



University of Nebraska at Omaha  
DigitalCommons@UNO

---

Student Work

---

7-1985

# Amounts of nonverbal behavior in students labeled behaviorally impaired and comparison students

Christine Rudolph

*University of Nebraska at Omaha*

Follow this and additional works at: <https://digitalcommons.unomaha.edu/studentwork>

 Part of the [Special Education and Teaching Commons](#)

---

## Recommended Citation

Rudolph, Christine, "Amounts of nonverbal behavior in students labeled behaviorally impaired and comparison students" (1985). *Student Work*. 179.

<https://digitalcommons.unomaha.edu/studentwork/179>

This Thesis is brought to you for free and open access by DigitalCommons@UNO. It has been accepted for inclusion in Student Work by an authorized administrator of DigitalCommons@UNO. For more information, please contact [unodigitalcommons@unomaha.edu](mailto:unodigitalcommons@unomaha.edu).



AMOUNTS OF NONVERBAL BEHAVIOR IN STUDENTS LABELED  
BEHAVIORALLY IMPAIRED AND COMPARISON STUDENTS

A Thesis  
Presented to the  
Department of Special Education  
and the  
Faculty of the Graduate College  
University of Nebraska

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science  
University of Nebraska at Omaha

by  
Christine Rudolph

July, 1985

UMI Number: EP72808

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP72808

Published by ProQuest LLC (2015). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.  
789 East Eisenhower Parkway  
P.O. Box 1346  
Ann Arbor, MI 48106 - 1346

## Acknowledgments

I wish to extend my sincere thanks to my thesis committee chairman, Dr. Arleen Michael, for her valuable advice during the thesis compilation and her untiring assistance and encouragement during my entire graduate studies.

I want to express my appreciation to Dr. John E. Christensen, Dr. John W. Hill, and Dr. Patricia Kolasa for their excellent support on my committee.

Also, I would like to thank the Omaha Public Schools for their generous cooperation in allowing me to conduct this study.

I am grateful to the German Academic Exchange Service (DAAD), who made it possible for me to study during one year at the University of Nebraska at Omaha to obtain my Master's degree in Special Education.

THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College,  
University of Nebraska, in partial fulfillment of the  
requirements for the degree Master of Science, University of  
Nebraska at Omaha.

Committee

*John E. Yountman*  
-----  
*Patricia A. Kolasa*  
-----  
*John W. Hill*  
-----  
Name

Department

*Robert Michael*  
-----

Chairman

*7-8-85*  
-----

Date

## Table of Contents

	Page
1. The Problem .....	1
Introduction .....	1
Statement of the Problem .....	2
Hypothesis .....	3
Significance of the Study .....	3
Scope and Delimitations of the Study .....	4
2. Review of the Literature .....	6
Characteristics of Human Communication .....	6
Nonverbal Communication in the Classroom .....	8
Research on Nonverbal Behavior .....	11
The Importance of Nonverbal Behavior .....	14
Summary of the Literature .....	16
3. Methodology .....	17
Research Design .....	17
Subjects .....	17
Setting .....	20
Instrumentation .....	21
Pilot Study .....	24
Procedure .....	27

	Page
4. Results .....	30
Analysis .....	30
Presentation of the Results .....	30
Limitations .....	34
5. Conclusions and Implications .....	36
Bibliography .....	44
Appendix No.1 Behavioral Observation Recording Form.	47

## List of Tables

	Page
Table I. Grade Distribution of Labeled and Comparison Students .....	19
Table II. Amounts of Nonverbal Behavior as Recorded in the Preliminary Pilot Study .....	26
Table III. Total Amounts of Nonverbal Behavior .....	32
Table IV. Individual Amounts of Nonverbal Behavior ....	33



## The Problem

### Introduction

The child's behavioral and communicative skills are comprised of verbal and nonverbal components. The importance of a nonverbal context for smooth communication and interaction is often only evident when it is absent or defective, such as in children with severe behavioral disorders (autistic, schizophrenic). Actions and the way of saying things, rather than words, are essentially important since they are used deliberately or inadvertently to convey feelings or attitudes and determine the effectiveness of social and working relationships.

