1. Theoretical background on learning

The use of teaching/learning videos in education is based on various theoretical approaches to learning that influence the way in which knowledge is imparted and acquired. The most important learning theories are constructivism, cognitive psychology and behavioural learning theory.

By combining visual and auditory elements, promoting active learning processes and taking cognitive limitations into account, teaching/learning videos can make learning more effective and sustainable. The didactically appropriate embedding and design of such videos is therefore of crucial importance in order to fully utilise their potential and offer learners optimal support.

Constructivism

Constructivism, particularly characterised by the work of Jean Piaget and Lev Vygotsky, assumes that learning is an active, constructive process. Learners construct their knowledge on the basis of their experiences and interactions with the environment. Teaching/learning videos use visual and auditory stimuli to offer a wide range of opportunities to link new information with existing knowledge structures. Interactive elements, such as embedded questions or tasks, can additionally promote learning processes and support active engagement with the learning material.

(Berkeley Graduate Division, n. D.-b)
(Berkeley Graduate Division, n. D.-c)

Cognitive psychology

Cognitive psychology analyses how people absorb, process, store and retrieve information. A central theory in this area is Baddeley and Hitch's working memory model, which emphasises that people can only process a limited amount of information at a time. Teaching/learning videos can help to avoid cognitive overload by breaking down complex content into small, digestible units and facilitating understanding through visual support. In addition, well-structured videos promote dual coding of information by addressing both visual and auditory channels.

(Baddeley, 1992)
(Columbia University, n. D.).

Behaviourist learning theory

Behaviourist learning theory, with key proponents such as J. B. Watson and B.F. Skinner, focuses on observable changes in behaviour as a result of stimulus-response patterns. In this context, teaching/learning videos play an important role by providing clear instructions and immediate feedback. Learners can consolidate and automatise their knowledge through regular repetition and exercises. In addition, positive reinforcements, such as rewards for correct answers, can increase learner motivation and engagement.

(Berkeley Graduate Division, n. D.-a)

https://tu-dresden.de/zill/materialien-und-tipps-fuer-die-lehre/erstellung-lehr-lernmaterialien/videoeinsatz-in-der-lehre-1

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