

The promise and challenge of mastery learning

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Dear editor

We read the analytical review by Drs. Siddaiah-Subramanya, Smith, and Lonie titled, “Mastery learning: how is it helpful?” that appeared recently in *Advances in Medical Education and Practice*, with great interest.¹ We commend the authors for bringing the mastery learning model to the attention of the journal’s readers. However, we note some missing information and wish to amplify the rationale and contributions of mastery learning in medical education by adding four additional points:

1. The basic principle of mastery learning is “excellence for all.” This means that all medical learners can reach all learning goals to very high achievement standards with little or no variation in measured learning outcomes.²
2. The traditional apprenticeship model of clinical medical education is becoming obsolete in light of contemporary approaches to curriculum development and advancements in educational technology, especially medical simulation. As Ericsson has pointed out, “the well-known saying, see one, do one, teach one ... implies virtually instantaneous mastery of new procedures among medically trained individuals; however, objective performance measures have invalidated this conventional wisdom.”³
3. Mastery learning programs in medicine are grounded in carefully designed and managed curricula that engage learners and teachers in active, effortful educational activities, assessments, actionable feedback, and steps toward constant improvement.⁴ Mastery learning is not a passive enterprise for learners or teachers. This is also the basis for the translational outcomes described below.
4. Rigorous medical education mastery learning programs can not only yield short-run learning outcomes measured as skill and knowledge acquisition in educational settings, but also “downstream” translational results expressed as better patient care practices, improved patient outcomes, and lower health care costs.⁵ Translational medical education outcomes derive from mastery learning and research programs that are thematic, sustained, and cumulative.

The promise of mastery learning is that it represents a new frontier in medical education worldwide. Mastery learning combines the best of thoughtful curriculum development, active learning and teaching, rigorous assessment with actionable feedback, high achievement standards, and skill acquisition coupled with the formation

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and refinement of mental representations of clinical conditions.^{4,5} Mastery learning is a powerful educational strategy that works. The challenge of mastery learning is to choose key clinical problems (e.g., diabetes management) from many available options to address using the model. Such thoughtful curriculum decisions can produce new pathways and durable benefits for medical education.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Siddaiah-Subramanya M, Smith S, Lonie J. Mastery learning: how is it helpful? An analytic review. *Adv Med Educ Practice*. 2017;8:269–275.
2. McGaghie WC. Mastery learning: it is time for medical education to join the 21st century. *Acad Med*. 2015;90(11):1438–1441.
3. Ericsson KA. Acquisition and maintenance of medical expertise: a perspective from the expert-performance approach with deliberate practice. *Acad Med*. 2015;90(11):1471–1486.
4. Barsuk JH, Cohen ER, Wayne DB, Siddall VJ, McGaghie WC. Developing a simulation-based mastery learning curriculum: lessons from 11 years of advanced cardiac life support. *Simul Healthc*. 2016;11(1):52–59.
5. McGaghie WC, Issenberg SB, Barsuk JH, Wayne DB. A critical review of simulation-based mastery learning with translational outcomes. *Med Educ*. 2014;48(4):375–385.

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