

# Free shaping research paper sample

[Psychology](#), [Behaviorism](#)



## **Abstract**

Shaping is the process used to develop a terminal behaviour through reinforcing its successive approximations systematically and differentially. Successive approximations refer to the building blocks of the eventual behaviour. Shaping is applied in various contexts that can range from using shaping to teach children how to use contact lenses, how behaviour analysis can influence people with intellectual disabilities. Also, it used to study the performance track of athletes, and how to eliminate autism in children. Moreover, shaping is also applicable in helping people quit smoking and teach self-initiated toileting among children. The authors provide various agreements to advance their research, and it is clear the articles do not differ markedly on the experiments conducted. Scott et al., (1997) conducted a study on how the performance of track and field athletes can be enhanced. A study involved a university pole-vaulter who had competed on both a national and international fronts. The study on reduction of smoking and that of treating the phobia seem to agree on the need to inculcate the help of other stimuli during shaping. The study on smokers appreciates the importance of environmental contingencies such as restrictions against smoking in the workplace. The study of treatment of the phobia also incorporates the help of preferred stimuli.

Shaping is the process used to develop a terminal behaviour through reinforcing its successive approximations systematically and differentially. Successive approximations refer to the building blocks of the eventual behaviour. For instance, before children begin to talk, they usually mumble some few letters like ‘ m,’ then a combination of letters like ‘ ma’ before

eventually can pronounce words such as 'mama'. The 'm' and 'ma' are successive approximations of the terminal word 'mama'. Their parents usually introduce them to saying 'm' listen to them until they can comfortably say 'm'. Next, they teach them how to say 'ma'. They reinforce the 'ma' until the children forget the 'm' and concentrates on the 'ma'. Thereafter the child is taught to say mama. Consequently, the 'mama' is reinforced until the child learns how to say mama and ceases to say 'ma'. The successive approximations are systematically and differentially reinforced until the terminal behaviour can be achieved. Differential reinforcement results to effects such as a learner adopting the succeeding approximation while dispensing with the preceding approximation, and thus, the terminal behaviour cannot recede back to the successive approximations.

Today, mental health problems characterize society, and it is a relief that shaping, as a process has made significant contributions in the detection and treatment of mental diseases. In a study done by Slifer, Koontz and Cataldo (2002), the authors analyzed how behaviour analysis can influence persons with intellectual disabilities. They used a functional magnetic resonance imaging for studying the brain function when performing behavioural tasks. The use of MRI requires motion control, which can be hard to achieve when studying children with disabilities. Motion control can be achieved through sedation or by operant techniques. While sedation is the most convenient method, there are certain situations in which operant techniques are preferable (Slifer, Koontz & Cataldo, 2002). The first situation is where the MRI scan is conducted to study the brain structure of vulnerable populations

making sedation risks unacceptable. The second situation involves studies of the brain function where motion control and functional task participation is required. The study fell under the second category, as the head movement, and participation were required (Slifer, Koontz & Cataldo, 2002). The head movement was measured while participation was simulated by a vigilance task. The study involved four children, two of which had no intellectual disabilities and the other two had been diagnosed with deficit hyperactivity disorder. The vigilance task required a child to press a certain button when a certain colour appeared in a videotape and another button when it disappeared. The proportion of correct trials calculated their performance over the total number of trials. The participants of the study decreased their head motion, and there was an improvement in vigilance task performance (Slifer, Koontz & Cataldo, 2002). Differential reinforcement resulted into increased accuracy and reduced head movement. The vigilance task accuracy increased as shown by the increased means from 55% to 93% for one child with the disorder while the other child's mean increased from 43% to 76%. It shows that shaping through behaviour analysis improved the cooperation of the children with disabilities when conducting an MRI scan. Not only does shaping help people with mental disabilities to cope with their conditions and enhance their recovery process, shaping is invaluable to people with exceptional abilities and talents. It is because, through this process, individuals can enhance their natural performance of such activities, and a study conducted by Scott et al., (1997) demonstrated this possibility. The authors conducted a study on how the performance of track and field athletes can be enhanced. The study involved a university pole-vaulter who

