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**REDUCING ABERRANT BEHAVIOR UTILIZING FUNCTIONAL
COMMUNICATION TRAINING IN WHOLE GROUP,
SMALL GROUP AND ONE-TO-ONE SETTINGS**

A Thesis

by

TWILA DAWN SPROWL FIGUEROA

**Submitted to the Graduate School of the
University of Texas-Pan American
In partial fulfillment of the requirements for the degree of
MASTER OF EDUCATION IN SPECIAL EDUCATION
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December 2001

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COMMUNICATION TRAINING IN WHOLE GROUP,
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December 2001

ABSTRACT

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Functional communication training (FCT) with extinction, as well as multiple manding choices were utilized to reduce aberrant behavior with three individuals with mild to moderate mental retardation or learning disability. The setting was a self-contained special education classroom for students ages six to 11 years old in an elementary school in South Texas. FCT with extinction was utilized within whole group, small group and one-to-one instruction. The findings indicated that FCT did reduce aberrant behavior and did increase communication for all three subjects. FCT is a differential reinforcement of an alternative behavior (DRA) method which has viable uses within the public school setting.

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CHAPTER I

INTRODUCTION AND REVIEW OF RELATED LITERATURE

Introduction

Functional communication training (FCT) is a behavior modification method which increases communication and reduces aberrant behavior. FCT has been classified as a specific type of differential reinforcement of an alternative behavior (DRA). FCT is often combined with extinction or punishment, but can stand alone. A functional behavioral analysis (FBA) is necessary to determine what is reinforcing the aberrant behavior. During FCT subjects are given a single communication choice (I want toy.) or several communication choices (I want ball. I want truck. I want doll.) which are reinforced utilizing the same reinforcer that was continuing the aberrant behavior during the FBA. Whereas the aberrant behavior is 1) reinforced (without extinction), 2) reinforced with a different schedule (fading), 3) not reinforced (extinction) or 4) punished to reduce its occurrence.

Research Questions

The following research questions were investigated.

1. Does the use of functional communication training reduce aberrant behavior and increase communication with individuals with mild to moderate mental retardation or learning disability within a whole group setting?

2. Does the use of functional communication training reduce aberrant behavior and increase communication with individuals with mild to moderate mental retardation or learning disability within a small group?
3. Does the use of functional communication training reduce aberrant behavior and increase communication with individuals with mild to moderate mental retardation or learning disability within a one-to-one setting?

Review of the Related Literature

Many studies have shown the effectiveness of FCT (Lalli et al., 1995; Shukla & Albin, 1996; Kahng et al., 1997; Shirley et al., 1997; Fisher et al., 1998; Hagopian et al., 1998; Brown et al., 2000; Kahng et al., 2000; Wordell et al., 2000) within the last five years. Shirley et al. compared FCT without extinction and FCT with extinction. They found that FCT without extinction did not reduce aberrant behavior to below baseline levels for their three adult subjects. The FCT with extinction was introduced and all three subjects did respond. Their aberrant behavior dropped to below baseline levels, with one subject's aberrant responses dropping to near 0%. Then as a maintenance program, FCT without extinction was reintroduced, and one subject's aberrant behavior levels started to approach baseline levels. This subject was placed back on FCT with extinction and aberrant levels dropped. The other two subjects maintained low levels without the use of extinction. The Hagopian et al. study reviewed 21 cases in which FCT was the treatment of choice. Of these, 11 were FCT without extinction and 25 were FCT with extinction (some cases involved more than one aberrant behavior and more than one type of treatment). A goal of 90% reduction of aberrant behavior was set. None of the 11 cases involving FCT without extinction met this criteria, whereas 11 of 25 or 44% of the FCT

with extinction met this criteria. These two studies suggested that FCT with extinction is more effective at reducing aberrant behavior than FCT without extinction.

Extinction and FCT

One must, also, look at the difference between extinction alone and FCT. In one study, Fisher et al. (1998) compared extinction alone to FCT without extinction. They found that during extinction there was an extinction burst, whereas during FCT without extinction there was not such a burst. An extinction burst is an increase of the number and/or intensity of the aberrant behavior which is higher than base line levels after a behavior modification method has been implemented. FCT without extinction produced lower levels of aberrant behavior than extinction alone. Other subjects within this study received only FCT with extinction and did not experience an extinction burst. Another study (Shukla & Albin, 1996) found results similar to Fisher et al. During this study, when the subject experienced extinction alone, there was an extinction burst. When FCT with extinction was introduced, there was not an extinction burst. Therefore, these two studies suggest that FCT with extinction can reduce the extinction burst experienced in extinction alone.

Fading

Another aspect of FCT with extinction is the integration of fading into the treatment plan. There are two different ways to utilize fading during FCT. In one study (Worsdell et al., 2000), the reinforcement of the aberrant behavior (FCT without extinction) was faded. In a second study (Lalli et al., 1995) the reinforcement of the communicative response through response chaining (FCT with extinction) was faded. Both studies were able to reduce the aberrant behavior to near 0% levels and increased

the communication level of seven of eight subjects. These studies are a truer picture of what is feasible within the classroom. Reinforcement must be faded due to the fact that in a classroom every time a student displays a behavior it cannot be reinforced.

Manding Responses

The last aspect of FCT that needs to be examined is the amount of manding responses from which a subject has to choose. A manding response is the physical part of the communication process. A manding response can be either physical (pointing to the choice), verbal (saying the choice) or both physical and verbal (pointing and saying the choice). Kahng et al. (2000) gave one subject one manding choice (I want treats.) which could mean one of six reinforcers that the subject did not have control over, then they gave the subject control over which reinforcer was chosen (I want chips.). In the FCT with single manding response the subject's aberrant behavior was reduced, but over time returned to baseline levels. Whereas in the FCT with multiple manding responses, the subject's aberrant behavior was reduced to near 0% levels and maintained at these levels over time. The subject's communicative responses were higher during the multiple manding response phases as opposed to the single manding response phase. This would suggest that when a subject has more control over the reinforcers, the number of aberrant behaviors is decreased and the number of communicative manding responses is increased.

After reviewing the studies of the last five years regarding functional communication training, it can be generalized that FCT with extinction reduces aberrant behavior and increases communication manding more efficiently than FCT without extinction (Shirley et al., 1997; Hagopian et al., 1998). The extinction burst associated with extinction alone is reduced when extinction is combined with FCT (Fisher et al.,

1998; Shukla & Albin, 1996). Fading must be incorporated into FCT to make it feasible within the classroom (Lalli et al., 1995; Wordell et al., 2000). FCT appears to have a longer lasting effect on reducing aberrant behavior and increasing communication manding when subjects are given more choice over reinforcers (Kahng et al., 2000).

This study examined the effects of functional communication training with extinction on aberrant behavior with individuals with mild to moderate mental retardation or learning disability. It utilized multiple manding choices during FCT in three different settings: whole group, small group and one-to-one.

