Moving Students Toward the Expert Column
in the *Learner-Active, Technology-Infused Classroom*™

The *Expert* column is a powerful tool for differentiating instruction. Teachers must carefully craft the expectations for the *Expert* column so that they both inspire and challenge students to "move" to that level. Here are four strategies to level up from *Practitioner* to *Expert*.

Ask for more!

Of the four strategies presented, the simplest and least powerful is asking the students to produce more. This quantitative leap from *Practitioner* to *Expert* requires students to cite more sources, write additional sentences, provide extra calculations, etc. In the example below (from the *Authentic Learning Unit* Designer Pizza), students must perform additional calculations to reach the *Expert* column.

	Novice	***Apprentice***	***Practitioner***	***Expert***
Pizza Slice Options	• based on data, offers three or more types of pizzas, each with a specified slice size • offers three different slice sizes: fifths, quarters, and thirds	• based on data, offers five or more types of pizzas, each with a specified slice size • offers at least four different slice sizes, including: fifths, quarters, and thirds	• based on data, offers eight or more types of pizzas, each with a specified slice size • offers at least six different slice sizes: fifths, quarters, and thirds • lists slice offerings from smallest to largest	all of *Practitioner* plus: includes at least two different size options per pizza type

Extend the content!

You can use the *Expert* column to encourage students to learn content not necessarily addressed within their grade-level standards or curricula. For example, the *Expert* column may require kindergarten students to count 150 items even though the Common Core Standards require counting only to 100. In the example below (from the *Authentic Learning Unit* Deadly Encounters), middle school students are asked to provide reasoning for counterclaims. However, supporting counterclaims with data and evidence is typically addressed in grades 9 and 10 (CCSS.ELA-LITERACY.WHST.9-10.1).

	Novice	***Apprentice***	***Practitioner***	***Expert***
Opposing Claims	includes one counterclaim	includes one counterclaim and evidence to refute it	includes: • at least two counterclaims • evidence to refute all counterclaims introduced • use of multiple valid sources to refute counterclaims	all of *Practitioner* plus: offers reasoning behind counterclaims

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Deepen student thinking!

A second type of qualitative leap, similar to extending the content, is deepening student thinking. Rather than exploring topics at a higher grade level, this strategy requires students to think about grade-level content at a deeper level. For example, if a first-grade science standard asks students to identify major parts of a plant, including the roots, stem, leaves, and flowers, one way to have students think deeper would be to have them consider how each part is the same and different from others. Alternatively, they could compare and contrast the parts of one plant with the parts of another. In the example below (from the *Authentic Learning Unit* Can a Frog, Turtle, and Fish Help Us?), students move to the *Expert* column by comparing and contrasting body parts of frogs and humans.

	I Am Working on It 	**I Did It!** 	**I Did It and . . .** 
Frog Drawing 	I named at least four frog body parts.	I labeled at least four frog body parts. ☐ I did it! I wrote how they help the frog. ☐ I did it!	I made a chart of how each part is like or not like a human body part.

Foster metacognition!

Finally, students can move from the *Practitioner* column to the *Expert* column by thinking about their thinking. In other words, requires students to engage in metacognition. You may ask students to explain their problem-solving process or reflect on their product. In the example below (from the *Authentic Learning Unit* Hydroelectric Power Source), students engage in metacognitive thinking by reflecting on how STEM thinking impacted the development of their solution.

	Novice	***Apprentice***	***Practitioner***	***Expert***
STEM Connections	includes use of science, technology, engineering, and math in solution design	• includes scientific knowledge to support both the need and the solution • includes some use of technology in the solution-finding process • includes a plan for an engineered 3D prototype of solution • includes mathematical computations in the decision-making process	• includes scientific knowledge through sources and experiments to support both the need and the solution • includes use of technology for modeling and exploring "what if?" scenarios • includes engineered 3D prototype of solution • includes a mathematical analysis of costs and benefits as a critical aspect of decision making	all of *Practitioner* plus: explains how STEM thinking helped in the development of the solution

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