had competed on both a national and international front. It involves improving a pole-vaulter's performance and technical skills using an intervention strategy. The baseline involved the use of a camera to study the athlete's arm during take-off where the maximum arm extension was found to be 2.54m with the mean being 2.25m. The intervention involved replacing the camera with a photoelectric beam and was initially set at 2.30m. The strategy involves adjustment of the height of a photoelectric beam that the athlete was supposed to break with his hands during take-off (Scott et al., 1997). The beam was then adjusted at a higher level once the initial height had been comfortably reached. The heights were adjusted to 2.35m, 2.40m, 2.45m, 2.50m and 2.52m. Increasing the height of the beam would mean that the athlete would have to extend his arm more in order to break the beam. Consequently, the more outstretched the athlete's arm led to a higher bar height clearance (Scott et al., 1997). This intervention strategy led to changing take-off behaviour as it enhanced the athlete's ground-to-pole angle necessary for a clearing maximum height.

Mental health problems have varied causes and vary from one individual to another. However, shaping is a process applicable to many mental conditions has been useful in solving problems of individuals with substance abuse. A 2010 study by Lamb et al., showed how smokers could gradually quit smoking. The study used percentile scheduled of breath carbon monoxide. The study involved offering incentives for smokers who recorded dropping BCO levels. It also acknowledged the help of environmental contingencies such as restrictions on smoking in various places. However, compared to their earlier study in 2004 where they used nine of the most recent samples;

they used four of the most recent samples in this study. The effectiveness of shaping was enhanced by lessening the sample window from a nine- sample window period to a four-sample window period (Lamb et al., 2010). The four-sample window period provided an opportunity for the smokers to renew their contact with the incentive. It was instrumental in ensuring that reduction in BCO was maintained as they continued earning their incentives uninterrupted. This process had the effect of preventing the participant from being disengaged and increasing his motivation to quit smoking (Lamb et al., 2010).

When dealing with children and monitoring their developmental process, parents may find shaping and essential process in achieving this objective. It is because shaping has been useful in teaching children new behaviours. For instance, Mathews et al., (1992) conducted a study on how to improve adoption of contact lenses among children. Four children under five years were taught how to use contact lenses through shaping. The children were incentivised for compliance through praise and gifts while restraint was exercised for non-compliance (Mathews et al., 1992). At inception, there were low levels of compliance after the initial insertion. Subsequent follow-up revealed high levels of compliance. Furthermore, they took less time inserting and removed the lenses, though one of the four kids' compliance was low due to a complication caused by an infection that discouraged the use of contact lenses. Initially, the kid had registered high compliance levels (Mathews et al., 1992). Consequently, this procedure was implemented in the same hospital with success rates standing at 11 out of 13 children aged between one year and seven years.

Another instance of teaching children new behaviour is a study conducted by Smeets et al., (1985) to determine how shaping was used in teaching self-initiated toileting among children. The study involved three phases. Phase one required the linking body signals and the evacuations on the potty (Smeets et al., 1985). The potty was kept in a visible ring, and the mother would record the defecation on the potty. The parent would then observe the body signals while holding the potty. In phase one; the target behaviour was the bodily signals. These body signals include increased body unrest and looking at the potty. The second phase identifying potty reaching signals prompted and unprompted and their underlying relationships. Here, the child becomes more mobile, and the potty is placed in front of the baby. When a child shows bodily signals; they are guided to reach out for the potty (Smeets et al., 1985). The infants would be placed on the potty even when they reached out for the potty unprompted. Thus, the target behaviour was reaching out for the potty. The third phase seeks to establish whether the unprompted potty reaching behaviour can be relied upon as an indication of elimination after establishing the relationships. The third phase requires parents to reduce the number of prompts to a minimum restricting them to only when they anticipated incidents (Smeets et al., 1985). In this phase, there was increased accuracy between reaching out for the potty signals and a subsequent defecation. Thus, the bodily signals reduced with the main indicator of defecation becoming reaching out for the potty. Reinforcement of reaching out for the potty increased its accuracy of being an indication of the need to eliminate (Smeets et al., 1985).

