

Sequential Learning in Continuing Medical Education

Sequential learning is defined as “the cognitive and neural processes involved in learning about the proper ordering of events and stimuli.”¹ Sequential learning uses a logical, step-by-step approach from start to finish of a specific topic. Generally, sequential learning incorporates some elements of structured information delivery.

How Has Vindico Medical Education Adopted Sequential Learning?

Vindico Medical Education has extensive experience in sequential learning, which falls into three primary categories:



Sequentially released content within an educational curriculum



Personalized learning plans



Follow-up of prior CME with case studies

Educational Curriculum

Vindico’s educational curriculum uses sequential learning that offers variety for the learner, depending on their preferences. One method available to learners is to complete approximately 3 to 10 continuing education (CE) activities that are all related to one topic. Alternatively, learners also have the option to design their own sequential educational journey. Regardless of which path a user chooses to take, both methods have seen success in course completion and impact.

CASE STUDY: A Simulation Series for Type 2 Diabetes

A series of 4 simulations that used previous decisions to create realistic scenarios.

ENGAGEMENT



of those who started the first simulation completed all 4.

EXPERIENCE



92% rated this sequential simulation-based design as **being more engaging** the other CE activities in which they have participated.

IMPACT

↓78%

reduction in the need for corrective mentoring to reach optimal management decisions.

CASE STUDY: Diabetic Retinopathy Curbside Consults

Series of 6 educational videos featuring 2 clinical experts discussing various patient cases, whereby the learners self-selected topics most relevant to them.

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participated in 2 or more activities.



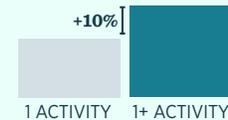
participated in all 6 activities.

EXPERIENCE



noted that the sequential learning method was **impactful for learning**.

IMPACT



Those who completed 1 or more activity scored on **average 10% higher** on posttest questions.

Personalized Learning Plans

A second way Vindico incorporates sequential learning into education is to further develop learners in areas where deficiencies may arise. If a learner remains deficient on a particular topic after completing an educational activity, the individual is directed to an educational activity that is designed to improve knowledge within that area.

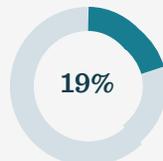
CASE STUDY: Personalized Learning Plan in Multiple Sclerosis

Targeted, follow-up CE to address knowledge deficiencies at the individual learner level.

ENGAGEMENT



participated in the personalized activity—a **nearly 4-fold increase** over traditional follow-up participation rates.



participated in 1-2 other activities within the series to which they were not directed.

This may suggest that follow-up CE promoted subsequent learning.

EXPERIENCE



100% noted that the follow-up CE reinforced learning from the original content.

IMPACT



Average posttest scores were 83% on the follow-up CE, noting closing of persisting educational deficiencies.

Follow-Up Case-Based Learning

The final method Vindico uses to incorporate sequential learning is by delivering case-based learning after an initial CE activity. The follow-up case serves 2 purposes. First, it reinforces the original content by applying it to a realistic clinical scenario. Second, if appropriate tracking was done at an individual learner level, it can be used as a more objective measure of performance change due to the CE initially provided.

Within CME design, sequential content delivery provides substantial opportunity to create a trajectory of lifelong learning for physicians.

Vindico's research also demonstrates the likelihood of CME learners to participate in sequential learning when it is delivered; results demonstrated that overall, 20% to 50% of learners participated in 1 or more activity within an educational series. Vindico Medical Education's unique approach ensures that content remains relevant to the individual learner.

CASE STUDY: Precision Decisions: Realistic Cases in Rheumatology

Case-based CE delivered 30 to 45 days post-education designed to encourage application of content and assess performance change relevant to the learner.

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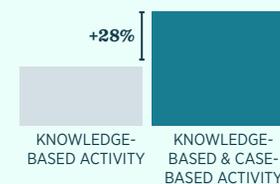
17% of those who participated in the knowledge-based course **participated in the follow-up case.**

EXPERIENCE



noted that follow-up CE content reinforced the original content.

IMPACT



Those who completed the knowledge-based and case-based activities scored 28% higher.

References

1. Conway CM. Sequential learning. In: Seel NM, ed. *Encyclopedia of the Sciences of Learning*. 2012th ed. Springer; 2012:3047-3050. https://doi.org/10.1007/978-1-4419-1428-6_72

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For more information about this white paper or Vindico Medical Education, contact:

Robert Esgro
Chief Operating Officer
resgro@vindicocme.com

Katie Robinson, PhD, CHCP
Senior Director, Outcomes and Analytics
krobinson@vindicocme.com