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A Case Study on Elective Mutism Using a consultation Model

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A CASE STUDY ON ELECTIVE MUTISM
USING A CONSULTATION MODEL

A Specialist Project
Presented to
the Faculty of the Department of Psychology
Western Kentucky University
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In Partial Fulfillment
of the Requirements for the Degree
Educational Specialist

by
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May 1995
A CASE STUDY ON ELECTIVE MUTISM

USING A CONSULTATION MODEL

Date Recommended April 13, 1995

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Abstract

In the present case study, shaping/desensitization procedures, along with behavioral contracts, were implemented through a consultation model in an attempt to treat a seven year-old elective mute female within the school setting. The author (consultant) provided information to the subject's teacher (consultee) in order to treat the subject's elective mutism. The procedure consisted of trials using a sound-level meter to successively approximate the desired behavior of speaking at school. The goal was for the subject to respond verbally to questions and requests invoked by her teachers and peers within the school setting and to improve her social interactions. The results indicated that, although the subject did not initiate verbalizations at school, she did begin to interact, both socially and verbally, with her peers outside of school. Several issues are examined in an attempt to explain possible reasons for the subject's failure to speak at school. Recommendations are also made for future studies.
Introduction

Overview

Typically, teachers experience "noisy" children in the classroom; however, few teachers have encountered a student who refuses to speak at all. Students fitting this description may have a condition called elective mutism. The Diagnostic and Statistical Manual of Mental Disorders, Third Edition – Revised (DSM III-R; American Psychiatric Association, 1987) defines elective mutism as the "persistent refusal to talk in one or more major social situations, including school, despite ability to comprehend spoken language and to speak" (p. 88).

Characteristics of elective mutes differ among children; however, there are some characteristics that may be more commonly associated with the disorder. Kolvin and Fundudis (1981) found significantly high reports of enuresis (bedwetting or wetting clothing), behavior problems (sulking or aggressiveness), excessive shyness, and immaturity among the 24 subjects in their study. Other characteristics of elective mutes may include: low self-esteem, poor social skills, "neurotic behavior" due to family dysfunction, disfluent speech, resistive behavior, compulsivity, and separation anxiety (Bogizar & Hansen, 1984).
Prevalence

The literature surrounding the prevalence of elective mutism seems consistent. Most studies seem to support the DSM III-R's (American Psychiatric Association, 1987) reported prevalence rate of less than one percent of the population (Hooper & Linz, 1992; Labbe & Williamson, 1984). Brown and Lloyd (1975) reported that there may be as many as 7.2 five year-old children out of every 1,000 who do not speak at school.

In most cases of elective mutism, the disorder does not attract attention until the child enters school. Labbe and Williamson (1984) stated that the ages most often reported for elective mutism are between five and seven. The sex differences seem to be slight, with females marginally higher than males (American Psychiatric Association, 1987; Barlow, Strother, & Landreth, 1986). Labbe and Williamson (1984) found no sex differences in their study.

Expected Course of Elective Mutism

When treating elective mutism, those people working with the child may never know what precipitated the disorder. One predominant theme was found within the literature: the longer the disorder goes untreated, the more difficult it is to remediate. Labbe and Williamson (1984) described elective mutism as "a rather persistent disorder which becomes more intractable over time" (p. 274). The course of elective mutism usually lasts only a few weeks
or months, but it can continue for many years (American Psychiatric Association, 1987). Treatment methods for elective mutism vary, and some techniques are more effective than others. Hayden (1980) suggested that any treatment is difficult when the disorder has persisted for more than 12 years. Treatment methods can include: psychodynamic therapy, videotaping, group and sibling play therapy, contingency management programs, response-cost programs, shaping paired with desensitization, and stimulus fading.

The purpose of the present case study is to implement a school-based intervention to treat a seven year-old female elective mute student using a consultation model. The intervention will be carried out by the student's language arts teacher (consultee) over a period of twelve weeks with the author serving as the consultant. The goal of the intervention is for the child to respond verbally to questions and requests invoked by the child's teachers and peers within the school setting.
Review of the Literature

Etiology

Many questions have been raised concerning the causes of elective mutism. Consequently, there are many hypotheses about its etiology. No known substantiated singular cause of elective mutism has been found; however, researchers have offered many theories. This section will outline some of the hypothesized causes of elective mutism according to the psychodynamic, behavioral, and eclectic orientations.

Researchers who are influenced by a psychodynamic perspective believe that the disorder stems from early childhood experiences. Other authors, such as Weber (as cited in Kratochwill, Brody, & Piersel, 1979), believed that elective mute children may suffer from extreme oral dependency needs brought about by an abnormal dependence on the mother.

Other psychodynamic theories found within the literature suggested that elective mutism may be the result of separation anxiety upon admission to school, excessive bonding with the mother, or a traumatic experience during the stage of speech development, usually around the ages of one or two years old (Kratochwill et al., 1979).
Another psychodynamic hypothesis is that the disorder is precipitated by a traumatic event. Labbe and Williamson (1984) suggested that traumas such as a change of residence, illness, family upheaval, or a mouth injury may be predisposing factors to elective mutism.

Behavioral theorists believe that a person learns through reinforcement. Vasto (1992) stated that some event which first caused the child to remain silent soon became reinforced. Vasto also stated that the child may have no knowledge or memory of what precipitated the refusal to speak after some time.

Social Learning Theory, another behavioral theory, states that a person learns by watching others behave and/or by seeing others rewarded for their behavior (Bandura, 1977). Lazarus, Gavilo, and Moore (1983) suggested that the elective mute child will often have an extremely close relationship with one parent, usually the mother. Their hypothesis stated that the elective mute child may witness hostility between the parents in which one parent refuses to talk to the other as a way of showing his/her anger or disappointment. Consequently, the child imitates this behavior and generalizes it to other social settings, such as school. It has also been reported that one parent may be described as shy, and the child may imitate this behavior (Labbe & Williamson, 1984).
The hypotheses about the causes of elective mutism also take an eclectic viewpoint, incorporating both psychodynamic and behavioral theories. For example, Reed (1963) noted that subjects learned to keep quiet as a way of gaining attention. Friedman and Karagan (1973) found that children refused to speak in order to decrease anxiety. The decreased anxiety seemed to be a reinforcer to remaining mute.

Gemelli (1983) proposed four reasons why children refuse to speak. The first reason is that the child feels unloved or unvalued. The child may feel afraid that whatever he/she says may be met with disapproval or indifference.

The second reason is that the child feels anxious or shocked. Scott (1977) supported this position and stated that the child may become overly anxious if he/she perceives danger and responds by refusing to speak. She went on to say that the child refuses to speak in order to control the environment which, in turn, reduces or regulates the level of anxiety.

The third reason that a child may refuse to speak is that he/she is overprotected or abused. Gemelli (1983) said that if a parent reacts with sadness or tension when a child departs, even if to go play at a friend's house, the child may assume that his/her words of wanting to go may be viewed as causing distress for the parent. The child may not talk
in order to decrease the parent's anxiety. Regarding the abused child, Gemelli stated that the child refuses to speak in order to avoid being abused. The child may feel that the abusive parent is not to be trusted, and the child may align himself/herself with the other, "good" parent. The DSM III-R (American Psychiatric Association, 1987) stated that maternal overprotection may be a predisposing factor to elective mutism.