CHAPTER II

METHOD/PROCEDURES

Subjects

The subjects for this study were three individuals attending a special education self-contained class at an elementary school in south Texas. The students were identified as having behavior that was interfering with their learning and the learning of the other students within the classroom. They were all of Hispanic origin. All subjects had limited speech and received speech therapy, two 25 minute sessions per week. The speech therapist had started a picture exchange program with two of the students: Subject 1 and Subject 2. The picture exchange program entailed the students identifying pictures on request and led to the students being able to make sentences with the picture cards.

Subject 1 was a 10-year-old girl with Down Syndrome and moderate mental retardation. She could name most letters of the alphabet and produce the sounds. She could match some sight words to picture cards, but could not blend sounds together to sound out words. She could count objects to match a given numeral to 10 and add numbers with sums to 10. Subject 1 wore glasses.

Subject 2 was a 7-year-old girl with mild mental retardation. She had a short attention span with possible attention deficit hyperactive disorder, as per psychological/educational report dated October 25, 2000. She could name a few of the

letters of the alphabet and produce a few of the sounds. She could recognize the numerals 1 to 9. When given a group of pictures, she could point to the correct picture, additionally she could write her name when it was completed hand over hand. Subject 2 wore glasses.

Subject 3 was a 7-year-old boy with a moderate level of learning disability. He had a history of rage-like outbursts, which led school personnel to suspect fetal alcohol syndrome. He could name and produce the sound for about half of the letters of the alphabet. He could rote count to 13 and count objects to 10. He could write his name without visual cues. Subject 3 wore glasses.

Target Behaviors

Four different behaviors were of concern in this study: 1) active noncompliance - leaving the area where subject was to work, going under a table and running away from teacher. 2) aggression - hitting, kicking, pinching, pushing, scratching and throwing objects at others, 3) destructive behavior - knocking objects off of tables, moving tables, knocking chairs and destroying objects, and 4) self-injurious behavior - hitting the chin with the palm of the hand to make the teeth snap together.

Behaviors of concern for Subject 1 were: active noncompliance, aggression and destructive behavior.

Behaviors of concern for Subject 2 were: active noncompliance, aggression and self-injurious.

Behaviors of concern for Subject 3 were: active noncompliance, aggression and destructive behavior.

Setting/Placement

This study was conducted during the last month of the school year in a self-contained special education classroom for students who were six to 11 years old. There were a variety of disabilities ranging from mild learning disability to autism to severe mental retardation. The abilities range were from a 2 year old level (non-academic functional skills) to 3rd grade. There were eleven (11) students, three (3) para-educators and one (1) special education certified teacher. The classroom contained four tables with chairs, shelves containing manipulatives and books, and four computers. The classroom was divided into areas by the shelves or rugs. It was configured much like a regular education classroom. The FCT was conducted in three different settings within the classroom: 1) whole group with all students seated at two long tables, one or two para-educators seated with students and teacher instructing the group, 2) small group with two subjects and one or two non-subjects seated at a table with either one para-educator or the teacher, and 3) one-to-one with one subject seated at a table with the teacher.

Administration of Procedures/Conditions

This study consisted of six phases, which are briefly described below.

Phase I - All subjects were trained to utilize the picture/word cards used during the FCT.

Phase II - A functional behavioral analysis was conducted with each subject to determine the source of reinforcement for their aberrant behavior. These were conducted within the classroom and in the three different settings.

Phase III - A baseline of aberrant behavior was taken across the three settings.

Phase IV - FCT with extinction was incorporated into the three settings. Subjects

had all five manding choices were available at all times during each session.

Phase V - FCT with extinction was removed to return to baseline conditions.

None of the five manding choices were available.

Phase VI - FCT with extinction was re-incorporated into the three settings. All five manding choices were available to all subjects.

Research Design

This study was an A-B-A-B design across subjects, across settings, and across behaviors. The segments of this study were: A=Baseline and B=FCT with extinction within the multiple settings.

Procedure

The six phases of this study are fully described below.

Phase I

All subjects were trained to utilize the picture/word cards to be used during the FCT. These were from the Picture Exchange Communication System (PECS) and consisted of these manding choices: break, hug, walk, toy and book. The picture/word cards had both the picture and the word that they represent. The subjects needed to complete the sentence: "I want ____." The subjects also needed to attempt to verbalize the sentence to increase their repertoire of spoken words. Subject 1 and Subject 2 received the training during their speech therapy sessions. Subject 3 received his training within the classroom. All subjects were required to point to and verbalize the manding choice requested by therapist or teacher with 90% accuracy on 10 trials during two consecutive sessions.

Phase II

A functional behavior analysis was conducted with each subject to determine the source of reinforcement for their aberrant behavior. These were conducted within the classroom and in the three different settings. Within each setting four situations or types of reinforcement were examined during five-minute sessions. These sessions occurred one time for each setting and examined each reinforcement type within each setting. The four situations were: (1) escape from demand passive, (2) attention, (3) escape from demand active, and (4) tangibles. All subjects' behaviors were analyzed together during the whole group setting, whereas small group and one-to-one were analyzed individually.

Escape from demand passive was the removal of the task for 20 seconds when subject exhibited aberrant behavior. Subject was required to remain in his or her chair. During whole group activities, subject was allowed to push his or her chair away from the group and turn away from the teacher for 20 seconds. After 20 seconds, subject was asked to move his/her chair back up to the table or an adult physically moved the chair back up to the table.

Attention was in the form of verbal or physical from an adult when aberrant behavior was exhibited. Verbal attention was an adult saying "No, don't hurt _____. (yourself, someone else)," "No, don't knock that over. Come pick it up." and "No, you may not get up. Come back and sit down." Physical attention was when an adult stood or sat near a subject and placed a hand on the subject's shoulder, back, arm or leg. Physical attention was also if the adult physically guided the subject back to his or her area, removed the subject's hand(s) from another student or removed subject's hand from their chin.

Escape from demand active was when the subject was allowed to walk around the room for 20 seconds after exhibiting aberrant behavior. After 20 seconds, the subject was verbally asked to return to the task and physically guided back to the task.

Tangibles (toys or books) were given to the subject for 20 seconds after exhibiting aberrant behavior. After 20 seconds, the tangible was removed. Tangibles were within the subject's view at all times.

Phase III

A baseline of aberrant behavior was taken across the three settings. Each baseline session lasted 10 minutes. Each 10 minute session was divided into 10 one-minute segments. The number and type of aberrant behavior was recorded for each subject during each minute. All subjects were recorded together during whole group setting and individually during small group and one-to-one. The whole group sessions were twice a day for five consecutive school days and the small group and one-to-one sessions were once daily for five consecutive school days.

