The Role of the CMO-R During Discrete Trial Instruction of Children with Autism

Presented by:

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Introduction & Overview

- Understanding and applying the concept of the motivating operation (MO) is essential to teaching verbal behavior and other skills to children with autism.
  - Research and manualized treatment packages emphasize the importance of motivation in teaching children with autism (Koegel, Carter, & Koegel, 1998; Koegel, Koegel, Shoshan, & McNerney, 1999).
  - The typical set-up for discrete trial instruction (i.e., high rate of demands, presence of specific materials associated with demands, presence of the teacher, etc.) may evoke problem behavior maintained by escape or avoidance.
  - Using methods that increase the motivation to respond, thereby decreasing the tendency of children with autism to engage in behaviors maintained by escape or avoidance, may be critical to positive long-term outcomes (Koegel, Koegel, Frea, & Smith, 1995).
- A thorough conceptual understanding of motivation and a well-developed practical repertoire related to modifying instructional variables that will reduce the aversiveness of teaching and reduce problem behavior maintained by escape or avoidance can result in a more comprehensive analysis of an instructional situation and improved selection of appropriate instructional methods.

3

Definition

- A motivating operation is any set of events, stimulus, or condition that alters the value of some stimulus as a reinforcer and alters the frequency of some response that has produced that consequence (Michael, 1993).
- Michael (1993, 2007) states that motivating operations have two defining features:
  1. They alter the reinforcing value upward or downward of some other stimulus

     and
  2. They alter some dimension of a response associated with the change in reinforcing value of a stimulus that has followed it.
- In other words, motivating operations:
  1. ESTABLISH or ABOLISH the reinforcing value of another stimulus. This is called the VALUE-ALTERING EFFECT. The two terms for the value altering effects are Establishing Operation and Abolishing Operation.

     and
  2. EVOKE or ABATE a response. This is called the BEHAVIOR-ALTERING EFFECT. The two terms for the behavior altering effects are Evocative Effect and Abative Effect.

4

Examples

- Food deprivation is a motivating operation because it:

  1. Alters upward the value of food as a reinforcer (Establishing Operation)

  and

  2. Evokes all behaviors that have, in the past, produced food as a form of reinforcement (Evocative Effect).

- Food satiation is a motivating operation because it:

  1. Alters downward the value of food as a reinforcer (Abolishing Operation)

  and

  2. Abates all behaviors that have, in the past, produced food (Abative Effect).

5

- Becoming too warm is a motivating operation because it:

  1. Alters upward the value of temperature decrease as a reinforcer (Establishing Operation)

  and

  2. Evokes all behaviors that have, in the past, led to becoming cooler as a form of reinforcement (Evocative Effect).

- The return to a normal temperature is a motivating operation because it:

  1. Alters downward the value of temperature decrease as a reinforcer (Abolishing Operation)

  and

  2. Abates all behaviors that have, in the past, led to becoming cooler as a form of reinforcement (Abative Effect).

6

1. A _____is any set of events, stimulus, or condition that alters the value of some stimulus as a reinforcer and alters the frequency of some response that has produced that consequence .

A. Motivating operation
B. Reinforcer
C. An antecedent
D. A discriminative stimulus

2. **What are the two main effects of motivating operations?**

A. Establishing and abolishing effects
B. Value altering and behaviour altering effects
C. Evocative and abative effects
D. Establishing and value altering effects

3. The value altering effect may _____or _____the reinforcing value of another stimulus.

A. Evoke or abate
B. Establish or abate
C. Evoke or abolish
D. Establish or abolish

7

4. The two terms for the value altering effect are...

A. Evocative Operation and Abolishing Operation
B. Establishing Operation and Abative Operation
C. Establishing Operation and Abolishing Operation.
D. Evocative Operation and Abative Operation

5. **The behavior altering effect can _____or _____a response.**

A. Evoke; abate
B. Establish; abolish
C. Establish; abate
D. Evoke; abolish

6. The two terms for the behavior altering effects are .....

A. Evocative Effect and Abolishing Effective
B. Evocative Effect and Abative Effect.
C. Establishing Effect and Abative Effect
D. Establishing Effect and Aboloshing Effect

8

7. Sleep deprivation is a motivating operation because it:
Increases the value of sleep as a reinforcer, which is referred to as the _____ and evokes all behaviors that have, in the past, produced sleep as a form of reinforcement, which is referred to as the _____.

A. Abolishing Operation; Evocative Effect
B. Establishing Operation; Abative Effect
C. Abolishing Operation; Abative Effect
D. Establishing Operation; Evocative Effect

8. Sleep satiation is a motivating operation because it: Decreases the value of sleep as a reinforcer , which is referred to as the _____ and abates all behaviors that have, in the past, produced sleep, which is referred to as the _____.

