Busy Analytical Bee

NEWSLETTER July

Welcome to the July edition of Busy Analytical Bee. Hope you are finding time to enjoy the sunshine and use the weather to take some great NET outside to promote generalisation. This month we are looking at reinforcement. Congratulations to all of you who were recently successful in the May BCBA examinations. Hope you have a great month!

REINFORCEMENT

Behaviour develops and becomes more or less frequent dependent on the contingency that occurs. Consequences that follow behaviour can either be described as punishing or reinforcing. Punishing consequences will decrease the future occurrences of behaviour, while reinforcing consequences will increase the future occurrences of behaviour. Both consequences will also add or remove stimuli from the environment. See the table below to see descriptions of reinforcements, as this will be the focus of this review.

	Increases behaviour
Add to the environment	Positive Reinforcement (R+)
Take away from the environment	Negative Reinforcement (R-)

An example of positive reinforcement could be the use of stickers or praise for appropriate behaviour. The stickers or praise are added to the environment and reinforce behaviour if the behaviour reoccurs again in the future. It is important to note that if these items do not hold value for the child, the behaviour may not increase and if the behaviour does not increase, it is not considered reinforcing or part of a successful reinforcement schedule. In situations like this you may need to review the reinforcers being used. An example of Negative reinforcement could be requesting a break. The demand/work is removed from the environment, and if requesting increases then it is being reinforced.

Reinforcement is an extremely popular course for intervention. It can be seen everywhere in the natural environment, eating provides positive reinforcement, attention and responding to someone in conversation is also positive reinforcement. We very often use positive reinforcement in the form of gifts, praise and compliments. It is easy to deliver and has important social significance. It is promoted in the ethical guidelines, which emphases that Behaviour Analysts should choose reinforcement schedules when working with clients. The ethical Guidelines state that ”The behaviour analyst recommends reinforcement rather than punishment whenever possible.” (Guidelines for responsible conduct for behaviour Analysts, 4.05). It is widely know that there are many undesirable side effects of punishment, and it is preferable to teach and reinforce an appropriate behaviour, as opposed to punish an undesirable behaviour. Punishment is usually considered the last resort.

Reinforcement has been proven to be a successful procedure time and time again, even in the earlier studies with Skinner and his pigeon box. Pigeons were positively reinforced for pecking a key under various conditions. This was positive reinforcement as, typically, food was added to the environment and key pressing increased. Many researchers have demonstrated the success of reinforcement under a variety of conditions and discussed the advantages of reinforcement. Many people have also extensively discussed the disadvantages of punishment schedule, however there are disadvantages to reinforcement schedules. It is important for practitioners to be aware of the repercussions of using reinforcement and plan ahead.

Noncontingent reinforcement is the most dense form of reinforcement schedule and a reinforcer is delivered after a certain amount of time elapses regardless of the behaviour that occurs. Iwata and Kahng (2005) investigated the undesirable effects of Noncontingent reinforcement by reviewing previous studies. One issue may be that a undesirable behaviour may be reinforced if it is followed by the reinforcer. This may increase the frequency of the behaviour. In this case the

reinforcer may become associated with the behaviour (become a Discriminative Stimulus S^D) and cause a behaviour to occur when it is presented. Another issue discussed by Iwata and Kahng (2005) is that it is important to ensure the schedule is thinned. When the reinforcer is delivered less frequently to thin the schedule there is a risk that an extinction burst will occur. Extinction is when a previously reinforced behaviour no longer receives reinforcement and an extinction burst (an instant increase of behaviours in frequency and intensity) can result from this.

A great paper written by Balsam and Bondy (1983) discussing the unwanted side effects of punishments and then compares the side effects of reinforcement. With reinforcement there may be adjunctive behaviours. These behaviours are "time-passing" that can occur in the time between reinforcement delivery. Adjunctive behaviours can be drumming your fingers or humming, or other, more serious, behaviours suggested by the authors is excessive drinking and addiction. There could also be suppression of responding, as learners may be reaching for or staring at the reinforcer as opposed to engaging in the appropriate behaviour. Additionally they may approach the person with reinforcers excessively, which impacts their interaction with other adults and children.

Reinforcement is a greatly successful procedure and ethically appropriate. When reinforcement is high valued new appropriate behaviours can be taught, which is preferable to punishment which does not teach an alternative behaviour. It is advisable to take caution when using reinforcement to plan for thinning to increase independence of responding. A BCBA (Board Certified Behaviour Analyst) can advise you on how to deliver reinforcement appropriately and when to decrease the amount of reinforcement.

BACB,. *Guidelines For Responsible Conduct For Behavior Analysts*. Behavior Analyst Certification Board, 2010. http://www.bacb.com/Downloadfiles/BACBguidelines/BACB_Conduct_Guidelines.pdf

Balsam, P. D. and Bondy, A S., 1983. The negative side effects of reward, *Journal of Applied Behavior Analysis*, **16,** 283-296.

Iwata, B. A., & Kahng, S., 2005. Some Undesirable effects of Noncontingent reinforcement, *European Journal of Behavior Analysis*, **6**, 47-50.

