Developing and Validating Procedures to Prevent and Remedy Student Problems for Students with High Functioning Autism

Randomly Selected Contingency Components: Group and Individual Contingencies

National Autism Conference

Penn State

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Me

Qualifiers –

- 1. I am here,
- 2. I have done applied research on topic
- 3. Have taught EBD in self contained school and self-contained autism
- 4. Consultation practica for 26 years (describe)
- 5. Negative correlation between spelling and intelligence

Disqualifiers

- 1. Not sure this topic will meet your needs but we can talk.
- 2. Over 30 years since I taught.
- 3. Consultation practica not the same, teacher want to help my students often not successful but keep trying.
- 4. Until I got to grad school I was a bad student –lots of smarter people than me. Most of my success can be attributed to others (pracitioners I work with and my students

I could not even get an interveiw in my own program!

I. Objectives

- 1. Learn strengths and weaknesses of different contingencies
- 2. Generate a group of rewards
- 3. Learn procedures to minimize negative side effects of group contingencies
- 4. Learn procedures to maximize direct effects and positive side effects of group contingencies.
- 5. Learn why it may be poor advice to strive for consistency, as opposed to employing random selection of contingency components.

III. Contingency

Describes an if-then relationship between behavior and consequence (if you do this - then this happens).

Contingency components

- Student (who)
- Antecedent (when)
- Target behavior (what)
- Criteria (how little, how much)
- Consequent (if _____ then _____)

Example of Individual Contingency: Contingency Contract

•	I,	, will complete and score 80% of
	higher on 8 of my	y next 10 homework assignments. Each
	day the teacher w	vill record my score on her score card.

• My teacher will give me ice cream on Friday (August, 28th) if I meet this goal.

Teacher Signature:	Date
Student Signature:	Date

Reinforcement and punishment

R+: stimuli delivered (*contingent on behavior*) and strengthens behavior

R-: stimuli removed and strengthens behavior (contingent skipping)

P+: stimuli delivered and weakens behavior (paddle)

P-: stimuli removed and weakens behavior (fine)

Activity numbers 1 and 2 handout pgs 2 & 3:

Activity number 1

Write down specific rewards list

As many as possible in 2 minutes.

Activity number 2: write down target behaviors,

List as many as possible in 2 minutes Please try to list specific target behaviors, thus rather than writing bad attitude, write______.



Individual and Group Contingencies

Contingencies can enhance (reinforce), reduce (punish), or have no effect on future occurrences of target behavior.

Also, contingencies can be broken down into individual and group contingencies.

Group Oriented Contingencies:

- 1. independent,
- 2. interdependent, and
- 3. dependent.

Individual Contingency

I. Student: 1 student.

Individual contingency means student gets (receives access to or opportunity to engage in behavior) reinforced or punished for **his/her own behavior**.

II. Antecedent:

- * student told about program (typically),
- * often specific antecedent indicate (e.g. when given a direction student will begin to comply with request within 5 s, 90% of the time)

III. Target behavior:

- * just that student's behavior
- * can customize target behavior for individual student (i.e., idiosyncratic target behaviors): *remediation*
- * behaviors can vary widely, academic and social

Individual Contingency

IV. Criteria:

Identifies:

- *Target behavior,
- *Level or criteria (90% of time),
- *Typically includes a temporal criteria also (5 s)

V. Consequence:

What floats specific child's boat?

*Example: contingency contract (ice cream)



Individual Contingency: Advantages

Advantages:

- 1. Tailor consequence
- 2. Tailor criteria (adjust as improve at own rate)
- 3. Tailor antecedent stimuli (academic task)
- 4. Many teachers familiar with use

Individual Contingency: <u>Disadvantages</u>

Practical Disadvantages:

- 1. Time consuming
- 2. Difficult to manage 20 different contingencies



Individual Contingency: <u>Disadvantages</u>

Practical Disadvantages Continued:

Social Side Effects

- 3. Unfair, peer perception:
 - *Squeaky wheel effect on peers screw up to get extra reinforcement
 - *Belittle target student, reinforcer, or behavior:
 - "of course the baby needs his ice cream"
 - "is Ralph working hard to meet his goal"
- 4. Student label this person (dumb, bad, etc.)

You guys got any more??????

Individual Contingency: Solutions

1. Text tells you to explain to peers that needs extra.

Bull dinky: structure unjust world - teach unjust world

2. Punishment poor performers.

Bull dinky: can only ratchet up punishment so much before they opt out - e.g., stop going to school to avoid aversive consequences

- 3. Don't tell anyone should share success with others, not keep quiet Will they keep quiet?
- 4. Reinforce at home (home notes, Kelly). contract could be that mom delivers ice cream (this work but again is difficult to manage).
- 5. Group oriented contingencies.

Group Oriented Contingencies

<u>Independent group:</u> same contingency for all, same target behavior, criteria, consequence – access to consequence based on own behaviors, thus independent of peers.

Interdependent group: consequent based on aspect of group behavior, thus interdependency where my access is dependent upon my own and classmates behavior. (Same consequence, delivered to *all or none*)

<u>Dependent group:</u> all get consequences based on individual student behavior.

Independent Group Contingencies

All have same target behavior, antecedents, criteria, and consequences.

Example: school or classroom rule, grades

I. Students: all students targeted.

II. Antecedents: much time and energy spent developing and explaining contingencies.

Examples:

- * teacher teach class rules
- * school board and attorneys develop and have approved Zero tolerance policies
- * courts alter zero tolerance policies

Independent Group Contingencies (continued)

III. Target behaviors:

Because addressing all students more typical target behaviors such as:

- * completing assignments
- * attending school
- * bringing weapons to school
- 90% average on tests

IV. Criteria:

Held constant across students as with target behaviors

- * all get C for 70-79% accurate
- all expelled for bringing drugs to school
- V. Consequence: again the same for everyone

Advantages: Independent Group Contingencies

- 1. Less time consuming
- 2. Easier to manage than 20 different contingencies
- 3. Considered fair: no squeaky wheel effect on peers
- 4. Considered fair by others (due process and equal protection)
- 5. Many teachers familiar with use

Disadvantages: Independent Group Contingencies

1. Public success and failure:

When all have same contingency, then peers know:

What the criteria was and whether a peer met it based on whether they get access to consequence.

Public feedback: peers know...

Who did well, look around and see who got reward Who did poorly, look around and see who got punished

Students label this person (dumb, bad, etc.)

Social classes: nerds & geeks (r+ haves)

bad kids: get punished

dumb kids (r+ have nots):

More Disadvantages: Independent Group Contingencies

2. Reward have *nots* tend to demean rewards:

- a. only babies like ice cream
- b. behavior, and students who get them (when you earn rewards others should be patting you on the back not demeaning the accomplishment or rewards).

3. Student steal kids rewards:

Steal fancy lead pencil from peer who earned it.

4. Students who earn rewards share them:

This is a huge problem, why should you work to earn rewards if a peer will share?,

However, are teachers to tell peers not to share or punish them for sharing?

5. Common target behavior and criteria:

thus students who try really hard but do not meet criteria do not get reward (peers may share and teachers give in)

More Disadvantages: Independent Group <u>Contingencies</u>

- 6. Can't tailor rewards: (some kids hate _____)
 Thus, may screw up to avoid access to consequence.
- 7. Student may also find it reinforcing to prevent peers from earning rewards, thus sabotage their peers.
- 8. When can no longer meet criteria, no reason to try:
- * student who fights on Monday has no chance to earn Fridays reward
- * college student bombs first 2 tests and can not pass, stops attending or studying or begs professor to change criteria
- 9. Can't tailor antecedent stimuli: (academic task). Unfair if Tom just has to do 3 easy problems
- 10. Some students rarely gain access to r+: (dead men)
 - * give up, learned helplessness

Scenario:

A class of EBD students (8 students) plans to go on a canoe trip.

Much planning involved: 6 canoes, 12 adults, guides all volunteer their time.

Teacher sees Dr. BIS (Behaviorism Is Simple) who suggests that this activity would make an excellent reinforcer. Thus BIS and teacher decide that only those students who do not fight for next two weeks get to go on trip.

