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Learning theories for the workplace

Learn about the influence of theories on how people learn and the shift away from simplistic learning styles theory.

Introduction

Research is continually advancing our knowledge of how humans learn and what this means for effective workplace learning. As a result, traditional models that are applied to learning design and delivery are being challenged and emerging theories are being explored. There's evidence that some models, such as learning styles, are oversimplified.

The factsheet outlines a range of theories on workplace learning. It outlines some of the more prominent ideas, explores emerging models based on neuroscience, and ends by considering the concept of neuroplasticity in learning.

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How does theory apply to learning?

Applying theoretical insights to the design and delivery of learning has often been limited to a small number of models of which, some have been critiqued and shown to be too simplistic. The need for learning and development (L&D) practitioners to better understand and apply learning theory was revealed in our [Professionalising Learning and Development](#) report and shown in our [Learning and skills at work](#) surveys.

Insights from theories and models gives organisations opportunities to improve learning effectiveness (for more on this see our report on [learning cultures](#)). Watch our video on [why a learning philosophy is so important for organisations](#).

This factsheet covers just a very few of the vast array of learning and motivational theories. The challenge for L&D practitioners is to research which theories and models work best in their context and be open to how those theories develop over time. Our [Evidence-based L&D](#) podcast highlights the importance of using evidence to inform decision making.

Find out how specialist learning and development knowledge fits in our [Profession Map](#).

Changes in thinking on learning styles

Kolb and Honey & Mumford have influenced thinking on the psychology of learning and its application as [learning styles](#). They suggested that individuals have 'preferred ways of learning' and they identified four 'styles': activists, theorists, pragmatists and reflectors.

Many learning practitioners and educationalists have widely promoted and followed the concept of learning styles. However, [learning styles have also been critiqued](#), as they are considered to:

- Be an oversimplification of the complexity of learning.
- Have no secure supporting evidential base (although it's important to be aware of the limitations of any learning model and the field as a whole).
- Be, at best, one of a range of factors determining how learners engage and react to learning, which also includes the environment, context, instructional and design methods.
- Limit the learner's perceptions of effective learning strategies.

However, the concept of learning styles does highlight that, where practically possible, all learning interventions need to have a range of methods and ways to access them, as learners will benefit from variety.

Cognitive styles are similar to learning styles in that they're thought to be physiologically based and therefore relatively stable. As with learning styles, there are competing and overlapping theories. Although different authors may use different terms to describe them, two of the more widely accepted types of cognitive style are the verbal-imagery dimension and the holist-analytic dimension. There are various tools on the market for diagnosing cognitive styles, but again there are issues with their reliability and validity.

Key concepts in learning theory

Most theorists agree that it's vital to support learners in reflecting on their learning as a

way to embed any new knowledge, skill or behaviour. The role of L&D in workplace learning is to ensure that new information is transferred to the long-term memory quickly to drive organisational performance.

An increased awareness of how each of us think and learn, sometimes known as 'metacognition', is therefore perhaps the most important advantage of applying learning theories. Linking neuroscience with learning has been debated among L&D professionals in recent years. Learning theories are also one of the elements covered in our [evolving practice in L&D factsheet](#).

The theories outlined below are not an exhaustive list but intended as a starting point to explore the complex area of learning theory and the models that surround it. For most authors this has been their life's work, so there is much more detail to explore beyond the overview given here.

Behaviourism

Key theorists: include Guthrie, Hull, Pavlov, Skinner, Thorndike, Tolman and Watson.

Basis of their theory: Through stimuli in the learners external environment external, a change in behaviour can be brought about through training and education.

There are two types:

- **Operant conditioning:** Skinner put forward this theory. It involves applying either positive reward and/or reinforcement or negative reinforcement and/or punishment and/ after a behaviour has taken place. The basis is that people will seek to gain more positive reward and so repeat the behaviours that result in this.

