Applying behavioral learning theory in the classroom pdf

Learning is defined as a process that brings together personal and environmental experiences and influences for acquiring, enriching or modifying one's knowledge, skills, values, attitudes, behaviour and world views. Learning theories develop hypotheses that describe how this process takes place. The scientific study of learning started in earnest at the dawn of the 20th century. The major concepts and theories of learning include behaviourist theories, cognitive psychology, constructivism, social constructivism, experiential learning, multiple intelligence, and situated learning theory and community of practice. Behaviourism The behaviourist perspectives of learning originated in the early 1900s, and became dominant in early 20th century. The basic idea of behaviourism is that learning consists of a change in behaviour due to the acquisition, reinforcement and application of associations between stimuli from the environment and observable responses of the individual. Behaviourists are interested in measurable changes in behaviour. Thorndike, one major behaviourist theorist, put forward that (1) a response to a stimulus is reinforced when followed by a positive rewarding effect, and (2) a response to a stimulus becomes stronger by exercise and repetition. This view of learning is akin to the "drill-and-practice" programmes. Skinner, another influential behaviourist, proposed his variant of behaviourism called "operant conditioning". In his view, rewarding the right parts of the more complex behaviour reinforces it, and encourages its recurrence. Therefore, reinforcers control the occurrence of the desired partial behaviours. Learning is understood as the step-by-step or successive approximation of the intended partial behaviours through the use of reward and punishment. The best known application of Skinner's theory is "programmed instruction" whereby the right sequence of the partial behaviours to be learned is specified by elaborated task analysis. Cognitive psychology Cognitive psychology was initiated in the late 1950s, and contributed to the move away from behaviourism. People are no longer viewed as collections of responses to external stimuli, as understood by behaviourists, but information processors. Cognitive psychology paid attention to complex mental phenomena, ignored by behaviourists, and was influenced by the emergence of the computer as an information-processing device, which became analogous to the human mind. In cognitive psychology, learning is understood as the acquisition of knowledge: the learner is an information-processor who absorbs information, undertakes cognitive operations on it, and stocks it in memory. Therefore, its preferred methods of instruction are lecturing and reading textbooks; and, at its most extreme, the learner is a passive recipient of knowledge by the teacher. Constructivism Constructivism emerged in the 1970s and 1980s, giving rise to the idea that learners are not passive recipients of information, but that they actively construct their knowledge in interaction with the environment and through the reorganization of their mental structures. Learners are therefore viewed as sense-makers, not simply recording given information but interpreting it. This view of learning led to the shift from the "knowledge-acquisition" to "knowledge-construction" metaphor. The growing evidence in support of the constructive nature of learning was also in line with and backed by the earlier work of influential theorists such as Jean Piaget and Jerome Bruner. While there are different versions of constructivism, what is found in common is the learner-centred approach whereby the teacher becomes a cognitive guide of learner's learning and not a knowledge transmitter. Social learning theory A well-known social learning theory has been developed by Albert Bandura, who works within both cognitive and behavioural frameworks that embrace attention, memory and motivation. His theory of learning suggests that people learn within a social context, and that learning is facilitated through concepts such as modeling, observational learning and imitation. Bandura put forward "reciprocal determininsm" that holds the view that a person's behavior, environment and personal qualities all reciprocally influence each others. He argues that children learn from observing others as well as from "model" behaviour, which are processes involving attention, retention, reproduction and motivation. The importance of positive role modeling on learning is well documented. Socio-constructivism In the late 20th century, the constructivist view of learning was further changed by the rise of the perspective of "situated cognition and learning" that emphasized the significant role of context, particularly social interaction. Criticism against the information-processing constructivist approach to cognition and learning became stronger as the pioneer work of Vygotsky as well as anthropological and ethnographic research by scholars like Rogoff and Lave came to the fore and gathered support. The essence of this criticism was that the information-processing constructivism saw cognition and learning as processes occurring within the mind in isolation from the surrounding and interaction with it. Knowledge was considered as self-sufficient and independent of the contexts in which it finds itself. In the new view, cognition and learning are understood as interactions between the individual and a situation; knowledge is considered as situated and is a product of the activity, context and culture in which it is formed and utilized. This gave way to a new metaphor for learning as "participation" and "social negotiation". Experiential learning Experiential learning theories build on social and constructivist theories of learning, but situate experience at the core of the learning process. They aim to understand the manners in which experiences – whether first or second hand – motivate learners and promote their learning. Therefore, learning is