

# "At This Stage": The Application of the "4 Stages of Competence" As It Applies to the Practice of Radiology

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## PURPOSE

The four stages of competence, also known as the conscious competence model, is a framework that describes the stepwise process of learning that culminates in mastery of a skill. Various accredited to Martin Broadwell, Paul Curtiss and Phillip Warren, or Noel Bursch<sup>1</sup>, the conscious competence model is also useful in measuring one's proficiency in a skill that has been practiced for years. This framework can specifically be applied to the practice and learning of radiology, which demonstrates its unique learning curve and guidelines, as set down by the governing body of graduate medical education, the Accreditation Council for Graduate Medical Education (ACGME).

## METHODS/MATERIALS

- 1. Unconscious Incompetence:** novice does not know how to perform the new skill; they are unaware of their deficits<sup>2</sup>, of the value of the new skill and may even overestimate their competence, as detailed by the Dunning-Kruger effect<sup>3</sup>, wherein people with limited knowledge in a certain domain overestimate their skill.
- 2. Conscious Incompetence:** still incompetent, the novice now becomes aware of their lack of skill in comparison to peers; there is also an awareness of the skills needed to address their incompetence.
- 3. Conscious Competence:** novice is finally competent in performing skill at hand; but there is a high level of concentration and mental energy expended to perform.
- 4. Unconscious Competence:** the now experienced individual can perform the task with little to no effort; it has become 'second nature'.

## RESULTS

Early on in their training, all residents will begin in the stage of unconscious incompetence, a dangerous combination. As mandated by the ACGME, appropriate supervision should be provided in these early stages. Many residents may overestimate their abilities in the early stages and may find difficulty progressing into a state of deficit-awareness. Mentors and teachers should provide feedback routinely to help offset the delay. The strength and drive to learn dictate how fast a resident can progress from conscious incompetence to conscious competence; i.e., how well they utilize resources and role-models around them. The majority of residents will spend time in the state of conscious competence and, in fact, make for the best teachers. Experienced attendings who may be well into the state of unconscious competence are not always able to identify with the struggles a new novice may face.

## CONCLUSION

The conscious competence model can help stratify residents in their training and can help mentors and teachers provide tailored guidance and feedback. It is also a useful tool for residents to assess themselves and their comfort with a specific skill.

## REFERENCES

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2. *The four stages of competence* (no date) *Mercer county community college*. Gordon Training International. Available at: <https://www.mccc.edu/~lyncha/documents/stagesofcompetence.pdf> (Accessed: April 2023).
3. *Dunning-kruger effect* (2023) *Encyclopædia Britannica*. Encyclopædia Britannica, inc. Available at: <https://www.britannica.com/science/Dunning-Kruger-effect> (Accessed: April 2023).

Figures 1 and 2 depict different ways of portraying the conscious competence model, as a stepwise process and as a hierarchy.

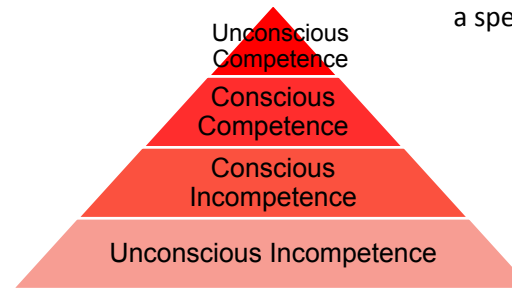


Figure 2

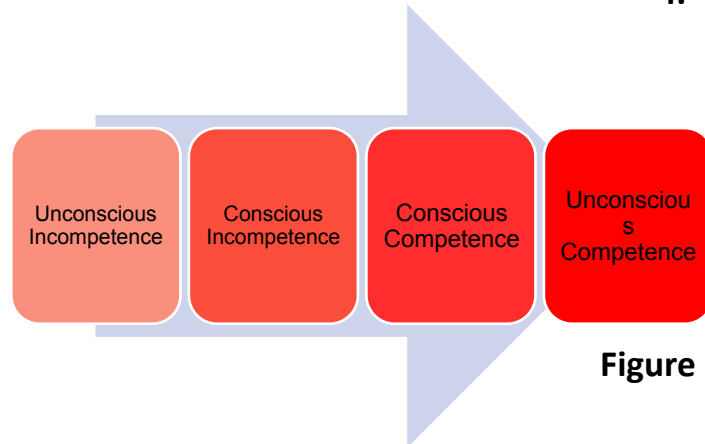


Figure 1