Math LeaDs
Math Leadership Development

AGENDA
7:00 Welcome and Introductions
7:15 Leadership
7:45 Math Teacher Leadership Framework
8:15 Math LeaDs Project
8:45 Next Steps
   Closing
   Exit Ticket

NORMS
● Model by example
● Time on Task
● Encouraging talk from all - Share “air time”
● (Practice leadership skills)
What is Leadership?
“Leader” and “Leadership” Associations

Connected Leader (Peter Boyd, 2023)

What comes to mind when you think of the word "leader" or leadership?
Leadership Examples from our Lives

Think of a leader that either inspired you or frustrated/deterred you. What qualities did that leader possess?
I’ve dedicated my entire career to studying human behavior, emotion, and thought. I’ve spent the last ten years specifically looking at leadership. Here’s what I know for sure:

We can’t understand leadership if we don’t talk about power. We have a strange relationship with the word, “power.” We often think of it as a negative, strong-arm experience, yet — at the exact same time — one of the single worst human experiences is powerlessness. No one wants to feel powerlessness. It’s a desperate and isolating experience.

In a 1968 speech given to striking sanitation workers in Memphis, Reverend Martin Luther King, Jr. defined power as the ability to achieve purpose and effect change.

This is the most accurate and important definition of power that I’ve ever seen. The definition does not make the nature of power inherently good or bad, which aligns with what I’ve learned in my work.

What makes power dangerous is how it’s used. Power over is driven by fear.

Daring and transformative leaders share power with, empower people to, and inspire people to develop power within.
<table>
<thead>
<tr>
<th>Leaders who work from a position of <strong>Power Over:</strong></th>
<th>Leaders who work from a position of <strong>Power With/To/Within:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>01.</strong> Believe that power is finite and use fear to protect and hoard power.</td>
<td><strong>01.</strong> Believe that power becomes infinite and expands when shared with others.</td>
</tr>
<tr>
<td><strong>02.</strong> Leverage fear to divide, destabilize, and devalue decency - decency actually framed as a sign of weakness and “for suckers.”</td>
<td><strong>02.</strong> Leverage connection and empathy to unite and stabilize. Value decency as a function of self-respect and respect for others.</td>
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<tr>
<td><strong>03.</strong> Give people experiencing fear and uncertainty a sense of false certitude and safety based on ideology and nostalgia over facts.</td>
<td><strong>03.</strong> Offer people experiencing fear and uncertainty transparency and create learning cultures based on critical thinking and evidence-based data from multiple perspectives.</td>
</tr>
<tr>
<td><strong>Being right is more important than getting it right.</strong></td>
<td><strong>Getting it right is more important than being right.</strong></td>
</tr>
<tr>
<td><strong>04.</strong> Give people someone to blame for their discomfort - preferably someone who looks/acts/sounds different than they do.</td>
<td><strong>04.</strong> Normalize discomfort and move away from shame and blame and toward accountability and meaningful change.</td>
</tr>
<tr>
<td><strong>05.</strong> Maintain power over by demonstrating an ever-increasing capacity for cruelty, including shaming and bullying - especially toward vulnerable populations.</td>
<td><strong>05.</strong> Frame leadership as a responsibility to be in service of others rather than served by others.</td>
</tr>
<tr>
<td><strong>06.</strong> Frame constructs like personal rights and freedom to polarize and being in service of others is seen as weak.</td>
<td><strong>06.</strong> Frame rights and freedoms as privileges that are connected to responsibility to the larger community or organizational culture.</td>
</tr>
<tr>
<td><strong>07.</strong> Incite hatred and violence with persistent dehumanizing language and policies.</td>
<td><strong>07.</strong> Center connection and humanity with empathy-driven agendas, policies and values.</td>
</tr>
</tbody>
</table>
Position or Skill?
Discuss in Your Group

Thinking of the person you identified and discussed earlier as a poor or strong leader, what was that person’s relationship with status/position and power?
Leadership Styles

Leadership Style Quiz 1

Leadership Style Quiz 2
Framework of Leadership

Math Teacher Leadership Framework
Framework for Leadership

BIG IDEA 1: BELIEFS AND MINDSETS
BIG IDEA 2: BUILDING RELATIONSHIPS
BIG IDEA 3: CULTURALLY SUSTAINING PRACTICES

BIG IDEA 1: CURRICULUM LEADERSHIP
BIG IDEA 2: INSTRUCTIONAL LEADERSHIP

BIG IDEA 1: CLASSROOM LEVEL
BIG IDEA 2: TEACHER TEAMS
BIG IDEA 3: DISTRICT LEVEL

BIG IDEA 1: BELIEFS AND MINDSETS
BIG IDEA 2: BUILDING RELATIONSHIPS
BIG IDEA 3: CULTURALLY SUSTAINING PRACTICES
NCSM is a mathematics education leadership organization that equips and empowers a diverse educational community to engage in leadership that supports, sustains, and inspires high-quality mathematics teaching and learning every day for each and every learner.