For younger children and children who are less adept at expressing themselves verbally, as well as for children who need to express concealed, socially unacceptable, or strongly disturbing emotions less overtly, the use of nonverbal behavior as an outlet to express feelings might assume a highly important significance. Research in communication suggests that nonverbal behavior might have a greater impact in revealing emotions and attitudes than words (Mehrabian, 1981).

Furthermore, nonverbal behavior plays a significant role in affecting and possibly restricting a person's environment. A person can create a harmful emotional environment for himself by using certain nonverbal messages

of hostility, insecurity, and anxiety, perhaps without fully realizing the negative impact of his behavior on the world around him (Beier, 1974).

It might be assumed that children and adolescents with significant social and behavioral problems engage in the frequent use of nonverbal behavior as a means to have their special needs met, thereby stimulating their emotional and social exchanges in a beneficial or in a deleterious manner. Unfortunately, however, the assessment of nonverbal behavior in students labeled Behaviorally Impaired and not labeled Behaviorally Impaired is a relatively neglected and incomplete area in educational research. Only a small number of studies have been conducted to assess objective behavioral differences existent between emotionally disturbed and regular classroom students.

#### Statement of the Problem

The purpose of this study was to assess and compare the existing quantity of specific types of public nonverbal behavior of elementary school students in special educational classrooms and in regular classrooms to determine whether students labeled Behaviorally Impaired (BI) and those not labeled BI differed from each other in the amount of nonverbal behavior they displayed during periods of individual academic seatwork.

The question intended to be answered by this study was

whether or not the observed frequency of nonverbal behavior in children labeled BI would be significantly greater than the observed frequency of nonverbal behavior in children not labeled BI.

In order to determine the answer the amounts of nonverbal behavior were assessed separately in the labeled and in the nonlabeled group of students. The results of these two groups were then statistically analyzed and compared to one another.

### Hypothesis

The following hypothesis guided the study:

The amount of nonverbal behavior in students labeled BI would be significantly (.05 level) greater than the amount of nonverbal behavior in students not labeled BI.

### Significance of the Study

The emotionally disturbed child in the classroom is often characterized by teachers and school personnel as displaying a high frequency of impulsive, nonverbal behavior, such as continuous out-of-seat and hand-raising behavior, moving constantly in the chair, tapping feet on the floor, humming or whining, engaging in stereotypical or self-stimulative behavior.

The assessment of specific nonverbal student behavior, of the skills and deficiencies of students labeled BI, is

not only essential in enabling us to understand and deal with emotionally disturbed students and to provide them with the necessary meaningful and efficient support, but it presents us with important knowledge on the nature of the labeling process itself. We need to discover if the frequency of nonverbal modes of behavior of a particular student, displayed in the interaction between himself and his environment, varies significantly from the norms of the group and thus plays an important role in labeling him Behaviorally Impaired.

This study was therefore intended to take a first step in clarifying objective behavioral differences between students labeled BI and students not labeled BI which might play a role in the identification of BI students.

#### Scope and Delimitations of the Study

The present study was primarily descriptive. It was mainly concerned with observing ongoing nonverbal behavior in labeled and nonlabeled students, focusing exclusively on an objective assessment of the quantity of the behavior and not attempting any qualitative distinctions.

The intention in determining whether students labeled BI displayed a higher frequency of ongoing nonverbal behavior than students not labeled BI was solely to assess a given fact and discuss its possible implications to broaden our understanding and knowledge of modes of expression and

communication available to students with behavioral impairments, but never to attempt to judge whether the observed behavior was appropriate or not, or to attempt any changes based on these findings.

## Review of the Literature

In the following chapter, the author will first introduce the field of human communication, specifically the use of nonverbal communication, its classification, function and importance. Following the theoretical framework of nonverbal communication, the author will discuss research and the opinions of researchers that will help to determine whether or not students labeled Behaviorally Impaired differ from regular students in their amounts of nonverbal behavior, and what possible conclusions could be implied as a result.

### Characteristics of Human Communication

Various authors agree that communication requires two individual, yet inseparable dimensions, a verbal part and a nonverbal part (Dunning, 1971; Miller, 1981; Schusler, 1971; Parker & French, 1971).

According to Schusler (1971),

There is no evidence that nonverbal behavior is a duplication of or substitution for verbal behavior, or that verbal and nonverbal behavior are separate entities. The two channels of communication seem to be tied together in a changing superordinate-subordinate relationship (p.284).

