Taking Another Look at Behaviorism and Its Lasting Impact on Instructional Design

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Understanding the impact behaviorism has had, and may likely continue to have on instructional design requires an understanding of what behaviorism entails. “The primary tenet of behaviorism is that there is a predictable and reliable link between a stimulus and the response it produces.”

Behaviorism puts the need to control behavior in the hands of those controlling the stimulus, so the learner isn’t gaining a need to self-control their behavior.

Three types of behaviorism are considered. “Methodological behaviorism claims that psychology is the science of behavior - not the science of the mind... Psychological behaviorism claims that all sources of behavior are environmental and that the internal thought process has no impact on behavior... Analytical behaviorism makes the claim that if mental terms are used to explain behavior, they should be reworded into behavioral concepts.”

One reason behaviorism has had an impact on instructional design centers around the idea that behaviors can be seen and are measurable in some way. If the purpose of instructional design is to create a training program with measurable outcomes, then designers will likely continue to incorporate behaviorism theories during the design process.

The problem with this approach is the assumption that all sources of behavior (or stimulus) are external to the learner and that by simply manipulating the environment, every learner will produce the same behavior (or response). Behaviorism is also referred to as the “black box” theory because it is only concerned with the environment (stimulus and response) while making no attempt to account for

differences within the internal cognitive processes of the learner. Social Cognitive Theory (SCT) learning grew out of a need to address limitations of behaviorism. If the inputs and cognitive processes are the same for all learners, then one could logically expect to achieve the same outputs. “External outcomes, influential as they often are, are not the sole determinants of human action. Theories that depict behavior as the product of external rewards and punishments present a truncated image of human functioning because people partly regulate their actions through self-evaluative consequences.”

A study of computer-based learning found that adding game-like features (stimulus) caused the learner to pay more attention to the game’s details, but did not improve the learner’s ability (response) to transfer information taught into other situations. The competitive aspect of game-like learning had a negative impact overall on information transfer, especially for men. This is an important outcome and should be kept in mind when designing any instructional program, especially when learners are male.

While learners may enjoy game-like study activities used before a test, boys often seem more excited about playing these games than girls. Though these learners may have fun and do well during the game, not everyone that does well on games does well on the tests. They may be able to give all the details of how to play the game, but may miss using the actual subject content in their explanation. Laurie White, 5th Grade Elementary School Teacher and Co-Author of this paper, has yet to observe the connection that boys may perform worse than girls on these kinds of tests, but will be attentive to that possibility during the remainder of this school year.

Using a rewards based system can distract learners from the purpose of learning. “Rewards and punishments are a shortcut. It takes a lot longer to develop an intrinsic love of learning in students than it does to hand out glittery pencils and Strawberry Shortcake stickers. It takes longer to develop a

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connection with an angry child than it does to threaten him with letters home or send him to the principal’s office.”

Rewards also put the need to control behavior in the hands of the one handing out stickers or taking away points, so the learner isn’t gaining a need to self-control their behavior. In the preceding examples, the learner is more focused on the reward - whether it’s a sticker, points, or game bell signifying winning - than they are on the subject content being taught.

We need to walk the harder middle path. We need to trust children’s capacity for goodness and brilliance, and we need to be purposeful about the class culture we build. That’s easy to say but hard to do, of course. Here are three ways I’ve found to move away from external incentives with the 1st, 2nd, and 3rd graders I teach... Talk about the purpose of learning. Teach kids to resolve their own conflicts. Give students plenty of choices, time to collaborate, and meaningful work. We should be igniting and sustaining that trail-blazing spirit. So why do we distract the children in our care with sticker charts, time-outs, and treasure box troves that have no clear connection to learning?  

After the process of researching this topic, sharing our own experiences in education and discussing our thoughts, it is the authors’ opinion that, while behaviorism has a place in the instructional design field, it should not be the only learning theory considered by the instructional design team. The use of cognitive learning theories, for example, in instructional design is critical to creating a rewarding course of instruction that will engage the learner. As Rouwaida Mahmoud, Second Language Instructor of Adults and Co-Author of this paper has observed with her students, “prior knowledge and mental processes intervene between stimulus and response.” She finds that before successfully instructing her students in English, she needs to assess their prior knowledge, experience and learning styles.

Instructional designers may continue to use techniques supporting the theory of behaviorism to provide measureable outcomes and motivate learners. The ease of designing immediate feedback in eLearning programs provides the learner with a positive reinforcement of the correct behavior. The need to break instructions into smaller steps to provide this feedback; however, may lead some learners to become bored and discontinue use of the eLearning program. Designing programs to incorporate the

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learner's prior knowledge, experience and learning style has the potential of higher success rates over time, especially if the learner can move more quickly through materials already mastered.