

Effective Instruction to Develop Willing Learners

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Pennsylvania Training and Technical Assistance Network

PaTTAN's Mission

The mission of the Pennsylvania Training and Technical Assistance Network (PaTTAN) is to support the efforts and initiatives of the Bureau of Special Education, and to build the capacity of local educational agencies to serve students who receive special education services.

PDE's Commitment to Least Restrictive Environment (LRE)

Our goal for each child is to ensure Individualized Education Program (IEP) teams begin with the general education setting with the use of Supplementary Aids and Services before considering a more restrictive environment.

About Me



“Increasing the effectiveness of instruction results in less failure, more frequent social and other forms of reinforcement, and general improvements in the demand situation to the point where it may not be functioning as a demand, but rather as an opportunity”

Jack Michael

Topics Addressed Today

- Motivative Operations
- Identifying Reinforcers
- Pairing
- Accurate Assessment and Programming
- Classroom Arrangement and Schedule
- Errorless Teaching
- Pace of Instruction
- Easy/Hard Ratio during teaching
- Mixing and Varying Task demands
- Rates of Reinforcement
- Data Based Decision Making

What Does Your Classroom Look Like?

- Do you have to chase kids around at any time during the day?



- Do you go home at the end of the day with scratches, bite marks, or bruises from at least one student?*

- *Problem Behavior video

What Does Your Classroom Look Like?

- Do you have one student whose absence change the whole dynamic of your classroom?
- Do your students run off the bus to hug you?
- Do any of your students leap from the work area and run out of your classroom or even out of the school?
- Do any of your student cry for long periods throughout the day?

Problem Behavior Videos *#1 **#2

The Results of Ineffective Instruction



The Results of Ineffective Instruction



The Results of Ineffective Instruction



The Results of Ineffective Instruction

- Problem Behavior Video #1
- Problem Behavior Video #2
- Problem Behavior Video #3
- [Problem Behavior Video #4](#)

How Can we Create a Better Environment?

- Quality Instruction with high rates of appropriate engagement is the best way to avoid problem behavior
- Not all problem behavior is avoidable
- A functional approach to reducing problem behavior will be most effective (attend Dr. Brian Iwata's session!):
 - Data Based
 - Attends to the function of the problem behavior
 - Teaches a skill that serves the same purpose
 - Ensures that problem behavior is ineffective (puts problem behavior on extinction)

**Cooperative learning video

As an instructor, you should be **REINFORCED** by cooperative student behavior and by the student learning.

Reinforcement – Consequences that increase the future probability of a behavior occurring in the same circumstances are known as reinforcers. Improving Conditions!

Insanity – doing the same thing over and over again but expecting different results

The CMO-R and Problem Behavior

Conditioned Motivative Operations – Reflexive:

Escape Behavior – one only attempts to get away from things that are paired with a worsening set of conditions

Any event that has been correlated with the onset of worsening conditions will evoke behaviors that are associated with the removal or escape from the event. Getting away or delaying the event will become valuable.

Negative Reinforcement **

The CMO-R and Problem Behavior

- Video of CMO-R

CMO-T

Conditioned Motivative Operations – Transitive:
An environmental variable related to the relation between another stimulus and some form of reinforcement, and thus establishes the reinforcing effectiveness of the other stimulus, and evokes all behavior that has produced that stimulus (Carbone, 2014)

Examples – bubble lid, food in a can, screwdriver, teacher

Motivative Operations and Instructional Control

- CMO-R
 - a history of instruction being paired as a warning signal of worsening conditions
 - Establishes delay or escape from instruction as a reinforcer and evokes all behaviors associated with delay or removal of instruction
- CMO-T
 - Establishes instruction as a stimulus that evokes cooperation

Establishing Cooperation

- Identify strong reinforcers
- Pair yourself with the student's positive reinforcers (establish yourself as conditioned positive reinforcement)
- Arrange for the teaching environment to be paired with reinforcement and not the place where reinforcers are removed
- Pair instruction with reinforcement: establish an improving set of conditions
- Sequence instruction carefully