Eckman (1977) emphasizes the different nature of verbal

and nonverbal communication by stating that nonverbal communication is an analogic code, while verbal language is a digital coding system. An analogic code uses signs that are similar (analogous) to what they signify. Since it is not arbitrary and can only use what already exists for its analogy, it is always expressed in positive magnitudes. Thus behavior has no opposite. You can behave but you can't not behave. On the other hand, a digital code uses arbitrary symbols to represent itself and therefore can express positive, neutral, and negative magnitudes.

Miller (1981) calls attention to the difficulties in nonverbal communication. First, while we can turn off the verbal output, we can never turn off the nonverbal; regardless of what we do or don't do, what we are aware of or not aware of, we will always be communicating something. Further, nonverbal communication does not easily permit an instantaneous feedback as the verbal acts do, as we cannot see ourselves when we behave. And finally, spoken messages require cognitive processing, whereas nonverbal actions bypass conscious analysis, evoking immediate and more emotional responses.

More research has been conducted in the verbal than in the nonverbal area of communication, probably because there is no system or language of nonverbal communication and it is interpreted idiosyncratically rather than normatively (Dunning, 1971; Schusler, 1971). Nonverbal communication is

a relatively neglected area especially in educational research. Furthermore, on the assumption that the teacher is the dominant influence in the classroom, a major emphasis of current research has been the analysis of teacher behavior and the student's response and sensitivity to these nonverbal signals. Little research has been done on the students as senders of nonverbal information.

### Nonverbal Communication in the Classroom

What exactly is nonverbal communication and what is its importance in the classroom setting?

The term Nonverbal Communication is defined to include all messages that are sent or received, independent of the written or spoken word (Koch, 1971). It has been applied to a broad range of phenomena, such as gestures, body movements, facial expressions, eye behavior, posture, vocal cues and tone of voice, spatial cues, touching, physical appearance and dress (Knapp, 1972; Melson & Hulls, 1977; Miller, 1981). In a system analysis on the extent and nature of nonverbal communication in the school setting Koch (1971) identified 35 major types of nonverbal cues that were observed in various randomly selected classrooms in a junior and senior high school.

Several authors refer to the need for knowledge of nonverbal communication in the classroom, emphasizing the importance for teachers to become better receivers of



student messages and to infer meaning and significance from the student's verbal and nonverbal behavior (Bremme & Erickson, 1977; Koch, 1971; Melson & Hulls, 1977; Miller, 1981). Students reveal their emotions via tone of voice, gestures, postures, proximity, etc. For example, a student who is slouching in his chair sends a very different message than a student who leans forward or sits erect.

Nonverbal cues perform very distinct functions in communication. As listed by Peterson (1983) they may (a) substitute for a verbal message, (b) clarify a verbal message, (c) regulate the flow of communication, and (d) express emotion. Referring to the last function, research in communication suggests that nonverbal behavior has a greater impact than words, particularly in revealing emotions, attitudes, and expressing different degrees of warmth-coldness towards others (Mehrabian, 1981). In work situations most emotion is expressed nonverbally. Albert Mehrabian's studies in this context indicate an amazing dominance of nonverbal cues over verbal messages; only 7% of all emotion was expressed verbally, while 93% was expressed nonverbally (Peterson, 1983).

Miller (1981) also points out that nonverbal signals are often used in place of words in expressing feelings that are too disturbing to state or in communicating our thoughts when social etiquette limits what we can say.

Most of us are vaguely aware of the power and

performance of nonverbal communication. Most nonverbal encoding and decoding is largely done unconsciously (Koch, 1971; Peterson, 1983). Nonverbal behavior plays a significant role in affecting observers' immediate impressions and influencing our perceptions of others.

Galloway (1968a) says:

It is by reacting to the nonverbal cues of others - to their facial expressions, movements, postures, mannerisms, vocal tones, gestures, energy changes, etc. - that we pick up information which we use in deciding what to do next and in determining what our role needs to be. All of this expressive activity seems so natural and spontaneous to us that we overlook the fact that we influence and are influenced by others through nonverbal action (p.172).