Phase IV

FCT with extinction was incorporated into the three settings. All sessions lasted for 12 minutes, with the whole group being twice a day, and small group and one-to-one being once a day, every school day. All five manding choices were attached by velcro to a choice card (see Appendix D) in front of each subject. The card had the sentence "I want ____." on it. Subjects were not able to use the choice card during the first two minutes of each session. To signal this, an ✖ was placed on the choice cards. If a subject either used the choice card and/or verbally asked for the reinforcement during the first 2 minutes, they were told "Nice asking, but we have to work longer." These mandings

were noted, but were not counted in the number of mandings per session. If aberrant behavior occurred in the first two minutes, it was ignored, and recorded, but not counted in the number of aberrant behaviors per session. After two minutes of a session, the ✕ was taken off the choice card to signal its use. After five seconds if a subject had not manded, they were given a verbal prompt of "The choice cards are now available." After another five seconds if the subject had not manded, they were given a physical prompt to use the choice card. The prompted responses were noted, but not counted in the number of aberrant behaviors per session. Mandings were reinforced with a FR 1 (100%, no delay between reinforcement and next possible manding reinforcement) schedule. Aberrant behavior was ignored.

Phase V

FCT with extinction was removed to return to baseline conditions for three days. None of the five manding choices were available. This was a return to Phase III criteria.

Phase VI

FCT with extinction was re-incorporated into the three settings for three days. All five manding choices were available to all subjects. This was a return to Phase IV criteria.

Data Collection

Data was collected via a paper and pencil system utilizing charts. Appendix C.1 shows the chart used for sessions during the functional behavioral analysis. Appendix C.2 shows the chart used for each session during the baseline. The two charts in appendix C.3 were used for each session during the FCT with extinction. The definitions for the occurrence of an aberrant behavior was as follows.

Active Noncompliance - any time the subject got up (buttocks not touching the seat of the chair) and moved away from the work area, or got up and went under a table (3/4ths of body was under the table) or ran away from the teacher (teacher gave a directive to come and student moved in the opposite direction at a run) was considered one aberrant behavior. For every 20 seconds that the subject was presenting one of the three situation listed above, it was counted as an aberrant behavior.

Aggression - any time a subject hit (forceful contact of hand to another person), kicked (forceful contact of foot to another person), pinched (subject's fingers closing together on another person's skin), pushed (subject puts hands on another and forces them away), scratched (contact between subject's finger or finger nail and another person's skin) or threw an object at another person was considered one aberrant behavior.

Destructive Behavior - any time a subject knocked an object off of a table or shelf (hand on object and forcefully moved object), moved a table (pushed the table away from self and into another person), knocked over a chair (hand on chair forcefully shoving chair to floor) or destroyed on object (wrote on another's paper or book, ripped another's paper or book, broke own things forcefully) was counted as one aberrant behavior.

Self-Injurious - any time a subject hit own chin with palm of hand causing the teeth to snap together was counted as one aberrant behavior.

The definition for a manding was the subject completes the sentence "I want ____." using the choice card and vocalizing the sentence without an adult's verbal or physical prompt.

CHAPTER III

RESULTS

Functional Behavioral Analysis

The results of the functional behavioral analysis for Subject 1 were escape active in the whole group (24) and one-to-one setting (15). She did not respond to any of the reinforcers during the small group setting (see Figure 3.1). The results for Subject 2 were attention (7) for whole group; escape active (15), attention (17) and tangibles (16) for small group; and tangibles (27) for one-to-one (see Figure 3.2). The results for Subject 3 were escape active (15) and attention (15) for whole group; attention (12) for small group; and attention (5) for one-to-one (see Figure 3.3).

Subject 1

The results for Subject 1 during Base Line #1 were an average of 10 aberrant behaviors during each 10 minute session for whole group with a range of 0 to 24; an average of 1 aberrant behavior during each 10 minute session for small group with a range of 0 to 3; and an average of 11 aberrant behaviors during each 10 minute session for one-to-one with a range of 9 to 14. The results for Subject 1 during FCT with Extinction #1 were an average of 1 aberrant behavior and 7 manding behaviors during each 10 minute session for whole group with a range of 0 to 4 for aberrant behaviors and 5 to 9 manding behaviors; an average of 4 aberrant behaviors and 9 manding behaviors

during each 10 minute session for small group with a range of 0 to 12 for aberrant behaviors and 7 to 13 manding behaviors; an average of 1 aberrant behavior and 9 manding behaviors during each 10 minute session for one-to-one with a range of 0 to 2 for aberrant behaviors and 3 to 17 manding behaviors. The results for Subject 1 during Base Line #2 were an average of 7 aberrant behaviors during each 10 minute session for whole group with a range of 1 to 18; an average of 16 aberrant behaviors during each 10 minute session for small group with a range of 16; and an average of 7 aberrant behaviors during each 10 minute session for one-to-one with a range of 0 to 29. The results for Subject 1 during FCT with Extinction #2 were an average of 8 aberrant behaviors and 3 manding behaviors during each 10 minute session for whole group with a range of 1 to 15 for aberrant behaviors and 0 to 5 manding behaviors; an average of 3 aberrant behaviors and 13 manding behaviors during each 10 minute session for small group with a range of 3 to 4 for aberrant behaviors and 13 to 14 manding behaviors; an average of 2 aberrant behaviors and 17 manding behaviors during each 10 minute session for one-to-one with a range of 1 to 4 for aberrant behaviors and 15 to 19 manding behaviors. See Figure 3.4 for a graph of the aberrant behaviors and manding behaviors for Subject 1.

Subject 2

The results for Subject 2 during Base Line #1 were an average of 4 aberrant behaviors during each 10 minute session for whole group with a range of 0 to 11; an average of 18 aberrant behaviors during each 10 minute session for small group with a range of 0 to 36; and an average of 9 aberrant behaviors during each 10 minute session for one-to-one with a range of 9. The results for Subject 2 during FCT with Extinction #1 were an average of 2 aberrant behaviors and 4 manding behaviors during each 10 minute

session for whole group with a range of 0 to 6 for aberrant behaviors and 1 to 8 manding behaviors; an average of 14 aberrant behaviors and 5 manding behaviors during each 10 minute session for small group with a range of 8 to 17 for aberrant behaviors and 3 to 6 manding behaviors; an average of 3 aberrant behaviors and 9 manding behaviors during each 10 minute session for one-to-one with a range of 1 to 9 for aberrant behaviors and 6 to 15 manding behaviors. The results for Subject 2 during Base Line #2 were an average of 6 aberrant behaviors during each 10 minute session for whole group with a range of 1 to 15; an average of 43 aberrant behaviors during each 10 minute session for small group with a range of 43; and an average of 11 aberrant behaviors during each 10 minute session for one-to-one with a range of 4 to 23. The results for Subject 2 during FCT with Extinction #2 were an average of 3 aberrant behaviors and 4 manding behaviors during each 10 minute session for whole group with a range of 0 to 7 for aberrant behaviors and 1 to 8 manding behaviors; an average of 7 aberrant behaviors and 7 manding behaviors during each 10 minute session for small group with a range of 7 for aberrant behaviors and 7 to 8 manding behaviors; an average of 1 aberrant behavior and 12 manding behaviors during each 10 minute session for one-to-one with a range of 0 to 1 for aberrant behaviors and 9 to 16 manding behaviors. See Figure 3.5 for a graph of the aberrant behaviors and manding behaviors for Subject 2.

