



## Address Misconceptions for Understanding

*Summary of Salame et al. (2025)*

Excellent Educator, 3(5), 5, 2026

### Academic Insights

This summary highlights how students' prior misconceptions can limit deep conceptual understanding in science learning. According to the researchers many learners rely on everyday reasoning rather than scientific explanations, which affects their ability to apply concepts in unfamiliar situations. Even when students perform well in routine tasks or examinations, weak conceptual foundations often remain. Effective teaching therefore requires identifying existing beliefs and designing learning experiences that challenge and reconstruct incorrect ideas. Building new knowledge on students' prior understanding helps create meaningful and lasting learning. The findings emphasize that conceptual change must be an intentional instructional goal rather than an assumed outcome of content coverage.

### Apply This Now

Teachers should diagnose students' prior ideas before instruction and plan activities that confront misunderstandings.

### Add This in Your Lesson

Use conceptual questions, real-life contexts, and discussion to help students explain and revise their thinking.

### Avoid This Mistake

Avoid assuming correct answers in exercises always reflect true conceptual understanding.

### Keywords

conceptual learning, misconceptions, prior knowledge, science understanding, deep learning

### Reference

Salame, I. I., Fadipe, O., & Akter, S. (2025). Learning difficulties in heat and temperature concepts. *Interdisciplinary Journal of Environmental and Science Education*, 21(2), e2510.

### Suggested Citation

Excellent Educator. (2026). *Address Misconceptions for Understanding*. Excellent Educator, 3(5), p. 5.