A. Establishing Operation; Evocative Effect
B. Abolishing Operation; Evocative Effect
C. Establishing Operation; Abative Effect
D. Abolishing Operation; Abative Effect

Unconditioned and Conditioned MOs

- Michael (2007) lists nine main unconditioned motivating operations (UMOs) for humans. By manipulating UMOs in the form of deprivation, satiation, and conditions of aversion, learners can be taught many important skills.
  - For example, a teacher who takes advantage of the deprivation of food that occurs just prior to lunch would be more easily able to now teach a child to mand (request) a food item by saying its name.
- However, much of the reinforcement that leads to children learning important skills is conditioned. Therefore, a thorough understanding of conditioned motivation operations (CMO) is crucial.
- There are three types of CMOs as described by Michael (2007):
  1. Conditioned Transitive Motivating Operation (CMO-T)
  2. Conditioned Reflexive Motivating Operation (CMO-R)
  3. Conditioned Surrogate Motivating Operation (CMO-S)

CMO-T

- A thorough understanding of the conditioned transitive motivating operation (CMO-T) may be vital to the teaching of important verbal and other skills to children with autism.
  - Effective use of the CMO-T allows teachers to condition previously neutral items as reinforcers that can be provided as a consequence for verbal and other responses.
    - For example, a teacher could condition a spoon as a reinforcer by giving a child a desirable bowl of ice cream and not the spoon.
    - Under this condition the spoon becomes valuable and now the instructor can teach the child to mand (request) a missing item in the form of a spoon.
  - Teaching advanced skills, such as manding for information, requires a teacher to modify the CMO-T to condition information to act as reinforcer so that a question from the learner can be reinforced by a listener's response.

Tyler Video

11

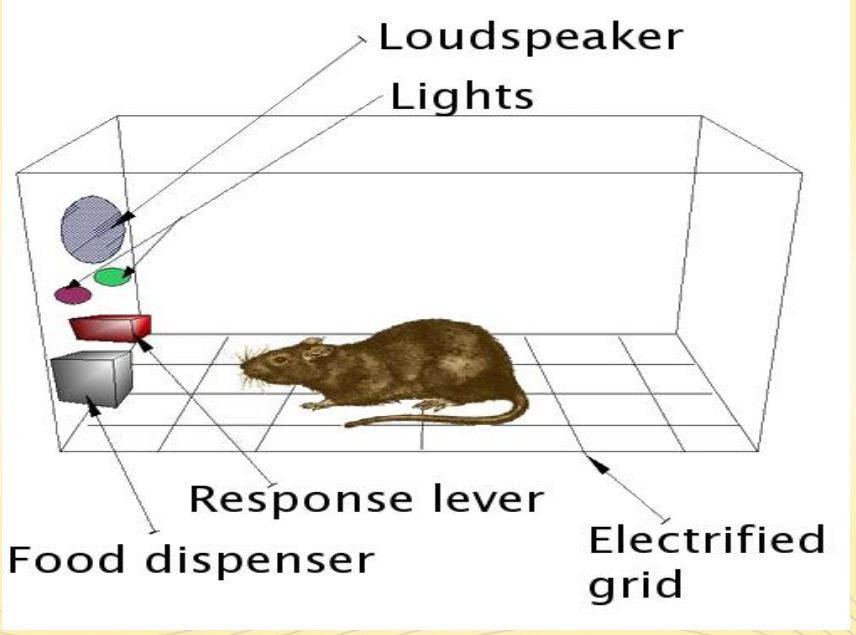
CMO-R

- To paraphrase Michael's (1993, 2007) definition, any stimulus which has been repeatedly correlated with a worsening set of conditions will come to function as a CMO-R, in that the onset of this stimulus will establish its own termination (removal) as a form of reinforcement and will evoke any behaviors that have previously produced such reinforcement.
- An analysis of the typical instructional setting for many learners with autism provides an example of the development of CMOs-R:
  - The teaching of some children with autism requires the presentation of many instructional demands each day.
  - Many of these learners have a history that has established the presence of the teacher, the teaching context, and the presentation of the instructional demand as an aversive condition and therefore evokes problem behavior which interferes with learning. Michael (1993, 2000) identifies these antecedent stimuli as reflexive conditioned establishing operations (changed to condition reflexive motivating operations (CMOs-R) in 2003).
  - Consistent with this analysis, teacher presence, instructional materials, and teacher instructional demands may all act as CMOs-R for some learners and therefore evoke problem behavior that interferes with learning. The reported high rates of problem behavior evoked by discrete trial training with some children (Lovaas, 1982, 2003) may be related to the CMO-R.

12

- Let's first look at an infrahuman experimental preparation related to the CMO-R.
- Then we'll look at the following two diagrams to discuss an applied clinical example. The following two diagrams depict an experimental preparation related to the development of a discriminated avoidance response. In other words, they show an analysis of how stimuli might be engendered with aversive properties and conditioned as CMOs-R.
  - The first diagram presents an analysis of how this occurs in the animal laboratory setting.
  - The second diagram presents an analysis of how this occurs in the context of teaching.
- Both examples show how a previously neutral stimulus, after being consistently followed by a worsening set of conditions, comes to function as a warning stimulus for that worsening set of conditions. As a result, an avoidance response comes to be evoked by the presentation of the warning stimulus.

