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To what extent are children active in constructing their own learning?

By Damian E M Milton

How children learn new behaviours and skills has been of great fascination to child psychologists and the general public alike. Today, one can see the extent of television viewing figures for programmes giving practical and 'pop psychological' advice to their audiences on such matters. This essay details the main features of the views and applications of four 'grand' theoretical models that describe the process of learning in early childhood: Behaviourism, Social Learning Theory, Stage Theory and Social Constructivism. A critical comparison between these accounts with regards to the child's active participation in their own learning will then follow.

The Behaviourist model of psychology became dominant in the 1950's and 60's and was inspired by positivist scientific method and thus only analysed phenomena that were directly observable and measurable. Behaviourist models of development therefore do not attempt to analyse the cognitive motivations that lead to behaviour. Instead of looking for internal reasons for actions, Behaviourists concentrate on how children learn from the external environment and how their behaviours are shaped by it. Inspired by the philosophy of John Locke (1690 cited in Woolhouse 1997) it was believed that a child's mind was a '*tabula rasa*' or 'blank slate' which is then imprinted upon by experience of the external environment. In this view, the young child is a passive receiver of information and not an active participant in shaping their own learning.

For Behaviourists, learning consists of conditioned responses to external stimuli. From the classic experiment of Ivan Pavlov (cited in Oates, Sheehy and Wood 2005), it was found that a dog could be 'classically conditioned' to respond to a bell by salivating. This response was conditioned by presenting food after the sounding of a bell. Pavlov (cited in Oates et al. 2005) also found that when associations were weakened, for instance by not presenting food, it could lead to the 'extinction' of this association. These associations were also found in the now infamous 'Little Albert' experiment conducted by Watson (1924 cited in Oates et al. 2005) where a young child was conditioned to respond to rats with fear, due to the experimenter producing a loud 'metal clang' behind the child's ear. Later it was found that the child had generalised this fear to furry toys and even a fur coat.

The ideas presented by Watson (1924 cited in Oates et al. 2005) were taken further by Skinner (cited in Oates et al. 2005) who originated the idea of 'operant conditioning' in his experiments on rats. Associations could be made and reinforced by presenting stimuli (positive reinforcement) or taking stimuli away (negative reinforcement). Associations with stimuli could also be made via punishments, either adding unpleasant stimuli or retracting positive stimuli. Skinner applied the term 'response cost' to penalties applied every time an 'undesired behaviour' is produced.

Behaviourist theory has gained great support and usage within the area of child development, although the use of 'positive punishments' are not encouraged, the idea of 'time-out's', or removing reinforcing stimuli has become very popular, for example, the 'naughty step'. The principles of Behaviourism are also currently popular with many who teach people with learning difficulties such as Autism, although as will be shown later, these methods are not without their detractors.

Sharing many of the ideas of the Behaviourists, yet taking them a step further, was the work of Bandura (1977 cited in Oates et al. 2005) who argued that if children were only informed by their own actions, learning would be a long and dangerous task and so asserted that children learn by copying and imitation. This process however, was not simple. To begin with, a child would need to be able to attend to relevant aspects of the behaviour of others, retain this information, be physically able to reproduce the imitated behaviour and also be motivated to perform the action, through a process of reward and punishment. The idea of reward and punishment were also applied however by Bandura, to the perceptions of others going through this process.

In Bandura's (1965 cited in Oates et al. 2005) 'Bobo Doll' experiments, children observed adults being physically violent to an inflatable doll. He found that especially pre-school children would copy the aggression observed when left with the doll. The behaviour was most likely to be imitated if the adult was seen as similar to the observer in some way or if they were not punished for their actions.

According to the 'Social Learning Theory' of Bandura (cited in Oates et al. 2005), children are still seen as fairly passive participants in their own learning. Children are seen here as highly impressionistic and their cognitive motivations not accounted for, whilst processes external to the child are seen as the key influence on development.

In great contrast to the theories that see the child as 'passive' in the learning process, Piaget (cited in Oates et al. 2005) argued that knowledge derived from a form of adaptation to the environment that develops through a number of stages. As a child develops, they would become increasingly able to perform complicated tasks, by building ever more complicated mental representations, or 'schema' of their environment and were thus, active participants in their own learning, assimilating information into existing schema's as they develop. At first a child has no concept of 'object permanence', which suggests that when an object is taken from view, for the child it no longer exists. Piaget also argued that young children were 'egocentric' or not able to fully empathise; that they had an 'intrinsic motivation' to assimilate aspects of the environment into existing schema's, yet could also modify schema's in order to 'accommodate' for changes in the environment. As children develop, Piaget (cited in Oates et al. 2005) argued that their representations of reality become more abstract as 'mental operations' become less attached to their external realities and an egocentric outlook.

Although Piaget (cited in Oates et al. 2005) recognised the diversity apparent in the development of children, he asserted that all children would progress at some point through sequential stages of ability in abstract representational thinking. Firstly in the 'Sensori-Motor Stage', up until about the age of two, a child relied upon innate reflexes to interpret the world, building simple schema's such as 'sucking'. The 'Pre-Operational Stage' up until about the age of six, where children would be able to process symbolic information, yet only with concrete material expressions. This is followed by the 'Concrete Operations Stage' up until around the age of twelve, where the child is able to manipulate symbolic representations based on phenomena that they have directly experienced. The final 'Formal Operations' stage is accomplished when the child is able to reason in the abstract and can formulate hypotheses about the world from their experiences.

