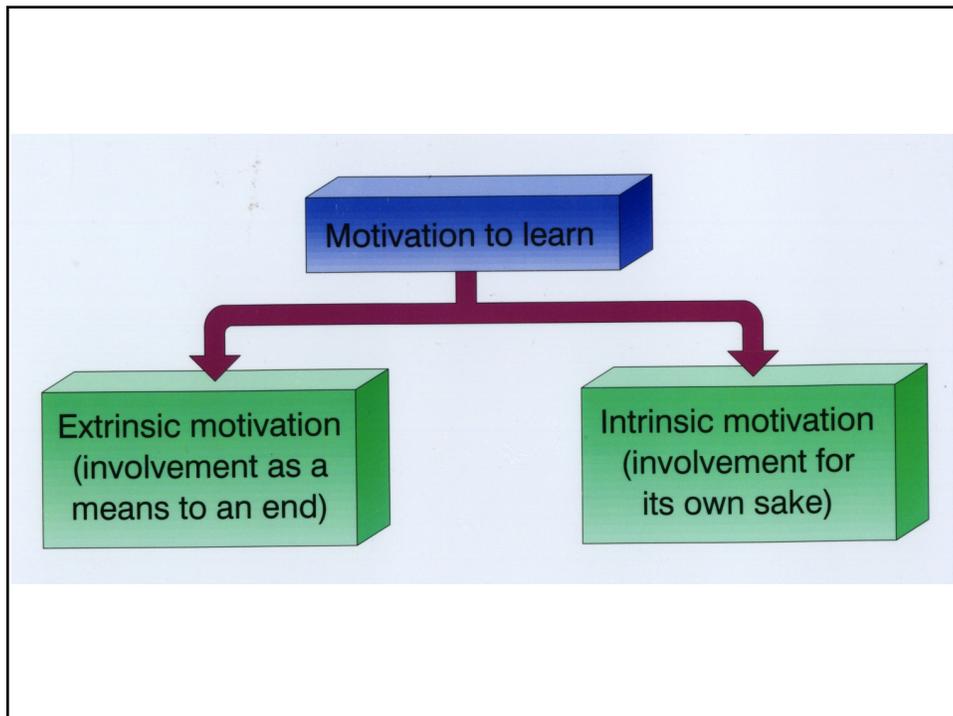
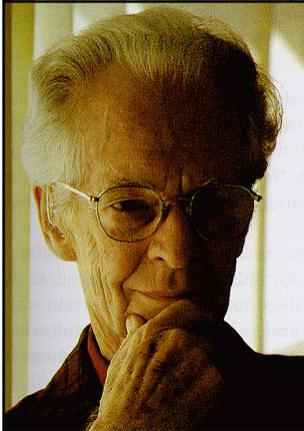