13



14

Development of the CMO-R in the Laboratory

Neutral Stimulus		"Painful Stimulation"		Effects
(Tone) Presentation of Stimulus, Object or Event	**Time** →	**(Shock)** Worsening Set of Conditions	=	Termination of Worsening Condition is a Reinforcer & Evokes Behavior That Has Been So Reinforced

After repeated correlations in the above sequence…

Warning Stimulus (CMO-R)		Effects
(Tone) Presentation of Stimulus, Object or Event	=	Establishes Termination of Warning Stimulus (tone) as a Reinforcer and Evokes Behavior That Has Led to its Termination

15

Development of the CMO-R in the Classroom

Neutral Stimulus		"Painful Stimulation" (Worsening Set of Conditions)		Effects
Presentation of Instructional Demands, Instructional Materials and Presence of Teacher	Time →	▪ Session Begins with Removal of Positive Reinforcement ▪ Low value Positive Reinforcement ▪ Low rate of Positive Reinforcement ▪ Frequent Social Disapproval ▪ Effortful Responses Required ▪ Difficult Responses Required ▪ High Rate of Demands ▪ Frequent Learner Errors ▪ Delayed Positive Reinforcement ▪ Low magnitude Positive Reinforcement	=	Termination of Worsening Condition is a Reinforcer & Evokes Behavior That Has Been so Reinforced

16

After repeated correlations in the above sequence……..

Warning Stimulus (CMO-R)		Effects
Presentation of Instructional Demands, Instructional Materials and Presence of Teacher	=	Establishes Termination of the Warning Stimuli as a Reinforcer and Evokes all Responses That Have Led to Their Removal

17

Why a CMO-R and Not an $S^{D?}$

- The sound of the tone increases the value of the reinforcer that is produced by pressing the lever, not the availability of the reinforcer.
- Tone termination is not more available when the tone is on but more valuable.
- Secondly. during discrimination training a response will typically occur in the presence and the absence a stimulus because similar levels of a motivating operation for the response are in effect.
- Over time the presence of the stimulus evokes the response and in the absence of the stimulus the response does not occur (extinction).
- It is only after both of the conditions control responding respectively can it be claimed that the presence of the stimulus is an S^D, e.g. presence of the stimulus evokes response and in the absence of the stimulus responding does not occur.
- In the above animal experiment, the S-Delta condition necessary for claiming a stimulus as an S^D can not be met.
- The response fails to occur in the analogous S-Delta condition (tonel off) because of a different mechanism than extinction. The response does not occur because a similar level of motivation is not in effect in the "alleged" S-Delta condition.
- Therefore, failure to meet the S-Delta response requirement mitigates against concluding that the responding when the tone is on is the result of discriminative control.

18

9. What are the three different types of CMOs?

A. The reflexive, the surrogate, and the differential
B. The transitive, the generalized, and the reflexive
C. The respondent, the surrogate, and the transitive
D. The surrogate, the reflexive, and the transitive.

10 The CMO-R is the abbreviation for:

A. Conditioned motivating operation – reflective
B. Conditioned motivating operation – reflexive
C. Conditioned motivating operation – respondent
D. Conditioned motivating operation – reinforcing

11. Fill in the blanks of this definition of the CMO-R:

Any stimulus which has been repeatedly correlated with a worsening set of conditions will come to function as a CMO-R, in that the onset of this stimulus will establish its own _____ as a form of _____and will _____any behaviors that have previously produced such reinforcement.

A. Presentation, reinforcement, evoke
B. Removal, reinforcement, abate
C. Presentation, punishment, evoke
D. Removal, reinforcement, evoke

19

12. In clinical practice which type of motivating operation plays the most important role?

A. Conditioned motivation operations (CMO)
B. Unconditioned motivation operation
C. Surrogate motivation operation
D. All of the above

13. Many of learners who require discrete instruction have a history that has <u>established</u> the presence of the teacher, the teaching context, and the presentation of the instructional demand as _____and therefore <u>evokes</u> _____which interferes with learning. These antecedent stimuli have been identified as the____

A. An aversive condition, responding, CMO-T
B. An aversive condition, problem behavior, CMO-R
C. A reinforcing condition, problem behavior, CMO-R
D. A reinforcing condition, responding, CMO-T

20

14. In some cases the teacher's presence, instructional materials, and instructional demands may all act as _____for some learners and therefore evoke problem behavior that interferes with learning.

A. CMO-Ts
B. CMO-Ss
C. CMO-Rs
D. CMO-Sr+

15. Both examples of the development of the CMO-R in the laboratory and in the classroom demonstrate how a previously_____, after being consistently followed by a worsening set of conditions, comes to function as a _____for the worsening set of conditions.