- 1. Students: each person in class
- 2. Behavior: fighting
- 3. Antecedent: tell about contingency
- 4. Criteria: none for two weeks
- 5. Consequence: get to go on canoe trip

Students:

#1: *Quick Draw (QD):*

Generally gets along with peers and teachers,

Often helps peers and adults

But is prone to <u>occasional</u> impulsive outburst

Feels genuine remorse when hurts someone

Psychologist has hung about every diagnostic category or label on this child.

#2: Timmy Loaner (TL):

Quiet child who does not fit in:

Dresses funny, poor social skills,

Odd behavior, symptom of childhood schizo.

All classmates reject him except QD;

Considers QD his best friend,

QD often picks him for games or initiates social interaction with him.

#3: City Boy (CB):

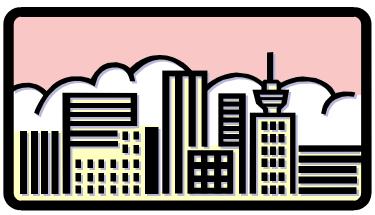
A tough kid from the city

Has high social status in the room

Aggressive and defensive

Considered conduct disordered

Often picks on hicks in the room



#4: *Boy Scout (BS):*

A kid from the sticks

Hunts, fishes, and loves the outdoors

History of child abuse

Has attachment disorder



*Other four students merely bit players in our drama.

Canoe trip results: Four children earn trip, however...

#1: QD (Quick Draw) fires fast, fights 2 days after contingency described. For the next 12 days he continues to fight and act out, belittle the trip:

"sissies going down the big, bad river,"

"careful you might drown,"

"you should tip Dr. BIS's canoe"

The teacher no longer has trip as a motivator.

Of course Dr. BIS says he learned a good lesson, this will teach him that his behaviors have consequences.

Teacher does not much care as she is on her way to the hospital to have her nose re-set (she has had to restrain *QD* daily since he lost his chance to go canoeing).

#2. Tl (Timmy Loaner):

Was scared about trip to begin with Really does not want to go after *QD* gets in fight Mild overdose two days before trip, is hospitalized.

Teacher is horrified, but Dr. BIS re-frames and sees bright side: Thank God we found out how disturbed he is before the trip.

- #3. *CB* (*City Boy*): a tough kid from the city who has high social status in the room does not earn the trip. In fact, he got in a fight with *BS*.
- #4. BS (Boy Scout): a kid from the sticks who hunts, fishes, and loves the outdoors. They fight three days before the trip.

Circumstances of fight:

- BS really wanted to go canoeing, quiet kid who gets little attention from peers and feels less sophisticated than the conduct disordered A players in the class.
- CB is considered the toughest kid in the class, but he can't swim, is afraid of snakes, and has never been in a boat in his life.
- Thus, CB starts the fight with BS (baits him) and low and behold neither are aloud to go on trip.
- *Note: for *CB*, trip was a punisher; but for *BS*, it was a reinforcer.
- **What else could go wrong?: lets here from you guys!

Transition: addressing problems

To this point we have discussed individual contingencies and independent group oriented contingencies.

We have Identified many problems:

Next we will discuss interdependent group-oriented contingencies and strategies for resolving problems.

Interdependent Group Oriented Contingencies: Advantages

All rewarded for some aspect of groups behavior, r+ delivered to all or none if meet an average score, all exceed minimum or maximum, etc.

Advantages:

- 1. Less time consuming.
- 2. Rewards to all or none:
 - A. Easier to deliver rewards
 - B. Larger options for rewards (talk later)
 - C. Less likely to have reward stealing (sharing)

Interdependent Group Oriented Contingencies: Advantages

Social Advantages:

- 3. No labeling reward have-nots as dumb or stupid (r+ haves and have-nots)
- 4. Two forms of control:
 - A. Reward and
 - B. Peer encouragement (pressure).

Success best when shared - tennis match example.

Interdependent Group Oriented Contingencies: Advantages

- 5. Many teachers familiar with use (perhaps).
- 6. Research Base:
 - * Largest effect size for decreasing inappropriate behavior (Stage & Quiroz, 1997).
 - * Cooperative Learning (Slavin)
 - * Class-wide Peer Tutoring (Greenwood)

Interdependent Group Oriented Contingencies: <u>Disadvantages</u>

Disadvantages: next we will discuss the fixes...

- 1. Can't tailor rewards (some kids hate
- 2. Inappropriate peer pressure
- 3. Considered unfair when:

Child who does well **does not** get r+

Child who does poorly *gets* r+

Interdependent Group Oriented Contingencies: Disadvantages

TWO COMMON MISCONCEPTIONS:

- 1. Can't tailor criteria for individuals who learn at different rates (you can)
- Can't tailor tasks for each student(easier and harder academic task).

A SERIOUS CONCERN:

Grades for others' behavior; cooperative learning

Structure Interdependent Group Contingencies for Success

Minimizing Limitations:

Student(s), antecedents, target behavior, criteria, consequence

Consequences:

1. Never use group punishment (Full Metal Jacket)

*Activity number 3: (hand out page 4)

Write down specific rewards, list as many as possible in five minutes.

Remember: given on an all or none basis.

2. Generate r+ (given on all or none basis) activity.

Often think in terms of individual and think in categories like tangibles, activities, edibles.

Things easier to deliver to some and not others

Activities (opposite) easy to deliver to group

Teachers like them (often free)

Embarrassing behaviors (Pat Summitt and Bruce Pearl).

Activity - opportunity to do something.

Activity - to be avoided?

Things - all get them (sharing, stealing, not as likely), no labeling.

3. Rewards: Biggest problem is what is reinforcing for Joe may be neutral or punishing to Jill.

Avoid punishing consequences.

If punishing, may sabotage the contingency to avoid it:

*CB - canoe trip.

Solution:

Having trouble: Randomly Select Group Rewards? (envelope, grab bag, etc.)

As long as something is a high quality r+ for each student, then likely to work (supermarket machines).

Each student should have a high quality r+ in the pool now. Periodically add to the pool.

Criteria:

Difficult to establish criteria for individual (just right level where not too difficult and not too easy).

- 1. If too easy (e.g., 80% on spelling test): then 95% students may decrease performance
- 2. If too difficult: then low performing students (30%) may not even attempt to meet criteria (Major limitation on independent group rewards

Solutions to this criterion dilemma: USE UNKNOWN

- 1. Random criteria
- 2. Competitive criteria (golf match) -
- 3. Averages (how well do you have to do to earn it you do not know how well everyone else is doing).
- 4. Cumulative criteria (all contribute: every word spelled correct)

*Note: now 95%er will try to maintain or increase as will 30%er. 95% MAY HELP 30%

Target behaviors (see activity 2)

Ok, I have been talking way too much: you give them to me, call them out -

- * give me behaviors you want to decrease
- * give me behaviors you want to increase







Break

Collect Reinforcer and target behavior sheets.

We will review later





Welcome Back

Give me examples and Show me the DATA

Social target behaviors:

Research:

Educators prefer to focus on increasing appropriate,

But establish rules to punish incidental inappropriate (classroom rules and punishment: what type of contingency?)

Problem with inappropriate: Pigott & Heggie (1985) also Salend & Nowak: (children more likely to threaten peers if target is incidental antisocial behavior, but more likely to encourage or assist (teach) when academic targets.

*Where do they learn this?

Examples of Interdependent Group Contingencies for Social Behaviors

Examples of application to social behaviors:

Study I.: Sulzbacher & Houser (1970): special ed students, Problem behaviors

- a. Emitting the naughty finger
- b. Commenting on naughty finger
- c. Tattling on naughty finger

Function of these behaviors: Elicit peer attention. Individual of independent contingency (punishment) would have left peer attention in place (competing schedules of r+).

Implemented interdependent group contingency (DRL).

Examples of Interdependent Group Contingencies for Social Behaviors

Study II.: Noise level on bus (side of road): Greene, Bailey, & Barber (1981)

Problem behaviors

- a. Noise
- b. Out of seat
- c. Fighting



Monitor (noise meter) r+ music and McDonalds.