Based on an experiment with 50 newlywed couples to learn if they used body language to communicate cues of marital conflict or harmony, Beier (1974) claims that people can, and do, create beneficial or harmful emotional environments through certain kinds of body movements and tones of voice. He further suggests that persons can restrict their emotional environment by using certain nonverbal messages of hostility, insecurity, and anxiety, often creating their own problems by stimulating the world around them without knowing what they are doing.

The assumption that the use of certain types of

nonverbal behavior can be beneficial and helpful to a child is also supported by Melson & Hulls (1977), who claim that social isolates can be taught to give out rewarding nonverbal signals, like smiles, to which other children will respond favorably. On the other hand a child engaging in frequent disruptive behavior may be easily rejected. Thus nonverbal communication speaks loudly in social exchanges.

#### Research on Nonverbal Behavior

Some research has been conducted to assess nonverbal behavior in emotionally disturbed students.

Werry & Quay (1969) conducted a study on 10 normal children and a group of children with conduct or acting out disorders in order to develop a reliable diagnostic tool of direct behavioral observation in the elementary classroom, which would not only indicate whether or not the child is emotionally disturbed, but also indicate what specific types of behavior are a source of concern for special educational services. Applying a behavior frequency counting technique to children's behavior during individual academic seatwork that focused on (a) deviant behavior, (b) attention or work oriented behavior, and (c) teacher-pupil interactions, Werry & Quay found some evidence of differentiation between normal and conduct problem children. In general, the conduct problem children had a tendency to more deviant, noisier, and more passive aggressive behaviors. Such findings

encompassed a wide range of minor annoying and irritating behavior (doodling, fiddling, playing with toys, reading comics, etc.), which were not grossly deviant by themselves, but could be classified as "not working" behaviors. Normal children apparently spent approximately 75% of their time during academic seatwork with their eyes focused on their work and received and sought contact with the teacher extremely infrequently.

A surprising finding of this study was the difference between the data obtained on conduct problem children in a regular classroom prior to their entry into the special class program and the data obtained on conduct problem children in special classrooms. The conduct problem children in the regular classroom differed strongly from their normal classmates:

In comparison with normal children, conduct problem children were clearly different and would seem to be referred for running around the classroom, noisiness, talking, and generally not working. Their attention to their work was substantially less than that of the normal children (Werry & Quay, 1969, p.465).

However, the conduct problem children in special classrooms differed but slightly from a comparable group of children in a normal classroom. The authors interpret these findings as a possible reflection of the differences in handling of severely deviant behavior in the classrooms and

the increased availability of the teachers in the special classrooms.

The findings in an investigation on verbal and nonverbal activity of 13 hyperactive and 13 control preschoolers by Zentall (1981) confirmed that quantitatively more nonelicited vocalizations and out-of-seat behavior occurred in hyperactive than in children of the comparison group during performance of listening tasks and during transitions between tasks. However, task related activity (arm movements, questioning and self-guiding comments) failed to demonstrate differences between the two groups.

A study that was done by Raskind, Drew & Regan (1983) on 37 male elementary school students comparing nonverbal communication signals emitted by learning disabled boys with social/behavioral problems, learning disabled boys without social/behavioral problems, and nondisabled boys during videotaped social interaction, revealed only two observable differences between groups. Out of a total of 31 nonverbal types of behavior investigated, only body lean and eye movement showed any significant difference at a .05 level for the overall group, while only body lean showed significance in a comparison between individual groups.

### The Importance of Nonverbal Behavior

The meaning of nonverbal behavior in a specific context as well as the situational appropriateness of the behavior

might play an important role in labeling a student as differing from the rest of the group.

Bremme & Erickson (1977) conducted a study in a kindergarten/first grade classroom during specific periods of social interaction. After observing three different situational times (the so called Teacher's Time, Students' Time and Transitions Time) and the verbal and nonverbal behavior that was exhibited during each of these times, analysis of the results revealed that each time was actually defined by particular forms of both verbal and nonverbal behavior. For example, during Teacher's Time the students sat relatively quietly, oriented toward and looking at the teacher, while during Students' Time the activity was organized quite differently, with changed postures and orientations on the part of the students. The rules for interpreting and performing behavior appropriately varied systematically with each of the situational contexts, requiring quite different student behavior for each of them. Thus a student not only had to recognize the different situations correctly, but he also had to identify and produce from among his repertoire of behavior those modes of behavior that were appropriate and meaningful in the given context.

