Encyclopedia of the Sciences of Learning

• The first encyclopedia covering all sectors, paradigms and movements of the sciences of learning from their origins through the present
• Contributions from a wide variety of leading researchers in a wide variety of fields
• Provides up-to-date, broad and authoritative coverage of the specific terms used in the sciences of learning and its related fields, including relevant areas of education and computer science
• An indispensable reference for scientists, educators, students, and researchers active in understanding learning and the learning sciences

Over the past century, educational psychologists and researchers have posited many theories to explain how individuals learn, i.e. how they acquire, organize and deploy knowledge and skills. The 20th century can be considered the century of psychology on learning and related fields of interest (such as motivation, cognition, metacognition etc.) and it is fascinating to see the various mainstreams of learning, remembered and forgotten over the 20th century and note that basic assumptions of early theories survived several paradigm shifts of psychology and epistemology. Beyond folk psychology and its naïve theories of learning, psychological learning theories can be grouped into some basic categories, such as behaviorist learning theories, connectionist learning theories, cognitive learning theories, constructivist learning theories, and social learning theories. Learning theories are not limited to psychology and related fields of interest but rather we can find the topic of learning in various disciplines, such as philosophy and epistemology, education, information science, biology, and – as a result of the emergence of computer technologies – especially also in the field of computer sciences and artificial intelligence. As a consequence, machine learning struck a chord in the 1980s and became an important field of the learning sciences in general.