

## Readings

### Reading A: Applied behavioural analysis and autism

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At Colin's belated 18-months assessment the health visitor expressed a number of concerns about him. He did not respond to the hearing tests, and it was difficult to keep him in the room. The health visitor made reference to hearing loss, possible brain damage, and developmental delay. Over the next two years Colin was seen by dozens of health professionals – community medical officers, audiologists, ear, nose and throat specialists, speech therapists, psychologists, paediatricians, an occupational therapist, a physiotherapist, and several health visitors. Family life was severely disrupted because it was too much of a battle to take him visiting or shopping. Colin had been assessed as having moderate learning difficulties, and the consultant psychiatrist diagnosed him as having Asperger's syndrome and ADHD. He had very little language – only about seven or eight words. In nursery school he refused to join in story time or planned activities, preferring solitary repetitive play with toy cars, water and sand. At home he was seldom still and his parents had to lock windows and doors. He did not respond to his name and he slept little.

Now aged 11, Colin is an entirely different child. His school report describes him as 'a very good-natured boy who enjoys the company of his classmates ... a lively, enthusiastic, friendly boy who can articulate readily and most competently his needs and opinions ... [who] always listens well and absorbs the information presented'.

From being a child destined for an institution, Colin now can look forward to a happier and more fulfilled life. So how did I work with Colin's mum Lynne to achieve this remarkable transformation? I used applied behaviour analysis (ABA).

[...]

### What is ABA?

[...] Cooper *et al.* (1987) defined ABA:

... the science in which procedures derived from the principles of behavior are systematically applied to improve socially significant behavior to a meaningful degree and to demonstrate experimentally that the procedures employed were responsible for the improvement in behavior. (p.14)

Sounds simple enough, but somehow many psychologists have got the wrong end of the stick with 'straw-person arguments which both introductory and advanced psychology books promulgate' (Guerin, 1994, p.15). These include the idea that behaviour analysis reduces everything to food and sex reinforcers, or that it discards valuable psychological ideas like the mind, the self, innate behaviours, emotions and knowledge. Spinelli (1989, p.175) believes that 'the great majority of behavioural findings tell us little of worth about ourselves' and

that ‘in a sense, having denied the importance of subjective data, their findings appear limited, alien, even “soul-less”. Gross (1995, p.239) describes behaviourism as the study of people as natural phenomena, ‘with their subjective experience, consciousness and other characteristics, which had for so long been taken as distinctive human qualities, being removed from the “universe”’, there being ‘no place for these things in the behaviourist world’.

In fact, ABA certainly doesn’t view people as ‘black boxes’. Watts (1966) wrote extensively on Eastern philosophies, providing remarkable parallels with the philosophy of radical behaviourism (e.g. Chiesa, 1994; Keenan, 1997; O’Donohue & Ferguson, 2001). He expands on Skinner’s view that the skin does not separate you from the world but connects you to it. Behavioural principles are anchored in terms that relate changes in a person to the context in which these changes are observed:

Today, scientists are more and more aware that what things are, and what they are doing, depends on where and when they are doing it. If, then, the definition of a thing or event must include definition of its environment, we realize that any given thing goes with a given environment so intimately and inseparably that it is more difficult to draw a clear boundary between the thing and its surroundings. (Watts, 1966, pp. 67–68)

Another distinguishing feature of behaviour analysis is its emphasis on developing research methodology that monitors changes in an individual. ‘Being a person’ is an experience that extends across time, but research methodology taught to undergraduate students typically hides this natural facet of our humanity by focusing on data collected in snapshots, and averaged across groups of people. In effect, the individual is sacrificed on the altar of group statistics. When dealing with autism, this means that professionals are not empowered with the skills necessary to assess the effectiveness of educational programmes intended to empower the individual.

Where single-case research methodology is employed (e.g. Johnston & Pennypacker, 1993), it has enormous implications for treatment designs. In a home programme, for example, it translates into the practice of teaching a parent how to shadow the developing child to monitor very closely the changes in choreography that make up the fine detail of the child’s interaction with their physical and social environment. The box [...] shows how this would be put into practice in a typical ABA curriculum [...]

### Educational curriculum for a child on the autistic spectrum

#### Attending skills

- Basic: Child sits in chair independently. Child makes eye contact in response to name.  
 Intermediate: Child asks 'What?' when their name is called.  
 Advanced: Child makes eye contact during conversation and group activities.

#### Imitation skills

- Basic: Child imitates gross motor, fine motor, and oral motor skills and actions with objects.  
 Intermediate: Child imitates a sequence of actions and sounds.  
 Advanced: Child imitates peer play.

#### Receptive language

- Basic: Child follows one-step instructions, and identifies objects and pictures.  
 Intermediate: Child identifies emotions, and follows two-step instructions.  
 Advanced: Child follows three-step instructions, and discriminates concepts.

#### Expressive language

- Basic: Child imitates sounds and words, and labels objects and pictures.  
 Intermediate: Child labels gender, and objects based on function.  
 Advanced: Child labels categories, and retells a story.

#### Pre-academic skills

- Basic: Child matches identical pictures and objects. Child undresses.  
 Intermediate: Child initiates for bathroom, washes hands and puts on some clothes.  
 Advanced: Child brushes teeth, and buttons clothes.

When this choreography is in need of change, then practical steps are taken to see if this can be achieved. Usually this involves a functional assessment that begins by defining the problem behaviour, then identifying possible causes of the behaviour, predicting when the problem behaviour will occur, and finally designing effective treatment programmes (see Desrochers *et al.*, 2002). The questions that usually arise for parents and therapists include which aspects of the choreography to start with, and what to do next. Behaviour analysis has developed, and continues to develop, guidelines to address these questions (Maurice *et al.*, 1996; see also weblinks). [...]

## References for Reading A

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- Cooper, J.O., Heron, T.E. & Heward, W.L. (1987). *Applied behaviour analysis*. New York: Macmillan.
- Desrochers, M., Newell, M., & Coleman, S. (2002). *Functional assessment*. Retrieved 23 Oct 2003 from [www.behavior.org/autism/functionassessment/paper7.pdf](http://www.behavior.org/autism/functionassessment/paper7.pdf)
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- O'Donohue, W. & Ferguson, K.E. (2001). *The psychology of B.F. Skinner*. London: Sage.
- Spinelli, E. (1989). *The interpreted world*. London: Sage.
- Watts, A. (1966). *The book: On the taboo against knowing who you are*. New York: Vintage Books.

## Weblinks

- Association for Behavior Analysis: [www.abainternational.org](http://www.abainternational.org)
- Association for Science in Autism Treatment: [www.asatonline.org](http://www.asatonline.org)
- Behavior Analyst Certification Board: [www.bacb.com](http://www.bacb.com)
- Cambridge Center for Behavioral Studies: [www.behavior.org](http://www.behavior.org)
- US Surgeon General's Report on Mental Health, Autism Section:  
[www.surgeongeneral.gov/library/mentalhealth/chapter3/sec6.html](http://www.surgeongeneral.gov/library/mentalhealth/chapter3/sec6.html)

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