Decrease all (early target in chain).

Examples-Interdependent Group Contingencies for Social Behaviors: Tootling

Studies III & IV: Tootling v tattling

Problem:

- A. Students spending day monitoring classmates behavior for incidental inappropriate behaviors.
- B. When observer, they tattle (tell teacher).
- C. Teacher then spends time investigating (they did not see it), deciding if guilty, and then determining punishment.
- D. Teacher is Jim Rockford (investigator \$200/Day plus expenses)
 Teacher is Jury guilty of innocent
 Teacher is Judge Deciding punishment

^{*}Time consuming – teacher is not teaching.

Tootling: Social Targets

Goal of educators – increase desirable behaviors, not just decrease undesirable behaviors.

Want to encourage incidental prosocial behaviors, however teachers and students (tattling) spending so much time monitoring, investigating, and consequenting inappropriate behaviors.

Do not even recognize, let alone reinforce (encourage) unplanned incidental prosocial behaviors.

Tootling: Social Targets

Goal – to increase Tootling (Peer reports of incidental, student-helping-student behaviors)

Tootle –

like tattling (reporting peer behavior) like tooting own horn – report desired behaviors.

Tootling: Social Behaviors

- **1. Target:** recording peers incidental prosocial behaviors (only peershelping-peers).
- **2. Training:** review how to tootle.
 - **A.** Who, did what, to help whom.

 Child who was helped always observed and could report.
 - **B.** Write on index cards on desk each morning.

 If raised hand and tootled would be too disruptive cause high rate.

Tootling: Social Behaviors

3. Reinforcement:

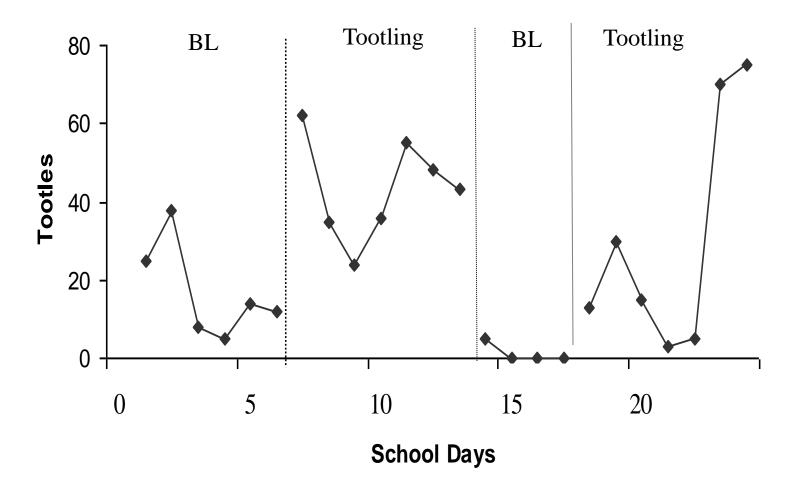
- * Otherwise, why tootle, no history of this.
- * Indirectly encourage prosocial as opposed to antisocial behaviors.
- * Used group activities (inexpensive, all work for it).
- * Took suggestion from students (a high quality reward for all).

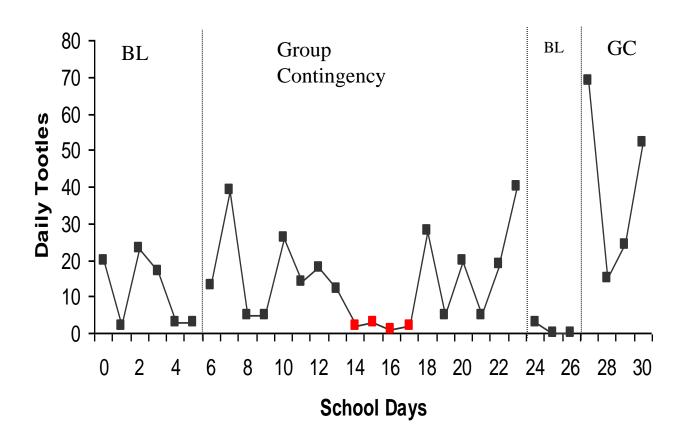
Tootling: Social Behaviors

- **4. Criteria:** Each day student turned in index cards, counted tootles.
 - * Cumulative, Used ladder for feedback.
 - * When reach total goal (100) group got reward (all group member).
 - * As they got better goal shifted (150 tootles, 200 tootles etc).

*Show graphs





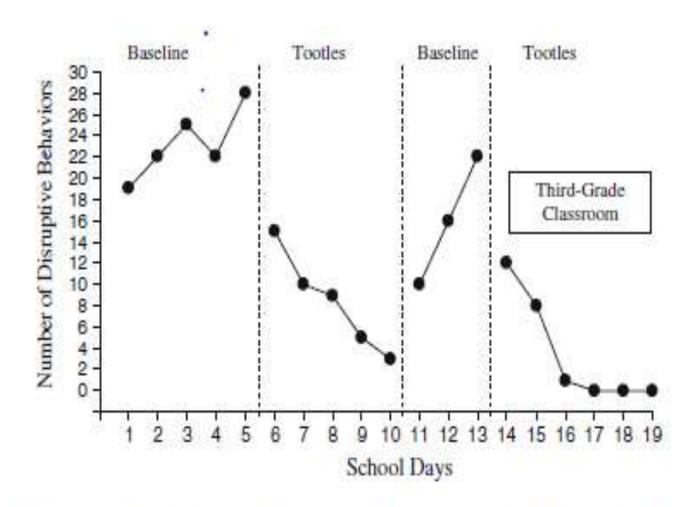


Tootling: Decrease Disruptive Behaviors

Study V

- Cihak, D. F., Kirk, E. R., & Boon, R. T. (2009). Effects of classwide positive peer "Tootling" to reduce the disruptive classroom behaviors of elementary students with and without disabilities. Journal of Behavioral Education, 18, 267-278.
- 1. Class: 19 third grade students (3 LD one ADHD
- 2. DV total disruptive behaviors of the class talking out, out of seat, disruptive motor behaviors (e.g., touching peer).
- 3. All day criteria was fixed at 75.

Tootling Decrease Disrptives: Cihak et al., (2009).



2. 1 Number of disruptive behaviors in a third-grade classroom with and without the use of tootling

more a critical manifest or many manipules terminore per annuem masore princes

Students	Baseline	Tootles	Baseline	Tootles	IOR (%)
1ª	3.20	.40	2.67	0.5	92 (67-100%)
2	2.60	.60	2.00	0.5	91 (67-100%)
3	2.80	.80	3.00	1.00	86 (67-100%)
4	0	0	0	0	100
5	1.00	.60	.33	0	91 (75-100%)
65	3.20	1,2	2.00	.33	100
7	2.20	.80	1.67	.33	100
8	1.00	.40	.33	0	100
9	1.00	.60	.33	0	75 (0-100%)
10	.80	.40	.33	0	100
11 ^c	.80	.40	.33	0	100
12	.60	.20	0	0	100
13	.20	.20	0	0	100
14	3.60	1.4	2.33	.67	92 (75-100%)
15	0	0	0	.17	100
16	0	.20	.33	0	100
17	0	0	0	o	100
18ª	.20	.20	.33	0	100
19	0	0	0	0	100
All student	1.22	.44	.84	.18	92 (89-100%)
Student with disabilities	1.85	.55	1.33	.30	93 (92–100%)
Student without disabilities	1.05	.41	.71	.20	92 (86–100%)

IOR interobserver reliability

^a Student with a learning disability (LD)

Student with a LD and ADHD

E Student with attention deficit/hyperactivity disorders (ADHD)