TERMINOLOGY

Task Analysis: A task is broken down into smaller steps to develop stimulus control (stimulus control = stimulus consistently evokes a behaviour). This may be, for example, brushing teeth and steps may include, picking up toothbrush, putting toothpaste on the toothbrush, brushing teeth and then rinsing mouth. In this case the Instruction "Brush you teeth" will develop stimulus control for the entire task, becoming a Discriminative Stimulus (S^D). The most effective ways to develop a task analysis is to perform the task yourself, or observe someone who is already fluent at the task and write down the steps. Consider the ability of the learner and be prepared to make changes if necessary. Task Analysis steps can be "chained" together in a variety of ways during teaching and the learner may require physical prompting.

Backwards chaining: In the example of Brushing teeth, backwards chaining would occur if the practitioner performed every step of the task, excluding the last (rinsing mouth). This would be performed by the learner. When the learner demonstrates they are able to rinse their mouth, the practitioner would complete every step except the last two steps (brushing teeth and rinsing mouth). This process would be continued until the learner complete all steps independently.

Forwards chaining: Similar to backward chaining, although it occurs in reverse. The learner would perform the first step (picking up the toothbrush) and then the practitioner would do each of the other steps.

Total Task presentation: Is similar to forward chaining, although the learner performs each step of the task, although supplementary reinforcement is delivered. This reinforcement will need to faded until reinforcement occurs only at the end of task.

Most-to-least: Involves using the most supportive physical prompt through the entire task. Between trials you reduce the prompt until the learner is able to perform the task in it's entirety without support when presented with the S^D. Least-to-most: This involves the practitioner allowing the learner a set time to perform each step. When no response or an incorrect response is emitted the practitioner provides the least intrusive prompt, then waits again, then offers a slightly more intrusive prompt until that step is performed.

NET IDEAS

Bubbles is a popular activity with young children. It's easy to control and can offer lots of fun and opportunities to request. Blowing bubbles can offer opportunities to request for the bubbles and for the wand or the mixture, if you client is able to blow bubbles themselves (Mand 3a). If your client is not able to blow it is a great opportunity for them to develop oral motor control as the reinforcement is immediate for successful blows (Motor Imitation, 1a). Also requests for actions like blow. If you add some washing up liquid to a container of water you can blow through a straw to make bubbles. This activity allows more opportunities to request for items, for instance water, straw and soap/washing up liquid. Also you could hide 3D items that are being targeted as labels (tacts) "What is this called?" (Tact 2M) or identification (listener receptive) "give me the —" (Listener receptive 3f). This is a great activity for playing outside on a nice sunny day, and a great opportunity to generalise skills to a different environment. Do be cautious of giving your a client a straw to blow through, in case they accidental swallow some of the solution.

Sundberg, M. L. (2008) Verbal behavior milestones assessment and placement program: The VB-MAPP. Concord, CA: AVB Press

PEOPLE WHO INSPIRE US

This month we will be celebrating Julie Vargas. Julie Vargas is particularly important as she continues the work of B. F. Skinner and is the president of the B. F. Skinner foundation. She is, in fact, his daughter. Julie Vargas was born in Minnesota in 1938. She studied music at Radcliff College and then obtained her masters in music education from Columbia University. Julie Vargas authored 'Writing worthwhile behavioural objectives' in 1973 and in 1977 'Behavioural Psychology for Teachers'. The most recent work from Julie Vargas include articles, which she wrote for 'The Encyclopaedia of Behaviour Modification and Cognitive Behaviour Therapy', and 'Behaviour Analysis for Effective Teaching'. To learn more about Julie Vargas read her interview that featured in the European Journal of Behaviour Analysis, in 2010 (pages 199-204). Also check out the B. F. Skinner Foundation http://www.bfskinner.org. There is a newsletter called 'Operants' released by the foundation that you can sign up for to receive by email.

EVENTS

Ambitious about Autism have announced many new dates for 2015. Be sure to go to their webpage to find out more and see all available dates.

Jigsaw School are offering numerous workshops and open mornings for professionals and parents. There are a variety of dates available so please go to their website to find out more.

Peach are offering many courses across 2015. Courses are typically £65 per day (one two day workshop costs £130). For more information regarding other workshops (workshops are being held at a Manchester or Ascot location), then please go to their page.

The 4th CBA/QUART Conference will be happening on the 6th of November in Belfast. There is a great line-up of speakers confirmed, however there is more information to be released so it is definitely worth checking -out. Go to the Facebook page for more information and to keep up-to-date https://www.facebook.com/events/718339508281288/

STUDY TIPS

The BACB has a list of online events that can be used by people preparing to sit the exam. Organisations can advertise here when they offer a course. Go to their webpage to find out more http://bacb.com/index.php?page=100526

PRODUCTS

This month our product list looks variety of books authored by one of the most important men in Behaviourism, B.F. Skinner. To see the list go to this wish list on amazon http://www.amazon.co.uk/registry/wishlist/2Y3VEV040V47O

Remember to contact us at our email account busyanalyticalbee@gmail.com and like our Facebook page and Twitter page @AnalyticalBee

Next month we will be looking at the ???, so be sure to subscribe so you receive the next exciting edition.

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