One form of behavior can have different meanings at different times as the situation changes. The same behavior can be considered appropriate in one context and

inappropriate in another just a few seconds later. "And those individuals who repeatedly err in their social performances may be judged by others to be socially - and perhaps intellectually - incompetent (Bremme & Erickson, 1977, p.154)." In doing the otherwise right things at the wrong moment, a student may seem to be disruptive, troublesome, or immature to the teacher.

A similar point of view of behavioral expectations addressed to the students by the teachers is discussed by Galloway (1968b). He suggests that nonverbal activities of pretending to listen in class, appearing to be on task during seatwork assignments, and pretending interest are skills that children develop in school, requiring a student not only to learn an elaborate verbal language unique to the classroom, but an appropriate nonverbal language as well.

### Summary of the Literature

After evaluating the research studies that have been included in the Review of Literature it was concluded that:

1) All authors agree on the importance and need of greater knowledge concerning nonverbal communication, yet the status of research in nonverbal communication remains an incomplete area of investigation;

2) Very little research has been done on nonverbal behavior of students labeled Behaviorally Impaired;

3) More research needs to be done to obtain conclusive results concerning the difference in amounts of nonverbal behavior between labeled and nonlabeled students.



## Methodology

### Research Design

This was a descriptive research study in which the frequencies of nonverbal behavior in students labeled BI and in students not labeled BI were observed in the natural classroom setting in order to test the following null hypothesis:

The amount of nonverbal behavior in students labeled BI would not be significantly greater than the amount of nonverbal behavior in students not labeled BI.

### Subjects

Two groups of male elementary school students were involved in this research, one consisting of 20 students in regular classrooms and the other consisting of 20 students currently enrolled in self-contained classrooms for special educational support for the Behaviorally Impaired. The sample was limited to male children in order to offset the possible influence of sex difference on nonverbal behavior (Raskind et al., 1983; Eckman, 1977). The age of the sample of labeled students ranged from 8 years, 0 months to 14 years, 0 months with an average age of 10 years, 11 months, while the age range for the sample of nonlabeled students was 7 years, 11 months to 13 years, 7 months with an average age of 10 years, 10 months. As can be seen in Table I only

20% of the randomly selected subjects were enrolled in primary school grades (first, second, and third grade), as opposed to 80% of the subjects attending intermediate school grades (fourth, fifth and sixth grade).

The subjects in the group of elementary students labeled BI were chosen randomly with the use of a table of random numbers from six different self-contained primary and intermediate grade Engineered Classrooms within the Omaha Public School System where they were being served for verified serious Behavioral Impairment. Thus the criteria used as the basis for the BI classification was current placement in the school district's specialized educational service program in compliance with the guidelines for identification, verification, and placement of seriously Behaviorally Impaired in the State of Nebraska. Only those students were eligible who had no verified current secondary handicapping condition (such as sensory impairment) and who were not being mainstreamed into regular classrooms for over 50% of their school hours. The Engineered Classrooms included in this study were considered to be statistically representative of the BI school population as students enrolled in this program are placed in any Engineered Classroom of the Omaha Public Schools inside or outside their specific attendance area.

Table I

Grade Distribution of Labeled and Comparison Students

---

		Grade					
Subjects	<u>n</u>	1	2	3	4	5	6
Labeled BI	20	-	3	1	5	8	3
Comparison	20	-	3	1	5	8	3

---

After that selection was made, the group of students labeled BI was made comparable to a group of students not labeled BI by carefully matching subjects on the basis of the boys' approximate chronological age and school grade. For the nonlabeled group only students in regular classrooms, who were not currently receiving any kind of services for special educational support, were eligible. All subjects of the comparison group were attending an elementary school within the Omaha Public School System that is exempt from the mandatory desegregation plan for black and white students for reasons of natural neighborhood integration, thus being statistically representative of the racial composition of the Omaha Public Schools population.

### Setting

Observation of students' nonverbal behavior took place in the natural classroom setting. Subjects labeled BI were observed in self-contained Engineered Classrooms that were comprised of a teacher endorsed in special education, a teaching-aide, and 6 to 12 students. Comparison students were observed in regular American elementary school classrooms that were comprised of a certified teacher and 20 to 30 students.