The fourth reason is that some children refuse to talk due to anger or sadness. If the child is angry, he/she may refuse to speak as a means of retaliation. If the child is sad, he/she may withdraw. Gemelli noted that the sad child may not have the energy to interact with others.

In summary, there are many proposed causes for elective mutism. Researchers from both the psychodynamic orientation and the behavioral orientation, as well as researchers with eclectic viewpoints, have offered both causes and treatment strategies. The next section outlines possible treatment approaches to the disorder.

Treatment Theories and Methods

Several approaches have been attempted in order to treat children who are electively mute. Many of these methods have been proven successful, while others have not. This section will delineate some of the approaches which have been used and will provide a description and possible limitations and contributions of each approach mentioned.
One of the least effective approaches for treating this disorder has been psychodynamic therapy (Scott, 1977). Psychodynamic approaches tend to focus more on changing the aspects of one's personality rather than changing the social responses of the child (Labbe & Williamson, 1984). In their review of the literature, Kratochwill et al. (1979) reported that psychodynamic approaches tended to be lengthy in the amount of time needed to treat the disorder (several months to several years), may lack generalization of speech among environments, and some have proven to be unsuccessful during follow-up studies.

Psychodynamic approaches also require a trained therapist, which may be expensive for the child's parents or for the school. Nash, Thorpe, Andrews, and Davis (1979) and Lazarus et al. (1983) agree that, because of these reasons, the psychodynamic approach is not the optimal method to implement when treating elective mutism.

Crema and Kerr (1978) recommended that showing empathy with the child prior to treatment may facilitate speech. In their study of a seven year-old female who was hospitalized for treatment, the therapist talked with the patient about her difficulty with speaking. The therapist told the patient that her first word would be the hardest and that verbalization would get easier. The therapist presented the problem as an inner conflict where part of the child wants to talk and part does not. The authors suggested that
bringing this conflict to the child's awareness may cause the child to become frustrated and break down. When this occurs, the therapist sides with the part of the child that wants to talk, therefore overpowering the part that does not want to talk. The authors described this as a type of aversive therapy (Crema & Kerr, 1978). Even though this method has been proven to be successful in the hospital setting, it may have limited usefulness in the school system if the teacher is not sufficiently trained in psychotherapy.

An intervention which has been used to treat elective mutism is videotape. Vasto (1992) suggested videotaping the child's class and classroom teacher. The teacher asks scripted questions to the class. The response from the class is not videotaped or may be edited out of the final tape. The elective mute child is asked the same questions at home by the parent with responses from the child being videotaped. The tape of the teacher's questions and the tape of the child's responses are combined and edited so that, to the viewer, it appears that the child is speaking in the classroom. Vasto suggested that this method may change the "self-belief" that the child has about himself/herself. Although Vasto claimed this method to be a "quick fix" (six to eight weeks), it may be very time consuming and expensive if the appropriate equipment is not readily available. Another limitation of this approach is
that the implementer may not have the knowledge or mechanical skills to edit the videotape correctly.

Barlow et al. (1986) advocated a different approach to the treatment of elective mute children: group and sibling play therapy. Barlow and her colleagues suggested that teachers may use play therapy in order to provide a safe and secure environment within the school setting. This suggestion is based on the assumption that play therapy will provide a comfortable setting in which the child is not expected to talk but can communicate on his/her own terms without pressure from adults. In their study, a five year-old female was successfully treated with play therapy. After nine months of treatment, the child had become verbal and was promoted from an early childhood program to a regular first-grade classroom. Although it may not bring quick success, play therapy can offer a "non-verbal solution to a non-verbal problem" (Barlow et al., 1986, p. 49). However, this type of approach may focus more on training the implementer to interact effectively instead of focusing on changing the child's behavior. Play therapy does not appear to be as directive as other approaches in that the implementer does not facilitate the program. Play therapy may take more time for success to become evident than other approaches, such as behavioral methods.

Probably the most effective and widely used approach to the treatment of elective mutism is behavior modification
Some techniques employed under this approach are: contingency management programs, response-cost programs, shaping paired with systematic desensitization, and stimulus fading. Kratochwill, Ramirez, and Sheridan (1987) stated that studies which used a variety of these techniques combined into one treatment program have proven successful in treating the disorder. Some of these approaches will be outlined within the following pages, along with some of their contributions and limitations.

Stimulus fading procedures may take the form of a hierarchical approach. Labbe and Williamson (1984) stated that stimulus fading is a gradual process where the stimuli, which control the speech, are removed so that the child will generalize and increase his/her speech. For example, Richards and Hansen (1978) began their study by reinforcing an eight year-old female in the home. Reinforcement was soon faded out in the home and was implemented on the way to school. Once speech had commenced in that situation, reinforcement was faded out on the way to school and was implemented on the playground. This technique required the child to gradually approximate the desired goal: speaking in front of the entire class. Richards and Hansen (1978) used many different hierarchies and variables in their study: location, number of children present, response difficulty, response magnitude, and response frequency.
Nash et al. (1979) used a similar approach with repetition and review incorporated into each session with the child. Reviewing and repeating successful tasks helps to break the habit response and helps to establish a willingness to perform the desired goal behavior.

Shaping procedures are similar to desensitization procedures. Wolpe's method of desensitization focuses on eliminating fear and decreasing anxiety while being gradually exposed to the anxiety-producing situation (Scott, 1977). Desensitization procedures are most often considered if the symptoms of anxiety are observable and appear to antagonize speech production in settings outside of the home (Scott, 1977).

The shaping method usually consists of procedures which are implemented in order to initiate verbalizations (Labbe & Williamson, 1984). This method involves having the child gradually approximate the goal of speaking, while being reinforced for each new behavior. For example, shaping may involve having the child first blow, then make lip movements, then produce sounds, then letters, then words, and finally sentences. Shaping methods have had remarkable success when treating elective mute children (Austad, Sininger, & Stricken, 1980; Bednar, 1974; Norman & Broman, 1970). Shaping procedures can easily be taught to teachers or to other professionals who have had no experience with this treatment approach.
Approximations to the desired behavior, usually generalized speech, must be reinforced. Lazarus et al. (1983) suggest positive reinforcers, such as telephones, bubble blowers, pets, and puppets, that may be used in classroom settings. Another reinforcer which is noted within the literature is called escape. Labbe and Williamson (1984) described the procedure as allowing the child to take a break from the treatment session after emitting a verbal response. The authors noted that escape procedures are useful in the production of initial verbal responses. In their study of an eight year-old male, Williamson, Sanders, Sewell, Haney, and White (1977) reported that by using the escape procedure with an additional reinforcer (e.g., money), responding increased from 10% at session six to 100% at session nine. Escape procedures may be used throughout each treatment session as a reward for speaking.

A literature review did not reveal any studies conducted using behavioral contracts to treat elective mutism; however, these contracts have been used to treat other emotional and behavioral disorders (Cullinan & Epstein, 1985; Kazdin, 1980; Marx, 1988). In his study of abused and neglected adolescents, Marx used behavioral contracts in order to outline desired behaviors and possible rewards. The adolescents were asked to list three desired rewards which were contingent upon the accomplishment of the
goal. The adolescent was rewarded with one of three items, whenever he/she reached the desired behavior stated within the contract.