A. Conditioned stimulus, warning stimulus
B. Neutral stimulus, reinforcer
C. Neutral stimulus , warning stimulus
D. Conditioned stimulus, reinforcer

Implications for Instruction

- When trying to reduce problem behavior that occurs during instruction, three methods of treatment are frequently used:
  - Differential reinforcement plus extinction
  - Functional communication training (FCT) plus extinction
  - Abolish the CMO-R
- Michael (2000) suggests a practical solution to this problem may involve the use of escape extinction (i.e., maintain demands when problem behavior occurs). In fact, escape extinction along with differential reinforcement of alternative behaviors (DRA) is the most common form of intervention for learners with autism who emit problem behavior when instructional demands are presented (Lovaas, 2003). Practitioners sometimes refer to this process as "working through" the problem behavior.
- Failure to recognize certain antecedent stimuli as reflexive MOs or mischaracterization of them as discriminative stimuli for problem behavior may stall attempts to reduce the problem behavior or may result in an over reliance on extinction (EXT). In most cases, alternative methods which do not reduce the aversiveness of the setting, such as DRA with extinction or FCT with extinction, have frequently been recommended.

- DRA involves reinforcing alternative (i.e., appropriate or desirable) behaviors. Simultaneously, reinforcement is typically withheld for occurrences of the problem behavior (EXT).
- (**Kyle /Peter Video – DRA & EXT)**
  - One problem with this may be that if problem behavior is occurring at a high rate, there may be little opportunity to reinforce alternative appropriate behaviors.
- FCT involves the replacement of problem behavior with behavior that produces the same reinforcer that has maintained the problem behavior (Durand and Carr, 1991). Simultaneously, reinforcement is typically withheld for occurrences of the problem behavior (EXT).
  - McGill claims that merely replacing problem behavior and not altering the EO may raise ethical concerns since FCT methods leave in place a "counterhabilitative environment" and may lead to only temporary changes in behavior since the circumstances evoking the behavior remain in place.
  - In addition, FCT results in high rates of manding for removal of CMO-R (demands). If this response is not reinforced problem behavior usually occurs. If it is reinforced then very few learning opportunities are provided therefore rendering the procedure impractical.

23

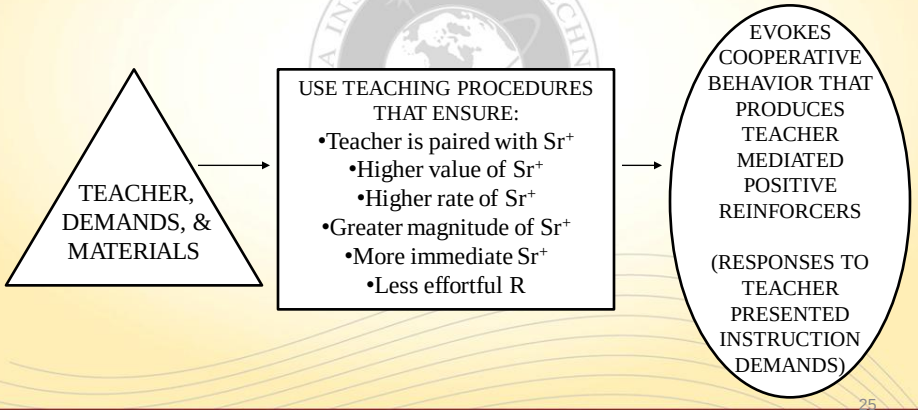
- Notwithstanding these concerns, practitioners will frequently choose to implement either of the following procedures when instructional demands during discrete trial training evoke problem behavior:
  1. DRA + EXT – maintain the demand after problem behavior occurs as a form of extinction and then reinforce when correct responding occurs.
  2. FCT + EXT – teach the learner to request removal of the task requirement following delivery of a demand as an alternative to problem behavior.
- The decision to use of either one of these approaches, FCT or DRA, combined with EXT is typically based upon an assumption that: 1) the demands must be presented because of the importance of the skills being taught and/or 2) that the instructional setting (i.e., demands) cannot be made less aversive.
- Michael (2007) suggests the following instead:

  "…one should not assume that the ultimate phases of the demand cannot be made less aversive. Increasing instructional effectiveness will result in less failure, more frequent reinforcement, and other general improvements in the demand situation to the point at which it may function as an opportunity for praise, edibles, and so forth, rather than a demand." (p. 387)

24

- In other words, an analysis of the learning history of a child in which demands have come to function as reflexive MOs, such as the one presented earlier, may suggest interventions to abolish the value of escape as a reinforcer and, consequently, methods to abate problem behavior.