The Engineered Classrooms are designed to meet the special needs of students with emotional and behavioral problems. They were initiated in Santa Monica, California

Public Schools in 1966. Specially trained teachers provide a highly structured and controlled atmosphere and a program designed for each individual student depending on his educational needs and abilities. Meaningful and systematic consequences (rewards) are provided for effort expended in completing the tasks. Task, consequences and structure make up what is called the learning triangle (Swanson & Reinert, 1984). In addition, the physical environment of the classroom is structured in its arrangement and placement of desks and chairs, record keeping, location of work and activity centers, individual study cubicles and time-out areas.

The Engineered Classroom is not intended to simply provide an environment which tolerates inappropriate behavior or one that removes typical expectations to avoid conflict. The behavior management program places equal emphasis on both environmental adjustments to meet the child's present needs and specific plans for teaching deficit adaptive skills. The major goal is to modify the student's behavior so he can return to the regular classroom as soon as possible.

### Instrumentation

A large number of classification systems was reviewed (Koch, 1971; Parker & French, 1971; Raskind et al., 1983; Werry & Quay, 1969; Zentall, 1980, 1981) and modes of

behavior relevant to this study were considered for observation and assessment.

The present research focused exclusively on three areas of nonverbal behavior (body movements, postures and nonverbal vocalizations), considered by the investigator to be most relevant in the situational context of independent academic seatwork, and further assumed to be highly visible and audible to an observer, and therefore susceptible to the social approval, response or rejection of a particular student. Facial expressions, spatial or paralinguistic cues, gestures, eye movements, and other forms of nonverbal behavior were not included in the study. Thus the following modes of nonverbal behavior were ultimately considered in the present investigation, their grouping into categories mainly serving the purpose of facilitating their memorization and observation.

- GROUP 1: Consisting of postural behavior (appropriate or not to the situation), when the student is not seated and when the normal sitting surface of neither buttock is applied to the child's seat; when the student is slouching in his seat such as leaning backwards or sideways; when the student's head is lying on the desk or arm; when the student is turned 90 degrees or more away from his desk.
- GROUP 2: Any form of nonverbal behavior involving others and/or interrupting others' on-task activities

(while seated), such as hitting classmate, throwing objects, or any physical contact with others by the student .

- GROUP 3: All types of repetitive behavior (while seated), such as scratching, nose-picking, self-stroking, thumb-sucking, toying with objects, playing with clothes or body (fingers), flipping pages, fumbling with papers, tapping pencil on desk or foot on floor. Task-related behavior (writing, cutting, coloring, pasting, folding paper, erasing, counting with fingers) is not included.
- GROUP 4: Consisting of behavior and activities not related to the task or directly assigned by a teacher (while seated), like tying shoes, moving desk, biting pencil or hand, hitting fist on the desk. Daydreaming or inactivity are not included.
- GROUP 5: Hand-raising behavior (while seated; purpose is not relevant), when hand(s) are over level of student's head or arm(s) are fully extended from the body to the sides or front.
- GROUP 6: All non-word vocalizations audible to others (while seated; whether appropriate or not), such as crying, laughing, humming, grunting, groaning, whistling, sighs, animal noises, screams. Does not include physiological noises like coughing, sneezing.

### Pilot Study

A preliminary pilot investigation was conducted to establish validity and reliability of the instrumentation, in that one student labeled BI and one nonlabeled student were each observed for nine minutes by the investigator and simultaneously by a second observer blind to groups and hypothesis.

After one hour of informal training on the observational time-sampling technique, the formal pilot recording of observed frequencies of ongoing nonverbal behavior established an overall interobserver agreement of 89%, yielding 87% on the simultaneous observation of the BI student and 91% on the simultaneous observation of the non-BI student. Table II shows the amounts of present nonverbal behavior in a student labeled BI and a comparison student as recorded by two observers simultaneously. In the pilot study, the amount of observed nonverbal behavior in the nonlabeled student was somewhat higher than the amount of present nonverbal behavior in the labeled student.