The widespread use of shaping in addressing problems associated with

mental health conditions is further reinforced by a study conducted by Ricciardi et al., (2006) to reveal how to eliminate the phobia from children with autism. It aims to show how shaping through a contact desensitization can be used as a mode of treatment against certain phobias. The study was conducted on an eight-year-old boy whose cognitive abilities were similar with a five-year-old. This boy had demonstrated reactions of intense fear towards electronic animated figures such as Halloween decorations (Ricciardi et al., 2006). He would scream and flee at the sight of these objects. The boy was treated through a therapy in each session, the animatronic objects were placed some five metres from the intervention room entrance. The floor was then marked by lines of tape 0.3m apart from the entrance to the terminal criterion one metre from the animatronic objects. The objects that the boy preferred were also placed alongside the animatronic objects (Ricciardi et al., 2006). The therapist would then document the intervals in which the boy would remain at a particular distance criterion. The boy was required to stand with the therapist at the terminal criterion for a few seconds at the beginning and end of each session. The boy recorded gradual improvement in that he was able to approach the animatronic images and touch them. While he exited the room in each of the baseline session, he managed to exit only three sessions during the intervention.

## **Comparisons between various Studies**

The study of self-initiated toileting and the study on enhancing an athlete's performance agree about the importance of differential reinforcement of successive approximations. They build from the next successive differential until they reach the terminal behaviour. A study on reduction of smoking and



that of treating the phobia seem to agree on the need inculcate the help of another stimuli while shaping. The study on smokers appreciates the importance of environmental contingencies such as restrictions against smoking in the workplace. The study of treatment of the phobia also incorporates the help of preferred stimuli.

A study on the treatment of a phobia perhaps undermines the need for differential reinforcement as the requirement to stand on the terminal criterion for some time is contrary to this requirement. The terminal criterion is the target behaviour. However, the request to stand on the terminal criterion is viewed as a differential reinforcement in terms of time, as opposed to distance. The time in which the participant stays at the terminal criterion could, subject to differential reinforcement. The six studies have demonstrated how shaping could be used in helping a person achieve a new behaviour. They all emphasize on the need for differential reinforcement of successive approximations. Thus, for one to achieve successful shaping, the target behaviour must be defined as it determines the successful approximations.

## References

Lamb, R. J., Kirby, K. C., Morral, A. R., Galbicka, G., & Iguchi, M. Y. (2010).

Shaping

smoking cessation in hard-to-treat smokers. Journal of consulting and clinical psychology, 78, 62.

Mathews, J. R., Hodson, G. D., Crist, W. B., & LaRoche, G. R. (1992). Teaching young

children to use contact lenses. *Journal of applied behavior analysis*, 25, 229-235.

Ricciardi, J. N., Luiselli, J. K., & Camare, M. (2006). Shaping approach responses as an intervention for specific phobia in a child with autism. *Journal of Applied Behavior Analysis*, 39, 445-448.

Scott, D., Scott, L. M., & Goldwater, B. (1997). A performance improvement program for an international-level track and field athlete. *Journal of Applied Behavior Analysis*, 30, 573-575.

Slifer, K. J., Koontz, K. L., & Cataldo, M. F. (2002). Operant-contingency-based preparation of children for functional magnetic resonance imaging. *Journal of applied behavior analysis*, 35, 191-194.

Smeets, P. M., Lancioni, G. E., Ball, T. S., & Oltva, D. S. (1985). Shaping self-initiated toileting in infants. *Journal of applied behavior analysis*, 18, 303-308.