

Philosophy of Practice

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The scientific definition of learning can be defined as a relatively lasting change in behavior due to experience. It seems obvious that a person's behavior must change if they learn something. However, each person has his or her philosophy of what learning is.

My philosophy of learning consists of a combination of theories that include aspects of behaviorism, learning and schema theory, situated cognition, cognitive development, motivation, cognitive information processing, and self-regulated learning. It has greatly influenced my philosophy of instructional technology which supports the belief that instructional technology is a very broad field that includes both the process and products of technology and attempts to resolve instructional issues (Pershing, Molenda, & Paulus, 2000).

So what do we know about the human-information processing system and multimedia learning? We know that:

- Working memory has a limited capacity to process information.
- Effective multimedia utilizes both the auditory and visual channels in working memory increasing the overall amount of information the brain can process.
- Effective multimedia understands that printed text may be difficult to process when both auditory and visual channels are required.
- Effective multimedia recognizes that long-term memory is organized into schema and existing schemas should be activated before presenting new information. . Presenting information in a way that makes use of existing schema can have a huge impact on Long Term memory.

This understanding is important, because instructors are able to design effective multimedia learning based on how we process information instead of assumptions.

With the understanding of the brain processing system, I'll be able to apply the science of instruction. The science of instruction is concerned with how to present material in ways that prime appropriate cognitive processing during learning. The presentation of the material should include a learning objective used to describe the intended change in knowledge and an outcome to measure the change in the learner's knowledge (Mayer 2008).

To begin this process there should be goals established as to what the outcomes of learning must be for learning to have occurred. The learner must achieve a lasting knowledge, skill set, or awareness, and demonstrate a general ability to resolve problems. Moreover, a change in behavior must be observed (Skinner, 1989). Proficiency and understanding in using knowledge associated with a community of practice must be demonstrated by the learner with the ability analyze both general and specific problems (Li, Grimshaw, Nielsen, Judd, Coyte, & Graham, 2009). The practices of self-regulation and positive self-efficacy must also be established, and learners must be able to reflect on their thought processes and problem solving activities.

The learner in this theory also plays a critical in the instructional process. Learners must exhibit active learning and access prior knowledge through the learning process and in the understanding of new knowledge. The learner, under certain circumstances, will determine his or her own learning outcomes and has to interact appropriately with the community of practice

for learning outcomes to take place (Li, Grimshaw, Nielsen, Judd, Coyte, & Graham, 2009). Both, the learner and the instructor must be able to cooperate in order to solve problems.

There are also responsibilities for the instructor with this theory as well. An environment must be provided in which realistic and reliable situations can be offered to learners. This environment must be organized and offer opportunities that provide individuals with a chance to learn and acceptable behavior within a community of practice. The instructor must help establish a sense of motivation for learners by acquiring their attention, instilling confidence, creating relevant tasks, and providing a sense of satisfaction with the outcomes (Gagné, 1985). An instructor will make determinations about what behaviors or thought processes should be learned and inform students of the ways in which memory functions and can be enhanced while at the same time, bringing the learner's attention discrepancies in thinking and reasoning (Vygotsky, 1978). Furthermore, prior knowledge, elaboration of processing, and existing schemata must be triggered and made meaningful to the individual (Bruning, Schraw, & Norby, 2011). The instructor must create instruction so that questions are not only being asked of the learner that are appropriate to the individual's developmental level but also move the learner forward developmentally by communicating learning objectives to the learner. It is the responsibility of the instructor to prevent any unintended consequences of these learning activities or the environment in which learning occurs.

A third piece of this learning theory involves the preconditions for learning. These preconditions must be activities that stimulate critical and autonomous thinking, originality, and self-reliance (Vygotsky, 1978). Knowledge construction and critical thinking must be promoted through the use of poorly structured problems with the use of relevant materials

that will be used to activate prior knowledge and the introduction to new topics. However, it is important not to overload working memory with these activates. All the while, using techniques such as reinforcements or punishments to improve the encoding of information and long term memory. Preconditions must constantly challenge the limits of each learner's thinking and utilize multiple teaching methods and student abilities. Incorporating new concepts into current thought processes using prior knowledge are essential for the process of learning. Also, reinforcements must be constantly applied to the learning process over a long period of time, and these inputs must capture the student's attention and be made pertinent to the learner. These reinforcements will instill a sense of self-confidence which can lead to a feeling of gratification.

Using this theory of learning as a groundwork, I've developed an instructional technology philosophy. To begin this philosophy, the meaning of the word "technology" must be defined. Technology consists of more than simply electronics and is not even necessarily concrete. It can be described as any technique or tool that can be used to solve a problem. Therefore, instructional technology can be described as the use of technology to solve instructional problems. The basis of instructional technology deals with human interaction and how to help groups of individuals and organizations to reach their potential. Professionals in this field must organize personal and organizational solutions that achieve long-term results of process understanding. This lasting knowledge is achieved when professionals within the field of instructional technology develop solutions and innovations that merge with the prior knowledge and abilities of individuals and the larger community of practice (Pershing, Molenda, & Paulus, 2000). Also, this practice and theory takes into account the environments,

professional or instructional, in which a process is implemented and can be used to bring about desired change. Lastly, in practice, instructional technology professionals can use tools, processes, and other means that are applicable to certain communities of practice to provide accurate solutions to an assortment of instructional problems.

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