

How to use 5 minutes of practice effectively

Overview

Incorporating deliberate practice into sonographer training can accelerate skill development and enhance performance, expediting the learner's journey to competency. The goals of this presentation are to:

- 1) Defining "what" deliberate practice is and how it differs from what we currently do.
- 2) Explain "Why" it is important to integrate deliberate practice into your teaching methodologies.
- 3) Describe "how" you can integrate the four key features of deliberate practice into daily teaching methods, along with practical tactics for their application

What is deliberate practice?

Deliberate practice is a concept popularised by psychologist Anders Ericsson. It emphasises a purposeful and systematic approach to skill development. It involves engaging in activities specifically designed to improve performance, pushing oneself beyond the current level of proficiency. This involves breaking down complex tasks into smaller components, setting specific goals, receiving feedback, and repeating the process to refine performance. The idea is that deliberate, focused effort is more effective than simply spending much time on a task without a specific improvement goal.

Why is it important?

- Using deliberate practice can expedite the learning curve significantly.
- Its primary distinction lies in focusing on targeted, challenging activities that push individuals beyond their current abilities.
- Unlike simple repetition or prolonged task engagement, deliberate practice involves concentrated, goal-oriented efforts to enhance performance. Deliberate practice is distinct from mere repetition due to its strategic nature, which can markedly accelerate learning.
- This method is particularly vital in training student sonographers for several reasons.
 - It improves efficiency by targeting specific skills or areas requiring improvement, thereby enhancing the learning process.

- Deliberate practice also aids in retention.
- Learners practice skills repeatedly and receive immediate feedback from a tutor or through self-assessment of images. This approach can be highly motivating, as learners observe tangible skill improvements over time

4 critical aspects of deliberate practice

1. Set SMART goals
 - Specific
 - Measurable
 - Achievable
 - Realistic
 - Time-bound
2. Focused attention - concentrate intensely on one thing at a time until they build a deeper understanding of the skill
3. Immediate feedback - provides insights into errors and inaccuracies, helping individuals identify and rectify mistakes. It reinforces correct movements and refines technique.
4. Repetition - Deliberate practice involves repeated engagement with a skill or task, but it's more than mere repetition. Each iteration is an opportunity for incremental improvement, approached to refine the technique. Adjustments are made based on feedback and self-reflection. Repetition helps to build muscle memory, making movements more efficient and automatic over time.

Quality versus quantity

- **Practice with full concentration:** Deliberate practice requires undivided attention. Avoid distractions and commit fully to the task at hand.
- **Slow down to master technique:** Prioritize quality over speed. Slowing down allows you to understand and refine the nuances of the skill
- **Prioritize deliberate over rote practice:** Ensure that each practice session is purposeful and focused on specific skill development rather than simply logging hours of scanning. Quality practice leads to faster skill acquisition
- Keep challenging your memory
- Repetitive practice

How to deliberately practice

1. Get the window, optimise the view, optimise the image, survey scan
2. Hands-off the patient. Get the view again.
3. Hands-off the patient – Get the view again
4. Isolate and practice each of the probe moves to build an understanding of action and consequence

George and Doto's teaching model

1. **Conceptualisation** - To be motivated to learn, the learner must understand why the skill is needed. The learner must understand the cognitive elements of the skill, why it's done, when it's done and when it's not done, and the precautions involved. The learner must know the instrument and tools involved in the skills performance.
2. **Visualisation** – A silent demonstration allows the learner to visualise the skill in real-time. The learner must see the skill performed in its entirety from beginning to end so that they have a model of performance – in ultrasound context – they know what represents an ideal scan on this particular patient with the specific body habitus. They see you perform (with expert skill) and can understand what represents diagnostic pictures in this context. This leads to learner imitation. The silent demonstration gives the student a mental image of the skill performed correctly, which allows them to self-evaluate their performance when they perform the skill
3. **Verbalisation.** The tutor performs the scan, narrating each process step in real-time. Students receive a clear, step-by-step explanation and a second demonstration of the technique. This approach allows students to see how each step integrates into the optimal sequence and provides an opportunity to ask questions and clarify any part of the procedure
4. **Student narrates the performance of the skills.** If they can narrate the steps, there is a greater likelihood that they will perform the skill correctly. Teachers ensure that students remember each step in sequence by asking the students to describe how to perform the skills. This also helps with committing the process to memory
5. **Student performs while thinking out loud.** The learner, having seen the skill, heard a narration and repeated the narration now performs the skill and practices each individual element, then small portions linked together until eventually the whole skill is performed in its entirety. Correction and reinforcement need to be immediate.