Rewards & Education





B. F. SKINNER

OPERANT CONDITIONING

**OPERANT BEHAVIORS ARE ACTIONS
THAT INDIVIDUALS TAKE TO MEET THE
DEMANDS OF THEIR ENVIRONMENTS**

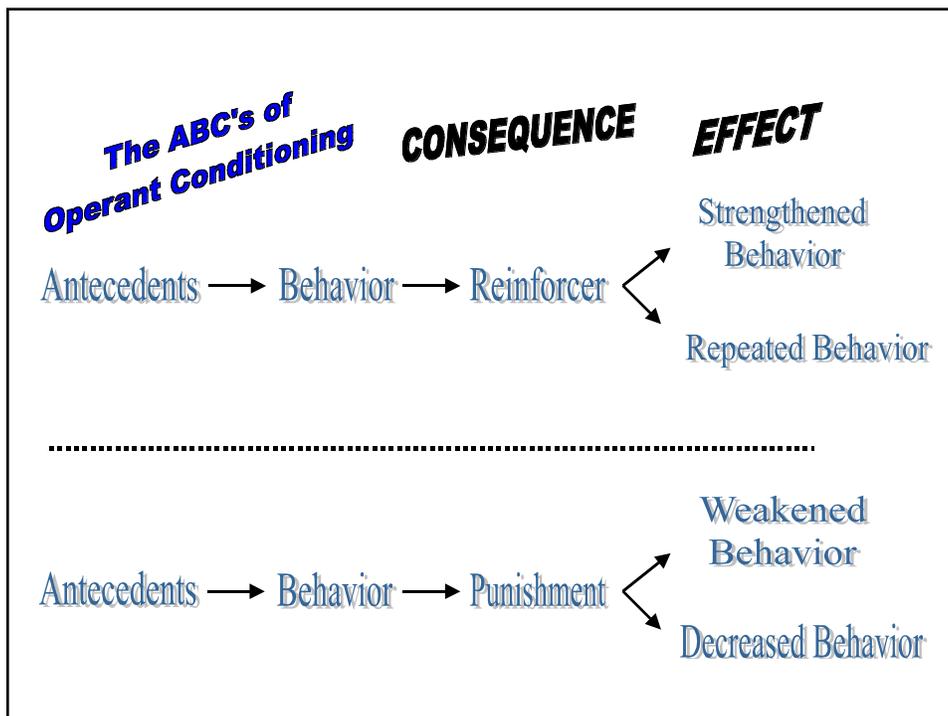
Reinforcement & Punishment

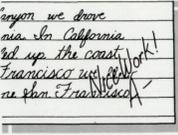
- **Reinforcer**
 - Any consequence that strengthens (increases the frequency of) a behavior
- **Punishment**
 - Any consequence that weakens (decreases the frequency of) a behavior

REINFORCEMENT

Any event following a behavior that increases the likelihood of that behavior occurring again.

“The only defining characteristic of a reinforcing stimulus is that it reinforces”
(Skinner, 1953, p. 72).



Kinds of Reinforcement and Punishment		
	Behavior Encouraged	Behavior Suppressed
Stimulus Presented	POSITIVE REINFORCEMENT ("Reward") Example: good grades 	PRESENTATION PUNISHMENT ("Type I" Punishment) Example: after school detention 
Stimulus Removed or Withheld	NEGATIVE REINFORCEMENT ("Escape") Example: excused from chores 	REMOVAL PUNISHMENT ("Type II" Punishment) Example: no TV for a week 

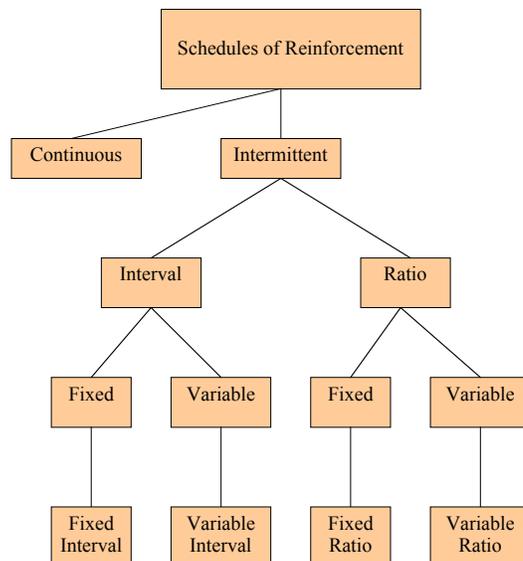
Recommendations for Reinforcement from Behaviorism

- ☛ Reinforce immediately *following* the desired behavior - [cartoon](#)
- ☛ Use the least tangible or elaborate reinforcer that will work
- ☛ Use PreMack Principle or "Grandma's Rule"-- Eat your vegetables so you may go play
- ☛ Make the reinforcement process informational
- ☛ Try reinforcement before punishment if possible
- ☛ Use reinforcement to *shape* behavior

The Process of Shaping

- **First, reinforce any response that in some way resembles the target behavior**
- **Then reinforce a response that more closely approximates the target behavior (no longer reinforcing the previously reinforced response).**
- **Then reinforce a response that resembles the target behavior even more closely**
- **Continue reinforcing closer and closer approximations to the target behavior**
- **Finally, reinforce only the target behavior**

Schedules of Intermittent Reinforcement



Fixed Interval

Reinforcement after set period of time

Examples

- Weekly Quiz
- Preparing for class to start everyday
- Shopping for Holiday or Birthday gifts
- Praising a hyperactive child every 15 minutes for appropriate classroom behavior
- Feeding your pets every morning

Response Rate

- Increases as time for reinforcement approaches, then drops off after reinforcement

Variable Interval

Reinforcement after varying lengths of time

Examples

- Pop Quizzes
- Telling students that their projects that they are working on will be graded in “a few days”
- A pigeon being reinforced on a random time basis for pecking at a panel that lights up
- Giving your students tokens for being on task at different times during the day