Reinforcement and Pairing

- Preference Assessments – home or classroom
 - **However, just because the student prefers an item that doesn't mean that it is a reinforcer
- Condition new reinforcers as early as possible
- Keep Reinforcers strong
 - Vary reinforcers used, vary the way they are delivered, vary the schedule or delivery, stop before value is lost, avoid using too much or not enough
- Pair yourself, materials, and work areas with the reinforcers that you have identified
- Pair instruction with reinforcement and improving condition

Sequencing Instruction Carefully

- VB-MAPP
 - A curricular guide; provides a skill sequence
 - Identifies the skills that will allow students to access the curriculum appropriately
 - Linked to typical development
 - Emphasis on program planning and guiding instructional targets
 - One of the few assessments that assess acquisition of verbal operants
 - Efficient

VB-MAPP

- 3 Levels, 170 measurable milestones
- 16 Milestone Areas

Level 1 (0-18 months): Mand, Tact, LR, VP-MTS, Play, Social, Imitation, Echoic, Vocal

Level 2 (18-30 months): Mand, Tact, LR, VP-MTS, Play, Social, Imitation, Echoic, LR-FFC, Intraverbal, Group Instruction, Linguistics

Level 3 (30-48 months): Mand, Tact, LR, VP-MTS, Play, Social, Reading, Writing, LR-FFC, IV, Group, Linguistics, Math

Systematic Programming

- Complete VB-MAPP Assessment
- Note performance level obtained in each column
- Select instructional programs that are balanced across operants and at appropriate instructional levels
 - Generally, for the first gap (skill not acquired) in each column, develop instructional program
 - Check for component skills
 - Check to decide whether programming is necessary at previous milestones

Programming Considerations

- Instructional Programs should fit together
 - Imitation items and VP-MTS may become receptive items
 - Echoic or Imitation targets may become mand and tact targets
 - Tact items may become receptive items
 - Tact items will become intraverbals

Programming Considerations

- Be sure that targets are relevant for the student
 - Valuable
 - Use daily
 - Encounter often in home and community
 - Leads to meaningful interactions with peers
 - Leads to meaningful participation in regular education
- Should be consistent with student's response form
- Instructional Materials should be available

Environment and Instructional Organization

- Learning environments should be arranged to facilitate, evoke, enhance and support the acquisition of critical skills, including language, behavior, social interactions, and academics.
- Including:
 - Arrangement of the environment
 - Instructional materials organization
 - Time management (schedule)

Classroom Arrangement

- Do you have immediate access to every part of the room?
- Can you see every setting where students will be spending time?
- Are materials for instruction easily accessible?
- Can you easily select/replace materials?
- Do you have designated areas for various activities?
- Do you have the schedule in a prominent place?

Classroom Schedule

- Who: specifies which student(s) the staff member will be working with
- When: start and end time for each session
- Where: specific location in the classroom
- What: specific instructional program
- WHY?? *Active student engagement is one of the factors directly correlated with student achievement and reduction in problem behavior*

Effective Teaching Procedures

- Reduce Learner Errors (Errorless Procedures and Error Correction)
- Intersperse easy and hard tasks
- Mix and Vary Instructional Demands
- Consider pace of instruction
- Maintain VR

Errorless Teaching Procedures

- Errorless teaching (reducing student errors or teaching without mistakes occurring).
- Errorless teaching is associated with faster learning and less problem behavior during instruction.
- Errorless procedures are used for target items (items being taught)

Errorless Teaching Video

The sequence of teaching on an errorless item is:

1. PROMPT
2. TRANSFER
3. DISTRACT
4. CHECK.

- It's errorless because the first thing we do is prompt.
- The prompt helps **prevent errors**
- The transfer is from **prompted** to **unprompted**.