Behavioral contracts have also been successful in treating problems of elementary school children (Kazdin, 1980). Kazdin reported that behavior contracts may be used to treat a "wide variety of disorders" (p. 154). He noted that contracting's effectiveness lies in the agreement between the client and the implementer. Kazdin stated that, by signing a contract, the client is more likely to perform or act according to the treatment program than if the program was imposed upon the client.

Cullinan and Epstein (1985) recommended that a behavioral contract include the following: target behavior or goal, how the performance is to be monitored, and the reward for completing the behavior. The authors also suggested that "bonus clauses" may be included for exceptional performances and "penalty clauses" for less than desirable performances (p. 5).

In summary, behavioral methods seem to be the most widely used in the treatment of elective mutism. Behavioral methods of treatment are less expensive to implement than psychodynamic methods because they do not require a trained professional. Behavioral methods appear to require less time for treatment and to produce better results than psychodynamic methods (Kratochwill et al., 1979).
Specifically, shaping/desensitization approaches (reinforcing a child for successfully approximating the goal or desired behavior) have been proven successful when treating elective mutism (Austad et al, 1980; Bednar, 1974; Norman & Broman, 1970). An advantage of using shaping procedures over other methods is that the implementer does not have to be an expert with the treatment approach. School personnel can be taught the principles of shaping methods, or they may implement treatment through consultation with others. Shaping procedures can be utilized in the school, whereas stimulus fading procedures may require some treatment outside of the school.

Behavioral contracts have also proven successful in treating various disorders in elementary school children (Kazdin, 1980). Kazdin noted that the effectiveness of behavioral contracts is in the client's willingness to comply with the treatment program by signing the contract.

Because of the advantages cited above, shaping procedures, along with behavioral contracts, seem to be of practical use in treating elective mutism within a school setting and may be used with a consultation model.

Consultation

Consultation is a process in which two individuals work together in a voluntary and collaborative relationship in order to solve a work-related problem of the consultee (Brown, Pryzwansky, & Schulte, 1991). A goal of this
process is to improve the consultee's functioning with his/her client. Another goal is for the consultee to develop the skills needed to cope with the problem in the future. The consultee may be defined as the initiator of the process or the one who wants to work out the problem. The consultant may be defined as the one who offers assistance and knowledge to the consultee (Brown et al., 1991).

Four major steps have been identified in the process of consultation. The first step is to identify the problem. The consultee must first take note of the problem and then work with the consultant to identify the specific problem.

The second step is to analyze the problem. Problem analysis is a means of finding the antecedents or variables which contribute to the problem. Step three is to implement a plan. During this step, the consultant uses his/her knowledge and skills to educate the consultee in ways of dealing with the problem. Goals and objectives are formulated, and a final plan is designed to treat the client. It is the responsibility of the consultee to actually implement the plan.

The fourth step is problem evaluation. During this step, the client's behavior is monitored through observation and continues throughout the rest of the consultation process. If data indicates alleviation of the problem, the plan may be kept. If the problem remains static or worsens,
the plan may be altered or abandoned in favor of a new plan (Brown et al., 1991). Three major models of consultation have been identified: the mental health model, the behavioral model, and the organizational model.

The mental health model of consultation consists of two professionals who interact within the consultation relationship to deal with the psychological issues of the current work problem. The goals of mental health consultation are to improve the consultee's knowledge of the current work problem and to increase his/her capacity to handle future, similar problems (Brown et al., 1991).

In organizational consultation, the goals are to meet human needs and to increase the productivity of the organization (Brown et al., 1991). Brown and his colleagues noted, "... when workers are able to meet their psychological needs, an organization becomes more productive and efficient" (p. 109).

The behavioral model of consultation has three goals: 1) to change the behavior of the client, 2) to change the behavior of the consultee, and 3) to produce changes within the organization (Brown et al., 1991). In behavioral consultation, the consultant provides the consultee with knowledge and information regarding the treatment of the client, but it is the consultee who actually implements the treatment.
Brown et al. (1991) identified three reasons for providing consultation services to teachers. The first reason was to increase the teacher's knowledge-base. Teachers seldom receive specific training on such problems as behavior disorders and interventions. Through consultation, the teacher will learn about these disorders and possible ways of treating the disorders.

A second reason for providing consultation services to teachers was to improve the teacher's independence (Brown et al., 1991). For example, once the teacher gains knowledge from the consultant about an intervention, he/she can generalize the interventions to future, similar problems which are encountered.

A third reason for providing consultation services to teachers was so that the teacher has an ally with which he/she can brainstorm solutions to problems (Brown et al., 1991). Teacher consultation has been used successfully to treat elective mutism in the school setting (Holmbeck & Lavigne, 1992; Richards & Hansen, 1978).

In summary, consultation is a voluntary and collaborative process in which the consultant works with the consultee in order to solve the consultee's work-related problem. The steps of consultation include identifying the problem, analyzing the problem, implementing a plan, and evaluating the results. The goal of behavioral consultation is threefold: to change the behavior of the consultee, of
the client, and to produce changes within the organization. Consultation with teachers is used to increase the teacher's knowledge-base, to improve the teacher's independence, and to provide the teacher with an ally with whom he/she can brainstorm solutions to the problem.

A consultation model was used in the present case study for three reasons. The first reason was to improve the consultee's knowledge regarding effective treatment of the identified disorder. The second reason was that the teacher (consultee) interacted with the student (client) on a daily basis within the school setting. The third reason was the travel distance between the consultee and the author (consultant). Both the consultee and the consultant resided in different cities.

In conclusion, elective mutism may be caused by many possible events, from psychodynamic causes to behavioral causes. Methods used to treat the disorder vary in their effectiveness, but behavioral methods are documented to be most effective. Although a literature review did not reveal any studies conducted using behavioral contracts to treat the disorder, contracts have been used to successfully treat other emotional and behavioral disorders. Also, consultation has been proven successful in the treatment of elective mutism (Holmbeck & Lavigne, 1992).

In the present case study, the client was a seven year-old female elective mute student. The consultee was the
child's language arts teacher, and the consultant was the author. The problem was identified as elective mutism or the child's refusal to speak at school. The consultee's problem was that she could not monitor the oral reading progress of the identified child and was concerned about the child's lack of social interactions with her peers and with school personnel.
Method

Subject

Background. The subject (N=1) was a seven year-old female named Andrea [not her real name], who attended second grade at a rural public elementary school in the south central region of western Kentucky. Andrea had spoken in school for approximately the first two weeks of kindergarten and was mute for the rest of kindergarten and upon admission to the first grade. Andrea's first grade teacher had asked Andrea to tape record her reading lesson at home, which she did. Andrea's teacher then played the tape in front of the classroom without Andrea's permission, and Andrea refused to tape record again. Andrea moved to a different school during the last six weeks of the 1992-1993 school year, ending the first grade. Her behavior of not speaking in school had continued up to the referral for services. Andrea's mother reported that Andrea had no health problems.

Statement of the problem. Andrea's mother provided the following information. Andrea lives with her mother, her father, and her brother, who is presently in kindergarten. Her mother stated that Andrea talks to the three of them and to a female cousin, who is one year older than she; however, Andrea will talk to nobody else. Andrea talks to her mother
in public places but will not speak if someone whom she knows is near.

Andrea's teacher provided the following information. Andrea will respond to her teachers' requests in every way except verbally (e.g., pointing, holding up fingers to indicate numbers, nodding, and completing assignments). Her teacher stated that she feels as though Andrea performs at an intellectual level slightly above her peers, as evidenced by her in-class written work.