Response Rate

- Slow, steady rate of responding; very little pause after reinforcement

Intermittent Reinforcement Schedules

Fixed Ratio

Reinforcement after set number of responses

Examples

- ✓ Paying workers \$50 for every car they paint
- ✓ Giving a pizza coupon for every third book read
- ✓ Giving a struggling speller computer time for every 10 new words spelled correctly
- ✓ Receiving an advanced colored belt in karate after meeting the requirements at each stage
- ✓ Receiving recognition pins for writing your 5th, 10th, & 25th essays

Response Rate

Rapid response rate; pause after reinforcement

Intermittent Reinforcement Schedules

Variable Ratio

Reinforcement after varying # of responses

Examples

- ✓ Playing slot machines
- ✓ Telemarketers calling to solicit credit cards
- ✓ A dog occasionally getting a bone after begging
- ✓ Students being called upon at random when raising their hands
- ✓ Maintaining a high level of academic performance because of occasional praise from a respected teacher

Response Rate

Very high response rate; little pause after reinforcement

3 Foundational Studies

- **Deci (1971)** Gave college students an “interesting” spatial-relations problem. One group received money the other didn’t. Those not offered payment were found to engage in problem solving even when not required to.
- **Lepper (1973)** Had preschoolers draw with markers, a task the children were initially interested in doing in the classroom. Half were offered a recognition ribbon. Kids offered a reward show a lack of interest in drawing with markers during the following weeks of class
- **Cameron and Pierce (1994)** Conducted a meta-analysis and found that rewards only had a negative affect on intrinsic motivation when rewards were tangible and promised without regard to performance

Kohn on *rewards* . . .

“The point to be emphasized is that all rewards, by virtue of being rewards, are not attempts to influence or persuade or solve problems together, but simply to control.” (p. 27)

Kohn on *rewards* . . .

“Rewards are often successful at increasing the probability that we will do something. At the same time, though, . . . they also change the *way* we do it. They offer one particular *reason* for doing it, sometimes displacing other possible motivations. And they change the *attitude* we take toward the activity.” (p. 35)

Kohn on *reinforcement* . . .

“The answer is that reinforcements do not generally alter the attitudes and emotional commitments that underlie our behaviors. They do not make deep, lasting changes because they are aimed at affecting only what we do. If, like Skinner, you think there is nothing to human beings other than what we do--that we are only repertoires of behavior--then this criticism will not trouble you; it may even seem meaningless.” (p. 41)

Kohn on *token economies* . . .

“But specific objections aside, it is difficult to imagine a more flagrant example of control than one person’s giving another a token redeemable for candy or privileges to reward him for being “cooperative.” (p. 27)

Kohn’s key issues:

- **Rewards must be judged on whether they lead to lasting change after the reward has ceased**
- **Rewards usually improve performance at extremely simple tasks, and even then they improve only quantitative performance**
- **Rewards will most likely fail on interesting or creative tasks**
- **Rewards are used to control or manipulate people**
- **Rewards discourage risk-taking**

*Elementary Teachers Use and Perception of Rewards
in the Classroom*

How prevalent is the use of rewards by elem. school teachers?

Do teachers use rewards differently for learning engagement vs. behavior management?