about meaningful experiences – in everyday life – that lead to a change in an individual's knowledge and behaviours. Carl Rogers is an influential proponent of these theories, suggesting that experiential learning is "self-initiated learning" as people have a natural inclination to learn; and that they learn when they are fully involved in the learning process. Rogers put forward the following insight: (1) "learning can only be facilitated: we cannot teach another person directly", (2) "learners become more rigid under threat", (3) "significant learning occurs in an environment where threat to the learner is reduced to a minimum", (4) "learning is most likely to occur and to last when it is self-initiated" (Office of Learning and Teaching, 2005, p. 9). He supports a dynamic, continuous process of change where new learning results in and affects learning environments. This dynamic process of change is often considered in literatures on organizational learning. Multiple intelligences Challenging the assumption in many of the learning theories that learning is a universal human process that all individuals experience according to the same principles, Howard Gardner elaborated his theory of 'multiple intelligences' in 1983. His theory also challenges the understanding of intelligence as dominated by a single general ability. Gardner argues that every person's level of intelligence actually consists of many distinct "intelligences". These intelligences include: (1) logical-mathematical, (2) linguistic, (3) spatial, (4) musical, (5) bodily-kinesthetic, (6) interpersonal, and (7) intrapersonal. Although his work is speculative, his theory is appreciated by teachers in broadening their conceptual framework beyond the traditional confines of skilling, curriculum and testing. The recognition of multiple intelligences, for Gardner, is a means to achieving educational goals rather than an educational goal in and of itself. Situated learning theory and community of practice "Situated learning theory" and "community of practice" draw many of the ideas of the learning theories considered above. They are developed by Jean Lave and Etienne Wenger. Situated learning theory recognizes that there is no learning which is not situated, and emphasizes the relational and negotiated character of knowledge and learning as well as the engaged nature of learning activity for the individuals involved. According to the theory, it is within communities that learning occurs most effectively. Interactions taking place within a community of practice – e.g. cooperation, problem solving, building trust, understanding and relations – have the potential to foster community social capital that enhances the community members' wellbeing. Thomas Sergiovanni reinforces the idea that learning is most effective when it takes place in communities. He argues that academic and social outcomes will improve only when classrooms become learning communities, and teaching becomes learner-centered. Communities of practice are of course not confined to schools but cover other settings such as workplace and organizations. 21st century learning or skills Exploration of 21st century learning or skills has emerged from the concern about transforming the goals and daily practice of learning to meet the new demands of the 21st century, which is characterized as knowledge- and technologically driven. The current discussion about 21st century skills leads classrooms and other learning environments to encourage the development of core subject knowledge as well as new media literacies, critical and systems thinking, interpersonal and self-directional skills. For example, the Partnership for 21st Century Skills (P21) defines the following as key: core subjects (e.g. English, math, geography, history, civics) and 21st century themes (global awareness, civic literacy, health literacy, environmental literacy, financial, business and entrepreneurial literacy); learning and innovation skills (creativity and innovation, critical thinking and problem solving, communication and collaboration); information, media and technology skills (e.g. ICT literacy, media literacy); and life and career skills (flexibility and adaptability, initiative and self-direction, social and cross-cultural skills, productivity and accountability, leadership and responsibility). One main learning method that supports the learning of such skills and knowledge is group learning or thematic projects, which involves an inquiry-based collaborative work that addresses real-world issues and questions. Source: The Office of Learning and Teaching, 2004. Melbourne: Department of Education and Training; OECD, 2010. Nature of Learning, Paris: Author; Author: Ben Greenwood Posted: 13 Feb 2020 Estimated time to read: 5 mins What is behaviourist pedagogy and what can cats teach us about the way students learn? Pedagogy, the science of teaching, affects what we do as teachers and how our students learn. Whether we know it or not, pedagogy creeps into every aspect of what we do. It's important then, to fully understand the forces at play when we give a detention, set a group task or apply a seating plan. As such a vast area of psychology, pedagogy is often broken down and grouped by its main ideators and theories. In this blog we'll be delving into behaviourism. What is behaviourism? Behaviourist pedagogy, or behaviourism, looks at the observable actions of students and assesses whether they are learning as effectively as possible. The central belief of a behaviourist is that students learn through reinforcement - constant feedback that tells them whether what they are doing is right or wrong. This comes in the form of test scores, homework marks and more. However, behaviourism has its critics. Some say that the approach disregards student identity and individuality, whilst other pedagogical theorists claim it studies actions of the body rather than that of the brain, and is therefore inept at assessing real learning. Despite this, schools still employ behaviourist techniques in the classroom