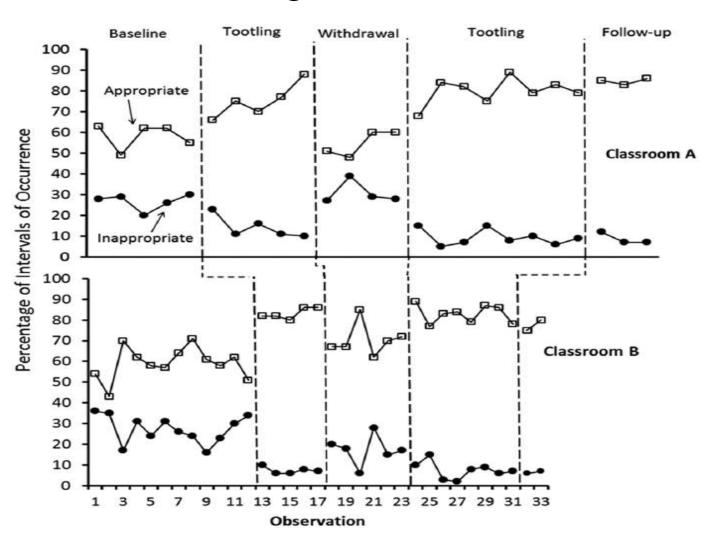
Replicate & extend

Study VI

- Lambert et al., (2015). Effects of Tootling on Classwide Disruptive and Appropriate Behavior of Upper-Elementary
- Students. Behavior Modification, 39, 413-439.
- 1. Class: 19 fifth-grade students and a 4th grade class
- 2. DV total disruptive behaviors of the class talking out, out of seat, disruptive motor behaviors (e.g., touching peer).
- 3. Children selected group rewards.

See McHugh et al., (2016) Effects of tootling on classwide and individual disruptive and academically engaged behavior or lower-elementeary students. Behavioral Intevention – ANOTHER REPLICATION AND EXTENTION

Tootling: Lambert et al.



Social Targets: Timely Transitions Game

Study VII: TTG

Problem: During room-to-room transitions, students are acting out, teacher has them wait until quiet.

- * Punishment procedures not working
- * Time Johnny hit me, Joe hit me first, Jane cut in line, Ralph keeps kicking me.
- * Loosing Learning time.
- * Solution: Ignore inappropriate and reinforce desired behaviors.

TTG

Target: number of second to transition

Students: 6th grade classroom

Training: teach appropriate line up behavior and in line behavior.

Transitions: Randomly selected.

Five transitions:

- 1. Going to Recess
- 2. Back from Recess
- 3. Going to Lunch
- 4. Back from Lunch
- 5. Going to Specials

(back from specials not a problem, 10-20 minutes left in day.)



TTG

Reward: P-A-R-T-Y: M-U-S-I-C: P-A-J-A-M-A-S (v-i-c-t-o-r-y) Not randomly selected: suggestion box (pajamas rejected by teacher.)

Cumulative: each day meet criterion, earn a letter.

Criterion (about 30 slips of paper in container with different times below baseline average)

2-20%, 5 each for 3-, 40, 50, 60, 70%, 3 80% below BL mean.

After meeting criterion on 18/20 days. Replaced 20, 30, and 40% briefer slips of paper with 2 additional 80% briefer and 10 additional 90% briefer.

TTG: Chart

Procedures:

Train on line behavior and explain using public feedback poster.

Timely Transition Chart:

Criterio	n R+
Random	PARTY

<u>Date</u>	To Recess	Frm Recs	To Lnch	Frm Lunch	<u>Time</u>	<u>Letter</u>
11/7	379	174 *	129	284	182	P
11/8	221*	186	122	92	102	-
11/9	77	81	88	74	89*	A

^{*} designates the randomly selected transitions.

- means did not meet criterion

TTG: Characteristics

Randomly select target behaviors (target transitions):

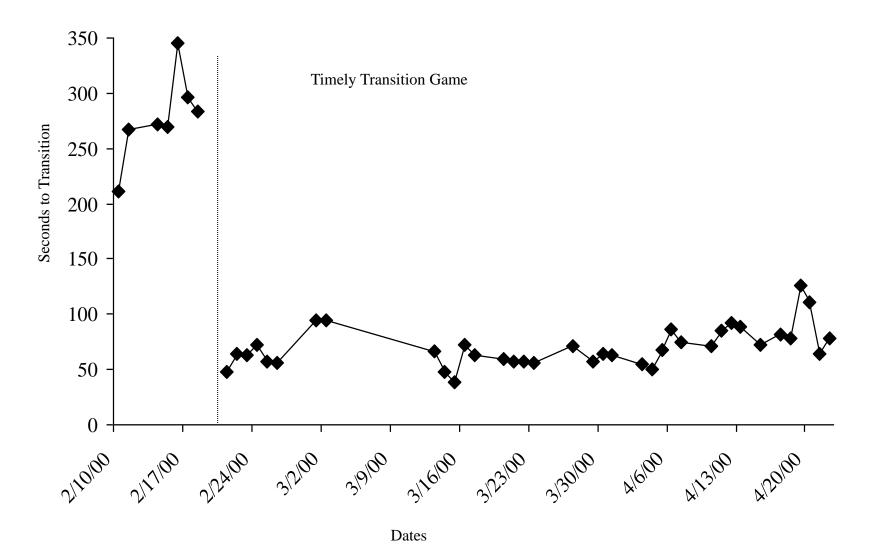
If first transition is bad, do better on next. Have not necessarily blown it.

Also, since do not know criterion, never blow it.

If group judges can not meet criteria, may become frustrated and act out (what criteria can they meet?)

No Sabotage: Show Graph (saved over 1.5 hours per week -**RtI**) Children's misbehavior decreased.

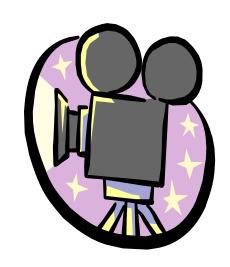




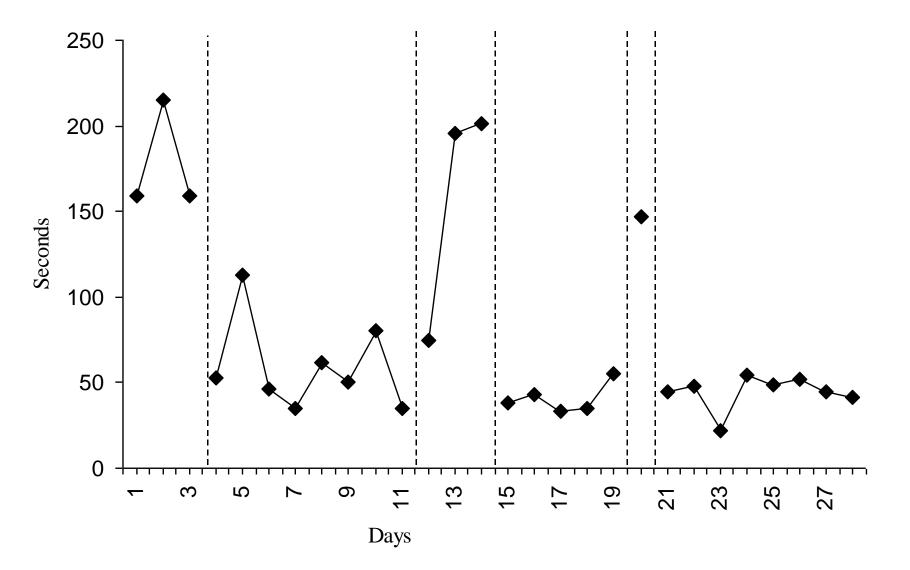
TTG: Withdrawal study

Study XIII: TTG experiment

- TTG: Randomly select times.
- Second Grade Classroom: 15 students
- One Transition: Back from lunch
- P-A-R-T-Y: M-O-V-I-E: P-O-P-C-O-R-N
- Show Graph



(Mention Sabotage – why in this study and not others – Randomly selected transition?)



New study

Just before I left my office I was shown preliminary data which showed decreases in inappropriate behavior during transition when TTG was implemented.

Sorry I do not have the data.

But same idea – target what you want get decrease in what you do not want (also stop for 5 sec when inappropriate behaviors occur).

Examples of dependent Group Contingencies Social Behaviors: Jim Carrey Game

Study IX: Jim Carey Intervention

Problem: Jim cutting up, disrupting.