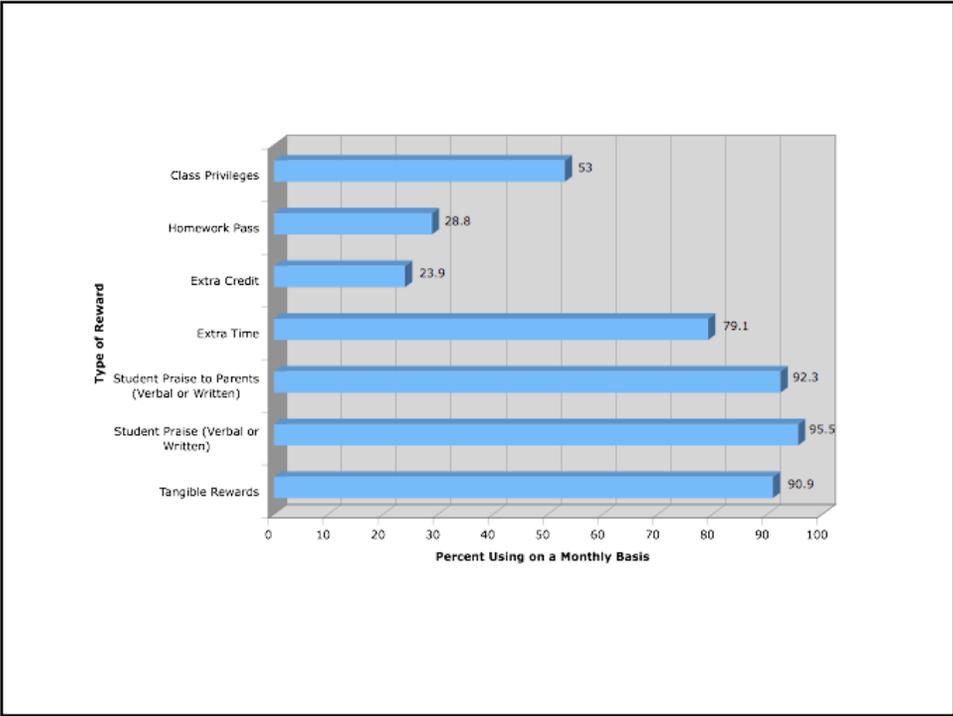
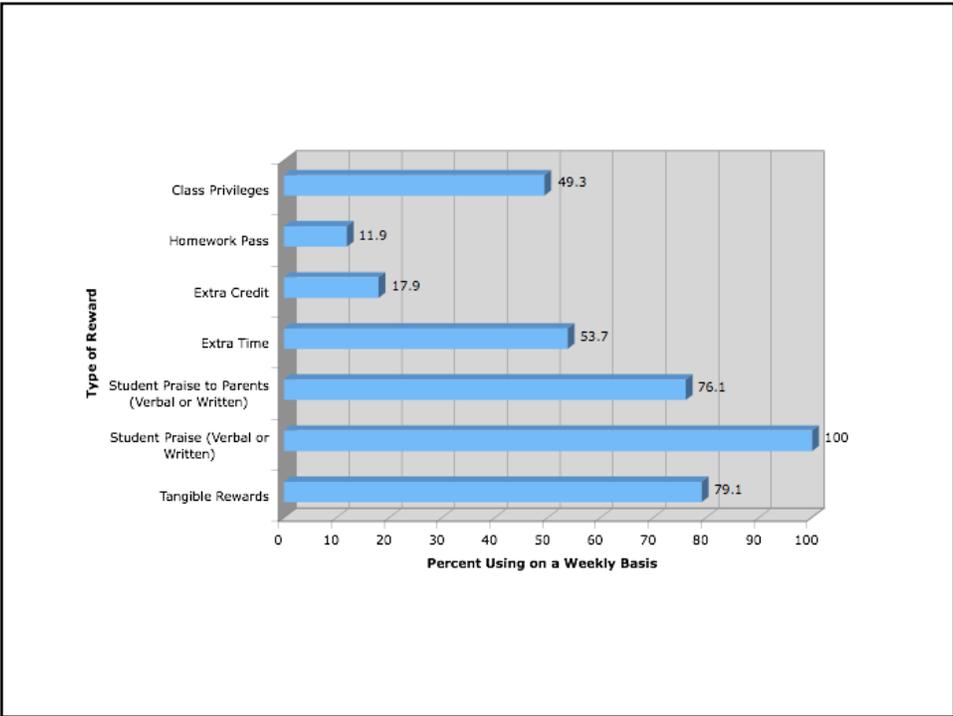
What teacher characteristics are associated with the use of rewards in the classroom?

How do elementary school teachers define the term “reward?”

What are teachers’ beliefs concerning the appropriateness of using rewards?

Hoffmann, K. F., Huff, J. D., Patterson, A. S., & Nietfeld, J. L. (2009). Elementary teachers’ use and perceptions of rewards in the classroom. *Teaching and Teacher Education, 25*, 843-849.

- **Results revealed that all teachers in our sample use some form of rewards in their classrooms and the majority use some form of tangible rewards.**
- **Rewards were most frequently given for behavior issues but there was a significant relationship between the use of rewards for behavior and achievement.**
- **Performance goal orientations for teaching were positively related to the use of tangible rewards and a higher degree of classroom control and negatively related to teacher self-efficacy.**
- **When asked to report on the appropriateness of using rewards only one-third of the teachers reported that they should be used conditionally.**



Effect of Rewards

- **Praise, if used correctly, can increase intrinsic motivation by being informational**
- **Give unexpected rewards**
- **Avoid tangible rewards for something the student already finds interesting**
- **Rewards may decrease intrinsic motivation when given for simply engaging in an activity. Rewards should be contingent upon meeting a standard or advanced level of performance**

Effect of Rewards

- **When initial interest in a task is low rewards may increase academic engagement**
- **Rewards may squelch risk-taking if used improperly**
- **Decreases in intrinsic motivation are high when rewards are highly salient**
- **Depending on the context rewards may hinder creativity**