Incorporating a Spiral Curriculum Into L&D

Introduce different topics and revisit them with more advanced content for prime learning experiences.

BY KRISTA SINGLETON

In corporate training, topics often are taught in units or blocks of content and checked off as being complete, never to be repeated. A potential downside is that, without revisiting the topic and increasing its difficulty, learners may lose most of the knowledge and skills they’ve gained, making the training a waste of valuable time and resources.

According to Britt Andreatta, author of Wired to Grow and The Neuroscience of Learning, training programs can be enhanced through both retrievals and repetitions. She states, “Spaced retrievals move learning into memory while repetitions are the key to real behavior change as you build the neural pathway, eventually creating a habit.”

What it is

A spiral curriculum, based on American psychologist and educator Jerome Bruner’s research, revisits main ideas and builds on them by increasing the difficulty and intensity. In each progression, it connects new learning to previous learning until the learners have truly mastered a topic or skill.

Robert Bjork, who has conducted extensive research on spaced learning and retention, says that in addition to spaced intervals, it is important to interleave, or include different learning topics in between repetitions. This is more effective for retention than blocked, spaced learning of a single topic.

How it works

A spiral curriculum is designed to coil upward, coming back to the same place or topic repeatedly, but at a higher level on the spiral each time. At each rotation, learners recall previous lessons and are introduced to more complex components of the topic. Learners are increasingly challenged, which can lead to greater competency and retention. Bloom’s Taxonomy and spaced learning are valuable tools in creating and implementing a spiral curriculum.

Guidelines

Planning for and creating a spiral curriculum take a bit more work on the front end than a traditional blocked curriculum. Information needs to be organized strategically so that it can be reintroduced repeatedly at specific times in the future—each time with increased complexity while relating back to the previous lessons. Because of the interleaving factor, it is possible that several curriculums will need to be planned out on the front end so that they correctly intertwine.

Revisit topics. According to German psychologist Hermann Ebbinghaus, who first wrote about the forgetting curve, 90 percent of learning will be lost within the first three days without reinforcement. However, each time a topic is revisited, the forgetting curve percentage decreases. Spaced learning works, in part, because the brain needs resting time.
to process information, create pathways to related information, and finally place the new information into long-term memory—the main objective of learning.

**Increase difficulty.** While spaced learning is not new, a twist on this concept in a spiral curriculum is to build on the previous learning by increasing the difficulty. This is where moving upward on Bloom’s Taxonomy can be beneficial. Curriculum designers should start by creating learning outcomes targeted to be achieved at each level and then, using a concept map and appropriate Bloom’s labels, design activities to correspond to the outcomes.

For example, a sales training spiral curriculum may introduce a topic such as the importance of asking prospects effective open-ended questions. The lesson may include an intro to types of open-ended questions that begin with *what* or *how*.

When the topic is reintroduced in rotation 2, learners will be asked to recall what method is most effective in communicating with a prospect (remember). Then, learners explain why questioning may be more effective than telling (understand). This rotation moves forward with role plays where learners practice effective questioning techniques in the classroom and then in the field (apply).

For the third rotation, learners will be prompted to recall effective questioning techniques and share their real-life experiences of questions they asked and the results they had—such as better conversations or increased sales—and what they believe made their experiences effective or not (analyze).

In rotation 4, small groups search for an online video that demonstrates great questioning techniques, post the video to the learning platform, and explain why they believe it demonstrates the desired characteristics. Learners review each group’s video and offer thoughts on whether it fits the criteria of effective questioning and their justification for this opinion (evaluation).

Finally, in rotation 5, learners will compile their best questions for each scenario that they may face as a salesperson into a playbook of effective questioning best practices (create). In between these spaced lessons on asking questions, other topics are concurrently being interleaved.

**Recall previous lessons.** Research shows that having learners recall prior knowledge facilitates the learning of new knowledge. This prior knowledge can serve as a jumping-off point for acquiring new, but related, knowledge or skills. It can simply be beginning a group discussion with a question such as, “Can someone remind us what we learned about effective questioning last time?” or using an interactive quiz with Kahoot! or Menti, completing a crossword puzzle of related terms, or having groups create a mind map containing key points about the topic.

**Results**

Incorporating a spiral curriculum builds a more thorough and permanent understanding within learners. Revisiting a topic multiple times helps the brain transfer information to long-term memory and reduces the forgetting curve. Increasing the difficulty in each rotation achieves gradual mastery of a topic as opposed to temporary short-term recall and eventual purging of material from the brain due to non-use.

Lastly, new knowledge is processed more efficiently when prior, related knowledge is recalled immediately before the new knowledge is introduced. All these benefits result in a more skilled and able learner.

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