

## Introduction

So far, IDE 621 class took me 25 hours of in-class work and 80 hours of work outside the class. I finished a 500-page textbook (yes, I read it all) and created an enormous Knowledge Base. Lectures were carefully attended to and notes were taken with an almost religious zeal. Presumably I have to be an expert in how learning occurs. However, I have to report that pandemonium broke loose, and the avalanche of questions about learning that engulfed me as I am falling into the theoretical abyss is stupendous. Yet the abyss is not pitch-dark, it is illuminated by philosophies of learning—those massive epistemological pillars—which provide foundations solid enough to tackle even the most unanswerable questions. In this short essay, I will theorize about the relationship among the philosophies of learning, learning theories, and instructional theories, and then explain why I gravitate towards behaviorism and how my understanding of learning changed after three months in Syracuse. I will also provide a concept map of the definition of learning that resonates with me most in the Appendix.

## Philosophies of Learning, Learning Theories, Instructional Theories

Centuries of human thought about the nature of knowledge resulted in various philosophical beliefs, two of which are of interest to us insofar as they are so opposing to each other—objectivism and constructivism. Having their roots in empiricism and rationalism accordingly, both philosophies provide valuable insights about the essence of knowledge. According to instructional designers Smith and Ragan (2005), objectivism “postulates that knowledge is acquired through experience” (p. 22). An educator Vrasidas (2000) contends that from the point of view of this philosophy “[t]he meaning of the world exists objectively, independent of the human mind and it is external to the knower.” In other words, knowledge in objectivism exists independently in the world, and our task as humans is figure out how to acquire it in its original form. On the contrary, constructivism says that knowledge exists solely within a person. The world has scattered objects and random information of which humans make meanings that are suitable to them. As Vrasidas (2000) states, “[m]eaning is a result of an interpretive process and it depends on the knowers’ experiences and understanding.” Smith and Ragan (2005) claim: “A foundational tenet of constructivism is the assumption that ‘Knowledge is not transmitted: it is constructed’” (p. 19). Hence, objectivism and constructivism imply two opposite natures of how knowledge is obtained: Objectivists believe that people acquire it ‘as is’ while constructivists believe that people construct it.

Learning theories are informed by these philosophies of learning. Theorists who believe that knowledge is the result of its careful acquisition from the environment group themselves in two categories—behaviorists and cognitivists. Despite their common ancestry, behaviorism and cognitivism reject each other, but by and large they agree that, as Vrasidas (2000) puts it, “[t]here is one correct understanding of any topic.” To paraphrase it, behaviorists and cognitivists see learning as a process of acquiring knowledge as it is presented in the external world. If there were no people to study knowledge, knowledge would still exist out there waiting to be studied.

Theorists who believe that knowledge is the result of construction and that “knowledge does not exist independent of the learner” (Vrasidas, 2000) are clustered into the group of social learning theorists, or social cognitive theorists (Ormrod, 2012, p. 111). For them, there cannot be one universal knowledge but rather knowledge is idiosyncratic, i.e. specific to each individual. In the process of creating shared meaning people find a common denominator of how the world functions.

Three learning theories explain the mechanism of how learning happens and what learning is. Behaviorists think that individuals are basically conditioned to learn something by strengthening relationships between the stimulus and response with reinforcement. Because of the emphasis on observable actions as a result of learning, “behaviorists have traditionally defined learning as a change in behavior” (Ormrod, 2012, p. 33). Cognitivists think that individuals learn because they process the incoming information correctly and are able to retrieve it when necessary. Their perspective is such that learning is “a long-term change in mental representations and associations as a result of experience” (Ormrod, 2012, p. 4). Social learning theorists think

that learning is the result of the interplay between environment, behaviors, and people's perceptions. Social learning theory views learning as a change in behavioral patterns that individuals build by observation and modeling and that are expected by their social environment (Ormrod, 2012, p. 111).

The three theories also specify what processes underlie learning. In behaviorism, people learn by the processes of shaping and chaining; in cognitivism, people learn by the processes of assimilation and accommodation; in social learning, people learn by observing other people's behaviors. These are big generalizations, yet they give us a clue as to what makes those learning theories different. External factors seem to be determining for learning in behaviorism while in cognitivism internal mental processes are most prevalent. Social learning theory may look like a blending of external and internal factors, but we should keep in mind that this is only a superficial comparison, since in this theory there is no such a strong opposition between mental and behavioral factors such as they are between behaviorism and constructivism.

