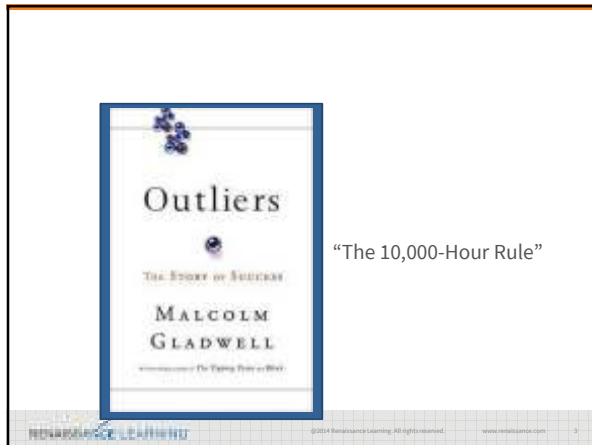
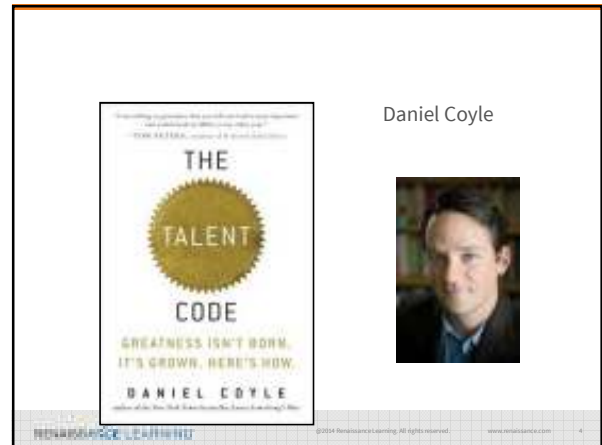


Practice Really Does Make Perfect

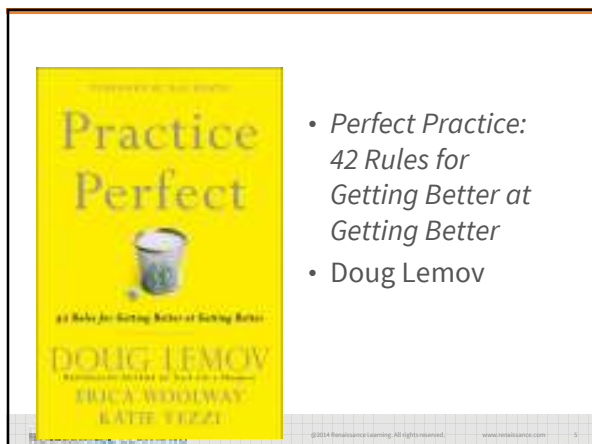
Gene M. Kerns, Ed.D.
Chief Academic Officer



“The 10,000-Hour Rule”




Daniel Coyle



- *Perfect Practice: 42 Rules for Getting Better at Getting Better*
- Doug Lemov

• “. . . the underestimated concept of **practice**. Generally seen as mundane and humdrum, poorly used or much maligned, or too familiar to be interesting, practice **is often considered unworthy of deep, sustained reflection and precise engineering.**”



Powerful Practice
Differentiate Drill from Scrimmage, and
Know When/How to Use Both

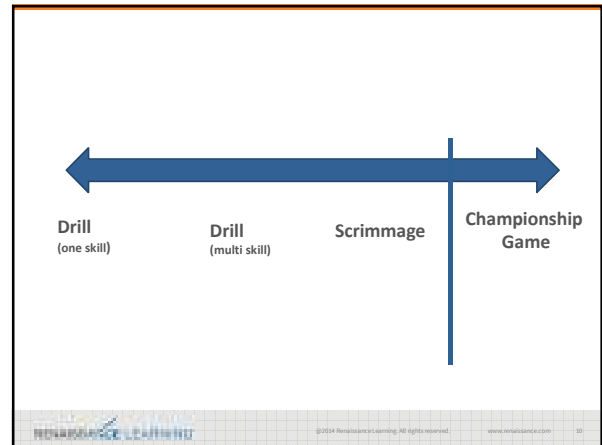
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- “A drill deliberately distorts the setting in which participants will ultimately perform in order to focus on a specific skill under maximum concentration to refine that skill intentionally.”

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- “A **drill** deliberately distorts the setting in which participants will ultimately perform **in order to focus** on a specific skill under **maximum concentration to refine that skill intentionally.**”
- “A **scrimmage**, by contrast, is designed not to distort the game but to **replicate its complexity and uncertainty.**”

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- “Most people assume that the higher you go on the competency scale, the less drilling you need to do and the more scrimmaging. In fact, we argue, the opposite is true.”
- “Scrimmaging is generally less efficient as a teaching tool.”

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- Differentiate drill from scrimmage, and know how and when to use both.

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Powerful Practice
Session 7 – “Unlock Creativity. . . With Repetition”

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When do you have your most creative thoughts?

When you are “doing things that are automatic and therefore prone to thinking about other things while executing.” – Lemov (2012)

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“Creativity, it turns out, is often practice in disguise, and to get more of it, it often helps to automate other things.”

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Lemov (2012)

- “Many educators perceive drilling – which they characterize with the pejorative “drill and kill” – to be the opposite, the enemy of higher order thinking.”
- “The problem with that argument is that learning generally doesn’t work that way. As cognitive scientists have shown, it’s all but impossible to have higher order thinking without strongly established skills and lots of knowledge of facts.”

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Lemov (2012)

- “This synergy between the rote and the creative is more commonly accepted in many nations in Asia. ‘Americans have developed a fine dichotomy between rote and critical thinking’ one is good, the other is bad,’ write the authors of one study of Japanese schools. But they find that many types of higher-order thinking are in fact founded on and require rote learning. “

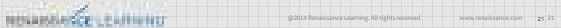
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“Creativity often comes about because the mind has been set free in new and heretofore encumbered situations.”

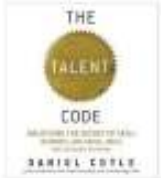
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Powerful Practice
“Unlock Creativity. . . with Repetition”





“The Perils and Promise of Praise” – visit ascd.org

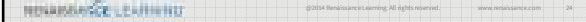

- Fixed
- Intelligence and qualities are fixed
- Growth
- “your basic qualities are something you can cultivate through effort”
- “The passion for stretching yourself and sticking to it, even (or especially) when it’s not going well. . . is the hallmark.”

Attribution Theory



Managing Mindsets


- According to research by Achieve, when teachers were asked what factors may influence students’ performance in mathematics, 41 percent of American teachers believed that innate intelligence was more important than studying hard, **which was just the opposite of Chinese teachers.**



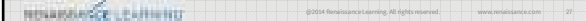
- Deep practice
- Ignition
- Master coaching



Coyle, 2009

- The waves last into our thirties, creating critical periods during which time the brain is extraordinary receptive to learning new skills.



- We continue to experience a net gain until around the age of 50.
- We retain the ability to myelinate throughout life.



Amen!

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- “This is not to say that every person on the planet has the potential to become an Einstein. Nor does it mean that our genes don’t matter – they do. The point, rather, is that although talent feels and looks predestined, in fact **we have a good deal of control over what skills we develop...**”

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- “... and we each have more potential than we might ever presume to guess.”

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What can we achieve when we change our mindsets about talent?

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