

Understanding the relevance of meaningful learning



When we refer to the relevance and effectiveness of meaningful learning interventions it is crucial that we understand what learning is as well as how we learn.

In 1899, the famous American psychologist, William James, published a book titled *Talks to Teachers*, in which he sought to explain how to apply psychology to education – that is, he sought to use what he called “the science of the mind’s workings”.

Much has happened in the learning sciences since the publication of this book.

We now have the makings of a research-based theory of how people learn what is educationally relevant (that is, the science of learning), and a set of evidence-based principles for how to help people learn what is grounded in cognitive theory (that is, the science of instruction).

What is learning?

Ground-breaking research resulted in the publication of the book titled *How learning works*, by Susan Ambrose *et al*, which explains the question “What is learning?” as follows:

- Learning is a **process** which takes place in the mind.
- Learning involves **change** in knowledge, beliefs, behaviours or attitudes. This change unfolds over time and is not a fleeting process.
- Learning is not something done **to** learners, but rather something learners themselves do.

Now that we know what learning is, the following element of meaningful learning is to define how we learn.

How do we learn?

A number of insights from neuroscience have special relevance for education, which also applies to the workplace. Daniela Kaufer, Associate Professor in the Integrative Biology Department at Berkeley, stipulates that the following *fundamentals of neuroscience* affect how we learn:

- From the point of view of neurobiology, learning involves changing the brain. The most meaningful learning involves recruiting multiple regions of the brain for the learning task. These regions are associated with functions such as memory, the various senses, and higher levels of cognitive functioning.
- Moderate stress is beneficial for learning, while mild and extreme stress is detrimental to learning. Moderate stress is normally achieved by, for example, changing the format of a discussion or introducing a learning activity that requires individual participation.
- Adequate sleep, nutrition and exercise encourage effective and meaningful learning.
- Active learning takes advantage of processes that stimulate multiple neural connections in the brain. Here we refer to cognitive functions associated with the lower levels of Bloom’s taxonomy, such as understanding and remembering which are associated with the area of the brain responsible for memory and spatial awareness. The higher-level cognitive functions of Bloom’s taxonomy, such as creating, evaluating, analysing and applying, involve the cortical areas of the brain responsible for decision-making, association and motivation.

Thanks to this kind of research, policymakers and learning and development practitioners can now base their decisions about learning practices on empirical evidence rather than opinions and fashionable ideologies.

SERR Synergy offers our clients a wide range of training courses, namely mandatory courses which are quality assured by government-regulated bodies, as well as non-accredited training courses. For businesses to prepare themselves, staff management within a changing work environment is important. To ensure meaningful and enduring learning, our courses are all based on empirical evidence linked to the application of neuroscience, as well as guidelines received from the World Economic Forum. Attendance of these courses will ensure that employees receive the relevant up-to-date knowledge and skills necessary for self-improvement and contribute positively to a company's growth.

About the author: Anita Seydel joined SERR Synergy in September 2014 and is currently the National Training Manager. She obtained her Honours in Public Administration at the University of South Africa (UNISA) and also holds six qualifications in the Education, Training and Development environment. She recently completed courses in Corporate Governance and Knowledge Management (UNISA), and Instructional Course Design (Wits University).

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