- 1. FBA data show Jim's cutting-up is being reinforced with peer and teacher attention.
- 2. Can't put on perfect extinction (even teacher sometimes belly laughs).
- 3. Does not want to punish (tolerant, not that bad, child has long history of punishment for serious behavior problems and close to being mainstreamed.

Goal: Differentially reinforce lower rates of behavior.

Can't do for just Jim or rest of class will react negatively.

Jim Carey Int. – Social Behaviors

Solution: Dependent group oriented contingency

Target behavior – disruptive behaviors (noise making).

Reward— When time permits at the end of day, Jim and class get to play game.

Game – Jim wins if he can get each person (other students and teacher) to laugh. Students and teacher win if one person can ignore.

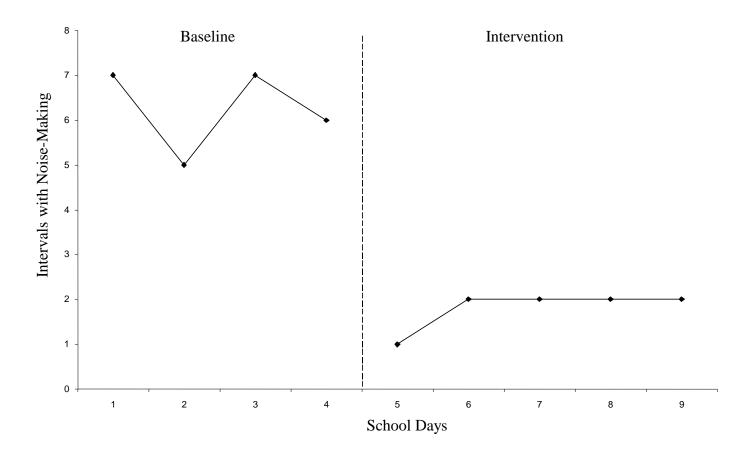
Intervention: Jim and students get game last 10 min

Jim: individual contingency

Class: dependent group (class gets access based on one students

behavior).

*Show graph



Dependent - Kind of? Heering & Wilder - 2006

Collect on-task behavior by rows of students Entire class receives reward based on a row's performance Which row? - Randomly selected it.

Gresham and Gresham did something similar with randomly selected student and DRL of inappropriate behaviors.

Could be dependent on your behavior or others behavior.

Academic Targets

Again, observable behaviors can yield threats, negative peer pressure, and sabotage

With academic targets may be less likely because performance is not public

When behaving inappropriately adults (teachers and parents) punish

When have trouble doing something (academics) adults help.

Children do the same by 2nd grade.

Thus – such procedures where there is an interdependency:

My probability of receiving R+ is greater when You Do Well may be great with academic target behaviors.

Academic Targets: Accelerate Readers

Study X: AR

Students: 13 second-grade African-American Students

They have *Accelerated Reader* program which includes:

- 1. hundreds of chapter books at various grade levels for students to read
- 2. For each book, comprehension questions on computer
- 3. When finished reading take computer test give points based on difficulty and percent correct
- 4. Record, who took what, when

Accelerated Reader: Enhancing sustained silent reading

Cool program – only works if students choose to read.

Encouraged to check out chapter books, read them, take quizzes, even get extra credit.

Time allotted each day to read chapter books – (30 minute of sustained silent reading time)

Problem: students are not doing it.

Accelerated Reader: Enhancing sustained silent reading

Target behavior: number of chapter book quizzes passed (60% was considered passing)

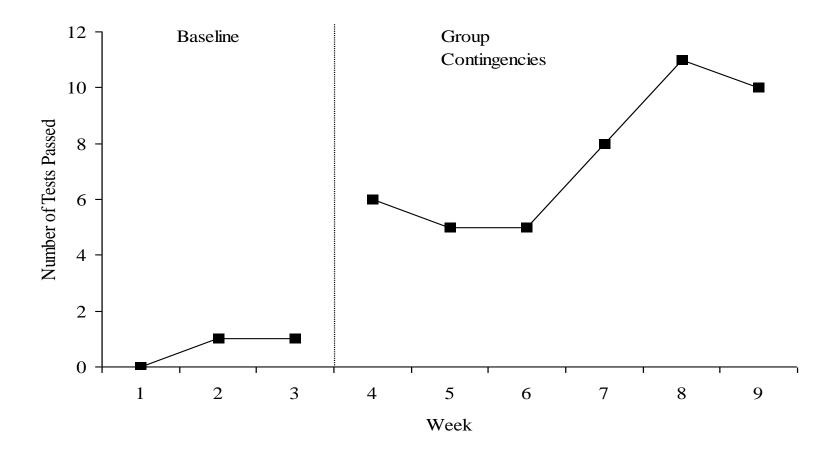
<u>Criteria – Two contingencies</u>

- 1. Each child that passes 1 quiz in 6 weeks will get ice cream
- 2. Each week randomly selected number passed get free time
- *Criteria were 1-13

Accelerated Reader: Enhancing Sustained Silent Reading

Procedures:

- * Explained to students
- * Paired student for paired readings, take turns reading pages from same book, until all pass
- * Paired with similar level reader except weakest reader was paired with strong reading friend
- * After each pair passes a test can choose to read alone. (more than half stayed in pairs)
- * Rigged first week all slips said 6. Show the data



Accelerated Reader: Individual Student Data

# of students	Baseline	Intervention
• 4 Students	0	1
• 1 Student	0	2
• 2 Students	0	3
• 4 Students	2	5
• 1 Student	0	6
• 1 Student	0	<u>7_</u>
Class/Wk	0.70/wk	7.5/wk

Alphie Kohn would he have them continue to not read?

Study XI: Academic Performance Game (Popkin dissertation)

How about randomizing all components!

Self-contained – SED middle school classroom, ages 11-14. All males.

Problem: while some are doing school work, often they are not.

They are failing and failing to learn.

Not sure if *can't do* or *won't do* problem (is the work too hard).

- * Target Students: All
- * Target Behaviors:

Spelling, Mathematics, and English –

Daily performance (% correct) regardless of what they are doing (ISW, quizzes, exams).

All five students in different curricula (different activities each day).

*Target behavior eventually becomes randomly selected

Criterion: Randomly selected

Start with 30 slips, each says spelling and

1- 25%, 3-50%, 3-70%, 4-80%, 4-85%, 5-90%, 5-95%, 5-100%

Mean criteria, class average must meet this to earn reward.

After a few weeks make identical slips but the 30 say math.

Few more weeks make identical slips but the 30 say **English**.

Got 90 slips by end of study.

Rewards: Randomly selected, group generated them – told activities, something everyone likes, inexpensive. (suggestion box)

- Carmen Santiago
- Flight simulator game
- Silent ball
- Computer time
- Bonus bucks (token economy)
- Movie



Procedures: Explain game for spelling only Have them suggest group rewards
Show them 30 spelling criteria slips of paper

Two containers:

- one for rewards (slips of paper)
- one for target behavior/criteria slips

End of each day draw one out – did they earn the reward?

Procedures:

After a few weeks add the 30 slips for math.

Now 60 criteria-target behavior slips –

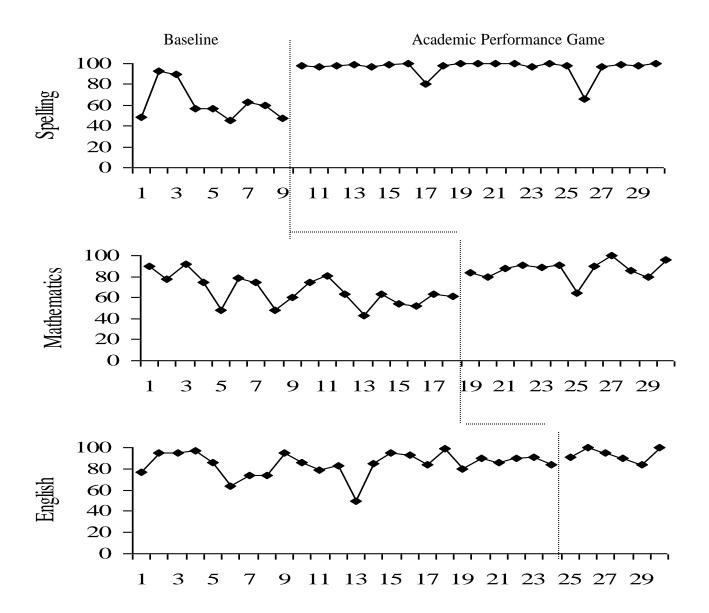
do not know how well you have to do

do not know what subject

Solution – do your best and encourage your peers to do the same

After a few more weeks add 30 slips with English on them.