On one in-class assignment which asked the question "What would you like to do that you have never done before?", Andrea wrote that she would like to "say" in school. Her teacher reported that on one occasion, a male peer casually told Andrea that the reason she did not talk was because she had no tongue. After this incident, Andrea quit eating and drinking at school, according to her teacher. At the beginning of the present case study in the spring of 1994, Andrea still would not eat or drink at lunchtime, but she would drink from the water fountain.

Andrea's teacher reported that Andrea does not exhibit negative or disruptive behaviors in the classroom, aside from no verbal participation. She also said that Andrea writes positively about school in her journal. Her teacher also noted that Andrea does not participate of interact with her peers on the playground and that Andrea will sit and watch while the other children play. She said that Andrea
never smiles and that she makes little eye-contact with anyone at school.

According to Andrea's mother, there are no behavior problems at home; however, Andrea will defend herself both physically and verbally if her younger brother begins to agitate her. Her mother stated that Andrea discusses her day at school and that she appears to enjoy school.

Besides the previously noted attempts at tape recording, no other treatment approaches were implemented prior to this case study. Andrea's teacher stated that she includes Andrea in class discussions, but the teacher has begun to only ask questions which can produce non-verbal responses. Her teacher said that she gives Andrea much verbal praise for all accomplished tasks.

Andrea's case was brought to the attention of the local school psychologist because of the teacher's concern regarding how to monitor Andrea's progress in reading. The author of this case study was brought in as a consultant to the teacher to offer possible treatment approaches. Permission for consultation was given by Andrea's mother in writing (See Appendix A for permission form).

Consultation was used in this study in order to improve the teacher's knowledge-base regarding treatment of the disorder, in the event that the teacher encounters a child with elective mutism in the future. Another reason was that the consultee worked with the client on a daily basis. A
final reason was the travel distance between the consultant and the school.

**Apparatus**

A Radio Shack Realistic Sound-Level Meter (Catalog #33-2050) was used in the treatment procedure. A sound-level meter consists of a needle which fluctuates on a scale when sound is detected. A loud sound, for example, would make the needle fluctuate higher on the scale.

**Procedure**

The classroom teacher (consultee) served as the implementer of the intervention. The author (consultant) and the consultee met voluntarily and collaboratively in a face-to-face meeting at least once weekly to discuss planning, progress, and any modifications in the treatment program as needed. On the first day of consultation, the consultant met with the consultee to introduce the treatment apparatus and the proposed intervention plan. The consultant demonstrated the step by step procedure to the consultant by using the sound level meter and by role playing. The consultee agreed to follow the plan of treatment daily for a period of twelve weeks.

The consultant was not present during the consultee's session with Andrea. The consultant's role was to provide the consultee with knowledge about elective mutism in order to improve the consultee's independence in dealing with the problem. The consultant also served as an ally to the
consultee in order to brainstorm solutions to the problem and to help evaluate the procedure. When the consultant and the consultee met each week, they discussed the previous week's events, including the implementation of the treatment procedure, Andrea's response to the procedure, and evaluation of the procedure. Whenever the consultee would stray from the original plan, the consultant encouraged her to follow the plan daily.

Intervention involved the use of behavioral principles of shaping and desensitization procedures in conjunction with behavioral contracts. The intervention began in February 1994 and continued daily over a course of twelve weeks. The consultee maintained daily narrative notes regarding the progress of the intervention, including the exact procedure or step implemented and the behavioral outcome of the client.

Andrea was required to sign a behavioral contract and to choose a reward which was contingent upon completion of each step (See Appendix B for sample contract). Andrea was given the opportunity to make a list of potential rewards from which to choose prior to each step. Examples of rewards included the following: bookmarks, being teacher's helper, pencils, stickers, etc.

Initially, the consultee presented Andrea with a sound-level meter at school. The consultee explained to Andrea that the sound-level meter would fluctuate with the volume
of her voice or with any noise. Andrea was then told that she would be rewarded if she could make the needle of the sound-level meter move (e.g., clapping, hitting the table, or dropping a book), while the consultee monitored the movement of the needle. This procedure was followed in order to establish Andrea's understanding of how the sound-level meter worked.

After this behavior was established, the consultee and the consultant set goals to shape Andrea's behavior in the following sequence of steps: 1) have Andrea blow into the sound-level meter in order to make the needle move, 2) have Andrea make a closed-mouth verbal noise into the sound-level meter to make the needle move (e.g., "hmmm"), 3) have Andrea make an opened-mouth verbal noise into the sound-level meter to make the needle move (e.g., "hsss"), 4) have Andrea say a word into the sound-level meter to make the needle move, and 5) have Andrea say a sentence into the sound-level meter to make the needle move. Movement of the needle on the sound-level meter was contingent upon the volume of the sound made. A whisper, for example, may only make the needle move to the number one while a loud sound may make the needle move to the number six. Andrea's task was to make the needle increase in numbers with each trial.

A reward was given after each trial if Andrea accomplished the outlined task. During the first trial, Andrea was asked, for example, to make the needle move to
the number one by blowing into the sound-level meter. During the second trial, Andrea was asked to make the needle move to the number two by blowing into the sound-level meter. During the third trial, Andrea was asked to make the needle move to the number three by blowing into the sound-level meter, and so on. A reward was given after the accomplishment of each task. The sound-level meter was used in order to increase the volume of verbalizations and was monitored by the consultee through narrative observation notes. The goal was to have Andrea accomplish Step One for at least five consecutive trials before moving on to the next step. Once Step One had been accomplished, however, it was given again when implementing Step Two. For example, when implementing Step Two, Step One would be repeated; therefore, Andrea would be rewarded for Step Two only after completing Step One and Step Two together.

This shaping procedure was used in order to initiate verbalizations within the school setting. Once verbal responses are established in the school setting with the sound-level meter, the meter may be faded out and rewards for verbalizations may be used to generalize speech within the classroom. For example, Andrea would be rewarded for verbally answering questions asked by any of her teachers, for speaking to other children, or for asking questions. All of Andrea's teachers were informed of the treatment procedures and were asked to encourage verbalizations and to
praise Andrea for any verbalizations made within the school setting.
Discussion

The following discussion addresses two methods of analyzing the data obtained in this case study: the quantitative and the qualitative methods. The quantitative section examines the final outcome data of the intervention, while the qualitative section examines issues related to the implementation process and the quality of the interventions. The purpose of the present case study was to implement shaping/desensitization procedures along with behavioral contracts through a behavioral consultation process. The consultant (author) provided information to the consultee (subject's teacher) in order to treat the subject's (Andrea) refusal to speak to others (elective mutism). The consultee was responsible for implementing the intervention plan. The treatment goal was for Andrea to respond verbally to questions and requests invoked by her teacher and peers within the school setting.

Quantitative

The intervention began in February 1994 and continued for twelve weeks until the end of the school year in May 1994. The consultant and the consultee met face-to-face at least once weekly to discuss, plan, evaluate, and modify the intervention plan. Data collection consisted of daily
narrative summaries and notes of each intervention session taken by the consultee. The consultant never interacted with the subject and did not participate in or observe any of the intervention sessions. The consultant's logs consisted of notes from consultation meetings and the consultee's notes regarding the subject's progress with the intervention. (See Appendix C for consultant's logs).

