Personal Learning Theory

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Introduction

In my belief, the goal of learning is looking for truth of fact. I have had this belief since I was a teenager and tried to find the most solid foundation for understanding reality step by step in my life journey. I have formed a complete view on learning of reality, which aligns with both constructivism and positivism, and is rooted in four aspects: Physics, Mathematics, Logic and Human needs. In this paper, I will introduce the criteria that I think essential for learning, some applications based on these criteria, and their extension to instructional criteria. The improvements for my learning theory in one semester and all concepts used in this paper are based on Driscoll and Burner (2021).

Contents

The Model of My Learning: Four Key Factors

My learning theory contains **four key factors**: **Objective rule, Phenomenon, Sensory Information, Cognition.** Learning process happens sequentially by above four keys, therefore the existence of learning effects is built by above sequence, and not vise versa. The final result of successful learning is change happened in **Cognition**.

Objective Rules are the rules existing naturally and eternally, not changed by time, context, or

subjective will. They are the ultimate guidelines underpinning phenomena. Such rules do exist, they can be proved by experiments like Physics or defined in logically non-confliction truism as Mathematics and Logic. The ultimate trust and pursuit of objective rules in my learning theory are aligned with **positivism**. This is the foundation to build a reliable whole process of learning to **Cognition** improvement. Objective rules can't be distilled and recognized arbitrarily. An **example** is Newton Classical Physic, which is found not correctly reflect the rules in micro perspective quantum world. This shows that, although Objective rules exist, the methods or functions humans using to describe them are not guaranteed to precisely reflect them. The difficulties for chasing objective rules are eternal. To figure out these rules lead to the following keys of learning: **Phenomena, Sensory Information.**

Phenomena are the **context** and facts that happened in the universe. They are created by a mixture of objective rules and subjective activities. This mixture contains lots of **behaviors** from all organisms including humans, and it is influenced by human willingness and cognition. This key factor aligns with **constructivism** well. In my assumption, if I can analysis subjective activities in very detail and objective categories, I might have chance to find objective rules underpinning subjective activities, therefore explain Phenomena by only objective rules. For **example**, consider a normal phenomenon in society- marriage. Marriage is based on very subjective activities, but the desire for sex is one general objective rule underpinning it. This desire can be further analyzed to objective rules in human's biology system, such as the dopamine and endorphin secretion in human's endocrine system. From such perspective, many **subjective behaviors** can be disassembled to micro activities comply with **objective rules**.

These embedded connections between phenomena and objective rules are concrete foundation for my belief that all objective rules can be found from phenomena and need

confirmation of phenomena as proof. This contains the method used by **Behaviorism**, therefore I put **behavior** and **attitudes** in the **Phenomena** category.

Sensory Information is the media for transferring all information to **cognition**. It is the **connection between phenomena and cognition**. The senses we can use provide all the information we can garner from context. Humans can learn from **senses to hear, see, smell, taste and touch**, which form abilities to collect information from language, pictures, content in foods and air etc. For **example**, only when helped with equipment can humans collect information by ultrasonic and electromagnetic waves. This is an example that human's cognition can be limited by their sensory information. There might always be information that could only be discovered by some equipment not invented now or future, therefore, it can be reasonably assumed that human knowledge about objective rules can never fully achieved.

Sensory Information provides all the proofs for rules we can garner based on current **community, technology, context and cognition**. Although it always has its boundaries, it is the most reliable way humans can use to improve cognition. It decides how much information can be reached by cognition The innovation and improvement in precision of equipment and instruments often leads to new discoveries of objective rules, is **another example** of the power of sensory information for human learning on objective rules. In personal learning processes, each person has personalized sensory information. This is the indispensable reason that even to a specific phenomenon, different person will easily garner information different to its true status. Therefore, **misinformation** naturally exists in the channel of learning process, and to build a cognition reflecting objective rules is highly relying on the **authenticity and accuracy** of **sensory information.**

Cognition is the **core** factor of my learning theory. It contains **knowledge, skills, belief of**

motivations. These aspects form each person's **attitudes** and **behavior** in **Phenomena**. Cognition is only living in biology system (At least now without confirmation of AI cognition), which runs on cooperation with brain, organs, neurons and all secretions researched by Biology and **Neuroscience**. Since it is a physical system, it also complies to **Objective rules**, such as cognition change are formed by **neurons** change, therefore cognitive improvement must be achieved step by step, build on existing **anchors in current cognition**, and spend the time needed for **synapses** grow and build new connections. These rules decide the **development** of cognition is not random, it has tight relationships with old knowledge and beliefs achieved by learner and can't achieve wished skill if ignoring **gaps** in cognition.

My change by learning this course

I am always interested in improving my learning skills. After learning this course, I made my personal learning model in a more explicit way with connections to many concepts I learned in this course. Most of these concepts are bold in the above introduction. My attitudes are more open than before, and especially improved for the understanding of learning in context, community, and constructivism.

Based on my learning model, I can easily distinguish most information in a reliable and structured way. For example, physics, mathematics and logic belong to Objective rules, then Chemistry, Biology, Microbiology, Neuroscience. can also be allocated to Objective rules based on their connection with Physics, Math and Logic. This process can be helpful for building anchors in cognition in a clear structure linked to many disciplines, therefore helping to a lifelong learning of interdisciplinary knowledge. It can improve my instructional skills as well, with better understanding of different concepts, I may build better scaffolding to other learners, provide instructional materials with better relevance to their personal cognition and experience. Besides

concerning objective rules, my understanding in situative learning, learning in community also helps build better instructional materials, which emphasizing **scaffolding**, building of **engaging** context, encouraging connections with **personal experience and motivation** etc.

Besides my personal learning model, I feel Gagne's Taxonomy of Learning Outcomes is also helpful. It defines learning outcomes in 5 categories: Verbal Information, Intellectual Skills, Cognitive Strategies, Attitudes and Motor Skills. By clearly differentiating learning objectives, it can help to distinguish personal advantages and weaknesses of skills and make specific learning or instruction plan.

The theory that is less likely to impact my professional practice might be Behavioral Skill Training model. Since this model is more important and concentrated on complicated behavioral skills training, such as Ballet, Boxing or other complex and competitive sports, that will be less likely to be used in my career.

I am especially interested in learning more about ZPD and scaffolding. I think these are both very important for making effective instructions. I have experienced many traditional instructions that have low efficacy, even waste of time and suppress motivation of learning, so I know very well about what is not correct in instruction. I currently can avoid such problems, but to improve my skill of instruction, I need learn more about scaffolding. That is especially important to figure out that, should instructor learn specific disciplines in better depth to teach learner in that discipline? If shouldn't, then how to provide correct scaffolding if instructor doesn't know the correct solution. If should, then how could these great instructor taught learner to have better achievement than instructors.