Operant conditioning is about changing voluntary behaviour, requiring the learner to participate and to want to change to the behaviours that result in positive reinforcement and reward. Feedback given in review sessions during skills training is a typical example of operant conditioning. It does not always work. Where, for example, managers are very sparse in feedback, praise, reward or just acknowledgement, employees or learners may settle for negative punishment as the only way of getting any acknowledgement of their existence. This means that negative behaviours are reinforced; the opposite of what is required.

- **Classical conditioning:** this is most well-known through the story about how Pavlov trained dogs to salivate when they heard a bell being rung. He had taught the dogs that there was a relationship between the bell ringing and food appearing (which made the dogs salivate). Later the dogs salivated when they heard the bell even if no

food was produced.

Classical conditioning is about changing involuntary behaviour. Classical conditioning is passive in terms of learner initiative. Tokens, prizes or other forms of recognition given in L&D settings can produce the same effect.

Cognitivism

Key theorists: include Ausubel, Bruner, Gagne, Koffka, Kohler, Lewin.

Basis of their theory: The theory grew out of Gestalt theory to develop knowledge already gained and to interpret new knowledge through cognitive processes (mental skills) such as recognition, recall, analysis, reflection, application, finding meaning, problem solving, evaluation, memory, and perception. It's also about developing capacity and the skills to learn better. This theory places importance on experience insights.

Recent developments include 'cognitive load' the amount of mental effort using working memory and information processing.

Humanism

Key theorists: include Maslow, Rogers.

Basis of the theory: Learning is a personal act. It is a self-actualising process. It focuses on affective (emotions and feelings) and cognitive (mental) learning needs. According to Bloom's Taxonomy of Learning Domains, this relates to how we receive phenomena, respond to phenomena, attach worth or value, organise and prioritise values and resolve conflicting data, and internalise values.

This is relevant to the way in which learners develop skills such as listening with empathy, participation in group work, questions concepts in order to internalise them, is sensitive to individual differences, and accepts responsibility for one's own actions.

Social learning

Key theorists: include Bandura, Rotter, Engestrom, Eraut, Lave and Wenger, Salomon.

Basis of the theory: Learning takes place through interaction with others in a social context. It includes observation of others.

This forms the basis of learning through communities of practice and situated learning such as real life project groups and action learning. It is used in developing behaviours through role modelling and interaction.

Constructivist

Key theorists: include Candy, Dewey, Piaget, Rogoff, vonGlaserfeld, Vygotsky, Boud.

Basis of the theory: the individual learner constructs meaning from understanding, knowledge through experiences and reflecting on those experiences. When a learner encounters something new this has to be reconciled with previous knowledge and experience. It may result in changing what we believe or in rejecting the new information.

A constructivist L&D practitioner would facilitate learning to allow learners to gain new knowledge and meaning for themselves, rather than telling them the information or concept and expecting 'rote' learning. It requires active participation on behalf of the learner.

Models that apply neuroscience to learning

Some models emerging from neuroscience can be applied to learning design and delivery. However, as with the theories above, these outlines give only the briefest introduction. And, with our knowledge continuing to expand, there are also challenges to these ideas.

RAD

In The neuroscience of joyful education, Willis highlights the importance of learning being a stress-free and enjoyable experience for effective outcomes. RAD relates to specific brain areas and functions:

- **R (Reticular activating system [RAS]):** All information enters the brain through sensory inputs but only a fraction make it through the unconscious RAS filter. Effective learning content should therefore be non-threatening, novel and engaging.
- **A (Amygdala):** The part of the brain's limbic system which acts as a filter to send information to the reactive or reflective areas of the brain. Learning requires reflection, which is supported by stress-free environments in which positive past experiences and strengths are highlighted. Stressful environments should be avoided, which lead to a fight, flight or freeze response.
- **D (Dopamine):** This chemical neurotransmitter, linked to our sense of pleasure, is released during pleasurable experiences. Effective learning is supported by creating positive associations with existing knowledge and past success, and through engaging and creative activities.

Dror provides further insights about minimising cognitive overload.