Now do your best and peers do their best in *spelling*, *math*, and English



	<u>Spelli</u>	<u>ing</u>	Mathe	<u>matics</u>	$\underline{\mathbf{E}}_{1}$	<u>nglish</u>	
	BL I	Int.	BL	Int.	Baselin	e Int.	
Student	X-Grd 2	X-Grd	<i>X</i> -Grd	X-Grd	X-Grd	<i>X</i> -Grade	
One	93.3 A 9	97.7 A	68.4 I	O 89.8 A	85.6	B 98.0 A	
Two	69.0 D 9	92.3 A	64.7 I	O 86.6 B	80.2	2 B 92.0 A	
Three	26.2 F 9	96.3 A	72.4	C 86.1 B	72.	9 C 90.0 A	
Four	90.7 A 9	98.5 A	58.0 F	F 80.4 B	86.8	B B 100.0 A	
Five	0.0 F 8	39.5 A	63.7 I	D 84.0 B	87.	7 B 79.0 C	
Class	62.2 D 9	96.2 A	66.6 I	D 86.6 E	85.	7 B 93.3 A	

So lets see Alphie Kohn beat this.

Advantage:

- * never blow their chance to meet goal, because goal is random
- * by adding target behaviors, get more behavior for same reinforcement (thus fading).
- * Fun for teacher and students
- * Could randomly select rewards and add to them
- * All improved (good and bad students)

Disadvantage: more grading to do for teachers.

Scott et al. (in submission). Math Academic reward game

- First grade teacher in morning, leave cafeteria, enter room, go to one of 4 tables of 4 students to a table do math assignments (packets cobbled together by teacher).
- 25 minutes to work on them while she applies RtI to a student who is way behind.
- Contingency finish work at 90% accuracy, get recess at end of day if not miss recess and take home to do....
- Also grades, parents sign work complete folders, etc.
- Other R+ that we do not know and will never know!

Request – they are not completing work, no learning, can you help. Teacher asks my grad student for help!

Scott et al., in submission

- 16 first-grade students 10 girls, 6 boys (6-7 years old)
- 1 Lead Teacher and 1 Teaching Assistant
- Students sat in groups of 4 at round tables (4 tables)
- **Dependent variable:** Percentage of independent math work correctly completed (number of items, M = 26)
- Randomized criteria determined after baseline analysis (one 25%, one 40%, three 50%, three 70%, four 75%, four 80%, four 85%, five 90%, five 95%)
- 5 possible randomly selected rewards; selected by teacher (e.g., Hershey kiss, pencil, sticker, Starburst, lollipop)

I would recommend other rewards

Design

- Adapted alternating treatment design
- 1. Baseline: Typical classroom procedures (TCP-BL) with independent group-oriented contingencies
- 2. Alternating treatment phase:
 - a. Interdependent class-wide condition (CWC)
 - b. Dependent small group condition (SGC)
 - c. Typical classroom procedures condition (TCP-AT)

Baseline Procedures (TCP-BL)

- Students enter classroom after morning bell and instructed to work on independent math assignment
- 25-minute time period allotted and papers collected for grading
- Assignments redistributed to rework incorrect or incomplete items throughout day
- If not completed prior to recess, complete during recess time

Alternating Treatments Phase

- Math Academic Reward Game
 - Mystery Table Day
 - Class-wide Day
 - No Mystery Day
- Randomly selected criteria unknown to students
- Randomly selected reward chosen and distributed immediately after grading assignments

Small Group Dependent Condition (SGC)

- Mystery Table initially unknown to students
- Typical classroom procedures in place
- Mystery table average calculated → if meets or exceeds criterion → then class receives randomly selected reward
- Mystery table is announced to class ONLY IF mystery table average meets or exceeds criterion

(Gresham & Gresham, 1982)

Class-wide Interdependent Condition (CWC)

- Announced as "Class Day" for students
- Typical classroom procedures in place
- Class-wide average calculated → if meets or exceeds criterion → then class receives randomly selected reward

Analysis Procedures

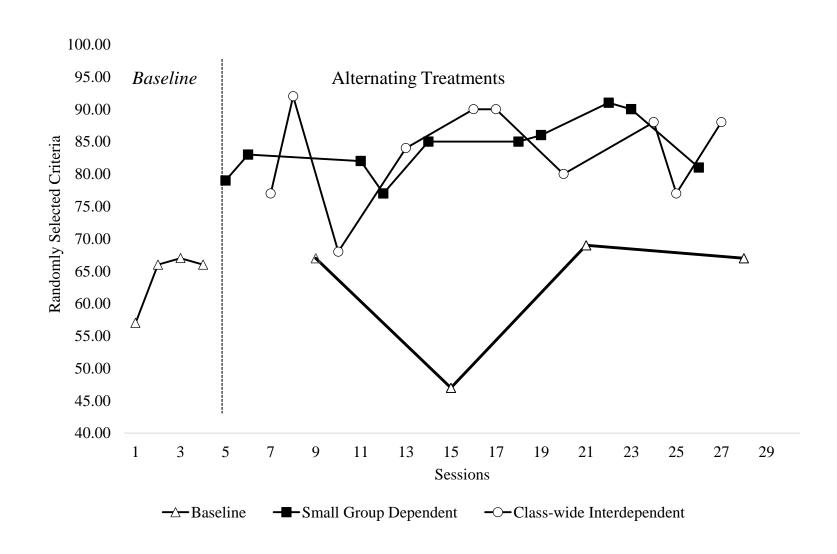
- Class average performance visual analysis of repeated measures design, two measures of ES (PND, Hedges *g*)
- Within-student ES Hedges g.
- Got interscorer agreement and treatment integrity (same as earlier).

Note – Stats for individual and visual analysis for group data?

Social Validity

- Teachers completed 11-item acceptability survey
- Lead teacher participated in semi-structured interview
- 14 students completed 11-item acceptability surveys

Class-Wide Averages Across Baseline and Intervention Phases



Descriptive Statistics

	TCP:BL	SGC	CWC	TCP:AT
	M (SD) Range [Letter Grade]	M (SD) Range [Letter Grade]	M (SD) Range [Letter Grade]	M (SD) Range [Letter Grade]
Class-wide Average	64.0% (4.7) 57%-67% [D]	83.9% (4.5) 77%-91% [B]	83.4% (7.7) 68%-92% [B]	62.5% (10.4) 47%-69% [D]
Group 1	59.3% (9.6)	82.7% (12.1)	81.2% (12.1)	53.0% (19.4)
	50%-68%	60%-98%	67%-99%	30%-71%
	[F]	[B]	[B]	[F]
Group 2	48.8% (7.8)	67.0% (13.3)	71.3% (11.9)	38.0% (19.3)
	39%-56%	50%-93%	50%-87%	12%-55%
	[F]	[D]	[C]	[F]
Group 3	79.8% (11.3)	94.0% (7.2)	93.7% (6.0)	87.75% (9.3)
	64%-90%	78%-100%	83%-100%	75%-97%
	[C]	[A]	[A]	[B]
Group 4	70.3% (12.7)	90.3% (12.0)	84.6% (16.5)	71.0% (8.2)
	61%-88%	63%-100%	42%-100%	65%-83%
	[C]	[A]	[B]	[C]

Note. TCP: BL = typical classroom procedures, baseline data phase; SGC = Small Group Condition data; CWC = Class-wide condition data; TCP: AT = typical control procedures:

Comparisons

Mean differences, Pooled Standard Deviations, effect sizes, and PND across baseline and alternating treatment phases

Comparisons	Mean Difference	Pooled SD	Hedge's G	PND
TCP:BL - SGC	-19.90	4.60	4.37	100%
TCP:BL -CWC	-19.40	6.38	2.74	100%
TCP:BL - TCP:AT	1.50	8.07	0.19	25%
TCP;AT-SGC	-21.40	8.01	3.29	100%
TCP;AT-CWC	-20.90	9.15	2.47	90%
SGC-CWC	0.50	6.31	0.08	10%

Note. TCP: BL = typical classroom procedures, baseline phase; SGC = Small Group Condition data; CWC = Class-wide condition data; TCP: AT = typical control procedures: alternating treatment phase; PND = percentage nonoverlapping data.