Abolishing the CMO-R in the Classroom



25

- In the ABA literature, antecedent curricular revisions (Dunlap, G., Kern-Dunlap, L., Clarke, S., & Robbins, F.R., 1991; McGill, 1999) have been used to abolish the CMO-R of teacher instructions and demands by:
  - Pairing and making available strong competing reinforcers (Call, Wacker, Ringdahl, Cooper-Brown, & Boeltric, 2004; Carr & Carlson, 1993; De Leon, et al., 2001; Fisher & Mazur, 1997; Harding, et al., 1999; Hoch, McComas, Thompson, & Paone, 2002; Kemp & Carr, 1995; Kennedy, 1994; Kennedy, Itkonen, & Lindquist, 1995; Lalli & Casey, 1996; Lalli, et al., 1999; Michael, 1993; Parrish, Cataldo, Kolko, Neef, & Egel, 1986; Piazza, et al., 1997; Russo, Cataldo, & Cushing, 1981)
  - Mixing and varying the skills taught (i.e., mixed verbal behavior sessions) (Dunlap, 1984; Dunlap & Dunlap, 1987; Dunlap, Dyer, & Koegel, 1980; Dunlap & Koegel, 1980; McComas, Hoch, Paone, & El-Roy, 2000; Winterling, Dunlap, & O'Neil, 1987)
  - Reducing learner errors (Altman, Hobbs, Roberts, & Haavik, 1980; Cameron, Ainsleigh, & Bird, 1992; Cameron, Luiselli, McGrath, & Carlton, 1992; Carr & Durand, 1985; Carr, Newsom, & Binkoff, 1980; Durand, 1990; Ebanks & Fisher, 2003; Etzel & LeBlanc, 1979; Heckaman, Alber, Hooper, & Heward, 1998; Horner & Day, 1991; Lancioni & Smeets, 1986; Reese, Howard, & Rosenberger, 1977; Sailor, Guess, Rutherford, & Baer, 1968; Sidman & Stoddard, 1966; Smith & Iwata, 1997; Sprague & Horner, 1992; Terrace, 1963a; Terrace, 1963b; Touchette & Howard, 1984; Weeks & Gaylord-Ross, 1981; Wolery, Ault, & Doyle, 1992; Wolery, Bailey, & Sugai, 1988)

26

- Interspersing high rates of "easy" demands with lower rates of "hard" demands
  (Carr, et al., 1980; Harchick & Putzier, 1990; Horner, Day, Sprague, O'Brien, & Healthfield, 1991; Mace & Belfiore, 1990; Mace, et al., 1988; Neef, Iwata, & Page, 1980; Singer, Singer, & Horner, 1987; Zarcone, Iwata, Hughes, & Vollmer, 1993)
- Gradually increasing the number of demands
  (Kennedy, 1994; Pace, Ivanic, & Jefferson, 1994; Pace, Iwata, Cowdery, Andree, & McIntyre, 1993; Piazza, Moses, & Fisher, 1996; Weld & Evans, 1990; Zarcone, Iwata, Smith, Mazaleski, & Lerman, 1994; Zaracone, et al., 1993)
- Gradually increasing the difficulty or effort of responses
  (Horner & Day, 1991; Iwata, Smith, & Michael, 2000; Richman, Wacker, and Winborn, 2001; Wacker, et al., 1990; Weld & Evans, 1990)
- Immediately reinforcing alternative behaviors
  (Horner and Day, 1991)
- Pacing the instruction properly
  (Cameron, Luiselli, McGrath, & Carlton, 1992; Carnine, 1976; Engelmann & Carnine, 1982; Dunlap, Dyer, & Koegel, 1983; Koegel, Dunlap, & Dyer, 1980; Roxburgh & Carbone, 2007; Tincani, Ernsbarger, Harrison, & Heward, 2005; Tincani & Crozier, 2008; Weeks & Gaylord-Ross, 1981; West & Sloane, 1986; Zanolli, Daggett, & Pestine, 1995)

27

- For a review of the literature on the application of the motivating operation to the reduction of problem behavior and discussion of the methods outlined in the section above see Carbone, Morgenstern, Zecchin-Tirri, & Kolberg, 2010; McGill, 1999; Smith & Iwata, 1997; and Wilder & Carr, 1998.
- The following two tables summarize these teaching procedures and provide a self-assessment tool that can be used to determine what antecedent curricular revisions you need to make to your current instructional methods in order to more effectively abolish the CMO-R and abate the problem behavior exhibited by your learners.

28

EFFECTIVE TEACHING PROCEDURES FOR CHILDREN WITH AUTISM

TEACHING METHODS	DESCRIPTION
PAIR	Use strong competing reinforcers. Initially correlate the teaching environment with highly valuable and high-density reinforcement relative to the conditions that have typically been interrupted at the start of teaching sessions.
MIX & VARY TASKS	**Present instructional demands in which the stimuli and response requirements vary from trial to trial. Do not mass trial across one skill or one operant.**
REDUCE LEARNER ERRORS	Use errorless teaching methods that incorporate time delay prompting procedures. In other words, use methods that insure high levels of correct responding.
INTERSPERSE EASY AND HARD TASKS	**Try to keep a ratio of about 80% known (i.e., easy) tasks to about 20% unknown (i.e., difficult) tasks.**
FADE IN # OF DEMANDS	Use a VR schedule of reinforcement, but initially start by presenting a lower number of demands before delivering reinforcement. Then, gradually increase the number of demands presented before delivering reinforcement until reaching the desired VR schedule.
FADE IN EFFORT AND DIFFICULTY OF RESPONSES	**While fading in number of demands, also gradually fade in the effort related to responding by slowly increasing the difficulty of the demands being presented. In other words, start with demands that require low effort responses and gradually increase to demands that require more effortful (i.e., more difficult) responses.**
EXTINCTION	When problem behavior occurs, treat with extinction. For behaviors typically maintained by positive reinforcement, do not deliver the reinforcer. For behaviors typically maintained by negative reinforcement, do not allow escape to occur (i.e., maintain the demand).
IMMEDIATELY DELIVER Sr+	**Immediately deliver reinforcement for appropriate behaviors.**
PACE INSTRUCTION PROPERLY	Initially use the shortest inter-trial interval (ITI) possible. This should typically start off around 1 – 2 seconds.
	.