The intervention procedures consisted of five steps. The introduction step required the subject to make a noise with her hand in order to familiarize her with the sound-level meter. Step One required the subject to blow into the sound-level meter. Steps Two and Three required the subject to make a closed-mouth sound and an opened-mouth sound, respectively. Step Four required the subject to say a word, and Step Five required her to say a sentence.

A summary of the daily activities of the consultee and Andrea's progress will be found in Appendix D. These results indicated that the goal of responding verbally in the school setting was not met. Andrea's progress peaked at Step 3 (opened-mouth sound) out of five steps.

Progress was fairly consistent and successful from Week Two through Week Five. During Week Two, Andrea was instructed to make a noise with her hand in order to make the needle move on the sound-level meter. Andrea completed this task by smacking the table with her hand and tapping the table with her pencil.
During Week Three, Andrea was instructed to blow into the sound-level meter to make the needle move. Andrea completed this task during each session of that week. During Week Four, Andrea was required to produce any closed-mouth sound in order to make the needle move. According to Appendix D, Andrea produced an opened-mouth sound (purposeful coughing) on the first day rather than a closed-mouth sound. However, Andrea complied with the instructions throughout the rest of these sessions during Week Four by clearing her throat, swallowing, and grunting. Because Andrea had not completed the task during five consecutive sessions, Step 2 was required of Andrea again during Week Five. Andrea completed the closed-mouth task during Week Five.

Patterns of both inconsistent implementation and inconsistent responses began during Week Six and continued throughout Week Twelve, which was the end of the intervention. During Weeks Six and Seven, the consultee conducted only two sessions, rather than five as planned. On the first day of Week Six, the consultee reported that Andrea seemed very resistant and completed only Step One. No other sessions were conducted for the rest of the week. During the only session of Week Seven, Andrea completed all required tasks: blowing, closed-mouth sound (grunting), and opened-mouth sound (purposeful coughing). The consultee reported that the reasons sessions were not conducted during
these weeks were due to her time constraints and her impatience with the lack of success with the procedure.

According to Appendix C, the consultee began to deviate from the original intervention plan during Week Six. The consultee said that she had wanted to try something different because she felt as though progress with the intervention was not coming fast enough and that Andrea was not completing the steps. On March 23rd, the consultee deviated from the intervention plan by giving Andrea an assignment to tape-record her reading lesson at home and to bring it to school the next day. On the following day, Andrea agreed to let her class listen to her on the tape. Andrea was in another room while the class listened to the tape. After her peers listened to the tape, the consultee instructed the students to write Andrea a thank-you note and anything else they wanted to write. Andrea received these notes during her next class period. One of Andrea's peers asked Andrea to call her on that day. The peer reported the next morning that Andrea had called her and talked to her over the phone. The consultee encouraged Andrea's peers to call Andrea and to try to involve her in social activities, both inside and outside of school.

The school system's spring break occurred during Week Eight; therefore, no sessions were conducted. During Weeks Nine, Ten, and Eleven, the consultee conducted only four sessions total. During three of these sessions, Andrea
completed Step Three, but she failed to complete Step Two in all four sessions. The consultee reported that Andrea's opened-mouth sounds consisted of purposeful coughs (both with and without her hand over her mouth), opened-mouth grunts, and clearing her throat. The consultee conducted no sessions during Week Twelve.

The consultee reported that Andrea began to interact, both socially and verbally outside of school, during Week Six and continued these interactions throughout the rest of the intervention period in May. By the end of the twelve weeks, Andrea had spoken to nine out of the eleven females in her language arts class for the first time outside of school, both by phone and face to face. Her peers reported that Andrea attended parties, churches, and homes of her peers during this time and continued social and verbal interactions throughout the end of school.

As noted in the logs, Andrea invited some of her peers to her home on April 22. One peer reported that Andrea "talked a lot" and that she acted just like everyone else. The consultee reported that Andrea's social interactions on the playground had improved during the intervention process, as evidenced by her joining in games, holding hands with her female peers, and smiling and laughing with others. The consultee also reported that Andrea had begun to eat at lunchtime during the intervention process. Andrea's mother said that she could see a dramatic difference in Andrea's
social life. Andrea had refused to speak to anyone, outside of family members, prior to the intervention.

Because the intervention goal of speaking in the school setting was not met, it is essential to try to understand why the procedure failed. Thus, the qualitative aspects of the study should be examined. Factors such as the procedure, the process of implementation, and the consultation process are important qualitative issues that will be discussed in the next session.

Qualitative

Four important issues need to be examined regarding the failure to meet the goal of responding verbally within the school setting to peers and school personnel. One issue is the inconsistency of the intervention sessions. According to Appendix D, the subject's compliance with the intervention was noted up until the beginning of Week Six -- the time when sessions started to become inconsistent. According to the agreed upon procedure, sessions were supposed to occur daily. In fact, the consultee only conducted six sessions out of the last 29 possible days (excluding days in which school was out). The consultee reported both time constraints and frustration with her perceived lack of progress as reasons for not conducting sessions. The consultee reported that she felt as though tape recordings, a different procedure, would produce success, and she wanted to try them.
Brown et al. (1991) noted that the consultee's task is to "systematically apply the technique" in order for the consultation process to work (p. 78). In the present case study, the techniques were not applied systematically. The consultant discussed this problem with the consultee during many meetings. The consultee noted that her time constraints were major factors in the inconsistency of the intervention. Brown et al. identified time constraint as a barrier in teacher consultation. They noted that planning periods are often used for planning instruction, which leaves little, if any, other free time for the teacher. The consultee used her planning period for intervention sessions with Andrea.

A second issue related to the implementation of the intervention is that the consultee seemed to "give up" after approximately three or four trials during a session, if results were not positive. This issue was discussed during the consultation visits. The consultant encouraged the consultee to persist with the intervention and provided the consultee with research to support the need for persistence after unsuccessful results. For example, Nash et al. (1979) elicited a response from an elective mute child after the 195th command in one session. For another subject, the authors had compliance after 50 commands.

The number of trials required per session varies, but three or four trials per session was not an adequate number
to produce positive results in the present case study. The consultant stressed to the consultee that Andrea could learn that the session would end if she remained quiet for three or four trials. The consultee reported both time and impatience as barriers to persisting during the sessions. Brown et al. (1991) stated that a consultee may end up feeling hopeless and frustrated if he/she does not feel as though change will occur.

Another issue regarding the case study is the timing of the intervention. Optimally, the intervention should have been implemented at the beginning of the school year and continued until the goal was met. Instead, it was implemented toward the end of the school year, which left less time for success to occur. Studies have reported that interventions have taken from 55 treatment sessions at 15-40 minutes each (Richards & Hansen, 1978) to nine months of treatment (Crema & Kerr, 1978) to produce successful results.

A final issue regarding this case study is that the consultee deviated from the original intervention. For example, the consultee included tape recordings, assigned writings about feelings, and instructed peers to write letters to Andrea in the intervention plan. These consultee interventions seemed to take the place of the original interventions in many instances. The consultant encouraged
the consultee to follow the program, but it was the consultee's responsibility to carry out the intervention.

Because of the consultee's resistance to the original intervention plan, it may have been helpful to change the original plan to include the tape recordings. The tape recordings may have been used with a stimulus-fading procedure where Andrea tape recorded at home, then alone at school, then in the presence of the teacher, etc. The reason that this procedure was not used in the beginning is because the shaping procedure seemed more appropriate. For example, shaping procedures are usually implemented in order to initiate verbalizations whereas stimulus fading procedures are usually used to generalize verbalizations. Because Andrea was not speaking in the school setting at all, shaping procedures seemed more appropriate.

