

Assessing Treatment Implementation:
Approaches to Measuring the Implementation of Behavior Interventions and Improving Program Services

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February 25, 2005
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Midwest Symposium for Leadership in Behavior Disorders, Kansas City, MO

Overview

- Discuss importance of assessing treatment implementation
- Review some common approaches to assessing treatment fidelity
- Explain the First Step to Success program and how we monitored treatment implementation
- Look at how treatment fidelity data can be used to improve services and understand outcome data

What is Treatment Implementation?

"Treatment Integrity"




The degree to which staff correctly use a program or intervention as intended

"Fidelity"

Why Measure Implementation?

- Need to know if staff are implementing program as intended
- Can identify training needs (individual and programmatic)
- If routinely assess, can identify concerns before they develop into problems
- Can determine if outcomes are related to program activities




Moving from Theory to Results

- **Theory**
 - Underlying rationale for program/intervention
- **Training** ↓
 - Systematic method of learning the intervention
- **Practice** ↓ ← **Model Fidelity**
 - How staff implement training in practice
- **Outcomes** ↓
 - How youth improve with program services

Barriers to Assessing Fidelity

- Lack of time and resources
- Fear of being evaluated
- If define program, may become too rigid
 - Non-responsive to student needs
 - Fear tool may encourage staff to be robotic
- Lack of consensus on what the program does– need to re-examine theory and training.
- Asking BIG questions about program



Getting Off to a Good Start: Overcoming Barriers

- Clearly state your project goal
- Involve multiple stakeholders
- Determine best way to collect information (check-list, observations, surveys)
- Keep focus on how instrument will benefit the client (students, teachers, families)



Overcoming Barriers (cont.)

- Design an efficient observation tool
 - Quick to complete
 - Easy turn-around from data to results
- Have uses for multiple stakeholders
- Focus on improving quality and training
- Try to keep from being a punishing activity

Description of First Step to Success

A behavior prevention program for kindergarten and first graders



First Step to Success

- A school and home intervention
- Develops appropriate social skills
- Serves K-1 students at-risk for emotional and behavioral disorders

- Developed in 1998 at the University of Oregon by Hill M. Walker and Annemieke Golly

Key Components of First Step

- Early detection via screening
 - Teacher ranks kids, completes screening measures, students with high scores selected for First Step
- CLASS
 - Approximately 8 week school program working with child, teacher, and peers
 - Three phases: Coach, Teacher, Maintenance
- Home-Base
 - One hour lessons with parent for six weeks

Who has a role in First Step?

- First Step Coach
- Classroom Teacher
- Parent
- Child



Role of First Step Coach

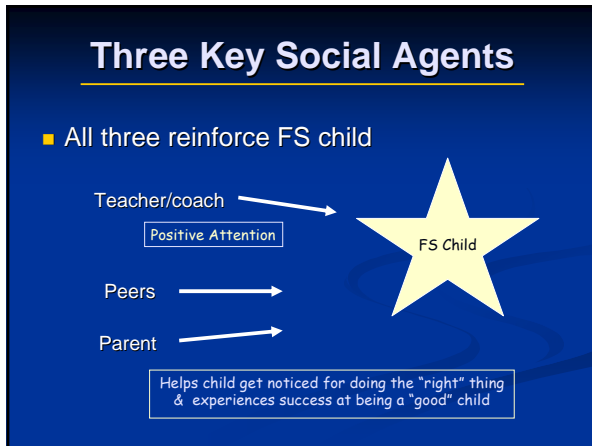
- Plays Red/Green Card Game with child first 6 program days
- Assists teacher with First Step implementation
- Works individually with child and family
- Provides communication link between home and school
- Trouble-shoots program difficulties

Teacher's Role

- Implements the program with assistance from Coach
- Plays Red/Green Card Game for behavioral feedback to student
- Give validation statements/signals to students
- Provide group reward activities

Role of Parent/Child

- Parent
 - Communicate with Coach
 - Provide home reward activity
 - Validates/praises child
 - Complete Home-Base with Coach
- Child
 - Help determine reward activities
 - Play the green/red card game



How Does FS Help Kids?

PROCESS	FIRST STEP TOOLS	
Non-verbal feedback	Use green/ red card	Teacher cues last 10 days of program
Positive interactions	Notice "right" behavior	Give points and validation
Encourage peer support	Earns class rewards	All children support game
Maintenance of skills	Gradually fade out card	Continue to validate child
Parental Support	Give praise & rewards	Attend Home-Base

Current Project Status


- We are implementing First Step in 7 schools
- Completing third year of a four-year project
- We serve approx. 50 students each year identified by teachers as at-risk for behavior issues
- We collect a variety of implementation and outcome data to analyze the effectiveness of the project

Our Approach for Measuring Treatment Implementation



Three cartoon figures are sitting on a blue rectangular block. The figure on the left is holding a sign with the number 8, the middle figure is holding a sign with the number 7, and the figure on the right is holding a sign with the number 9.

Where To Start?



- Who should be involved in process?
- What is it that we want to assess?
- What if intervention/training is complex?
- What if there are variations on the degree one can implement the program?
- How can information be easily shared?
- Observations? Interviews? Surveys?