RELATED VARIABLES: ***Value of Sr+*** ***Immediacy of Sr+*** ***Rate of Sr+*** ***Magnitude of Sr+*** ***Effort of R***

29

Effective Teaching Procedures For Children With Autism Self Assessment

TEACHING METHODS	***YES***		***NO***	***ANSWER THE QUESTIONS AND DESCRIBE HOW YOU WILL CHANGE YOUR TEACHING PROCEDURES IN ANY AREA THAT YOU CHECKED "NO"***
PAIR				What positive reinforcers will compete with the reinforcers currently maintaining the interfering behaviors? Which reinforcers are more valuable than others?
MIX & VARY TASKS				**Which operants? What skills within each operant? What system will we use to ensure we mix across all operants?**
REDUCE LEARNER ERRORS				What errorless teaching procedures will we use? What prompting methods will we use?
INTERSPERSE EASY AND HARD TASKS				**Which responses are likely to be easy? Which are likely to be hard? What ratio of easy to hard will we use?**
FADE IN # OF DEMANDS				What VR schedule will we set initially? Within each session, how will we plan to fade in demands (i.e., build up to that VR schedule)?
FADE IN EFFORT AND DIFFICULTY OF RESPONSES				**What easy responses will we use at first? Which responses will be more or less effortful?**
EXTINCTION				How will we apply extinction when necessary?
IMMEDIATELY DELIVER Sr+				**How will we structure the instructional environment so we can immediately deliver reinforcers?**
PACE INSTRUCTION PROPERLY				What will the duration of the inter-trial interval (ITI) initially be?

Pace Elinor Dewi

30

Roxburgh, C. (2007)

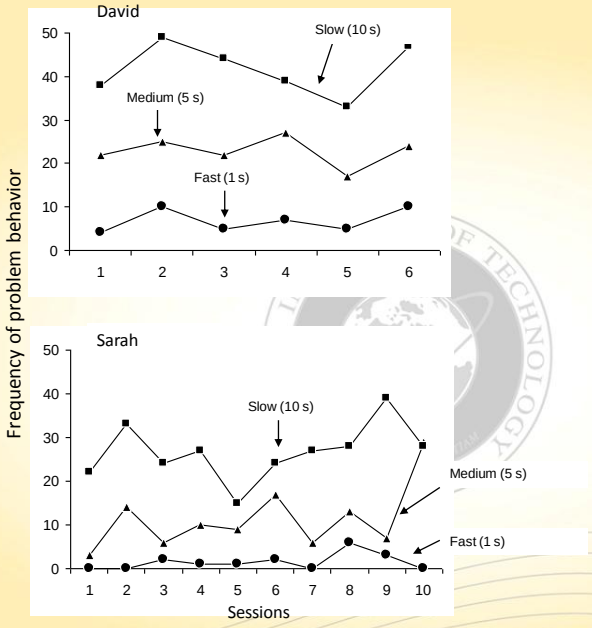


Figure 1: Frequency of problem behavior per session during fast, medium, and slow teacher presentation rates for David and Sarah.

31

Roxburgh, C. (2007)

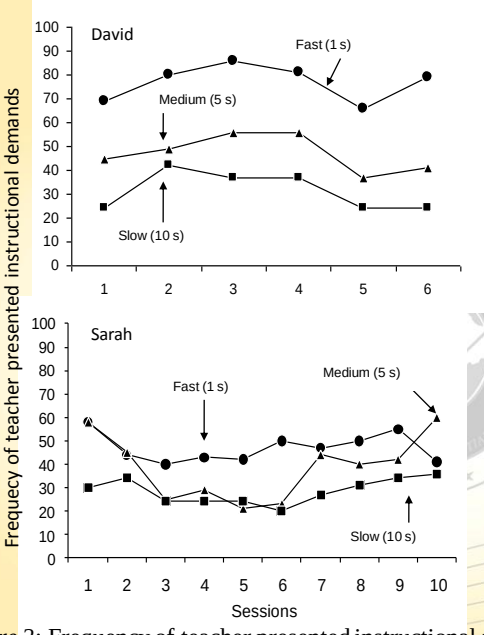


Figure 2: Frequency of teacher presented instructional demands per session during fast, medium, and slow teacher presentation rates for David and Sarah.