Prompt

- Errorless teaching involves the use of prompts
- The procedure is errorless because the first thing we do is prompt and the prompt prevents errors
- Prompts are selected from Known Items
- During the prompted trial, you ask the question (Sd) AND give the answer (prompt)

Transfer

- Prompts must be faded as quickly as possible
- We fade prompts through the use of a transfer trial
- Transfer means that we go from prompted to unprompted
- During the transfer trial you ONLY ask the question (Sd) and remove or fade your prompt

Distract

- Distract trials are used to place responses between a prompt-transfer sequence and the check trial
- Distractors are selected from known items
- Distractors help ensure that students “remember” the skill and allow the student to practice known items

Check

- The check trial serves to assess whether the student remains able to demonstrate the skill being taught after other events occur.
- Correct performance on the check trial is a sign that the student is learning
- It is best to provide reinforcement after a check trial. This provides the strongest reinforcement for the most independent response.
- Be specific about your reinforcement

- IT Session Videos

Two Critical Factors

- Make responding easy
- Correct errors efficiently

What if an error occurs?

- Use **Error Correction Procedure**
- The error correction procedure is : When an ERROR occurs:
 - 1.END
 - 2.PROMPT
 - 3.TRANSFER
 - 4.DISTRACTER
 - 5.CHECK
- The reason “End” is included in this sequence is because we need to make sure to repeat the direction (S^D) after the error occurs.

Types of Errors

- Incorrect response
- No response
- Self Correction

Troubleshooting Errors

- Evaluate prompt effectiveness
- Evaluate instructional control issues
- Evaluate instructional level
- Consider fading prompts gradually

Troubleshooting Errors

- Error on prompted trial
 - Check prompt effectiveness
 - Teach prompt if needed
- Error on transfer trial
 - Use lesser prompt on the transfer
- Error on distract trial
 - Error correct
 - Monitor
- Error on check trial
 - Use lesser prompt on the check trial
 - Run fewer distract trials

Fast-Paced Instruction

- Faster responding results in less problem behavior and/or off task behavior
- What helps? Organized materials
- Fast paced but poised. Be clear in your Sd, wait for the student's response and then move on
- General recommendation, 2 seconds between the student's response and the start of the next trial
- Each demand becomes a "promise" of reinforcement and not a "threat" of long delays to reinforcement

Session Duration

- Short sessions with lots of responding is best
- Longer sessions may result in more problem behavior
- Beware of being reinforced by cooperation (may lead to more trials when student does well.)
- Start the session by pairing instruction and cooperation with reinforcement
- Make responding easy
- Fade in demands

Interspersing easies with target items

- Provides opportunities to practice known skills (maintenance)
- Provides opportunities for successful responding which leads to reinforcement. This weakens the tendency to engage in problem behavior that has gotten reinforcement in the past
- High probability items (easy/known) will make it more likely that student will respond to low probability items (hard/targets)
- Typically an 80/20 ratio
 - Some students may be 90/10 and some may be 60/40

Mixing and Varying Task Demands

- The same stimulus is not presented repeatedly over many consecutive trials
- Student should be able to respond to different operants fluently, this will prevent rote responding
- The variation of stimuli from trial to trial appears to reduce the value of escape

Schedule of Reinforcement (VR)

- During intensive teaching we use a variable ratio schedule of reinforcement (VR)
- VR is when reinforcement occurs on an average number of responses
- Using a variable ratio schedule leads to strong and steady responding
- Setting VR
 - Estimate the average number of cooperative responses student can emit before reinforcement
 - Set the VR slightly below that number