on a regular basis. Whilst it might not be effective in its purest form, elements of behaviourism are still crucial to the modern curriculum and the teaching of our students. Where behaviourism began Behaviourism emerged in 1898, in the early stages of developmental psychology. It was the year that Edward Thorndike created his learning theory using a cat and a box. The box had a pulley system and a lever that the cat had to use if it wanted to escape the box. Thorndike found that by giving the cat a treat when it learned to escape, it learnt to associate it's actions with receiving a treat and would then escape faster next time. This technique formed the basis for operant conditioning: teaching a behaviour or action through repetition and reinforcement. It's the basis for most behaviourist approaches to teaching. It wasn't until 1937 that B.F Skinner coined the phrase 'operant conditioning'. As a teacher, Skinner applied Thorndike's learnings to the classroom with a heavily behaviourist approach to teaching. He was an early adopter and developer of the 'teaching machine' - a desktop-sized wooden box with a viewing panel and a paper ticker for students to write answers. Teachers could insert different worksheets and students worked through these in class at their own pace. The machine revealed answers instantly so that students could see if they got the answer right. If they did, they received positive feedback in the form of a praise message. But the teaching machine couldn't replace the personality, flexibility and availability of a classroom teacher. Nor could it mentor students and give them life lessons in their learning, so it was largely rejected by schools, but the theory behind it lives on. Behaviourism in the modern classroom Now we know the history, but what does behaviourism look like in the modern classroom? It might actually be more prevalent than we realise. In fact most UK schools' curriculums are taught based on behaviourist theory. Rewarding students for working well with commendations or praise points (even with vocal praise) is a behaviourist approach. This conditions students to behave or to strive for better work using the same operant conditioning techniques championed by Skinner. You can also see behaviourist theory in the way we teach students to revise for exams. The repetition of tasks and quizzes to improve test scores and ultimately get a better grade is distinctly behaviourist. Students learn that the more they practise, the more praise they will receive for doing well and achieving higher grades. How can you apply this? What about if you wanted to create a fully behaviourist classroom? What would it look like? We wouldn't recommend going all out, but if you were to only apply behaviourism to your teaching it would likely look a little like this: Teacher leads the class through a topic Students listen silently Teacher then sets a task based on the information Students complete the task and await feedback The teacher gives feedback, then sets the next task With each round of feedback, the student is being conditioned to learn the material. So what's the problem here? Well, there's no evidence that the students understand the information they are processing. As Dr Carl Hendrick writes of pedagogy, "I've long thought that one of the weakest proxy indicators of effective learning is engagement, and yet it's a term persistently used by school leaders as one of the most important measures of quality". Dr Hendrick puts forward the idea that, just because a student is engaged and working doesn't mean they are learning. He argues that the process of learning is much more internalised than behaviourists ever thought. Herein lies the common criticism of behaviourist pedagogy: learning is more than just actions. Behaviourist learning theories Behaviourism has informed a number of classroom learning techniques that teachers use on a regular basis. Whilst we might not want to enact an all out regime change just yet (or ever), applying some of these techniques can improve students' progression and attainment. Quick feedback - The sooner you give feedback after a task, the more effective it will be in shaping that student for success. If the wait is too long between completing a task and receiving feedback, it's less likely students will associate the feedback with the work they did and any effects are lost. Reward revision - Revision isn't fun. But if you introduce a reward system that praises students for doing a certain amount of revision, with some kind of incentive, you can begin to create positive associations. This should combat cramming (which rewards last minute efforts as they happen closer to the time of feedback). Start of lesson routine - Almost all teachers have a start of lesson routine, and it's a prime example of conditioning. Over time students learn to come into the classroom and either sit down and await instructions or begin working on a task on the board. It's simple but it works. Conclusion Overall, we've learned that we probably shouldn't reintroduce the teaching machine, nor should we start putting students in boxes. But operant conditioning still holds true when trying to instill a learning mindset in our pupils. By providing valuable and speedy feedback, rewarding good behaviour and getting students used to routines, teachers start to create habits in students that make them improve their learning. This can give teachers greater control over the class and empower them to take lead of lessons. In an age of mobile phones and games consoles all vying for students' attention, it's important that we create healthy habits around schoolwork and the concentration it requires. Doing too much could put them off school work altogether, whilst doing nothing could mean losing out to devices that are a little more enticing than homework. The real question for teachers is whether they believe this is the best approach. With so many schools turning to flipped learning and student centred classrooms, have traditional behaviourist techniques had their day?