Subject 3

The results for Subject 3 during Base Line #1 were an average of 26 aberrant behaviors during each 10 minute session for whole group with a range of 4 to 57; an average of 10 aberrant behaviors during each 10 minute session for small group with a range of 5 to 17; and an average of 22 aberrant behaviors during each 10 minute session

for one-to-one with a range of 5 to 394. The results for Subject 3 during FCT with Extinction #1 were an average of 3 aberrant behaviors and 6 manding behaviors during each 10 minute session for whole group with a range of 2 to 4 for aberrant behaviors and 4 to 8 manding behaviors; an average of 8 aberrant behaviors and 9 manding behaviors during each 10 minute session for small group with a range of 2 to 19 for aberrant behaviors and 8 to 10 manding behaviors; an average of 2 aberrant behaviors and 5 manding behaviors during each 10 minute session for one-to-one with a range of 1 to 3 for aberrant behaviors and 4 to 8 manding behaviors. The results for Subject 3 during Base Line #2 were an average of 10 aberrant behaviors during each 10 minute session for whole group with a range of 4 to 13; an average of 16 aberrant behaviors during each 10 minute session for small group with a range of 16; and an average of 13 aberrant behaviors during each 10 minute session for one-to-one with a range of 3 to 27. The results for Subject 3 during FCT with Extinction #2 were an average of 3 aberrant behaviors and 4 manding behaviors during each 10 minute session for whole group with a range of 0 to 6 for aberrant behaviors and 0 to 7 manding behaviors; an average of 7 aberrant behaviors and 9 manding behaviors during each 10 minute session for small group with a range of 4 to 9 for aberrant behaviors and 9 manding behaviors; an average of 1 aberrant behavior and 4 manding behaviors during each 10 minute session for one-to-one with a range of 1 to 2 for aberrant behaviors and 1 to 8 manding behaviors. See Figure 3.6 for a graph of the aberrant behaviors and manding behaviors for Subject 3.

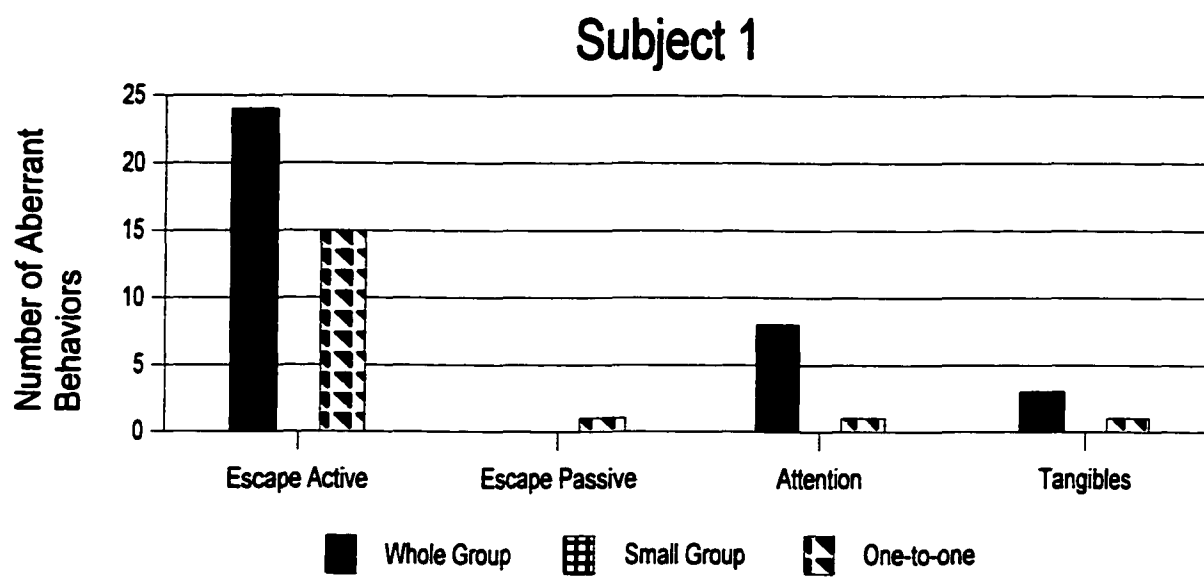


Figure 3.1 - Functional Behavior analysis for Subject 1 within the whole group, small group and one-to-one settings and with the 4 reinforcers: 1) escape active, 2) escape passive, 3) attention, and 4) tangibles.

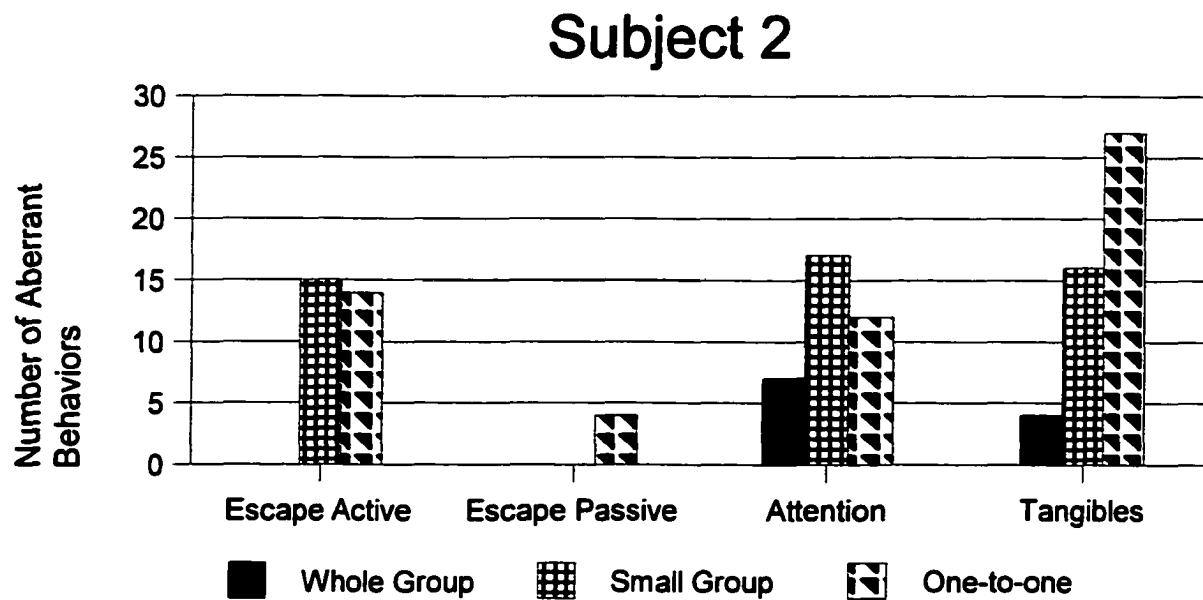


Figure 3.2 - Functional Behavior analysis for Subject 2 within the whole group, small group and one-to-one settings and with the 4 reinforcers: 1) escape active, 2) escape passive, 3) attention, and 4) tangibles.

