

The Effect of Reinforcement on the Teaching of Reading to Children with Learning Disabilities: Literatures Review

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Abstract

This paper will discuss the effect of reinforcement on the teaching of reading for children with learning disabilities. There are many empirically supported methods for reading instruction, and reinforcement is a major aspect of many procedures. This paper will focus on the various aspects of reinforcement and how reading skills are shaped based upon different parameters of reinforcement.

Keywords: Behavior analysis; Children

Introduction

Reinforcement is basic principle in applied behavior analysis. The basic definition of reinforcement is the response-contingent presentation of a reinforcer resulting in an increased frequency [1]. Reinforcement is used or applied in many areas like education, sports and social skills teaching. This paper will consider the use of reinforcement used in the teaching of reading for normal children, autistic children and children with learning disabilities. Reinforcement often might consist of social or edible stimuli. Reinforcement procedures might involve a focus on Differential Reinforcement of Other behavior (DRO), Differential reinforcement of low rate (DRL), and Differential reinforcement of alternative behavior (DRA).

Differential reinforcement of incompatible behavior (DRI) – Type of reinforcement that is contingent on a behavior that is incompatible with another behavior [1].

Differential reinforcement of low rate (DRL) – Type of reinforcement in which response follows the preceding response by at least some minimum delay [1]. Differential reinforcement of alternative behavior; a type of reinforcement in which the replacement of an inappropriate response by a specific appropriate response will produce the same reinforcing outcome [1].

Literature Review

The principle of reinforcement is a major tool in the teaching process, mostly here in Jordan the use of reinforcement is often combined with punishment procedures. Reinforcement is an important principle in the experimented analysis of behavior which is a science that found to understand the behavioral regulation [2]. Reinforcement considers basic principle of behavior [1] from the experiment of Skinner and the operant conditioning relation Produce Sr^+ , $SD \rightarrow R$, Sr^+ : consider as reinforcement.

Skinner began the concept of reinforcement and then was developed by many studies to found to have many characteristics, such as positive reinforcement, negative reinforcement, and schedules of reinforcement, Reinforcement of Other Behavior (DRO), and Reinforcement of Low rat Behavior (DRL). At first of these studies studied reinforcement as independent term then the study of reinforcement was related to many issues or subjects such as learning, teaching, and treatment of addiction etc.

Reinforcement is defined as the response-contingent presentation of a reinforcer resulting in increased frequency of that response [1].

Reinforcer is thing or event that increases the occurrence of behavior [1].

Skinner classified the reinforcer according to its strength:

- Primary reinforce - The reinforcer that effect on the behavior without previous teaching for the reinforcer. Like food, water, and sex.
- Secondary reinforce - The reinforcer which take its effect after pairing with primary Reinforcer.
- Generalized reinforce - Type of secondary reinforcer which take its effect after pairing with primary reinforcer like money which act as generalized reinforcer which bring food; water.

Positive and negative reinforcement

Skinner describes two types of reinforcement which: positive reinforcement which refers to the presenting of reinforcer or

event that increase the response, and negative reinforcement: removing of aversive event that increase the response [2]. Maimonides describes the reinforcer as edible and social reinforcer. Leshtz et al. [3] stated in many readings that the describing of reinforcer as edible, tangible and social Reinforcer [4].

After this explaining and describing for the meaning of reinforcement and its type, some scientist transfer the theoretical aspect of this term to the practical term, despite of the explaining of reinforcement came or approved after applying experiment (Skinner's experiment and other experiment that made the bases for the reinforcement [2]).

Kimble define the learning as relative permanent changes on the behavior contingencies as a result from reinforced experiences. According to the united nation and humans' right announcement each individual has the right to learn. From this statement there is no exclusion for the human who have any disabilities like social, physical and learning disabilities to learn [5]. The target of the learning process is to increase the vocabulary and words of an individual. The question is how cans the use of the contingencies of reinforcement aid in this process?

Let us look to reading as a process containing antecedents and consequences. The antecedent consists of the target to be learned (picture of tree) and the consequence is the spelling of tree and getting a reinforcer, but to reach this consequence and to maintain it there is reinforcement that acts to keep the continuity of learning process [6]. The reading rate is calculated by some teachers to show the improvement in the level of learner, the contingent reinforcement by some edible (e.g. Pen, pencil, and rules) reinforcer increase the reading rate by some children [6].

The reinforcement (token) increase the number of words correctly read on each of acquisition trial until criterion was reached of one trial through the list of 10 words without errors. The performance of each subject was more accurate and rapid in the experimental group (who receive token) than in the control group (who didn't receive token). Despite both group reached the target goal of spelling words (10 words) but the reinforcement improve the performance for experimental group rather than the control group, this indicate that using or applying of reinforcement improve the performance of children or the learning process and save the time or shorten it that need to the learning process or pass the goal of each learned target.

Instructions that are given to learner and how these instructions impact behavior, and the way of instruction giving can't be separated from the reinforcement while it is also the case that the instruction way may act as reinforcer in some cases.

Maimonides gives teacher advice or delineates the contingent for learning using powerful reinforcer, starting from edible to tangible and then social [3].

The gradually withdrawing of reinforcers or changing the type helps the learner to reach to the final goal of the learning process not to keep the goal is getting the reinforcers.

