction, teacher leaders need to customize their actions to fit their school's unique set of needs and circumstances.

Findings suggest that teacher leaders influence instructional change primarily through direct interaction with other teachers. Yet, not all teacher leaders have the benefit of working in school contexts that afford equal opportunities to interact with and influence their peers.

The key for teacher leaders is to determine which school supports are currently in place, and to what extent. In turn, teacher leaders may identify the methods of influence they currently use to influence instructional change and the additional methods that they may consider using in the future to better capitalize on available supports.

Teacher leaders may also consider methods of influence that are feasible in contexts without much organizational support. For example, teacher leaders may begin by opening their classroom door, initiating conversation, working with a single teaching partner, or supporting a mentee as steps toward increasing direct teacher interaction around standards-aligned instruction. Teacher leaders working in schools with supportive school leadership may work toward longer-term solutions to implement systems change.

To fully capitalize on the expertise of teacher leaders, school leaders must proactively create and sustain school contexts that support teacher collaboration and learning.

As school administrators often have the final say when it comes to setting instructional priorities and school schedules, they play a critical role in creating a school environment conducive to peer learning and instructional change. Having administrators as allies means that teacher leaders alone do not have to bear the burden of locating time, resources, and strategies to engage their departments around standards-aligned instruction.

School administrators may meaningfully support the work of their teacher leaders by allocating dedicated time for periodic staff training and teacher collaboration. They may also provide release time for teacher leaders and other staff to engage in off-site professional learning and provide teacher leaders with resources and guidance for effectively facilitating teacher teams. Administrators may also show support and advocacy through their regular presence, input, and communication of an instructional vision to guide the change effort.

In training teacher leaders, district leaders must plan for variation in school context and design professional learning opportunities to meet a range of needs.

District leaders who facilitate professional learning for teacher leaders may use the resources provided in this report to plan reflection activities for teacher leaders and school administrators. Reflecting on their own goals, leadership approaches, and school needs, teacher leaders may set goals to exert greater influence, beyond what they had initially thought possible, and identify places where they need more support. This information, in turn, can inform the development of a more diversified set of professional learning offerings.



Theresa

The Partner

Goal

Wants to increase teachers' use of new resources that support CCSS-aligned instruction.

Actions

- After attending PD, shares back information and resources with colleagues.
- Initiates instructional conversations in informal settings.
- Works with course team to create, test, and reflect on new resources, tools, and methods to address the new standards.

Supports

- Teachers get along well and help each other out.
- Teachers have dedicated collaboration time.
- Teachers are knowledgeable about the standards.

Challenges

- Teachers aren't motivated to make further changes to their practice.

"I enjoy sitting down with people that I know I work well with and coming up with a different lesson, something that we haven't tried before."

Grade Level: High school

Subject: Math

Role: Course team lead

Methods of Influence

INSPIRING OTHERS



SHARING WITH COLLEAGUES



WORKING IN COLLABORATION



PROVIDING INDIVIDUAL SUPPORT



ADVOCATING FOR CHANGE





Neil

The Role Model

"I mentor newer teachers. We meet to talk about curriculum and planning two to three times a week."

Grade Level: High school

Subject: Science

Role: ILT member

Methods of Influence

INSPIRING OTHERS



SHARING WITH COLLEAGUES



WORKING IN COLLABORATION



PROVIDING INDIVIDUAL SUPPORT



ADVOCATING FOR CHANGE



Goal

Wants teachers to address the NGSS in a more intentional way.

Actions

- Works closely with individual teachers to help them better address the new standards.
- Demonstrates instruction and offers suggestions about ways to change.

Supports

- Teachers routinely look at each other's work, lessons, and classrooms.
- Teachers have dedicated collaboration time.

Challenges

- Teachers lack direction on which content and skills to prioritize.
- Teachers spend too much time modifying and supplementing instructional materials.



Valerie

The Advocate

"I am part of the math committee in my school and we meet to talk about what we see. We try to find solutions."

Grade Level: Middle school

Subject: Math

Role: Committee lead

Methods of Influence

INSPIRING OTHERS



SHARING WITH COLLEAGUES



WORKING IN COLLABORATION



PROVIDING INDIVIDUAL SUPPORT



ADVOCATING FOR CHANGE



Goal

Wants to increase teachers' awareness about the need to change their instruction.

Actions

- Works with school leadership to strategize solutions and monitor progress.
- Seeks out and provides teacher training on the standards.
- Selects and distributes aligned instructional resources.

Supports

- Principal is open to change and values teacher input.

Challenges

- Teachers struggle to address the new standards.
- Teachers feel overwhelmed.
- Meeting time is not sufficient to support the amount of teacher learning needed.



Lester

The Trailblazer

Goal

Wants teachers to understand how NGSS-aligned instruction can support student learning.

Actions

- Reflects with team about expectations for standards-aligned instruction.
- Shares ideas and guidance in informal settings.

Supports

- Principal encourages teachers to engage in professional learning.

Challenges

- Principal communicates other priorities that supersede the standards.
- Teachers are too busy to substantially change their practice.
- Teachers have limited opportunities to interact during the school day.

"My colleagues come to me with questions when they are struggling with teaching a concept, and we share ideas."

Grade Level: High school

Subject: Science

Role: Department chair

Methods of Influence

INSPIRING OTHERS



SHARING WITH COLLEAGUES



WORKING IN COLLABORATION



PROVIDING INDIVIDUAL SUPPORT



ADVOCATING FOR CHANGE