SCARF

Rock's SCARF model based on human behaviour, focuses on how the brain responds to threat and reward. He offers five factors have a strong bearing on how we engage in social, interactive and collaborative settings. The model proposes that learning increases as threats are minimised and rewards maximised. Learners display increased engagement when they perceive reward, and less when they sense threat. The factors are:

- **S (Status):** Learning that's perceived to enhance status (leading to a promotion, for example), will be motivational.
- **C (Certainty):** If we lack certainty about a situation our impulse may be to disengage, whereas clear steps and a sense of order can increase learning transfer.
- **A (Autonomy):** A degree of autonomy in learning is a key factor in reducing stress, as it means we have some influence over what is taking place. There's a contrary impact if we are denied autonomy; effective learning involves some choice and control.
- **R (Relatedness):** If we feel trust, empathy and social connection during learning, oxytocin is released in the brain, which increases engagement.
- **F (Fairness):** A sense of unfairness stirs hostility and threat, but learning which is perceived as fair and justified is motivational.

AGES

The AGES model, produced by Davachi et al, draws on established psychological principles. It proposes that learning is effective when these factors are considered in design and delivery:

- **A (Attention):** We need to ensure minimal distractions and avoid cognitive overload. Novelty and varied techniques and approaches enhance attention.
- **G (Generation):** We maximise the likelihood of positive engagement and formation of long-term memories when learning has personal meaning and significance. L&D practitioners need to align learning to existing knowledge to support meaningful associations and applications.
- **E (Emotion):** This is key in fostering attention and enhancing memory function. Generating positive emotional experiences and social activities helps learning transfer. Conversely, if learners have a negative emotion associated with learning, such as a fear of failure, they are less likely to engage.
- **S (Spacing):** It's better to distribute learning in discrete blocks delivered over short time periods than cram lots of content into a prolonged session to aid long-term memory retention.

The infographic explores the AGES model in more detail.

AGES model of learning infographic

(64 KB)

Neuroplasticity in learning

The concept of neuroplasticity suggests that the brain is able to keep developing and changing. It shows how areas of the brain increase their capacity for processing when regular activity stimulating that function occurs.

This is a direct challenge to the belief that learners can become permanently entrenched in certain thought processes and skills; it defies the thinking that 'you cannot teach an old dog new tricks'.

One of the most quoted studies highlighting the potential and impact of neuroplasticity involved London taxi drivers, whose intense learning of London routes ('the knowledge') caused measurable development in their brains changing its structure. Our podcast on behavioural science provides insights on this study.

For L&D practitioners, the concept of neuroplasticity provides an empowering message that learning and progression can take place for those who are willing to engage, regardless of age, background or culture.

Useful contacts and further reading

Contacts

Head Heart Brain (neuroscience practitioner)

NeuroLeadership Institute (neuroscience research and practice)

Professor Shane O'Mara (neuroscience researcher and practitioner)

Stellar Collins (neuroscience and brain-friendly practitioners)

Think Change Consulting (neuroscience practitioners)

Books and reports

BEEVERS, K., REA, A and HAYDEN, D. (2019) *Learning and development practice in the workplace*. 4th ed. London: CIPD and Kogan Page.

COLLINS, S. (2019) *Neuroscience for learning and development: how to apply neuroscience and psychology for improved learning and training*. 2nd ed. London: Kogan Page.

LANCASTER, A (2019) *Driving performance through learning*. London: Kogan Page.

NEELAN M., KIRSCHNER P.A., (2020) *Evidence informed learning design*. London: Kogan Page.

PARRY-SLATER, M. (2020) *The learning and development handbook*. London: Kogan Page.

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Journal articles

JOHNSON, B. (2017) [We forget the brain is the basis of learning](#). *People Management* (online). 17 May.

KENNER, M. (2018) [Businesses must embrace brain-friendly learning, says neuroleadership expert](#). *People Management* (online). 22 January.

VAN DAM, N. (2013) Inside the learning brain. *T+D*. Vol 67, No 4, April. pp30-35.

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This factsheet was last updated by David Hayden.