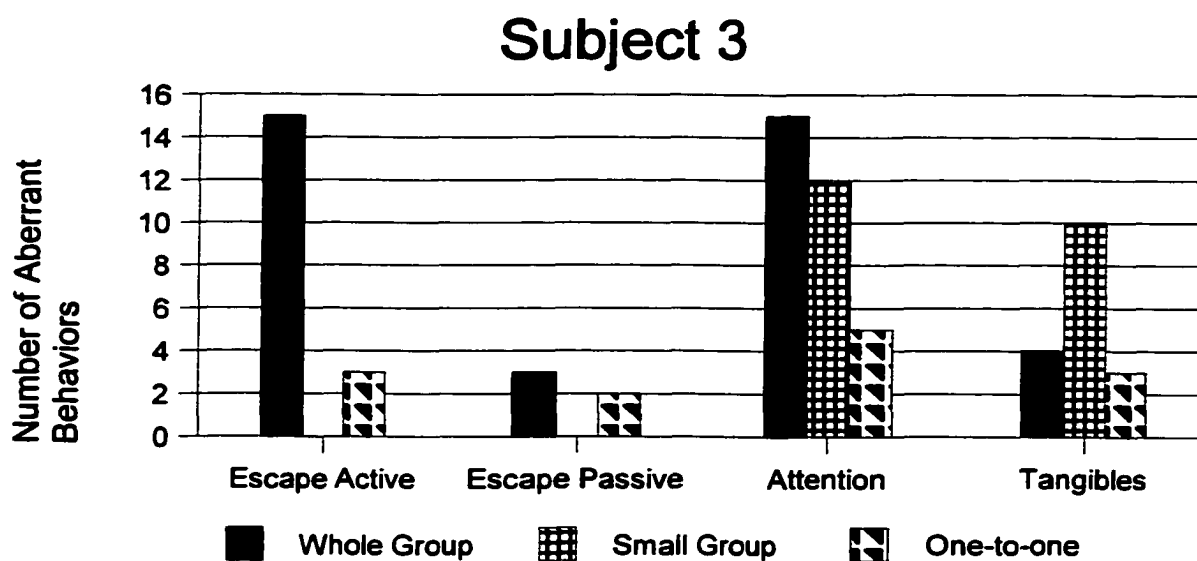


Figure 3.3 - Functional Behavior analysis for Subject 3 within the whole group, small group and one-to-one settings and with the 4 reinforcers: 1) escape active, 2) escape passive, 3) attention, and 4) tangibles.

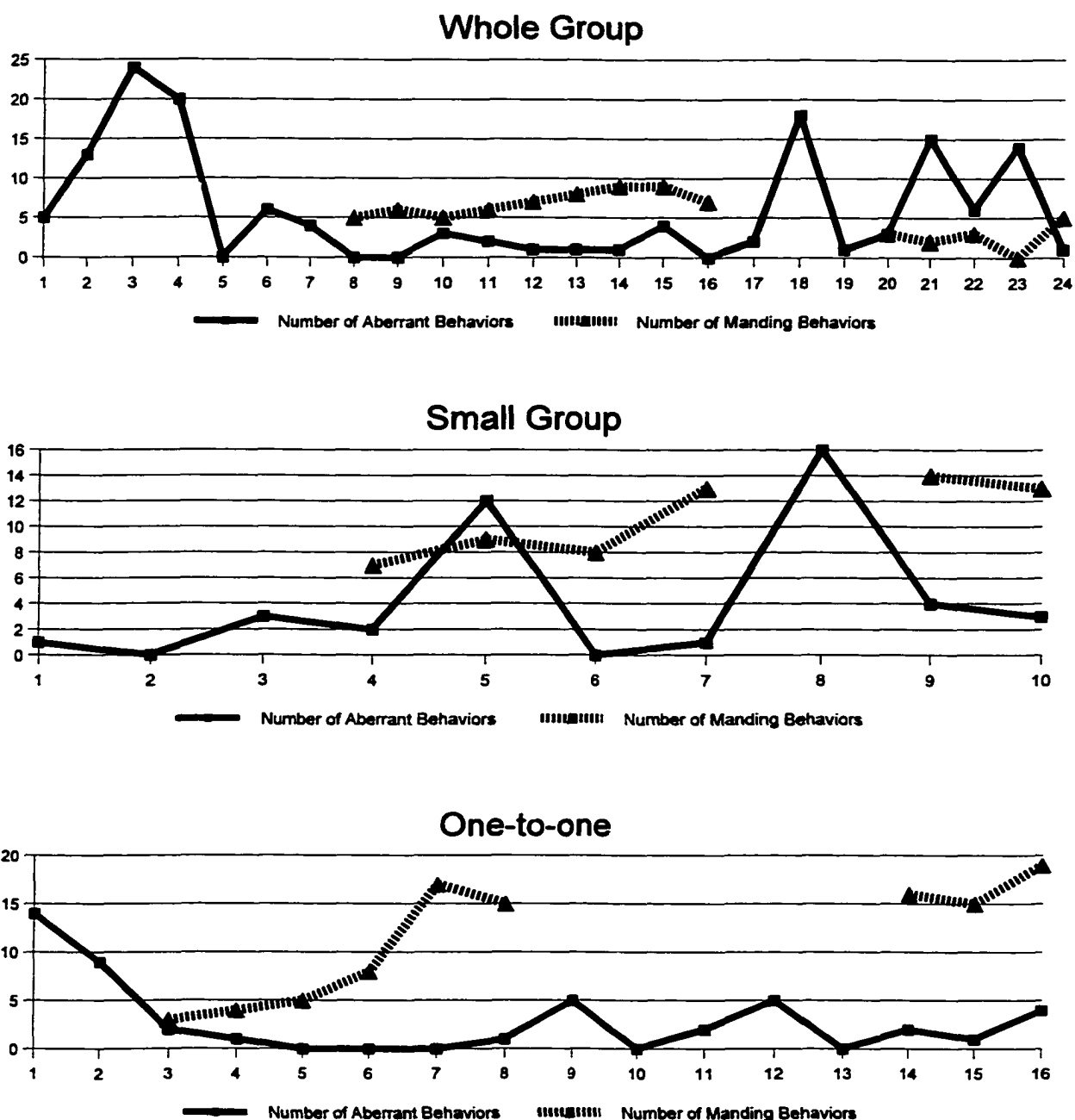


Figure 3.4 - The number of aberrant behaviors and manding behaviors per session for base line #1, FCT with extinction #1, base line #2, and FCT with extinction #2 for Subject 1.

