

Learning and Conditioning

When we use simple terms in everyday conversation we don't worry so much about precision. We might talk to a friend about riding in a car but we don't worry about what kind of car our friend is thinking of or whether it's the same car that we're thinking of in every detail. Unless it's important to our story, we don't worry about those details.

For scientists, every detail is important to the story they tell. Precision is much more important for their work than in everyday conversation. Because scientists base their work on understanding the terminology they use, it's very important that terminology in science be clear and precise. Terminology used by scientists is defined as carefully as possible.

When we study concepts like learning we must be sure that we're all talking about the same thing. The goals of science are based on beliefs in reason and logic. Science tries to understand the world around us in objective terms, terms that can help us to understand relationships between events in our world. Because we want to understand ourselves in this world as well, much of science is devoted to the study of human and animal behavior and experience. Thus scientists study learning to understand relationships between stimulus events and behavior.

Learning is one critical process in the behavior of humans and other animals. It is the change in future behavior that occurs after the experience of interacting with certain kinds of environmental events. We all have the ability to learn but our learning is an individual experience. It occurs as a process over our lifespan. Think of the different events of learning in your own life.

When you were very young you went through a period of time where your only way to get around was to be carried by someone else. As you developed the physical capacity, you learned to crawl, and eventually to walk, thus allowing you to behave in new ways. Later, you might have learned to read because of experiences you encountered and a whole new world opened which, again, changed your behavior. As you grew and experienced more and more stimuli in your environment, you learned from these encounters and the process of learning continued. It continues today and will continue throughout the course of your life.

Each time you learn something new it produces a relatively permanent change in your behavior. Once you learn how to walk, you don't forget how unless some kind of traumatic event occurs. Reading is the same way, as is making your bed, riding a bicycle, and driving a car.

The ability to learn is nature's way of equipping us to survive on Earth. Things around us change very quickly so we need a way to adapt to these changes. We don't want to wait until we grow a fur coat to explore the Arctic so we learn to make warm clothes instead. Learning is an adaptation that equips us for survival in many different environments. This is useful because it provides a way for us to survive no matter where we find ourselves. Such an adaptation greatly increases the chances of survival for an individual and a

species, which is the whole purpose behind adaptations in general.

In this set of modules you will learn more about the principles of learning and the processes called conditioning. You will learn about the pioneers who made the important discoveries in this field as well as the specifics of their research projects that allowed these discoveries. You will also learn how these discoveries have been applied to real-world problems in education, the home, and even psychological clinics and treatment facilities. And one of those applications involves this computer and internet-based, artificially intelligent, adaptive tutoring system by which you will be able to learn about the principles of learning and conditioning! So let's look at that new form of learning first.