The issue of resistance in the consultation process is important to examine. Brown et al. (1991) identified several factors that tend to increase resistance to carry out the intervention plan: ambiguity of the intervention, overworked consultee, complexity of the intervention, tradition or habit, cost, and the balance of power. The authors noted that these factors normally stimulate resistance but should be taken into consideration during the consultation relationship.

In the present case study, it appeared as though the factor of the "overworked consultee" played a major role in
the resistance, as evidenced by the consultee's complaints of time constraints. The consultee seemed to understand the intervention and to implement the intervention appropriately, but she reported that time kept her from carrying out the intervention more often. The consultee also noted that she felt discouraged at times because of the lack of progress, which caused her to try new interventions when the original intervention plan seemed to fail. The consultant also seemed to expect "quick results", as evidenced by her impatience with the procedure. Brown et al. (1991) noted that issues of overwork and habit of implementing an original intervention are both factors which may increase resistance.

Future case studies, such as this one, should try to control for these four factors. It is recommended that the consultee allot a specific time period daily for sessions with the subject. Also, it would be important for the consultant to talk with the consultee prior to implementation regarding issues such as resistance of the client, time constraints, the consultee's possible feelings of discouragement, and the need for persistent and consistent implementation. The consultee should be taught to expect some resistance by the client, some failures, some discouraged feelings, and possibly "slow" progress, although these factors may not necessarily be experienced.
Upon post-examination of this case study, it may have been helpful to initiate a stimulus-fading procedure after Andrea began to interact verbally with her peers outside of the school setting. Labbe and Williamson (1984) suggested that, once speech becomes established with at least one other person, stimulus-fading procedures can be implemented in order to generalize speech, both across persons and settings. In the present case study, Andrea seemed to generalize her speaking across persons fairly easily outside of school. It may have been helpful to try to generalize speech from the outside environment to the school environment.

It also may have been helpful to have invited Andrea's mother to attend some of the sessions. According to the March 21 entry in Appendix C, Andrea wrote that she would like for her mother to come to school with her. This visit was discussed during a consultation meeting between the consultant and the consultee. The consultee agreed to invite Andrea's mother, but the consultee never made the call. The mother's presence may have had an impact on the results if she had attended the sessions, due to Andrea's own admission of wanting her mother to come to school with her.

It is impossible to determine whether or not the intervention would have worked in the school setting because of the other factors related to the consultation process:
inconsistency of intervention sessions, inadequate number of trials per session, restricted time span for implementation of the intervention, and deviation from the original intervention plan. If these factors had been controlled, it may have been easier to evaluate the procedure. Instead, more time was spent trying to remedy the factors related to the consultation process. Thus, it is possible to say that the factors related to the consultation process may have had an impact on the case study's lack of success within the school setting.

Although Andrea did not speak within the school setting, she did begin to speak to others, aside from family members, outside of the school setting. Thus, the goal of improving Andrea's social interactions was met. Due to this accomplishment, it is possible to say that the intervention had partial success.

In summary, the goal of speaking within the school setting was not met; however, the goal of improving the subject's social and verbal interactions was met outside of the school setting. Factors such as inconsistency of sessions, duration of intervention, inadequate number of trials per session, and deviation from the intervention plan may have contributed to the failure to speak within the school setting. If these factors had been controlled, it may have been easier to evaluate the success of the model
and the procedure. (See Appendix E for a follow-up of Andrea's elective mutism).
Summary and Conclusion

Elective mutism is defined as "the persistent refusal to talk in one or more major social situations, including school, despite the ability to comprehend spoken language and to speak" (American Psychiatric Association, 1987, p. 87). Characteristics of this disorder may include: enuresis, behavior problems, shyness, immaturity, low self-esteem, poor social skills, and compulsivity (Kolvin & Fundudis, 1981; Bogizar & Hansen, 1984). The prevalence rate of elective mutism is less than one percent of the population (Hooper & Linz, 1992; Labbe & Williamson, 1984). The ages of onset are most often reported as being between five and seven years (Labbe & Williamson, 1984).

The etiology of elective mutism is not known. Psychodynamic theorists believe that the disorder may develop in and stem from early childhood experiences: extreme oral dependency brought about by an abnormal dependence on the mother (Weber, 1979, as cited in Kratochwill, Brody, & Piersel); separation anxiety or excessive bonding with the mother (Kratochwill et al., 1979); or a traumatic experience, such as change of residence, illness, family upheaval, or mouth injury (Labbe & Williamson, 1984).
Behavioral theorists believe that elective mutism is a learned and reinforced behavior. For example, Vasto (1992) stated that the child may have been reinforced for keeping quiet, and the behavior became generalized. Social learning theorists believe that the child may have learned to keep quiet by seeing others reinforced for keeping quiet.

Other hypotheses about the etiology of elective mutism are eclectic in nature. Reed (1963) noted that elective mutes may keep quiet as a way of gaining attention. Friedman and Karagan (1973) found that children refused to speak in order to decrease anxiety, and the decreased anxiety became a reinforcement to the child.

Treatment methods of elective mutism are as numerous as the possible causes. Psychodynamic approaches to treatment, such as psychodynamic therapy, seem to be one of the least effective methods (Scott, 1977) because they tend to focus on changing the child's personality instead of changing the child's behavior (Labbe & Williamson, 1984). Psychodynamic approaches may include: psychodynamic therapy, showing empathy (Crema & Kerr, 1978), videotape (Vasto, 1992), and group or sibling play therapy (Barlow et al., 1986).

Behavior modification approaches to the treatment of elective mutism seem to be the most widely used and most effective (Hill & Scull, 1985). Behavior modification approaches may include: contingency management programs, response-cost programs, shaping paired with systematic
desensitization, and stimulus fading. A common theme among these methods is that all include reinforcement for the desired behavior. Lazarus et al. (1983) suggested positive reinforcers, such as telephones, bubble blowers, pets, and puppets.

Behavioral contracts have been used to treat other emotional and behavioral disorders (Cullinan & Epstein, 1985; Kazdin, 1980; Marx, 1988); however, a literature review did not reveal any studies conducted using behavioral contracts to treat elective mutism. Cullinan and Epstein (1985) recommended that a behavioral contract include the following: target behavior or goal, how the performance is to be monitored, and the reward for completing the behavior or goal. Kazdin (1980) noted that behavioral contracts seem to work because the child feels as though he/she plays a part in the treatment program and that the program is not forced upon the child.

Consultation relationships have proven helpful in treating elective mutism (Holmbeck & Lavigne, 1992; Richards & Hansen, 1978). Reasons for using consultation procedures to treat elective mutism may include: increasing the consultee's knowledge-base about a problem, improving the consultee's dependence, and providing an ally for the consultee to brainstorm solutions. In the consultation process, the consultant (person with knowledge about the
problem) works with the consultee (person asking for help) to treat the problem of the client.

In the present case study, the consultant (author) and the consultee (subject's teacher) utilized shaping/desensitization procedures along with behavioral contracts to treat the subject's (Andrea) elective mutism through a consultation relationship where the consultant provided information to the consultee. The subject was a seven year-old female who attended second grade and had not spoken to anyone outside of her family since the beginning of her kindergarten year of school.