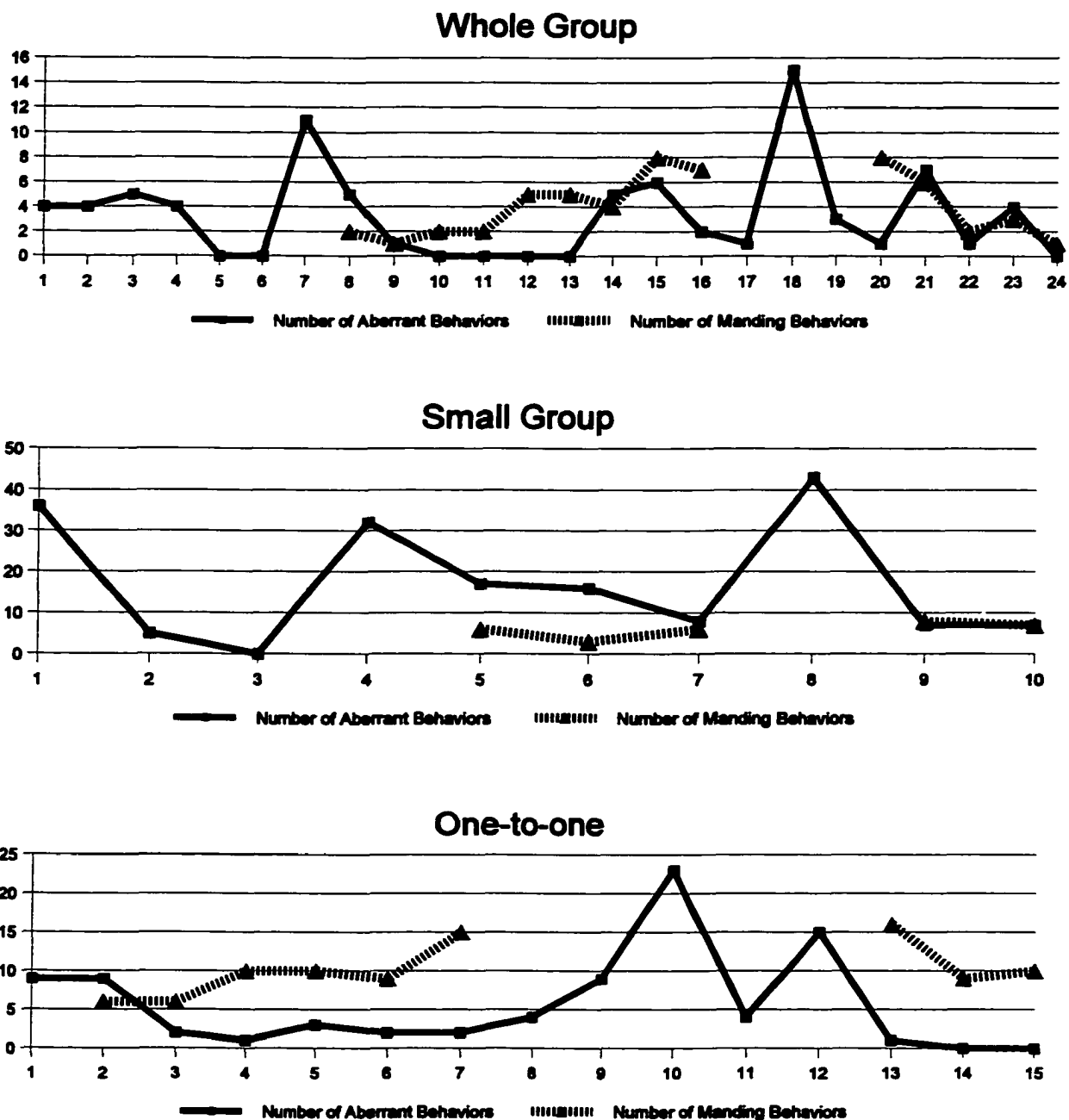


Figure 3.5 - The number of aberrant behaviors and manding behaviors per session for base line #1, FCT with extinction #1, base line #2, and FCT with extinction #2 for Subject 2.