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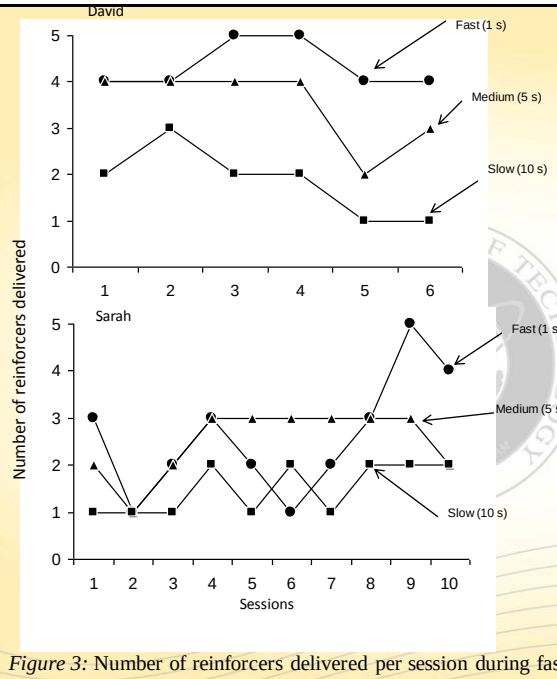

Roxburgh, C. (2007)

Figure 3: Number of reinforcers delivered per session during fast, medium, and slow rates of presentation for David and Sarah.

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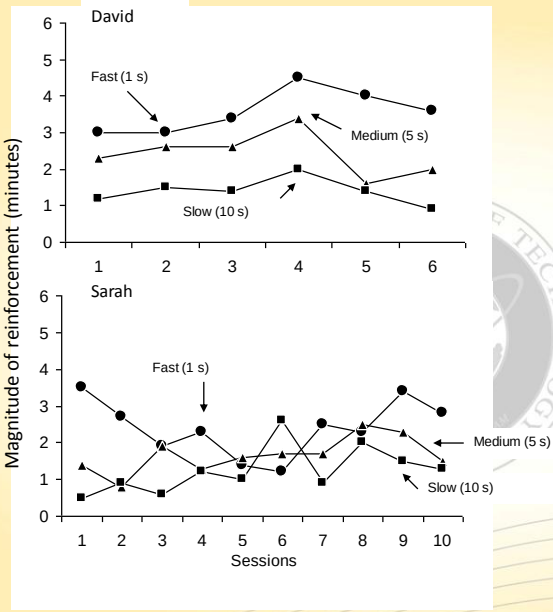
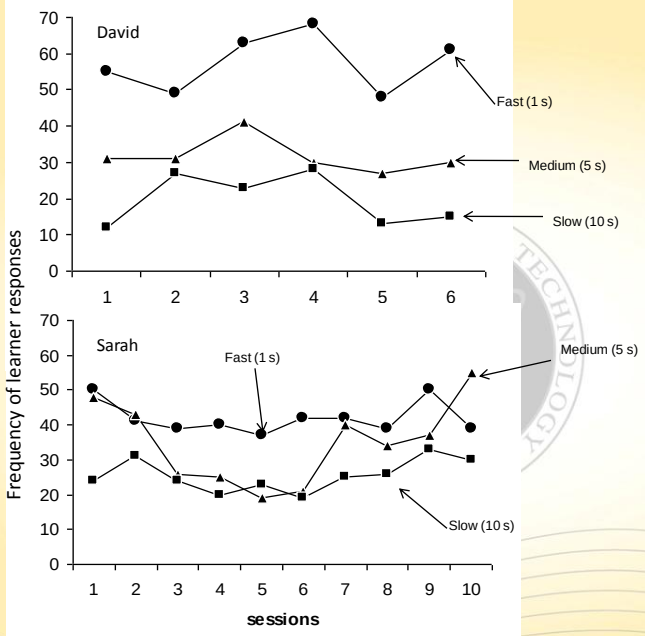


Roxburgh, C. (2007)

Figure 4: Magnitude of reinforcement in minutes per session during fast, medium, and slow teacher presentation rates for David and Sarah.

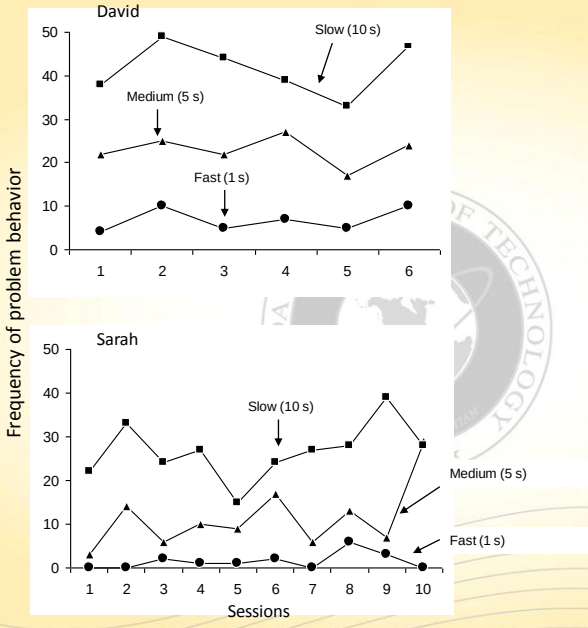
34



Roxburgh, C. (2007)

Figure 5: Frequency of learner responses per 10-minute session during fast, medium, and slow teacher presentation rates for David and Sarah.