The intervention required Andrea to successively approximate the desired goal of responding verbally to questions and requests invoked by the child's teachers and peers within the school setting. The steps of successive approximations included: making a noise with her hand, blowing, closed-mouth sound, opened-mouth sound, saying a word, and saying a sentence. These steps involved the use of a sound-level meter to monitor volume of the sound produced. This shaping procedure was used in order to initiate verbalizations within the school setting.

At the end of the intervention, Andrea still had not spoken in the school setting; however, she had spoken and interacted, both socially and verbally, with several of her peers. Both the consultee and the subject's mother reported noticeably improved social interactions.
Upon post-examination of the intervention process, four issues were found which may have contributed to the failure of the subject to speak within the school setting: the intervention sessions were inconsistent; the consultee only conducted two or three trials per session; the intervention was implemented for a short period of time; and the consultee deviated from the intervention plan. Future case studies, such as this one, should try to control for these four issues.

Another issue concerning this case study relates to the characteristics of the consultant. The consultant was a graduate student in school psychology and may not have had enough experience with elective mutism or with issues regarding the consultation process to provide successful consultation to the consultee. This case was her first practical consultation case in the schools. Dougherty (1990) noted that effective consultants possess knowledge of consultation and human behavior and have skills in consulting. Because the consultant in the present case study was not an expert with elective mutism and had no previous experience with consultation or elective mutism, the consultation process may not have been optimal to produce more effective results.

Other barriers which may effect the consultation relationship have been identified within the literature. Exemplars of barriers identified include the tendency for
the consultant to take charge, the consultant's lack of perceived credibility with the consultee, and the consultee's negative perceptions of the consultant's interpersonal skills. Pugach and Johnson (1988) noted that the consultation relationship may break down if the consultant has a tendency to take charge. In the present case study, it is possible that the consultant took charge of the relationship due to the consultee's lack of knowledge about elective mutism. Also, due to the student status of the consultant, the consultee may have viewed the consultant as less credible than more experienced professionals. Johnson, Pugach, and Hammitte (1988) noted that the perceived lack of credibility that the consultee may have for the consultant can be a barrier in the consultation relationship. A final barrier in the present case study may have been the consultee's perceptions of the consultant's interpersonal skills. It may have been that the consultee perceived the consultant as lacking appropriate interpersonal skills, such as empathy, care, and respect. File and Kantos (1992) noted that these interpersonal skills are essential consultant characteristics for successful consultation. Although these barriers may not have been strongly relevant to the present case study, they may have influenced this consultation relationship.

A recommendation for future studies could include revising the plan to incorporate a stimulus-fading procedure
once the subject initiates verbalizations with others. Another recommendation may be for the consultant and the consultee to discuss the consultation procedure in detail prior to implementation so that expectations and possible future problems may be known.

In conclusion, Reed (1963) noted that elective mute children often respond little or very slowly to treatment procedures. Thus, treatment procedures should be initiated as soon as the disorder becomes apparent in order to prevent the behavior from becoming learned. Treatment procedures should be consistently implemented with periodic evaluations of the procedure's success with the subject's disorder.
Appendices
APPENDIX A

Permission Form
APPENDIX A

Permission for Evaluation

Date 10/7/93

Dear [Name],

Your child, [Child's Name], has been experiencing some difficulty in school and has been referred as a possible candidate for special education. The ARC has met and determined that additional information will be necessary to make a decision about special education and related services for your child. Previous data collected through systematic screenings, observations, etc. will be used, however additional tests may be administered to your child to obtain necessary information in the following areas:

- Individual Intellectual
- Reading
- Math
- Written Language
- Developmental
- Learning Style
- Vocational (age 13 or 8th grade)
- Other

- Health/Vision/Hearing
- Behavioral Observations
- Adaptive Behavior/Social Competence
- Social & Developmental History
- Speech/Language
- Motor Abilities
- Other consultation services

The testing will be conducted by the staff of the Barren County School District or by agencies/professionals with whom we contract (e.g., WKU Diagnostic Center, Vocational Rehabilitation). When the testing is complete we would like to meet with you to discuss the results and determine if your child might need some special services.

While this testing is being conducted, your child will:
- remain in the current grade at the present school
- be placed in a diagnostic setting. Your child has a severe handicap and has not participated in any previous education program. Individual evaluation results are not available. Educational diagnostic services (testing) will be provided in the [classroom at] school beginning on [date]. This testing will be completed within 30 school days. An Individual Education Program (IEP) has been completed describing these diagnostic services.

However, we cannot test unless we have your permission. You may give your permission for this testing by checking yes, signing this form and returning it to your child's school or you may refuse permission by checking no below. Before you decide, you should review your rights which are described on the accompanying information "Your Rights As A Parent Of An Exceptional Child", and on the back of this page.

Please sign and return to your child's school principal.

I have been informed concerning reasons for the evaluation of my child and have been notified of due process rights, procedural safeguards, confidentiality of records and rights of access to records.

[Signature]

Parent/Guardian’s Signature

Date

The Barren County Board of Education does not discriminate on the basis of race, color, national origin, age, religion, medical status, sex or handicap.

[Signature]

Teach
APPENDIX B

Example of Student Contract
APPENDIX B

Example of Student Contract

I, __________________________, agree to make three noises with my hand and to blow three times into the sound meter to make the needle move. When I have done this for five times, I will receive a reward.

____________________________
Student

____________________________
Teacher

____________________________
Reward

____________________________
Date
APPENDIX C

Consultation Logs
APPENDIX C

Consultation Logs

2-14 Snow day.

2-15 Snow day.

2-16 I met with Mrs. H. (consultee) to introduce the sound-level meter and the procedure to her. She said that she understood the procedure, and we role-played in order to assure her understanding.

2-17 The consultee conducted no session.

2-18 Mrs. H. demonstrated the sound-level meter to Andrea. She encouraged Andrea to prepare for daily sessions.

2-21 Mrs. H. implemented the plan with Andrea today. Andrea signed a contract to make a noise with her hands to move the needle on the meter. Andrea completed the task by clapping her hands and tapping a pencil. The needle moved to the highest level. I met with Mrs. H. today to discuss the intervention again. She informed me of the success of today's session.

2-22 Mrs. H. implemented the plan with Andrea today. Andrea clapped her hands and tapped her pencil against the table. The needle moved to the highest level. She also ate and drank some at lunchtime.

2-23 Mrs. H. implemented the plan with Andrea today. The results were the same as 2-22.

2-24 Mrs. H. implemented the plan with Andrea today. The results were the same as 2-22.

2-25 Mrs. H. implemented the plan with Andrea today. The results were the same as 2-22.

2-28 Mrs. H. implemented the plan with Andrea today. Andrea signed a contract to make a noise with her hands and blow into the meter. She completed the task and made the needle move to the highest level. I met with Mrs. H. today to discuss progress. She said that Andrea had been doing well so far.
3-1 Mrs. H. implemented the plan with Andrea today. The results were the same as 2-28.

3-2 Mrs. H. conducted no session today.

3-3 Mrs. H. implemented the plan with Andrea today. The results were the same as 2-28.

3-4 Snow day.