Although the results of the pilot study were found to be satisfactory for the purposes of this research, due to some minor difficulties during the pilot investigation the following adjustments were considered appropriate for the refinement of the measuring instrumentation:

-In the event that the observer's spatial location in the classroom (close enough to the student to allow complete



observation of his behavior, yet not too close to interfere with the student's usual behavior) did not allow for an accurate observation of a particular behavior, the student was to be given the benefit of the doubt and a nonpresence of behavior was to be recorded;

-When a student was verbally interacting with another person and the recording of behavior was therefore interrupted, the observer would wait at least 10 seconds after the student had stopped talking before resuming formal observation to insure that the verbal interaction had been truly terminated for the moment.

-Physiological noises, such as coughing or sneezing, were not to be included in GROUP 6 so that a severe cold of a student might not have a significant influence on the data collection.

-GROUP 7, previously defined as consisting of all other forms of nonverbal behavior considered pertinent to the study that were not included in the other six categories, was discarded from the instrumentation as there appeared to be no significant use for it during the pilot study and as the six remaining groups were considered to establish a better workable number.

Table II

Amounts of Nonverbal Behavior as Recorded in the Preliminary  
Pilot Study

---

Frequency Data			
Subjects	Senior Observer	Second Observer	Interobserver Agreement
Labeled BI <sup>a</sup>	77	77	87%
Comparison <sup>b</sup>	105	98	91%

---

Note. Maximum frequency = 180.

<sup>a</sup>n=1. Student was 9 years, 10 months old; Grade 4;  
Engineered Classroom.

<sup>b</sup>n=1. Student was 9 years, 9 months old; Grade 4;  
regular classroom.

### Procedure

In order to assess the frequency of specific nonverbal behavior, or the rate at which behavior occurred within a specific length of time, all 40 students were observed individually in their classrooms for a total of nine minutes each by the investigator according to a time-sampling technique of ongoing behavior.

Specifically, the presence or absence of the specified nonverbal behavior was assessed on a specially prepared Behavioral Observation Recording Form (see Appendix No.1) by recording a vertical slash for every three-second interval in which at least one of the addressed forms of behavior occurred, while placing a diagonal slash for every three-second interval in which none of the specified behavior occurred. This time-sampling procedure of an adequate sample of ongoing behavior has been shown to give a representative picture of an individual's behavior over time (Patterson, 1977). Each student's behavior was recorded with the aid of a stop watch in the above manner for a total of 180 three-second intervals, which had been divided into three blocks of three minutes to allow one-minute breaks for the observer in between.

The observations were done on randomly chosen school days and times in the months of March and April during periods of independent academic seatwork. An independent academic situation referred to those conditions where a

student in a given classroom was confined to his desk and assigned to work on a specific academic task independently for an extended period of time. All moments of verbal interaction with a teacher or classmate were not included in the observation and the time-sampling procedure was interrupted from the instant the student first addressed the other verbally to 10 seconds after the interaction was terminated. This restriction of the observational context was essential to ensure that observations taken in one classroom during the independent academic seatwork period were as comparable as possible to observations taken in other classrooms during the same period.

In addition to the sampling of quantities of nonverbal behavior an attempt was made to include an informal anecdotal report of behavioral types in the collection of data. For this purpose the observer reported a category of nonverbal behavior she felt was dominant in a three-minute period of observation. The anecdotal report was solely intended to serve the purpose of obtaining a rough, initial impression of possible differences in the types of behavior between groups.

In an attempt to control for a possible Hawthorne effect in the data collection, besides the nonreactive nature of the measure (passive recording of behavior), the observer took special care in placing herself out of the visual field of the student being observed and allowed for a

few minutes of casual observation before initiating the formal assessment.

## Results

### Analysis

The individually assessed frequencies of ongoing behavior were totaled for each group of subjects and the results of the study statistically analyzed. A t test of significance was used to determine if there was a significant difference at the .05 level of confidence between the two groups that could not be attributed to chance alone.

### Presentation of the Results

In the present study, results confirmed the proposed null-hypothesis. The recorded quantities of nonverbal behavior did not differentiate students labeled BI from students not labeled BI. As indicated in Table III, the total amount of nonverbal behavior observed in BI students was not significantly (.05 level) greater than the total amount of nonverbal behavior observed in comparison students.