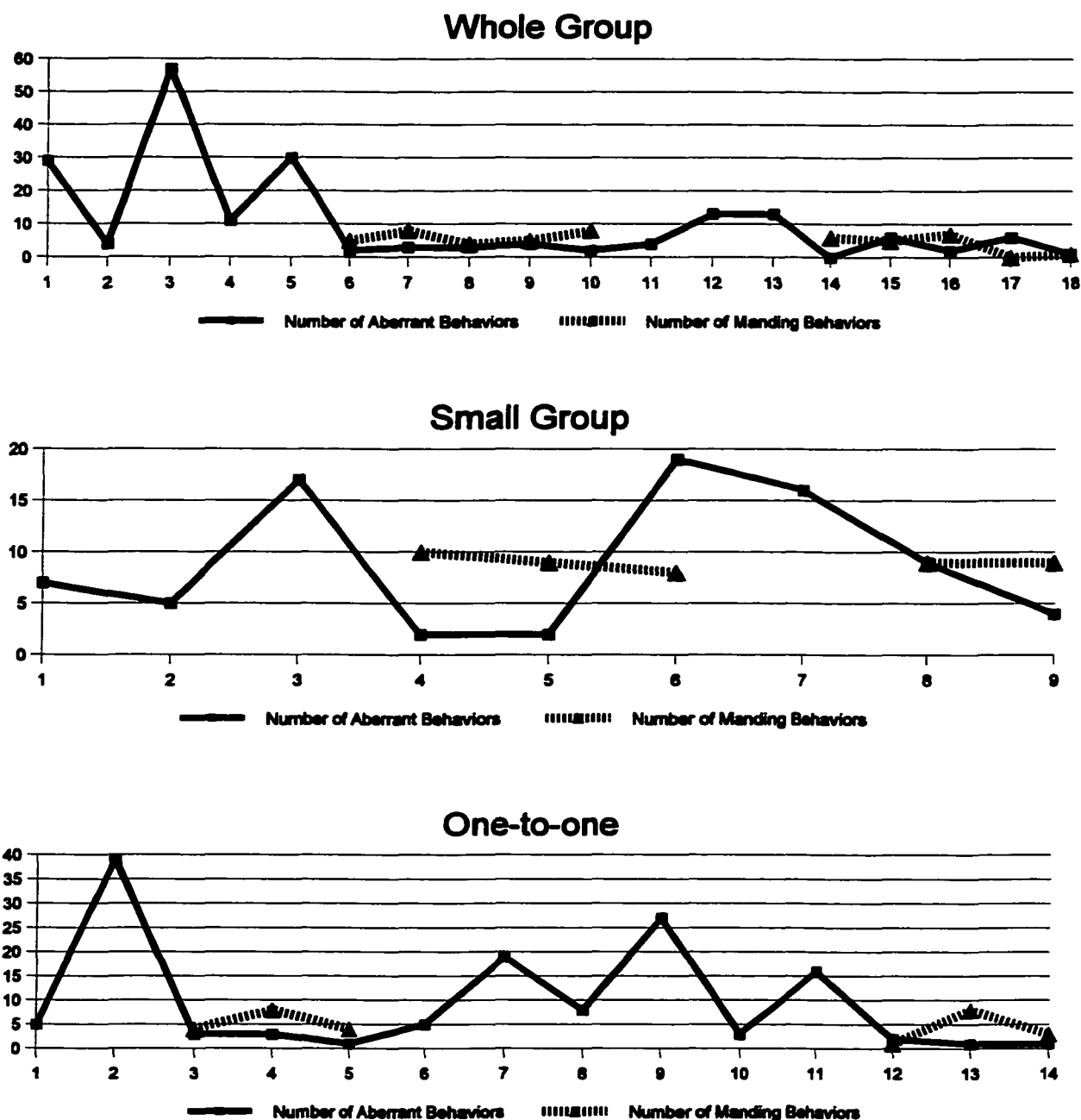


Figure 3.6 - The number of aberrant behaviors and manding behaviors per session for base line #1, FCT with extinction #1, base line #2, and FCT with extinction #2 for Subject 3.

CHAPTER IV

DISCUSSION

The FCT with extinction did reduce most of the aberrant behaviors for Subject 1. During Phase VI whole group, Subject 1's number of aberrant behaviors was greater than her number of manding behaviors. Her number of aberrant behaviors were less than during base line, but not as low as during Phase IV. There could have been several factors which influenced her behavior. Two of these factors may have been the time of day and the time of year. The whole group time was immediately following lunch and recess and Phase VI was the next to the last week of school.

The results for Subject were very similar to the results for Subject 1. During Phase VI whole group, again the aberrant behaviors were higher than the manding behaviors. She, also, attained the same higher aberrant behavior and lower manding behavior results during Phase IV and VI small group. The number of aberrant behaviors were lower than base line levels. These levels may have been influenced by the students within her small group. Subject 3 and another student were in Subject 2's small group and there was competition for attention.

The results for Subject 3 were very promising. The FCT with extinction tended to reduce the frequency of his outbursts and reduced the number of aberrant behaviors. The time of day and the end of year factors did not have as much influence on his behavior as

it did the other subjects.

Limiting Factors

There were some limiting factors to this study. 1) Inter-rater reliability was not addressed. 2) The implementor and observer were the same person. This was frustrating for both the researcher and the subjects. Many times during whole group the researcher was recording and implementing while the subjects were trying to present a manding response. The delay between trying to present a manding response and being able to complete the manding response was too long for the maturity of the subjects. 3) Subject 3 was absent 5 times during the study. This reduced the number of sessions for Subject 3. 4) Implementing a controlled research study within a public school classroom is very difficult. There are many factors that the researcher can not control. The interruptions and changes in schedules on a daily basis can not be controlled, nor can the behavior of other students within the classroom.

Even with these limiting factors, this study does replicate results from previous studies conducted within controlled environments (Lalli et al., 1995; Shukla & Albin, 1996; Kahng et al., 1997; Shirley et al., 1997; Fisher et al., 1998; Hagopian et al., 1998; Brown et al., 2000; Kahng et al., 2000; Worsdell et al., 2000). This study extends the research base for FCT due to the fact that it was conducted within a public school classroom and not a controlled environment. This study's results show that FCT with extinction is a viable alternative for behavior modification within the public school setting.

Implications of Future Research

Several of the limiting factors can be eliminated to improve the reliability of this

study. The inter-rater reliability issue could be solved by having the sessions video taped and having two or three observers rate each session, the research/implementor would not be one of the observers. The researcher/implementor not having to record and implement at the same time would reduce the wait time between manding opportunities, which had created frustrations for both implementor and subjects.

To make FCT more classroom friendly, a Phase VII should be added. This phase would use FCT with extinction and fading (reduction of reinforcement), lengthening the time between manding opportunities thus requiring the subject to work for longer periods of time. The delay would start at one minute of work time and increase by one minute intervals to 10 minutes of work time between manding opportunities.

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APPENDIX A
INFORMED CONSENT

INFORMED CONSENT

I _____ parent(s) of _____
 have been asked for my child to participate in a masters thesis research study. The purpose of this study is to provide data for a Masters thesis examining the effects of functional communication training (FCT) with extinction on aberrant (disruptive) behaviors with individuals with speech impairments and mild to moderate mental retardation or learning disability. Students will be using the Picture Exchange Communication System (PECS) to increase their communication. Extinction or ignoring misbehavior will be used to reduce aberrant behavior.

The research study is divided into (7) phases. These will be described below.

Phase I - Training

Students will be trained to use PECS. The students will be able to form the sentence: "I want ____." and will attempt to verbalize the sentence.

Phase II - Functional Behavioral Analysis

Student's behavior will be assessed to determine the source of reinforcement. The four (4) types of reinforcement examined will be:

- 1) escape from demand passive - (break) - removal of the task and allowing the student to look away or move their chair away from the group for thirty (30) seconds.
- 2) attention -
 - a) verbal - an adult would verbally tell the student what they are doing right or wrong,
 - b) physical - an adult would stand or sit near the student and place a hand on the student. The adult may, also, physically guide the student back to his or her area.
- 3) escape from demand active - (walk) - allowing the student to get up and move around the room for thirty (30) seconds.
- 4) tangibles - (toy or book) - giving the student a toy or book for thirty (30) seconds.

Phase III - Baseline

The rate of misbehavior is assessed.

Phase IV - FCT with Extinction

Students will use the PECS to form the sentence "I want ____." and will try to verbalize using the choices from Phase II. If the sentence is completed and verbalized then the student will receive the requested item for thirty (30) seconds.

Phase V - Baseline

The program is removed and rate of misbehavior is assessed like in Phase III.

Phase VI - FCT with Extinction

FCT with extinction is re-incorporated like Phase IV.

Phase VII - FCT with Extinction and Fading

During this phase the students will have to work longer before being able

to request an item.

This study will last approximately two (2) months.

There will be brief physical contact between adults and students. These contacts are part of the normal classroom proceedings.

All information obtained during this study will be kept confidential. Student initials will be used in any written materials and students will be assigned a number in all published materials.