3-7 Mrs. H. implemented the plan with Andrea today. Andrea signed a contract for hand noise, blow, and closed-mouth noise. Mrs. H. reported that Andrea was "very resistant" today. She did not make a closed-mouth sound, but she purposely coughed with her hand over her mouth in order to make the needle move. I met with Mrs. H. today to discuss progress. We discussed Andrea's resistance, and I told her to expect it on some days but to be persistent with the intervention.

3-8 Mrs. H. implemented the plan with Andrea today. Andrea completed the hand noise task, the blowing task, and the closed-mouth task by purposefully clearing her throat.

3-9 Mrs. H. implemented the plan with Andrea today. Andrea completed the task by clearing her throat again. She could not make a different sound other than coughing.

3-10 Mrs. H. conducted no session with Andrea today.

3-11 Mrs. H. implemented the plan with Andrea today. Andrea completed Steps 1 and 2.

3-14 Mrs. H. implemented the plan with Andrea today. Andrea completed Steps 1 and 2 by making a swallowing sound. I met with Mrs. H. today to discuss progress. I encouraged her to have Andrea try to make a different sound each time. We went over the method once again to be sure that she was carrying out the intervention correctly, and she was.

3-15 Mrs. H. implemented the plan with Andrea today. The results were the same as on 3-14.

3-16 Mrs. H. implemented the plan with Andrea today. The results were the same as on 3-14.
3-17 Mrs. H. implemented the plan with Andrea today. Andrea completed Steps 1 and 2 by clearing her throat.

3-18 Mrs. H. conducted no session on this day.

3-21 Mrs. H. implemented the plan with Andrea today. Andrea signed a contract to make an opened-mouth sound, but she refused to cooperate. Mrs. H. ended the session after four trials. I met with Mrs. H. today and encouraged her to be persistent with her trials. We discussed Andrea's behavior for the week. On this date, Andrea wrote to her teacher: "I am afraid to make a noise at school, but I am not afraid to do it at home. That is what I am afraid of." When asked why, Andrea wrote, "I would like my mamma to come to school with me." Mrs. H. and I discussed this, and we agreed to ask Andrea's mother to come to school. Mrs. H. agreed to call her mother and ask her, but Andrea's mother works during the day and cannot come until after school. Mrs. H. did not set up an appointment.

3-22 Andrea was absent. No session was conducted.

3-23 No session was conducted on this date. Mrs. H. told Andrea to tape-record a story at home and to tape-record how she feels about talking at school.

3-24 No session was conducted on this date. Andrea signed a contract to agree to let her class listen to her tape-recorded story.

3-25 No session was conducted on this date. Andrea's classmates listened to her tape-recording and wrote her letters to thank her for letting them listen. Mrs. H. reported that one of her peers told Andrea to call her that afternoon. I read the letters with Mrs. H. They were all very encouraging and grateful. I encouraged Mrs. H. to stick to the original plan with the sound-level meter. She wanted to use the tape recordings, also. I told her that it would be acceptable to do both.

3-26 Mrs. H. reported that on this day (Saturday), two of Andrea's classmates said that they called Andrea on the phone and that they talked for about five minutes.

3-28 No session was conducted on this date. Mrs. H. said that Andrea talked on the phone to these same two
peers again. Mrs. H. also said that she called Andrea and spoke to her over the phone. Mrs. H. said that Andrea would answer her questions over the phone, but she would not volunteer any conversation. I met with Mrs. H. on this day and encouraged her to keep up with the intervention that we had agreed upon.

3-29 No session was conducted on this date.

3-30 Mrs. H. implemented the plan with Andrea today. Andrea signed a contract to make an opened-mouth sound. She completed Steps 1, 2, and 3 by coughing out loud.

3-31 No session was conducted on this date. Mrs. H. reported that Andrea talked to some of her peers on the phone again on 3-30.

4-1 No session was conducted on this date.

4-4 through 4-8 was spring break. No sessions.

4-11 School was closed due to flooding.

4-12 Mrs. H. implemented part of the plan with Andrea on this date. No contract was signed, but Andrea completed Steps 1 and 3. She could not make a closed-mouth sound on this day.

4-13 Mrs. H. conducted no session today. Mrs. H. asked Andrea if she would whisper "yes" or "no" to her. Andrea agreed that she would, but she did not. No contract was signed.

4-14 No session was conducted today.

4-15 No session was conducted today.

4-18 Mrs. H. implemented the plan with Andrea today. No closed-mouth sound today. Andrea only completed the blowing task. Mrs. H. ended the session after three trials. I gave Mrs. H. some articles to read on the number of trials used in sessions of other case studies. I encouraged her to try a number of trials before ending the session. Mrs. H. seemed to be frustrated with the sessions because Andrea was not completing all of the tasks. We discussed this in our meeting. The research articles were by Nash et al. (1979) and Richards and Hansen (1978).

4-19 No session was conducted on this date.
4-20 Mrs. H. implemented the plan with Andrea today. Andrea completed Steps 1 and 3. She would not make a closed-mouth sound. Mrs. H. reported that they had about three trials.

4-21 No session was conducted today.

4-22 No session was conducted today. Mrs. H. reported that Andrea had invited some of her female peers to her house. At least three girls from her class attended. One girl said that Andrea "talked a lot" and that they played. Mrs. H. reported that Andrea had been running and participating on the playground lately, which she had not done before. Andrea still refuses to talk in school. Mrs. H. gave Andrea an assignment to tape-record another story at home and bring it to her.

4-25 No session was conducted today. Andrea agreed to let the class listen to her tape-recording with her in the room. The class listened. I met with Mrs. H. today and encouraged her to keep doing sessions with the sound-level meter. I told her that the intervention plan should be followed as originally planned. We talked about the slow progress. I encouraged her to implement the plan daily, and we talked about her feelings. I recited some literature about having discouraged feelings, and she agreed to try harder with the intervention.

4-26 No session was conducted today. Mrs. H. asked Andrea to write about her experience with her friends coming over to her house. Andrea wrote that she liked it when her friends came over and that they had a good time.

4-27 Mrs. H. implemented the intervention today. Andrea completed Steps 1 and 3. She refused to make a closed-mouth sound. Her opened-mouth sound consisted of a grunt. Mrs. H. reported that Andrea ate all of her lunch on this day and that she had been eating well lately.

4-28 No session was conducted today. Andrea's peer reported that Andrea had invited her to spend the night with her.

4-29 No session was conducted on this date.
through 5-5 No sessions all week. Mrs. H. reported that the past few weeks had been hard for her to implement the plan due to time concerns and her trying to finish up the school year.
APPENDIX D

Daily Progress Log
<table>
<thead>
<tr>
<th>Step 5 (Sentence)</th>
<th>Step 4 (word)</th>
<th>Step 3 (opened-mouth)</th>
<th>Step 2 (closed-mouth)</th>
<th>Step 1 (blow)</th>
<th>Intro step (hand noise)</th>
<th>No Session</th>
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</tbody>
</table>

- task accomplished
- task not accomplished
x no session
o out of school
APPENDIX E

Follow-Up on Andrea
Appendix E

Follow-Up on Andrea

Almost a year after the intervention was initially implemented (January 1995), Andrea still had not talked in school. The intervention was not implemented during the fall semester of the following school year; however, her case was taken over by a school psychology intern at the beginning of the spring semester. The school psychologist for the county stated that Andrea's social interactions outside of school were still improving, as evidenced by her continuing to spend time with other children.
BIBLIOGRAPHY


