



Supporting Multilingual Learners in Science

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BACKGROUND

What is multilingual learner support and how does it help students?

Multilingual learner (MLL) support encompasses educational programs, resources, and strategies designed to assist students in acquiring both language and disciplinary knowledge, skills, and ways of thinking simultaneously. This support provides individualized learning, ensuring each student's specific needs and proficiency levels are addressed. By facilitating access to the grade-level curriculum, offering academic assistance, and promoting social integration, this support helps all students to excel academically and become well-prepared for post-academic success.

Why is supporting MLLs important to three-dimensional science instruction?

The vision for science education as outlined in *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (NRC, 2012) and the foundation of Utah's SEEd standards set the expectation that science education includes phenomena-based, three-dimensional instruction that focuses on student sensemaking. Providing language support during instruction scaffolds all students to engage in the learning process, which includes opportunities for varied types of discourse and participating in the practices of the discipline to deepen understanding of science concepts. Including language supports in instruction can provide students the scaffolds they need to both receive meaning (listen and read) and express meaning (speak and write) in ways authentic to the discipline of science.

CLASSROOM APPLICATION

When observing a classroom in which the instruction supports MLLs, the following **student actions** should be visible:

- Engaging in phenomenon-driven instruction that leverages phenomena that are socially and culturally situated in the daily lives of students.
- Engaging in scaffolded discourse opportunities.
- Engaging in student-centered science experiences that promote communication skills and foster authentic language development.

To support instruction that supports MLLs, **teachers** plan by:

- Implementing intentional language scaffolding and sentence/discussion frames to support and extend students' responses (oral and written).
- Provide phenomenon-driven instruction that leverages phenomena that are socially and culturally situated in the daily lives of students.
- Provide scaffolded discourse opportunities.
- Provide student-centered science experiences that promote communication skills and foster authentic language development.
- Allow students to participate using language that is accessible to them.
- Incorporating models and visuals into instruction to support understanding.
- Use graphic organizers to structure content.

IMPLEMENTATION RUBRIC

Basic	Emerging	Effective	Exceptional
Students are encouraged to communicate in science.	Students are encouraged to communicate in science and language demands in instruction are identified.	Students are provided with scaffolds and strategies to communicate in science and language demands are identified.	Students are provided with individualized scaffolds and strategies to effectively communicate in science and language strengths are identified and leveraged.

RESOURCES

[Strategies for Supporting MLLs in Science](#)

[Doing and Talking Math and Science: Strengthening Reasoning, Strengthening Language](#)

[STEM Teaching Tool #27: Engaging English Learners in the Science and Engineering Practices](#)

[STEM Teaching Tool #33: How to design assessments for emerging bilingual students](#)

[Enhancing Science Lessons to Support Multilingual Students' Engagement in Science and Engineering Practices | NSTA](#)

National Academies of Sciences, Engineering, and Medicine. (2018). *English learners in STEM subjects: Transforming classrooms, schools, and lives*. Washington, DC: The National Academies Press.



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