

Expertise and Expert Blind Spot

Expertise: In *How Learning Works*, the authors suggest “expertise can be a liability as well as an advantage when it comes to teaching.” The classic, *How People Learn* by the National Research Council suggests, “Expertise in a particular domain does not guarantee that one is good at helping others learn it. In fact, expertise can sometimes hurt teaching because many experts forget what is easy and what is difficult for students.” Some insights on how experts organize knowledge may provide some insights on why this may be true. Again from *How People Learn*, “Research shows that it is not simply general abilities, such as memory or intelligence, nor the use of general strategies that differentiate experts from novices. Instead, experts have acquired extensive knowledge that affects what they notice and how they organize, represent, and interpret information in their environment. This, in turn, affects their abilities to remember, reason, and solve problems.” Because of this, experts, sometimes unconsciously, use shortcuts or even skip steps that are essential to novices. Additionally, the expert’s ability to efficiently perform complex tasks may cause them to incorrectly estimate student’s ability to complete similar tasks. Because instructors that are subject matter experts do not experience the same cognitive load – “the total information-processing demands imposed by a given tasks of set of tasks” – as students, instructors may have “unrealistically high expectations” for their learners (Ambrose, et al, 2010). “Think aloud [that is verbalizing thoughts as one moves through a cognitive process] reports from experts and novices show that experts are less likely to have access to memory traces of their cognitive processes when engaged in tasks within their domain of expertise (Ericsson & Simon, 1984). This appears to be due to the automatization of certain cognitive processes in experts. Among novices, these processes are deliberate and stepwise, and so they leave a memory trace which is more likely to be inspectable and verbalizable” (Nathan, Koedinger & Alibali, 2001).

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Expertise can lend itself to developing expert blind spot. Expert blind spot occurs when a subject matter expert’s advanced understanding and knowledge of an area of expertise causes them “to make assumptions about student learning that turn out to be in conflict with students’ actual performance and developmental” abilities (Nathan, Koedinger & Alibali, 2001). Nearly anyone who teaches may be susceptible to expert blind spot.

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Considerations for expert educators

Check your assumptions

Keep it simple

Avoid jargon and shorthand phrases

Begin with in the end in mind

"Unpack" complex tasks

Be an "adaptive expert"

- Check your assumptions:** separate fact from opinion. Noticing and questioning assumptions helps to reveal very well intended and easy to make conjecture and preconceptions that may be inaccurate. "When you're gathering information, listening to what people say, or assessing a situation, think about what assumptions you have going in" (Chartrand, 2012). What you see may not be what they see: "the idea that experts recognize features and patterns that are not noticed by novices is potentially important for improving instruction. When viewing instructional texts, slides, and videotapes, for example, the information noticed by novices can be quite different from what is noticed by experts" (e.g., Sabers et al., 1991; Bransford et al., 1988). Juhasz (2011) suggests, "You may be thinking that this is just too basic. You may be saying, 'I'm an expert. I'm a professional and called upon for my opinions. People value what I say. I know how to do this. Don't you want to ensure that your audience understands what you are saying?'" To help ensure your audience understands what you are attempting to convey "some groups who design educational materials pair content area experts with 'accomplished novices' whose area of expertise lies elsewhere: their task is to continually challenge the experts until the experts' ideas for instruction begin to make sense to them" (Cognition and Technology Group at Vanderbilt, 1997 as cited by Wiggins & McTighe, 2011) and therefore helps to recognize and address assumptions that may potentially be harmful to the learning process.
- Keep it simple.** It is an old adage but a useful one. Some educators worry about insulting their learner's by being too basic. Sometimes using a review of the fundamentals and teeing it up in way that helps you to help them. Here is an example that might be included in an introductory portion of an instructional episode, "here is a quick review of some essential considerations for our topic. I find it is helpful for me to re-familiarize myself with these fundamentals and keep these basics in mind as I explore the advanced concepts of this topic..."
- Avoid jargon and shorthand phrases:** Wiggins & McTighe (2011), "From the perspective of the experts, jargon and shorthand phrases permit easy and efficient communications; to the novice they are often off-putting barriers to understanding. The challenge in teaching for understanding is to introduce vocabulary when it will most help clarify experience and ideas that arise as a result of the teacher's design" (pg. 139).
- Begin with in the end in mind** (Covey, 2013) when developing an instructional strategy. "Use the backward design method to create courseware, presentations and support materials (start with the end in mind – what do I want my audience to know and be able to do at the end of my presentation/course/meeting?)" (Juhasz, 2011).
- "Unpack" complex tasks:** *How People Learn* suggests the problem can be reduced by becoming more "consciously aware of three particular elements of mastery that students must develop: (1)



acquire key component skills [i.e. the skills necessary to complete the learning task], (2) practice in integrating them effectively, and (3) knowledge of when to apply what they have learned” (Ambrose, et al, 2010). “If students lack the critical component skills-or if their command of those skills is weak-their performance on the overall task suffers” (Resnick as cited by Ambrose et al 2010). Generally speaking, a learner is not born with component skills, nor do they magically appear when they are required; they need to be learned. The instructor needs to clearly identify what the component skills are and how to use them. This may require the instructor “unpack” complex tasks into component parts that form easy to absorb chunks. Embed and practice integrating component skills: as Clark Aldrich put it, "If I had six hours to learn anything, I would spend four of it practicing." Provide opportunities for practice and ensure the skills are being practiced and, therefore, learned correctly. David Sousa points it in *How the Brain Learns*, “Practice doesn’t make perfect, it makes it permanent.”

□ **Consider the idea of an “adaptive expert”** - from *How Learning Works* (p. 48):

Beliefs about what it means to be an expert can affect the degree to which people explicitly search for what they don’t know and take steps to improve the situation. In a study of researchers and veteran teachers, a common assumption was that “an expert is someone who knows all the answers” (Cognition and Technology Group at Vanderbilt, 1997). This assumption had been implicit rather than explicit and had never been questioned and discussed. But when the researchers and teachers discussed this concept, they discovered that it placed severe constraints on new learning because the tendency was to worry about looking competent rather than publicly acknowledging the need for help in certain areas (see Dweck, 1989, for similar findings with students). The concept of adaptive expertise (Hatano and Inagaki, 1986) provides an important model of successful learning. Adaptive experts are able to approach new situations flexibly and to learn throughout their lifetimes. They not only use what they have learned, they are metacognitive and continually question their current levels of expertise and attempt to move beyond them. They don’t simply attempt to do the same things more efficiently; they attempt to do things better.

Taking Action - An outline for action developed by Dr. Kathryn Linder, Ph.D., Suffolk University

As a result of this review, what will I...

 Start Doing?
 Stop Doing?
 Do Less Of?
 Do More Of?

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