ETS Learning Progressions

Gain insight into student pathways to learning and understanding

ETS learning progressions are a tool for building a valuable understanding of what students need to learn and the typical paths they are likely to take to get there. These developmental signposts can provide insights that help educators interpret evidence of student learning and guide students’ progress toward educational standards and goals.

Using the progressions, teachers can tailor instruction for an individual student or group of students based on their level of understanding, organize instruction based on how students advance, and create targets for learning and assessment.

ETS learning progressions:
• are based on research in the cognitive and developmental sciences and educator experience.¹
• are compatible with state standards.
• can support personalized instruction.
• can support assessment development and reporting.

The role of ETS learning progressions in assessment

ETS learning progressions form the foundation of the Winsight™ Assessment System, an integrated series of summative, interim and formative assessment components that provides a coherent picture of student learning.

Summative assessments
• identify levels of student understanding that are critical to successful achievement at a particular grade placement.
• provide initial information about student understanding for a receiving teacher at the beginning of a school year.
• allow administrators to make evidence-based decisions on resource allocation and curricular planning.
• give teachers a starting point for formative and instructional follow-up.

Interim testlets
• measure student understanding of the content of an educational unit.
• focus on specific learning progressions.
• provide data to inform current and future instructional decision making.
• allow teachers and schools to choose which concepts need targeted assessment.

Formative assessment tools
• support teachers in focusing instruction on student learning and state standards.
• provide teachers with meaningful real-time feedback about where each student is on the path along a learning progression. This information enables them to customize lessons for individuals and groups of students—pinpointing where they need the most help.
• support student self-reflection on their learning and peer feedback.

How ETS learning progressions apply to schools

ETS learning progressions were created to provide insights into how learning typically proceeds as students develop an increasingly sophisticated understanding of a concept or practice. They can help bring to light common student misconceptions and indicate what partial understanding might look like — so teachers can have greater insight into student learning and scaffold learning opportunities effectively.

Proportional Reasoning Learning Progression

This figure illustrates a learning progression for proportional reasoning — an important concept in middle school mathematics. The progression describes student conceptual understanding with potential difficulties a student might face at each level. The bottom cell at each level illustrates how students may respond to the question, "What is the bigger ratio: 4:5 or 3:6?"

**LEVEL ONE**
Qualitative Reasoning

- Can use “greater/less than” to make qualitative judgments.
- Cannot mathematize their judgment or use absolute reasoning to justify answers.
- "The ratios are the same since both add up to 9." "4:5 is bigger since 4>3."

**LEVEL TWO**
Simple Quantitative Reasoning

- Can work with simple ratios and understand that changing the ratio changes the outcome.
- May revert to absolute reasoning and focus on only one part of the fraction; unable to compare ratios where no parameters are held constant.
- “3:6 is bigger since 6-3 is 3 but 5-4 is only 1.” (misconception) "3:6 is the same as a half and 4:5 is more than a half so it is bigger."

**LEVEL THREE**
Multiplicative Reasoning

- Can use multiplicative reasoning correctly.
- May not use multiplicative reasoning efficiently, especially if the problem is more challenging.
- "4:5 is the same as 8:10, which is the same as 24:30. 3:6 is the same as 15:30, so since 24>15, 4:5 is bigger." "4:5=8:10 and 3:6=5:10. I can check this by sketching or converting both ratios to a decimal."

**LEVEL FOUR**
Accommodating Covariance & Invariance

- Robust understanding of ratios and uses scalar approaches, diagrams, cross-multiplication and build-up strategies appropriately.
- May have difficulty working with more than two ratios.
- “4:5=8:10 and 3:6=5:10. I can check this by sketching or converting both ratios to a decimal."

Get involved!

This is your opportunity to make an impact on the development of the Winsight Assessment System! Interested schools and districts can participate in field trials and have the chance to collaborate on the design of new formative assessment tools for the classroom. For more information, please contact your ETS representative.

Copyright © 2016 by Educational Testing Service. All rights reserved. ETS and the ETS logo are registered trademarks of Educational Testing Service (ETS). MEASURING THE POWER OF LEARNING and WINSIGHT are trademarks of ETS.