Examples of Fidelity Scales

■ Checklist	■ Ratings
Item 1: Yes No DNA	Item 1: 1 2 3 4 5 na
Item 2: Yes No DNA	Item 2: 1 2 3 4 5 na
Item 3: Yes No DNA	Item 3: 1 2 3 4 5 na
Sum Yes responses	Average item rating
Sum No responses	% that attain min score
Total Possible	Fidelity Score =
Fidelity Score = [Yes/Possible]	[average score of items]

Main Areas of Fidelity Assessment

- Dosage (how much of the program did the student get?)
- Coach implementation
 - Independent observer and checklists
- Teacher implementation
 - Coach and independent observer
- Caregiver involvement
 - FS records and coach ratings

Assessing Dosage

- How much of the program did the student get?
 - Record if successfully completes the First Step program
 - Record in monitoring log daily progress of child in program

Dosage of First Step

- Determined if child successfully completed all 30 program days of First Step to Success
 - 92% of students had a complete "dose", successfully completing all 30 days
 - Takes avg of 35 school days to complete program (range from 30-55)

Assessing Coach Implementation

- Examining how well the coach (First Step direct care staff) implements the program:
 - Practice at turning card appropriately before beginning program, to 90% accuracy
 - Independent observations of coach in classroom
 - Checklist of activities completed by coach at HomeBase sessions

Assessing Teacher Implementation

- Examining how well the teacher implements the First Step program:
 - Independent observations of teacher implementation in classroom
 - Coach assessments of teacher implementation at four time-points in program

Coach and Teacher Fidelity

	Coach	Teacher
Excellent ratings of consistent implementation	86%	26%
Good/excellent overall FS implementation	93%	70%
Average fidelity score (100% is a perfect score)	98%	92%
Coach covered all but one HomeBase topic at session	75%	na
Teachers' provision of praise to student good or excellent	na	62%

Assessing Caregiver Implementation

- Monitoring of caregiver involvement in providing home rewards and returning cards
- Monitoring caregiver participation in HomeBase sessions
 - Number of sessions attended
 - Level of involvement in the sessions
 - HomeBase activities done with child during week

Caregiver Involvement

- 65% of caregivers completed all 6 sessions of HomeBase
- 79% of caregivers completed 3 or more HomeBase sessions
- On average, 50% of caregivers reported doing 2 or more HomeBase activities with their child during the week.



Caregiver Involvement Cont.

- Caregivers spoke with the coach 37% of the program days and were left a message or email 19% of program days
 - Contact made with caregiver over 50% of program days
- Daily child progress cards were returned to school 79% of program days
 - Only 17% of the cards were never returned

Creating Subscales

- It can be useful to examine individual items to look at fidelity
- Also helpful to create scales that summarize several items at once
- We combined multiple items and scales into 4 sub-scales: Coach, Teacher, HomeBase, and Parent Involvement
- Then combined these 4 into 1 overall scale

Fidelity Subscale Scores

Fidelity Scale	Sample Size	Mean Score (1-5)	% Good or Excellent	% Poor or Limited
Coach Observation	72	4.82	97.2%	0%
Teacher Observation	100	4.19	78%	7%
HomeBase Involvement	94	3.55	61.7%	19.1%
Parent Involvement	41	3.29	34.2%	17.1%
Overall Fidelity	91	4.04	81.3%	0%

Uses of Implementation Data

- Determine extent of fidelity of implementation for the entire program
- Examine implementation status for individuals, grades, schools
- Identify programmatic and individual training needs
- See if fidelity rates influence the outcomes of the program

Linking Fidelity to Outcomes

- How fidelity data relates to outcomes
 - Keep in mind small sample sizes
 - Preliminary analyses
- Fidelity includes: Teacher obs, HomeBase, and Overall fidelity scale
 - Converted fidelity data into 5-point scales (5=excellent, 3=adequate, 1=poor)
- Outcomes include: SSRS social skills, problem behavior and academic competence scales pre/post change scores

Fidelity & Outcomes

Change scores from pre to post

Fidelity Scale	Sample Size	Social Skills Mean	Problem Behavior Mean	Academic Scale Mean
1 (poor)		Like increased gains as fidelity improves ↓	Like to see greater reduction as fidelity improves ↑	Like increased gains as fidelity improves ↓
2 (limited)				
3 (adequate)				
4 (good)				
5 (excellent)				

Teacher Fidelity & Outcomes

Change scores from pre to post

Fidelity Scale	Sample Size	Social Skills Mean	Problem Behavior Mean	Academic Scale Mean
Teacher Obs 1 (poor)	0	*	*	*
Teacher Obs 2 (limited)	5	2.00	-2.6	2.8
Teacher Obs 3 (adequate)	15	5.93	-7.47	-0.47
Teacher Obs 4 (good)	28	6.21	-2.32	3.18
Teacher Obs 5 (excellent)	47	7.19	-5.8	1.66

HomeBase & Outcomes

Change scores from pre to post

Fidelity Scale	Sample Size	Social Skills Mean	Problem Behavior Mean	Academic Scale Mean
HomeBase 1 (poor)	9	6.78	-1.00	1.11
HomeBase 2 (limited)	8	-2.50	3.50	-3.13
HomeBase 3 (adequate)	18	1.89	-3.28	-0.56
HomeBase 4 (good)	37	8.81	-5.24	2.05
HomeBase 5 (excellent)	18	10.33	-10.94	5.56

Conclusions

- Treatment implementation data is useful to collect when conducting a new program
 - Helps identify implementation issues / training needs
 - Can look at implementation of individuals, grades, schools
 - Can link quality of implementation to outcomes
- Important to start collecting fidelity data in a consistent manner