Within-Student Analyses SGC-TCP

- TCP (aggregated BL and AT phases) reduce impact of extreme scores vs. earlier math easier.
- SCG TCP: 15 of 16 students higher in SGC (94%) Student 10 dropped from 85% to 83%.

<u>Letter Grades</u>: 11/16 increased, 5 no difference.

ES -

7 students very large or large increases.

7 students moderate increases.

1 student small (95% TCP – ceiling effect)

1 student (10) very small negative g = -0.08

Within-Student Analyses CWC- TCP

• CWC - TCP: 15 of 16 students higher in CWC (94%) Student 1 dropped from 70% to 64%.

Letter Grades :8/16 increased, 7 no difference and student 10 went from C to D.

<u>ES</u>

6 students: very large or large increases.

4 students: moderate increases.

4 students: small or very small

1 student (1) mall negative ES (g = 1.20)

Student 1 – absent 25% of school days.

Within-Student Analyses CWC- TCP

• SGC-TCP: 8 of 16 students higher in SGC, 6 higher under CWC, and 2 same % scores.

Letter Grades :8/16 no difference, 6 students SGC higher, 2 student CWC higher.

<u>ES</u>

Large to medium -3 SGC, 3 CWC Small to very small -5 SGC, 4 CWC 1 ES =0

No Very Large ES

Idiosyncratic effects, but nothing consistent across students.

Within-Student Analysis

Students	Table	TCP Mean (SD) Letter Grade	SGC Mean (SD) Letter Grade	CWC Mean (SD) Letter Grade
1	1	70 (28) C	88 (28) B	64 (36) D
2	1	95 (12) A	98 (4) A	100 (1) A
3	1	60 (31) D	78 (33) C	84 (21) B
4	1	10 (19) F	72 (23) C	60 (42) D
5	2	84 (26) B	96 (6) A	89 (31) B
6	2	28 (34) F	53 (36) F	79 (17) C
7	2	13 (10) F	45 (33) F	70 (30) C
8	2	49 (35) F	66 (33) D	51 (29) F

(continued)

8	2	49 (35) F	66 (33) D	51 (29) F
9	3	77 (34) C	98 (3) A	98 (2) A
10	3	85 (20) B	83 (29) B	85 (18) B
11	3	91 (11) A	98 (4) A	94 (14) A
12	3	82 (35) B	96 (9) A	98 (4) A
13	4	45 (42) F	81 (34) B	81 (24) B
14	4	90 (10) A	99 (3) A	95 (7) A
15	4	71 (25) C	93 (7) A	75 (28) C
16	4	69 (25) D	90 (32) A	89 (28) B

Within-Student ES

Hedges' g Effect Size Calculations for Each Student's Math Accuracy

Student	SGC - TCP	CWC – TCP	SGC - CWC
1	0.64	-0.20	0.74
2	0.27	0.57	-0.84
3	0.54	0.90	-0.21
4	2.97	1.64	0.39
5	0.72	0.19	0.32
6	0.70	1.93	-0.91
7	1.31	2.75	-0.78
8	0.50	0.05	0.49

(continued)

9	0.95	0.96	-0.04
10	-0.08	0.00	-0.08
11	0.83	0.22	0.34
12	0.56	0.69	-0.39
13	0.94	1.02	0.00
14	1.21	0.61	0.60
15	1.18	0.14	0.86
16	0.73	0.77	0.02

Teacher Acceptability

- Both teachers found contingency conditions to be highly acceptable
- Greater Preference for Small Group Dependent condition ("Mystery Day")
- Lead teacher noted improvements in math performance (RtI performance, use of manipulatives, and classroom behaviors less pestering each other

Negative side effects

- * 1 instance of student giving table-mate answer.
- * Noise increase.

Lead Teacher Intervention Acceptability Survey and Responses

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
The Math Academic Reward Game was a good intervention.	I	2	3	4	5	<u>6</u>
 Most teachers would find the Math Academic Reward Game appropriate to deal with academic behavior in the classroom. 	1	2	3	4	5	<u>6</u>
 I noticed students' math performance improve when the Reward Game was used. 	1	2	3	4	5	<u>6</u>
 I spent less time disciplining students when using the Math Academic Reward Game. 	1	2	3	4	5	<u>6</u>
 The Math Academic Reward Game quickly improved students' math performance 	1	2	3	4	5	<u>6</u>
 I will use the Math Academic Reward Game for improving academic performance in other subjects. 	1	2	3	4	5	<u>6</u>
 I prefer the Mystery Table Condition rather than the Class Day Condition. 	1	2	3	4	5	<u>6</u>
 I prefer the Class Day Condition rather than the Mystery Table Condition. 	1	2	3	4	5	6
The Math Academic Reward Game was fair for all students in the class.	1	2	3	4	5	<u>6</u>
 I will use the Math Academic Reward Game with future classes. 	1	2	3	4	5	<u>6</u>
 I would recommend the Math Academic Reward Game to other teachers. 	1	2	3	4	5	<u>6</u>

Note. Underlined and bold numbers denote the lead teacher's responses.

Student Acceptability

Strong – show form.

Preference 10/14 preferred SGC (forced choice).

Teacher – *liked the other unknown*.

Student – *I just love mystery table day*.

Student Acceptability Survey and the Number and Percent of Students Who Responded Very Much, Don't Care, or Not at All

		Very Much	Don't Care	Not at All
I.	How important is it for you to do well on your morning math assignments?	14 (100%)	0	Q
2.	How important is it for other students in your class to do well on their morning math assignments?	13 (92.9%)	1 (7.1%)	0
3.	How much did you like the Reward Game?	14 (100%)	0	Q
4.	Is doing math more fun with the Reward Game?	14 (100%)	0	Q
5.	How much do you think the Reward Game Helped you complete your work?	14 (100%)	0	0
6.	How much do you think the Reward Game helped your group to complete their work?	13 (92.9%) 1 (7.1%)	0
7.	How much do you think the Reward Game helped your class to complete their work?	14 (100%)	0	0
8.	How much would you like to use the Reward Game for other activities?	14(100%)	0	0
9.	Was the Reward Game fair for everyone in the class?	14(100%)	0	0
10.	How much did you like not knowing the mystery goals each day?	12 (85.7%) 1 (7.1%)	1 (7.1%)
11.	How much did you like not knowing the mystery rewards each day?	13 (92.9%) 0	1 (7.1%)

Conclusion

Class-wide Data

Both CWC and SGC caused, large (ES) meaningful (letter grades), consistent (PND) increases in math performance, with no consistent, meaningful or large differences across the two treatments.

Differences were especially meaningful for failing (TCP) students who increased 48%.

Conclusion

Within-student Data

- Some large (ES) idiosyncratic effects (no very large), but nothing consistent across students.
- Large increase in those failing, but little evidence of detrimental effects on those doing well (all making A went up).
- F students went up 48% Effort by R+ spiral supported and enhancing R+ worked.
- Little evidence of negative effects on high performing students (over-justification effect).

My Class:

 $12 EBD - 10^{th}$ grade



Target prosocial behaviors:

Scott social/emotional goal (joining others)

Scott was rejected by peers

Group contingency, now peers asked him to join, and were nice so he would join

My Class:

Had randomized targets (academic and behavior), randomized criteria, even randomized contingency.

Had target behavior and criteria container

Had container with slips that said dependent, interdependent

If drew dependent, went to other container with students

name

Rigged Dependent – container with students name –

Draw first container says history exam 85%

Reach for second container and class chanting Jack, Jack –

Carry him out for 30 minutes of free time after I draw his name.