As it known the reinforcer is individual characteristic or choice (what act as reinforcer for a child mayn't act as a reinforcer for another child). So there should be clear preference for the child as individual choice, because this was for children with developmental disabilities, also this will be in normal children [7]. Also some task can act as reinforcer because some children can choice between high-preference tasks and low-preference tasks. The goal is the reinforcement that will enhance the performance but the choice of reinforcement doesn't effect on the performance, but choices enhance the responding of children [7]. But no study confirmed that choice of reinforcement is unimportant, because this is complex issue and the reinforcers are many types (Primary, secondary, generalized) reinforcer. Each individual choose his reinforcer by exposing to many reinforcers or things by choice of the individual or the individual preference, the chosen reinforcer will act as reinforcer for the individual, choice may serve as potent source for reinforcement [7]. So reading resembles a task and what act or effect on any school task will effect on reading when reading is a task.

Differential reinforcement of alternative behavior (DRA) increases the generalization setting with tasks [7]. Also the DRA using with some children increase the responding rate and the first response was implemented in the condition of DRA [7,8].

The choice of reinforcement has relative effect on the response rate, because the higher response rate was for the choice more than non-choice options of some children. Also parent tutoring increase the oral reading for some children when they apply package of treatment procedure, parent tutoring will act as reinforcer for the children in case of using good intervention strategies by the parent [4].

From the Skinner's experiment and Skinner's box experiment about reinforcement, we can see how reinforcement can effect on all task like oral reading by using schedules of reinforcement that developed by Skinner for any behavior or skill that have been taught recently, also the behavior and skill will be maintained [5].

Reward for three students have reading problem improved the reading fluency in a given tasks of reading, all of students achieved higher level for the instruction that given by teacher to the students than they did in the baseline without rewards, the rewards was simple the mean (M) or the student when using rewards increased from the baseline [8]. Contingent rewards also increase the correct words foe three children and words became mastered by using the modeling and practice and the words need less sessions to be mastered by using rewards. Rewards consider as type of reinforcement so reinforcement improve the reading, this from that relation [1,9-18].

Conclusion

Reinforcement is a primary term in the psychology and applied behavior analysis ABA. Reinforcement is categorized by its type (primary, secondary) DRA, DRO, the schedule of reinforcement, the skills that are to be learned, and also in the delay involved in delivering the reinforcer which maintains the training for behavior or skill like oral reading. From previous

references we can see the effect of reinforcement on same skill in different way like increasing fluency or increasing performance.

Recommendation

The result of this paper which approve that reinforcement is important in learning process specifically in learning of reading will be provided to the higher Jordanian council for children with disabilities to be generalized for staff who deal with these children.

References

1. Malott RW (2002) Principles of Behavior. (6th edn), pp: 1-189.
2. Pierce WD, Cheney CD (2004) Behavior analysis and learning. (3rd edn), pp: 1-510.
3. Leshtz M, Stemmer N (2006) Positive reinforcement according to Maimonides the 12th century Jewish philosopher. *J Appl Behav Anal* 39: 405-406.
4. Gortmaker VJ, Daly EJ, McCurdy M, Persampieri M, Hergenrader M (2007) Improving reading outcomes for children with learning disabilities: using brief experimental analysis to develop parent-tutoring interventions. *J Appl Behav Anal* 40: 203-221.
5. Davis S, Palladino J (2004) Introduction to educational psychology, Prentice Hall.
6. Eckert TL, Ardoin SP, Daly EJ, Martens BK (2002) Improving oral reading fluency: A brief experimental analysis of combining an antecedent intervention with consequences. *J Appl Behav Anal* 35: 271-281.
7. Drasgow E, Halle J, Ostrosky M (1998) Effects of a replacement mand in three children with severe language delays. *J Appl Behav Anal* 31: 357-374.
8. Daly EJ, Persampieri M, McCurdy M, Gortmaker V (2005) Generating reading interventions through experimental analysis of academic skills: Demonstration and empirical evaluation. *School Psych Rev* 34: 395-414.
9. Barling J (1980) Performance standards and reinforcements effects on children's academic performance: a test of social learning theory. *Cognit Ther Res* 4: 409-418.
10. Daly EJ, Martens BK (1994) A comparison of three interventions for increasing oral reading performance: Application of the instructional hierarchy. *J Appl Behav Anal* 27: 459-469.
11. Daly EJ, Martens BK, Dool EJ, Hintze JM (1998) Using brief functional analysis to select interventions for oral reading. *J Behav Educ* 8: 203-218.
12. Daly EJ, Martens BK, Hamler KR, Dool EJ, Eckert TL (1999) A brief experimental analysis for identifying instructional components needed to improve oral reading fluency. *J Appl Behav Anal* 32: 83-94.
13. Daly EJ, Martens BK, Kilmer A, Massie DR (1996) The effects of instructional match and content overlap on generalized reading performance. *J Appl Behav Anal* 29: 507-518.
14. Lerman D, Iwata D, Rainville B, Adelinis J, Crosland K, et al. (1997) Effect of reinforcement choice on task responding in individuals with developmental disabilities. *J Appl Behav Anal* 30: 411-422.
15. Matson JL, Sevin JA, Fridley D, Love SR (1990) Increasing spontaneous language in three autistic children. *J Appl Behav Anal* 23: 227-233.
16. O'Shea LJ, Munson SM, O'Shea DJ (1984) Error correction in oral reading: Evaluating the effectiveness of three procedures. *Educ Treat Children* 7: 203-214.
17. Shinn MR, Good RH, Knutson N, Tilly TW (1992) Curriculum-based measurement of oral reading fluency: A confirmatory analysis of its relation to reading. *School Psych Rev* 21: 459-479.
18. Skinner BF (1957) Verbal behavior. New York: Appleton-Century-Crofts.