NCSM Mission Statement, 2017

NCSM is the premiere mathematics education leadership organization. Our bold leadership in the mathematics education community develops vision, ensures support, and guarantees that all students engage in equitable, high-quality mathematical experiences that lead to powerful, flexible uses of mathematical understanding to affect their lives and to improve the world.

NCSM Vision Statement, 2017
NCSM Vision Statement activity

Navigation Guide:

- Breakout room
- Your groups Jamboard page is the same as your breakout room number.

Please discuss and answer the following questions:

- Why do we need bold leadership?
- How would you define bold leadership?
- Who are leaders?
Stages of Math Leadership

Figure I.4. Three Stages of Mathematics Leadership

Stage 1: Know & Model
Leadership of Self

Stage 2: Collaborate & Implement
Leadership of Others

Stage 3: Advocate & Systematize
Leadership in the Extended Community
## Framework for Leadership

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Big Ideas</th>
<th>Imperative 1: Commitment to Self</th>
<th>Imperative 2: Commitment to Colleagues</th>
<th>Imperative 3: Commitment to Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADVOCATE and expect high-quality, equitable mathematics teaching and learning for every student.</td>
<td>Big Idea 1: Curriculum Leadership Big Idea 2: Instructional Leadership</td>
<td>Ensure that every teacher possesses a shared understanding and vision of high-quality mathematics instruction and the actions required to meet the vision.</td>
<td>Ensure that every teacher possesses the skills and knowledge necessary to design and implement meaningful learning experiences that lead to student understanding of mathematics.</td>
<td>Ensure that all stakeholders have a clear understanding of high-quality mathematics instruction and how to support it.</td>
</tr>
<tr>
<td>DESIGN and implement structures that support high-quality mathematics teaching and learning for every teacher.</td>
<td>Big Idea 1: Beliefs and Mindsets Big Idea 2: Building Relationships Big Idea 3: Culturally Sustaining Practices</td>
<td>Ensure mathematics learning for all students through organizational structures, time and resource allocation, and systemic supports that are aligned, intentional, and equitable.</td>
<td>Ensure systems of continual collaborative, job-embedded professional learning to build teacher and leader capacity and increase efficacy.</td>
<td>Ensure sustainability through engaging all stakeholders in systemic, long-range strategic planning for all teaching and learning improvement initiatives.</td>
</tr>
<tr>
<td>EMPOWER and nurture a culture of productive professionalism.</td>
<td>Big Idea 1: Classroom Level Big Idea 2: Teacher Teams Big Idea 3: District Level</td>
<td>Ensure assumptions, beliefs, expectations, and habits are examined in order to shape the school or dependent culture around teaching and learning of mathematics.</td>
<td>Ensure a culture of reflection, refinement, and action focused on continuous improvement in mathematical learning.</td>
<td>Ensure students, teachers, families, and community partnerships are built upon meaningful engagement.</td>
</tr>
<tr>
<td>MONITOR and act on evidence of student learning.</td>
<td>Big Idea 1: Beliefs and Mindsets Big Idea 2: Building Relationships Big Idea 3: Culturally Sustaining Practices</td>
<td>Ensure the design and use of high-quality, aligned assessments and equitable assessment processes that guide meaningful reflection and action.</td>
<td>Ensure that the evidence of learning collected from every assessment is used to inform the design of curriculum, instruction, and the assessments themselves.</td>
<td>Ensure every student is provided access to grade-level content and intensification based on evidence of student learning.</td>
</tr>
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*Figure 1.7. Framework for Leadership in Mathematics Education*
3 Aspects of Leadership

Head: what & why
Heart: motivation
Hand: skills & tools

21st Century Leadership Trinity
Thomas Sergiovanni (1992)
Needs Assessment

LeaDs Project
LeaDs Project

To support mathematics teachers in your region with research-based math professional learning opportunities.

Purpose

Math LeaDs will create and implement a learning plan that will focus on addressing the needs of their environment.

Objective

Presentation of plan and outcomes.

Deliverable

Estimated time: 30 hours
Research (5)  Plan (10)  Implement (10)  Reflect/Data Collection (5)

$750
Note: Adapted from Idaho Building Capacity
Set a Focus

• Data-based
• Needs Assessment
• Guiding Principles & Essential Actions
Needs Assessment

Discussion:

- What were your top 3 areas of interest? Why?
- Did anything surface that surprised you?
- Does anything here influence what goals you might set this year for this project?

Scoring Key

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<tr>
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<tbody>
<tr>
<td>The school has not begun investigating the evidence-based practices.</td>
<td>The school is investigating evidence-based practices that would lead to the targeted outcome and identifying those with resources to make decisions as to how to proceed.</td>
<td>The school is developing strategies to implement the plan successfully (e.g., skill building, organizational changes, cultural shifts, infrastructure, resource allocations).</td>
<td>The school is just beginning to implement the plan. The organization is building capacity of staff, students, and the system to implement the plan successfully (e.g., skill building, organizational changes, cultural shifts, infrastructure, resource allocations).</td>
<td>In the school, the planned strategies and interventions are fully implemented with high fidelity. The focus is now on sustainability and continuous improvement of the implemented strategies, interventions, or models.</td>
<td>The school is reviewing results and using those data to improve their programming to reach and exceed the targeted outcome.</td>
</tr>
</tbody>
</table>

Guiding Principle 1: Advocate

Advocate: High-quality, equitable mathematics teaching and learning for every student.