Your Turn -

- 1. Problem: morning routines: group homes, your home.
- 2. Problem: an individual student with autism does math work at home, but often works quickly and sloppy and WILL NOT ASK MOM FOR HELP WHEN MOM TRIES TO TEACH THERE ARE ISSUES

Build your own interdependent contingencies:

- **Target Behavior:** Provide target behaviors. Remember academic and private may be better than public and social. Daily behaviors are great. Have several, good can randomly select.
- **Criteria:** Make it interdependent Remember, Impossible to set best criteria, make variable with many criteria.
- *Tough to score all academic response quickly how about randomly selecting 5 to grade.
- **Rewards:** Activities that are free (e.g., listen to music during journal writing time next day; ask the students). ASK THE STUDENTS.

THATS ALL FOLKS: UNLESS YOU HAVE QUESTIONS OR WE HAVE MORE TIME

I have more slides attached

Break

Review Activity 6 & 7 (page 7 in handout).





Your Turn - Activity 4 and 5 Pages 5 and 6

Build your own interdependent contingencies:

Target Behavior: Provide target behaviors. Remember academic and private may be better than public and social. Daily behaviors are great. Have several, good can randomly select.

Criteria: Make it interdependent – Remember, Impossible to set best criteria, make variable with many criteria.

*Tough to score all academic response quickly - how about randomly selecting 5 to grade.

Rewards: Activities that are free – (e.g., listen to music during journal writing time - next day; ask the students). ASK THE STUDENTS.

Example: Your Turn

Possible Criteria:

- A. Collect all journals, randomly select 5 and randomly select
 - * Average Score
 - * High Score (did anyone write ____ or more)
 - * Low Score (did all exceed _____ or more).
- **B.** Cumulative (bigger, long term R+) get point for
 - * Each of the 5 that exceeded randomly selected number
 - * Every 25 words worth a point (ladder system)
 - High Quality R+ when delayed

RESISTANCE

• I have come across professionals who do not want to reinforce students for academic behaviors.

Three reasons for this are

- 1. Philosophical: Should not reinforce students for doing what they are supposed to do.
- 2. Research based concern: Reduce intrinsic motivation or overjustification.
- 3. Can you spell grundyism? Different is risky or bad for some.

Dealing with Philosophical Resistance

- 1. We go to much trouble to get students to learn build schools, train and hire teachers, who plan curricula.
- 2. We tell students that doing academics is critical (most important thing)
- 3. It is inconsistent to say it is important but not important enough to reinforce —
- 4. FBA your own behavior (you teach for R+). BF and Principal and mail boxes.

Reduce Intrinsic, Over-justification

Both are concerned with maintaining behaviors. May be contrast effects or maintenance during extinction.

REGARDLESS – If currently not doing assigned work then this is not a valid concern (choosing not to do work).

Reduce extinction via

- 1. variable schedules of reinforcement
- 2. fading reinforcement
- 3. increasing effort for same reinforcement

Variable Schedules

- Variable target behaviors (random selection)
- Variable criteria \rightarrow variable rate of reinforcement
 - (this often happens automatically with group average)
- Variable selection of rewards → variable R+ quality
- Variable types of Reward → variable delay of R+ because some take time to deliver (field trip)

Fading Reinforcement

- 1. Quality: alter pool of reinforcers
- 2. Rate:

Alter criteria

- * replace easy criteria with harder
- * meet criteria more times before earning R+
- P-A-R-T-Y then P-O-P-C-O-R-N, then C-U-P-C-A-K-E-S
 - * Add target behaviors to criteria (more effort)
- 3. Immediacy:
 - * Added rewards that require planning and preparation (Field trip)

Increase Effort: Ratio Stain

- Alter criteria (number of times must be met, replace easy with hard)
- Alter target behavior (add targets)

Accomplish this: you build work ethic and the appearance of intrinsic motivation (work without apparent R+).

• Fading for maintenance does not **require** fading reinforcement: can increasing effort to earn reinforcement.

Final Resistance Issue:

Final Problem - I Have No Fix:

Children who do poorly get access to rewards.

Still a problem (few solutions – one is minimum criteria – AR)

My Response - So what!

Too may go to school thinking:

"how am I going to avoid something bad happening to me today"

Should be thinking:

"something wonderful may happen today"

Review: Academic Targets

- 1. Best when individual performance is not public unless meet goal
- 2. Can post groups averages (number who made above 80% etc.) without giving individual scores to the group.
- 3. Do not pull a wheel of fortune and set children off
- 4. Cumulative criteria (every word spelled correct is a point) when we reach 1,000 points will get r+
- 5. Randomize target behaviors

Summary: Do

- 1. Train loosely- when something unplanned good happens go straight to reward selection
 - Henry and chair over teachers head
 - Teacher does well on own exam
- 2. Adapt and alter the system (change rewards, criteria, targets).
- 3. Do cheat (rig) so more, not less likely to win (Scott & History)
- 4. Include immediate (music) and delayed rewards (field trip)
- 5. Alter rewards regularly
- 6. Jazz it up (let kids select targets, criteria, and especially rewards)
 Tell them about jars: what got broke and didn't get broke in my room.

Summary: Never

Never:

- 1. Never use group punishment
- 2. Never give grades based on someone else's performance (supplement but do not replace).
- 3. Never rig (palm) so they loose. After system established, never alter system so it hurts children's chance of earning the reward.
- 4. Field trip: so what if some get r+ who didn't do that well or who did very bad thing earlier on (e.g., tootling and principal)
- Never, never, let the students talk you into kissing the principal on the lips as a r+. You could loose your job or you could become a successful basketball coach at UT

Conclusion

Everyday, every child should go to school thinking something cool could happen today.

Use reinforcement to make this happen, but use it well.

- Use these programs as supplements
- Keep grades as independent group or individual cont.
- Keep classroom rules as independent punishment

Just supplement with Interdependent R+ Improve everyone's day.

Knoxville News Sentinel

- 1. Grundyism is bad You do not need to set criteria and reinforcers just plain wrong.
- 2. Reinforcement is good. Need all the tools and activity group rewards have many + side effects.

Behaviorist = devil or Alfie = Devil, which is more accurate.

3. Embarrassing behaviors (Bruce and Pat) are reinforcing, even to those who do not get to see you engage in them – also get you much praise-

Ride Bike around library was better –draw attention to behavior accomplishments – reading books – 1 lap per book

What do you need

Consultation –

Problem identification, Problem Analysis, Plan Development and Implementation, Plan evaluation????

New Sentinel - Knoxville - Sunday March 4, 2007.

Preparing to do a workshop and found three interesting related things in my local newspaper.

- 1. **Book It** Program article (Pizza Hut).
- 2. Spelling B word grundyism.
- 3. UT basketball coaches painted orange and cheering.

These are all related to my workshop.

Front Section (pg. A-16): BOOK IT - Pizza Hut Program Attacked for reading program. Reward reading with pizza.

Susan Lin (Harvard Psychologist) - "wrong, junk food, corporate sponsors, undermines parents by positioning Pizza hut as integral component for raising literate children"

Alphie Kohn (Author) - "make students see reading as way to get pizza or prize, less interested in reading for itself"

"choose easier books to get through them faster"

Practitioners: principals Lucille Coghill, Chris Carney- nothing negative to say about program. Encourages students to read.

Where do I fall on this?

Local Section (pg B-1): Spelling B results

Eighth-grader spells v-i-c-t-o-r-y (get to this later)

The word was **grundyism** - meaning to have a prudish adherence to conventionality.

Sports Section (pg D-2): Basketball coaches.

A reader survey -Which coach better performance at Thompson-Boling?

Bruce Pearl = 43.4 (painted himself orange, shirtless)

Pat Summitt = 56.6 (cheerleader outfit, pyramid, sang rocky top).

Comment from readers:

"Both coaches were awesome"

"There is not a men's or women's coach in the world I would trade out coaches for."

"Show me another school with this type of support... great exposure...makes me proud to call myself a Volunteer."

I will visit each of these issues as I progress through this workshop.