When practically applied to children's learning, emphasis is placed upon a 'rich learning environment', rather than direct teaching from adults. Children in this theory actively explore their environments in order to understand it and thus learning is self-directed rather than through imitation. Piaget (cited in Oates et al. 2005) encouraged 'peer contact' as this exposed children to opposing views, rather than accepting the authority of adults.

The fourth theory under review here is that of the social constructivist views of Vygotsky (cited in Oates et al. 2005). For Vygotsky (cited in Oates et al. 2005), human development is constructed through the use of 'cultural tools' passed on to each generation by the proceeding one. A 'cultural tool' refers to a tool (physical or mental) that helps achieve something in the world. For example, a hammer's form and function has developed over millennia of cultural developments. Its meaning and usage would not be apparent to someone with no knowledge of this tool. Each generation can adapt a cultural tool for its own uses through a process of 'appropriation', for example, the use of words over time which go through many transformations, transmissions and appropriations. This process occurs through social interactions between people and thus for Vygotsky (cited in Oates et al. 2005), cognitive developments occur within a social context.

Vygotsky (cited in Oates et al. 2005) argues that language develops to aid two functions: internal speech for mental processing and external speech in order to communicate. For Vygotsky (cited in Oates et al. 2005) children do not develop 'internal speech' until around the age of two, when thought and language coincide and 'social language' is internalised by the child. This becomes entrenched into the mental processes of the child and is used to guide the child's actions. In terms of a learning environment, Vygotsky's (cited in Oates et al. 2005) theory advocates a competency gap between teacher and learner to create a 'zone of proximal development' where a child's learning is aided by an accomplished practitioner. This involves a process of 'scaffolding' where tasks are not simplified and aid is gradually withdrawn until the learner is able to complete the task unaided. Vygotsky's (cited in Oates et al. 2005) model thus highlights the child as an active participant in their learning and how internal and cultural factors impact upon each other.

It can be seen that the four 'grand' theories have divergent views as to the role of the child in the developmental process. Firstly, Behaviourism by seeing the child as a 'blank slate' to

be conditioned into 'desirable' behaviour patterns can be said to have too narrow a focus. If the child is active in their own learning, a practitioner cannot be certain that reinforcements are internalised the way they are supposed to. The Behaviourist model oversimplifies the learning process to only what can be directly observed and is thus reductionist to the point of potential danger, as Spinelli (1989 cited in Oates et al. 2005) points out the Behaviourist model denies the importance of subjective data. Huesmann et al (2003 cited in Oates et al. 2005) argued that punishments can stimulate aggressive tendencies or make people withdrawal and long-term effects of conditioning may be completely unintended. These include familial difficulties, mental health concerns and an increase in anti-social behaviour patterns. Klein (1996 cited in Oates et al. 2005) found that 'time-out' mechanisms along with consistent usage were effective in controlling unwanted behaviours. Yet, this leads to the questions: to whose benefit are these behaviours being modified? And, to what extent adults should control the behaviour of children? This is even more pertinent regarding the widespread use of these principles on children with learning difficulties who may not be verbally able to express their dissatisfaction with the technique. Behaviour is not always learned due to consequences and conditioning is not always in the best interests of those who receive it.

In contrast, the other theories do not see the learning process in quite so simplistic terms. For Bandura (1977 cited in Oates et al. 2005) children not only imitate others, they elucidate general features of phenomena they come into contact with, yet Bandura (1977 cited in Oates et al. 2005) gives little account of how this occurs in terms of internal motivations.

In sharper contrast still is the view of Piaget (cited in Oates et al. 2005) who stated that learning is an individual and constructive process. Piaget (cited in Oates et al. 2005) highlighted that a child was not just a 'blank slate' but an active participant in the learning process and that simplistic cognitive schema's become available to use by children at a very early age. This theory undoubtedly took the debate over childhood development to new levels of analysis, yet may have unduly highlighted the individual at the expense of an account of environmental factors. Donaldson (1978 cited in Oates et al. 2005) found that under certain conditions young children could operate above the levels predicted by Piaget's 'Stage Theory' and that the reasoning potential of children was more sophisticated still and that this was also embedded within a social nexus.

The strongest theory is that of the social constructivist views of Vygotsky (cited in Oates et al. 2005) who unlike Piaget (cited in Oates et al. 2005) situates the child within a social and cultural context who is able to construct their own sense of reality. This places the child as an active participant within the learning process, who needs nurturing from a skilled adult. Although, much can be learnt from the other main theories mentioned above. Bandura's (1977 cited in Oates et al. 2005) research highlighted how children can be highly influenced by familiar adult behaviour which is then imitated and internalised. These findings have been particularly provocative in continuing debates over the effects of television violence. Piaget (cited in Oates et al. 2005) gives testable theories regarding the development of internalised mental processes that hitherto, had not been addressed. Even Behaviourist principles have been found to be useful 'when all else fails' and a child's behaviour is

perceived as a danger to others. Having said this, Behaviourist applications can be seen as a rather 'blunt instrument' and the failure of the theory to see the child as an active participant can be seen to be reductionist to the point of being counter-productive in many instances.

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