Participation in the study is voluntary. Parent(s) or student may elect not to participate and is free to withdraw from the study without any penalty or loss others are entitled.

This research has been reviewed and approved by the Institutional Review Board - Human Subjects In Research. For research related problems or questions regarding subject's rights, the Human Subjects Committee maybe contacted through Dr. Juan Gonzalez, Chair, at 381-2880.

Should you have any questions about the study or procedures please call Twila Figueroa, Milam Elementary, McAllen ISD, at 971-4333.

_____ Yes, I give permission for my child to participate.

_____ No, I do not give permission for my child to participate.

Parent Signature

Date

Sincerely,

Twila Dawn Sprowl Figueroa
Masters of Special Education Candidate
Milam Elementary / University of Texas-Pan American

APPENDIX B
PRINCIPAL CONSENT FOR RESEARCH

**BEN MILAM ELEMENTARY SCHOOL**

LINDA MCGURK
Principal

To: Institutional Review Board - Human Subjects in Research
From: Linda McGurk, Principal
Date: February 5, 2001
Subject: Twila Figueroa / Research Project

Twila Figueroa has my permission to conduct her research study entitled "Reducing Aberrant Behavior Utilizing Functional Communication Training in Whole Group, Small Group and One-to-One Settings." If you have any questions, I can be reached at 971-4333.

Thank you.

MAILING ADDRESS: 2900 NORTH 23RD STREET • McALLEN, TEXAS 78501-6126
PHYSICAL ADDRESS 3800 NORTH MAIN • 956 971-4333 • FAX 956 972-5649

APPENDIX C
RECORDING FORMS

Recording Form C.1

Functional Behavioral Analysis

Circle one: Whole Group

Small Group

One-to-One

Circle one: Escape from demand passive

Attention

Escape from demand active

Tangibles

Minutes	1	2	3	4	5
Active Noncompliance					
Aggression					
Destructive Behavior					
Self-Injurious					

Write the subject's first initial (P L J) in the box that the aberrant behavior occurred.

Date: _____

Time: _____

Recording Form C.2

Baseline

Circle one: Whole Group

Small Group

One-to-One

Minutes	1	2	3	4	5	6	7	8	9	10
Active Noncompliance										
Aggression										
Destructive Behavior										
Self-Injurious										

Write the subject's first initial (P L J) in the box that the aberrant behavior occurred.

Date: _____

Time: _____

Recording Form C.3

FCT with Extinction

Circle one: Whole Group
Aberrant Behavior

Small Group

One-to-One

Minutes	1	2	3	4	5	6	7	8	9	10	11	12
Active Noncompliance												
Aggression												
Destructive Behavior												
Self-Injurious												

Write the subject's first initial (P L J) in the box that the aberrant behavior occurred.

Date: _____

Time: _____

Manding Behavior

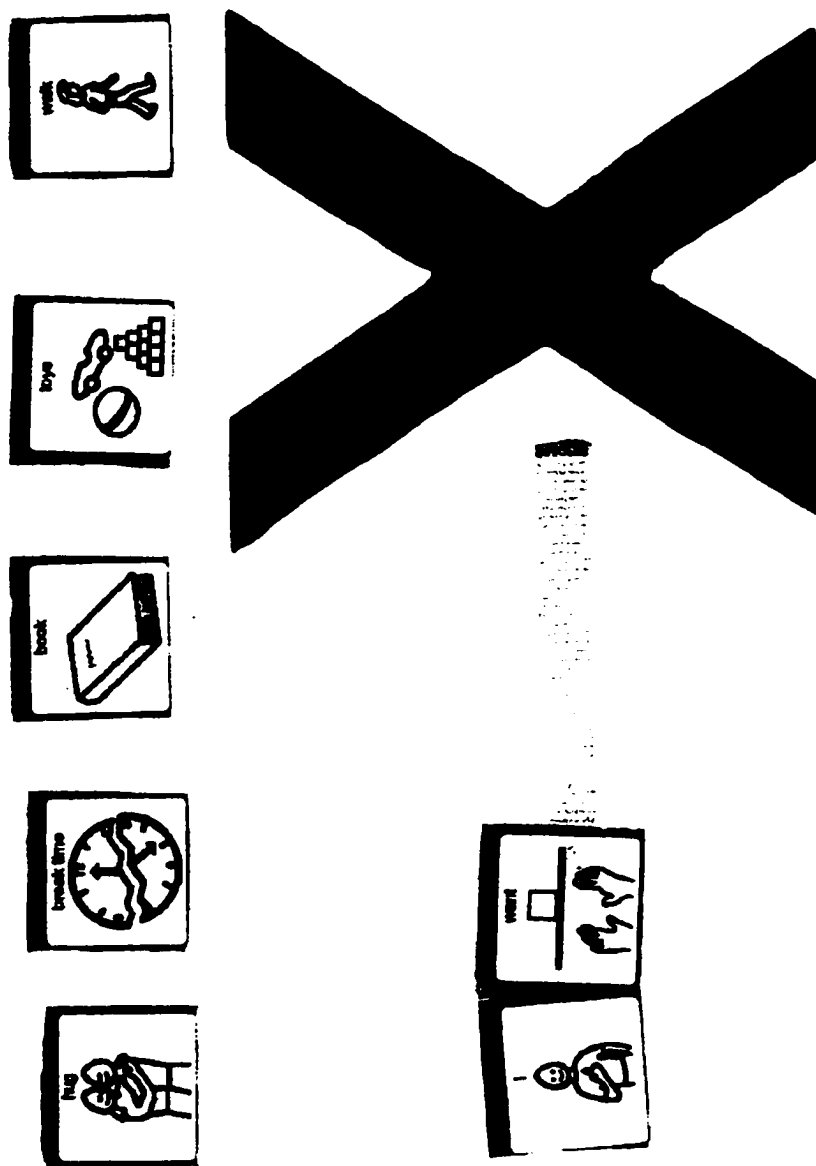
Minutes	1	2	3	4	5	6	7	8	9	10	11	12
Break												
Hug												
Walk												
Toy												
Book												

Write the subject's first initial (P L J) in the box that the manding behavior occurred.

Date: _____

Time: _____

APPENDIX D
CHOICE CARD



APPENDIX E

VITA

VITA

Twila Dawn Sprowl Figueroa received her Master of Education in Special Education for the Culturally and Linguistically Diverse Exceptional Learner in December of 2001 from The University of Texas Pan American in Edinburg, Texas. She received her Bachelor of Arts in Elementary Education with a minor in Special Education in December of 1984 from Purdue University in West LaFayette, Indiana. She started teaching in 1985 with McAllen Independent School District in a Resource room. Since 1986, she has taught in a multi-categorical self-contained special education classroom at Milam Elementary in McAllen, Texas.

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78504