Reinforcement Reminders

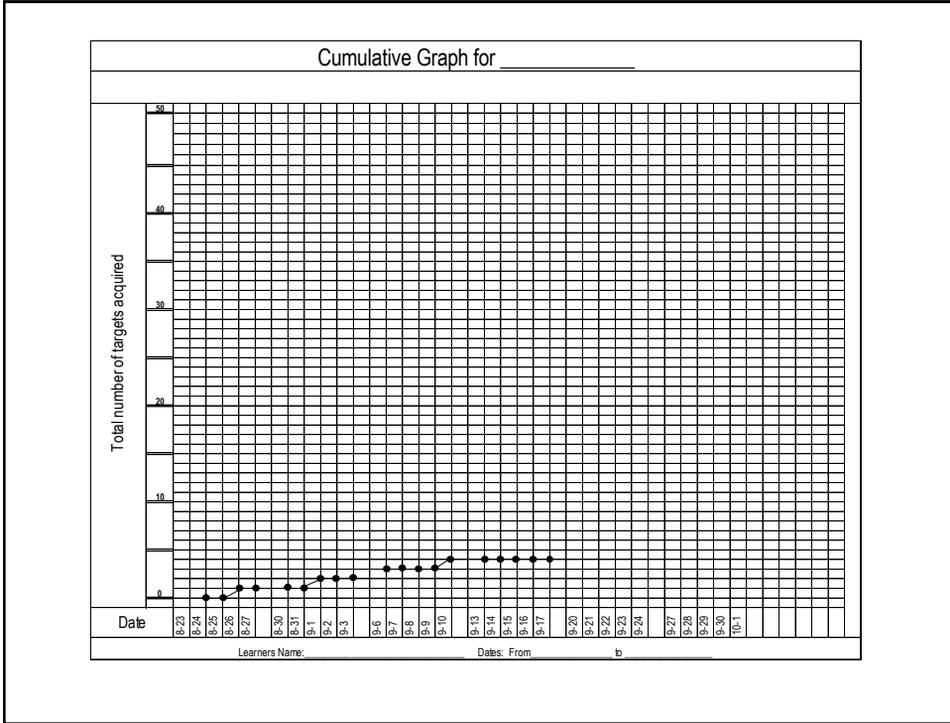
- Stick to the established VR
- Increase VR slowly and systematically
- Remember that VR is an AVERAGE
- Reinforce on the check trial as often as possible
- When providing reinforcement, be specific about what you are reinforcing
- Better responding should result in better reinforcement
- Shorter run throughs for cooperation; longer run through if there is problem behavior
- When you provide reinforcement, you reinforce ALL of the behaviors.

Data for Monitoring Effects of Instruction

- Instructional decisions should be guided by student responding and data.
- Data systems need to be:
 - clear
 - accurate
 - efficient
 - provide the necessary information to guide decisions

Example of Data Systems for Intensive Teaching

- **Cold Probe:** to assess target items
- **Skills Tracking:** Running list of mastered/know items, target items, and future target items for active programs
- **Cumulative Graph:** Provides a quick to reference graphic of the acquisition pattern for each active program



Data Based Decision Making

- My student has had the same target for 64 days. What should I do?

Antecedent Manipulation (stimulus control/motivation)	Consequence Manipulation (reinforcer/extinction/punishment)
<ul style="list-style-type: none"> ○ Increase pairing ○ Reduce # of demands (VR) ○ Increase # of easy skills interspersed ○ Decrease response effort ○ Further reduce errors (modify prompt procedures) ○ Change instruction pace (ITI) ○ Decrease/increase session time ○ Conduct Sr⁺ assessment ○ Change field of stimuli ○ Increase # of teaching trials ○ Change physical environment ○ Change aim ○ Teach pre-requisite skills ○ Decrease # of goals/objectives ○ Build MO by deprivation of specific reinforcers ○ Change teaching procedure ○ Other: 	<ul style="list-style-type: none"> ○ Provide more valuable reinforcer ○ Provide higher rate of reinforcement (lower VR) ○ Reinforce immediately ○ Provide greater magnitude of reinforcement ○ Reinforce on transfer trials ○ Better use of extinction ○ Improve implementation of differential reinforcement ○ Other:

Data Based Decision Making

- Observe Instruction
 - Is it occurring when it is scheduled?
 - Are there enough scheduled sessions?
 - How many times during the session is the target being taught?

Instructional Control Procedures

- Ready Hands
- Wait
- Interruption-Transition
- Giving Up Reinforcers
- Accepting No
- Walk with Me
- Come Here

What do you do when...??

- Student grabs materials, student yells responses, student screams when presented with a reinforcer, student falls to the floor when asked to go somewhere

Questions

- Please feel free to ask any questions at this time.

Good teaching often results in getting rid of problem behavior. Know what the student's deficits are and be responsible enough to teach them!

Thank You for Your Participation!!!

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