Big Idea 1: Curriculum Leadership
Big Idea 2: Instructional Leadership

Essential Actions for Imperative 1: Ensure that every teacher possesses a shared understanding and vision of high-quality mathematics instruction and the actions required to meet the vision.
Essential Action for Imperative 2: Ensure that every teacher possesses the skills and knowledge necessary to design and implement meaningful learning experiences that lead to student understanding of mathematics.
Essential Action for Imperative 3: Ensure that all stakeholders have a clear understanding of high-quality mathematics instruction and how to support it.
Needs Assessment

Write a brief summary of what your area of focus is going to be this year.

What do you want to influence? Why?

What’s your data/ reasoning?

Situation Column (Purple)
Name your slide (First & Last)
Next Steps

- Write follow up (purple column)
  - Write a brief summary of what your area of focus is going to be this year.
  - What do you want to influence? Why?
  - What’s your data/reasoning?
- Practice learnings so far
- Create Participant Folder
- Next month, bring a rough draft of a goal you’d like to set for this project. (Examples on Navigation Guide)
- Begin thinking about what you might want to collect as evidence of change or growth.
Supporting teachers in learning new Bridges Math curriculum

**Situation**
The need to support teachers in learning our new Bridges Math Curriculum.
- Support in Year 1 of implementation and long term professional development plan.
- Not enough time to work through the units and number corner as a school.
- Professional requests for support.
- High need for student improvement in assessment at the school, district and state levels.
- Focus our instructional strategies on our ELL students.

We have a high need for PD in our building, specifically this year starting a new curriculum. Our staff has requested support in scope and sequence, intervention, differentiation. The need for additional PD for teacher support in the classroom teaching small groups and differentiation within RTI.

**Goal**
In order to increase student growth in mathematics, we will work as a staff to develop our professional knowledge of the curriculum. Our staff will dive into the multiple parts of the curriculum, assess student achievement and reflect on their own teaching practices to build confidence and knowledge of the curriculum.

**Inputs**

<table>
<thead>
<tr>
<th>What we Invest:</th>
<th>Who we reach:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff Time:</td>
<td>- Teachers</td>
</tr>
<tr>
<td>- PLC Meeting</td>
<td>- Teachers volunteer to participate and engage with PD.</td>
</tr>
<tr>
<td>- 5x A teachers</td>
<td>- STEM PLC time is used for PD.</td>
</tr>
<tr>
<td>- Admin</td>
<td></td>
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<tr>
<td>- Paraprofessionals</td>
<td></td>
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</tbody>
</table>

**Outputs**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Participation</th>
<th>Short Term</th>
<th>Medium Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLC Meeting</td>
<td>- New teacher training</td>
<td>- Understanding how to support small groups.</td>
<td>Teachers:</td>
<td></td>
</tr>
<tr>
<td>- 5x A teachers</td>
<td>- Improved classroom instruction.</td>
<td>- Add vocabulary to our daily practice.</td>
<td>- Set goals for using assessment to improve learning.</td>
<td></td>
</tr>
<tr>
<td>- STEM PLC</td>
<td>- Reflect on first year practices</td>
<td>- Increased understanding of the scope and sequence.</td>
<td>- Reflect on our daily practice as a vertical 4th and 5th grade.</td>
<td></td>
</tr>
<tr>
<td>time is used for PD.</td>
<td>- Increased understanding of the scope and sequence.</td>
<td>- Provide teaching strategies that support our ELL students.</td>
<td>Students:</td>
<td></td>
</tr>
</tbody>
</table>

**Outcomes - Impact**

| Money: |
| Technology: |
| Bridges Professional Learning Community |
| Digital Resources |
| Trust |
| Honesty |
| Patience |
| Short Term |
| Medium Term |
| Long Term |

Teachers: - Understand how to support small groups.
- Add vocabulary to our daily practice.
- Set goals for using assessment to improve learning.
- Reflect on our daily practice as a vertical 4th and 5th grade.

Students: - Increased confidence in math and understanding.
- Increased communication and math vocabulary.
- Improved critical thinking skills and perseverance.

- Increased achievement.
- Active, critical thinking is evident in classrooms.
- Engaged and communicating about math learning.
- Math is about learning not performing.
Plan for Change

• Goals
• Theoretical Perspective
  • Search for relevant literature
  • Evaluate sources
  • Identify themes, debates and gaps
  • Outline the structure
  • Write your review

• Improvement Plan
  • Create your improvement plan.
  • Objectives
  • Outcomes
  • Schedule
  • Connection to standards
  • Assessment plan
  • Approval- visit with your supervisor and review your plan. Make any revisions based on their feedback.
  • Share- Share your schedule with the math specialists. If they are able to attend, how would you like them to support your work?
Undertake Change

• Implementation
• Evaluation
• Presentation
Tools

• PD plan template
• Logic model
• Presentation template
• Professional Development: Learning from the best
• Professional Learning Plans: A workbook for states, districts, and schools