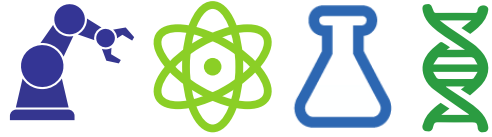


# Science

## COHERENCE in PRACTICE



## What does it mean to have a coherent district science education program?

When all of a district's policies and programs help move students toward a collaborative vision, that system is "coherent." Coherence toward a vision for student learning in science could include specialized onboarding for new teachers, ongoing professional learning for all educators, standards-aligned instructional materials and assessments, research-based pedagogical practices, and student supports and activities within and beyond the classroom.

### **What are the challenges?**

Time and funding are obvious challenges across education systems. Prioritizing resources toward vision-based work helps. It is also a challenge to achieve full staff buy-in on a vision and shared ideas on best instructional practices. It takes time and consistency, along with an emphasis on collaboration and culture-building.

### **How does this connect to equity work?**

All parts of a system are focused on supporting success for all students in attaining a shared, community vision.

## Why it Matters

### **Administrators:**

A key role of an administrator is to guide the various elements of a school system to be in support of a shared vision.

Strategic efforts to improving student outcomes can be seen by educators and community members as isolated and fragmented.

Research indicates that a coherent system results in improved outcomes for all.

### **Teachers:**

Standards-based, grade-level instruction is critical for student success.

A clear vision with connected strategies increases feelings of support and unity.

Expectations are clear.

### **Students, Families, and Communities:**

Families know that all educators have high expectations for their child and what a grade means across classes.

Families know that their child will be taking the right classes for their goals and dreams.



## What are some strategies for implementation?

- Audit the coherence of current system through staff and community surveys. Do they understand the current vision and programs and how they all connect?
- [Create a community-informed vision.](#)
- Note sufficient time on fewer goals (one or two) is more effective, though all content areas, like science, will have unique instructional strategies to move toward those goals.

## What are some good reflection questions to consider?

- How does that practice or program help us meet this goal for all students? How does it connect to our vision?
- Are there programs that could be unified and connected rather than separate?
- Do classroom educators receive the science-specific professional learning needed to connect their efforts to larger district and school goals?

## What do national professional groups or education researchers say on this topic?

- [Harvard's Coherence Framework](#)
- [Wallace Foundation - Coherence and Support](#) – article describing three essentials to school improvement
- [Coherence in implementing new science standards](#) – from the National Academies NGSS Implementation Guide
- [Education First](#) – video on *why* coherence is important

## Further Resources

### Administrators:

- Article on [the importance of vision setting in science](#)
- Article on [systems of assessment in science](#)
- Article on [the challenge of all students having access to grade-level, standards-based work](#) (The Opportunity Myth)
- FAQs from DPI on [using the strategy of effective instructional materials with connected professional learning](#)

### Teachers:

- [Storylines are coherent sequences of instruction in science](#)
- [Research article from Reiser, et al. on what coherence means in instruction](#)

### Students, Families, and Communities:

- [Ask questions and advocate at local school board meetings.](#)
- Another article on [working with your school board](#)

For more information contact:

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