35



Roxburgh, C. (2007)

Figure 1: Frequency of problem behavior per session during fast, medium, and slow teacher presentation rates for David and Sarah.

36

16. When reducing problem behavior that occurs during instruction, what types of treatments have been found to be effective:

A. Differential reinforcement
B. Extinction
C. Functional communication training (FCT) plus extinction
D. All of the above

17. A method that leads to a reduction in escape motivated behavior during discrete trial instruction is frequently overlooked by practitioners. Which one?

A. Differential reinforcement plus extinction
B. Abolishing the CMO-R
C. Extinction
D. Functional communication training (FCT) plus extinction

18. By failing to recognize the role of CMO-R the _____ may not be reduced.

A. Aversive nature of the setting
B. All behavior
C. Abolishing operation
D. All of the Above

37

19. One problem with using DRA may be that if problem behavior is occurring at a very high rate, there may be little opportunity to _____alternative appropriate behaviors.

A. Punish
B. Extinguish
C. Reinforce
D. Ignore

20. The decision to use of either one of these approaches, FCT plus extinction or DRA plus extinction is typically based upon an assumption that:

1) The _____must be presented because of the importance of the skills being taught and/or
2) That the instructional setting (i.e., demands) cannot be made less _____.

A. Demands, aversive
B. Reinforcer, aversive
C. Demands, reinforcing
D. Teacher, reinforcing

38

21. In other words, an analysis of the learning history of a child in which demands have come to function as reflexive MOs, may suggest interventions to _____ the value of escape as a reinforcer and, therefore _____ problem behavior.

A. Establish; evoke
B. Abolish; abate
C. Abolish; evoke
D. Establish; abate

39

How To Abolish The CMO-R

- While abolishing the CMO-R appears to be an effective method of reducing problem behavior during instruction, in practical application infrequent use is made of this independent variable.
- Here are several examples of how to apply these antecedent manipulations to abolish the CMO-R, thereby increasing the effectiveness of instruction:
  - The first situation is one where all stimuli associated with an instructional environment initially acted as reflexive MOs. Here the CMO-R was abolished through pairing with strong competing reinforcers. Note the difference in learner cooperation.

    Jack in High Chair

    Jack Abolishing the CMO-R
  - This example shows a situation where the teaching environment and teacher instructions and demands acted as reflexive MOs. We will then see the same learner a few weeks later when the teaching procedures were changed to include methods that abolished the reflexive MOs. Note the differences in student and teacher responding.

    KYLE Abolishing the CMO-R 0-1:24 as Reminder,

    Then 2:18- Abolishing the CMO-R
  - Finally, here are several different learners of varying skill levels whose instructors are using procedures that reflect manipulation of the variables that abolished the aversive nature of the teaching setting. Note in particular the use of errorless instruction which reduces the frequency of errors, interspersal of high rate of mastered items, the mixing of all the skills being taught (mixed VB), the relatively brisk pace of the instruction, the high rate of reinforcement, etc. **(Naryan, James Video, James, Kaitlin Video, Katy Vocs, Katy 2010, Jack 6:38 , Jordo, Andre, Elinor, Sylvia, and Vincent Video)**

40

22. What is the general name used in the instructional literature to refer to methods that may reduce the CMO-R.?

A. Punishment
B. Nothing, DRA, EXT, and FCT are effective
C. Antecedent curricular revisions
D. Only EXT

23. During stimulus demand fading the practitioner will usually

A. Gradually increasing the number of demands
B. Gradually increase the difficulty or effort of responses
C. Immediately reinforcing alternative behaviors
D. A and B

24. During the first and early instructional sessions teachers may reduce the CMO-R by

A. Reducing learner errors
B. Pairing the instructional setting with reinforcement
C. Gradually increasing the number of demands
D. Mixing and varying the skills taught

41
41

25. When teaching target skills which MO manipulation is recommended?

A. Reduce learner errors by teaching errorlessly
B. Making strong competing reinforcers available
C. Immediately reinforcing alternative behaviors
D. Pacing the instruction properly

26. When the teacher's instructions and the presentation of demands evoke high frequency of problem behavior, which MO manipulations should you use?

A. Reducing learner errors
B. Interspersing high rates of "easy" demands with lower rates of "hard" demands
C. Gradually increasing the difficulty or effort of responses
D. All the above.

27. By using the list of antecedent curricular revisions while teaching, you can assess your current instructional methods in order to more effectively _____the CMO-R and _____the problem behavior exhibited by your learners.

A. Abolish, abate
B. Establish, evoke
C. Abolish, evoke
D. Establish, abate

42
42

28. Which inter trial interval resulted in the fewest occurrences of PB?

A. Slow 10s
B. Fast 1s
C. Medium 5s
D. A and C

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