Learning theories only describe how learning occurs, but they inform educators about how instruction should be designed. Instructional theories prescribe how instruction should be done. Smith and Ragan (2005) suggest that "theories are the source of principles from which many of the prescriptions for design arise" (p. 18). If educators adhere to the behaviorism, then they should clean the environment of any distracting elements, set up expected behaviors, and reinforce learners when desirable behaviors happen. Learners should practice abundantly in a positive climate and the result should be a change in behavior (Ormrod, 2012, pp. 44–46). Mastery learning and computer-based instruction are the examples of instructional theories informed by behaviorism. If educators base their instruction on the principles of cognitivism, they should organize the material, learning should be made meaningful, prior knowledge should be activated, there should be a lot of practice of new material (Ormrod, 2012, pp. 211–218). Meaningful reception and Gagné's nine events of instruction are the examples of instructional theories informed by cognitivism. If educators are on the social learning side, they should have learners actively think about what is going on in the world and make sense of it in various activities that promote developing shared meaning and multiple perspectives on various issues. Also, robust models should be demonstrated to learners, and educators have to preach all the principles they usually teach (Ormrod, 2012, pp. 137–138). Theories of apprenticeships and collaborative learning are the examples of instructional theories informed by social learning.

To sum it up, learning philosophies are belief systems developed over centuries about the nature of knowledge. Objectivism and constructivism are most prominent among them and they inform learning theories about the essence of knowledge. Objectivism which claims that knowledge exists in objective reality informed the theories of behaviorism and cognitivism. Constructivism which claims that people construct knowledge manifests itself in the social learning theory. Learning theories merely describe how learning occurs. If educators need to create instruction, they turn to instructional theories which prescribe exactly what should be done to secure good instruction.

### **Learning as an Observable Change in Behavior**

Three months ago I thought that learning was about getting information from books (e.g., how many constellations there are in the sky) or acquiring practical skills from other people (e.g., driving a car), storing that information in memory, and recalling it later when needed. For me, learning was memory. However, such a definition seems naïve and distorted. I identify with behaviorism and believe that the product of learning is always tangible and can be seen in behavior.

The philosophy of objectivism seems very appealing to me perhaps because my experience so far has shown that an objective reality exists out there. Physical phenomena are the same in the whole universe (things like gravity, velocity, electromagnetism). People everywhere at all times (which I know from reading ancient literature) experience emotions just as we do today. Diseases are real, body temperature over 108°F kills people, deserts are barely possible to live in. All these are objective things, despite the ways we choose to explain those phenomena. In fact, behaviorism explains why some people may choose to explain things differently, for example, a religious person may think that a hurricane is the result of disgrace while an atheist

will think that the atmospheric condition causes the hurricane (superstitious behavior versus scientific observations). But the hurricane itself is real and its deadly effects are real. Learning will happen to both the believer and the atheist if they decide not to park their cars under a tree anymore the next time a hurricane is announced. We cannot know what is going on in their heads—it is indeed like a black box—but we see that they change their behavior. That is what matters in behaviorism. That is what matters in my life, too.

I think that behaviorism does leave room to personal choices that we make in terms of what to learn (although free will is a misnomer as such in behaviorism). If, however, there is something we should learn at all costs, teachers or environment (or both) will condition us to do so. In academic environment, behaviorism places huge emphasis on practicing small chunks of materials in a favorable environment with a clear picture of what the end result should be. This last idea is reflected in instructional objectives, which serve both as a checklist of what should be done and an overall strategy of where I as a learner should go in order to master the material. In fact, when I looked at the objectives for the IDE 621 class again, I was stunned to realize that all of those objectives had been met, which means that I have mastered the course to the appropriate degree and demonstrated it in my behavior (this essay being part of it). This serves me as a reinforcement (positive feedback) to continue to perform well and study more about learning.

Regarding instructional theories informed by behaviorism, the one I find most meaningful is mastery learning. According to Ormrod (2012), in this approach “students must learn the material in one lesson to a high level of proficiency before proceeding to the next lesson” (p. 106). Students learn different aspects of a topic, have a plethora of exercises with feedback after each of them, know exactly what the end result should look like, and can master the unit at their own speed (Ormrod, 2012, p. 106–107). Almost all American foreign language textbooks and activity books used here in Syracuse University are designed using these principles. For example, in all of them you first practice present tense verbs (I go, you go) before moving to the past tense (I went, you went). After a couple of topics, there are combined exercises that test all the learned material. I think it is a very effective strategy that always helped me learn foreign languages.

So, learning for me is no longer analogous to memory. Learning is a mystery that always affects our observable behaviors. If we master skills or a body of knowledge, we know that we have learned it only when we can demonstrate it. Again with languages: I will never be convinced that somebody knows a language if s/he cannot use it by speaking or writing. Behaviorism taught me that things we cannot do, we do not really know. I use it from now on as my little guidance. Please see the concept map on learning in behaviorism in the Appendix, in which I tried to demonstrate how behaviorism concepts connect to learning.

## Conclusion

Studying how philosophies of learning inform learning theories which in turn inform instructional theories was very liberating for me this semester. A lot of my intuitive assumptions turned to be true and a lot of them were unfounded. Being more knowledgeable now, I consciously choose objectivism as a basis for my reasoning about the nature of knowledge, since I view knowledge as something that already exists in the world. I choose behaviorism because it shows that learning is not an elusive abstraction but a concrete phenomenon that helps us not only acquire knowledge but use it wisely in our personal lives.

## References

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Appendix. Concept Map: Learning Informed By Behaviorism