Analysis of individual frequencies of nonverbal behavior by grade distribution in Table IV shows that students labeled BI had the highest mean frequency of nonverbal behavior in Grade 4 and nonlabeled students displayed the highest mean frequency in Grade 2. Equally, mean frequencies of labeled students were greater than those

of nonlabeled students in Grades 4 and 6 while the mean frequency of nonlabeled students was greater than that of labeled students in Grade 2.

Informal anecdotal observation of types of nonverbal behavior suggested that there was also little qualitative difference in the behavior displayed by labeled and nonlabeled students. In both groups over 50% of the behavior observed was of a repetitive nature (GROUP 3), such as scratching, self-stroking, toying with objects, fumbling with fingers. Almost 25% of recorded behavior in both groups was considered to be postural behavior (GROUP 3), involving out-of-seat, slouching and turning behavior. Generally speaking, the labeled students had a slight tendency to somewhat more behavior of GROUP 1 (postural), GROUP 4 (not related to task), GROUP 5 (hand-raising) and GROUP 6 (non-word vocalizations), while the nonlabeled students appeared to display a slightly higher frequency of GROUP 2 (involving/interrupting others) and GROUP 3 (repetitive) behavior. Surprisingly, only a few incidents of behavior comprising GROUP 2 (involving/interrupting others) were observed in students labeled BI and only three BI students displayed behavior belonging to GROUP 6 (non-word vocalizations), such as humming and moaning. No behavior of the last group was observed in nonlabeled students.

Table III

Total Amounts of Nonverbal Behavior


---

Frequency Data

---

Subjects <sup>a</sup>	Total <u>f</u>	<u>M</u>	<u>SD</u>	<u>SE<sub>M</sub></u>
Labeled BI	2089*	104.5	41.0	9.17
Comparison	1936	96.8	32.7	7.32

---

Note. Maximum frequency = 3600.

<sup>a</sup>n=20 for each group.

\*p>.05.



Table IV

Individual Amounts of Nonverbal Behavior


---

Mean Frequency by Grade								
Subjects <sup>a</sup>	-----						Lowest	Highest
	1	2	3	4	5	6	Frequency	
Labeled BI	-	89.7	82	124	100.9	103.7	30	171
Comparison	-	113.3	70	89	106.4	76.7	32	150

---

Note. Maximum frequency = 180.

<sup>a</sup>n=20 for each group.

### Limitations

The results of the present study must be viewed in the light of the following limitations:

-The sample size was small, allowing for a larger possibility of erroneous and biased data collection and interpretation.

-The classroom settings of the groups of subjects were not comparable. Students labeled BI were receiving special educational services in Engineered Classrooms designed specifically to control for and remediate behavioral disorders.

-No distinction was made within the group of Behaviorally Impaired students, such as of the type and degree of the emotional disturbance.

-The study focused mainly on BI students with highly observable or active behavior and lacked assessment of BI students with equally serious, yet less observable or active behavior (for example, students with overly shy or withdrawn behavior).

-Only a selected number of single nonverbal modes of student behavior was covered in the study, without reference to their meaning, function or component Gestalt.

-The observation of nonverbal behavior was limited to a situational context that emphasized academic performance rather than social interaction.

-The validation and reliability of the instrumentation used

in the study may not have been sufficiently established.

-The research design may not have controlled adequately for teacher, group, and extraneous factors, as well as investigator bias .

-An extended length of the individual observation periods might have lead to more conclusive results.

### Conclusions and Implications

This study intended to provide objective data concerning what actually exists, what students are actually doing in the classroom. At the beginning of the study it was predicted that a group of students labeled BI would engage in quantitatively more targeted nonverbal behavior than a group of students not labeled BI. However, the findings suggest that there was no significant difference in the amounts of nonverbal behavior displayed by both groups during periods of independent academic seatwork. An informal qualitative comparison between the two groups also yielded surprisingly few differences in the types of nonverbal behavior.

Overall, in the present research, no evidence was found to support the assumption that a significantly higher frequency of nonverbal behavior pertaining to body movements, postural behavior, and non-word vocalizations might characterize elementary male students with verified behavioral disorders and differentiate them from other students not labeled BI.

The fact that students labeled BI did not display more nonverbal behavior than students not labeled BI has interesting treatment and diagnostic implications, as this brings about reservations to the speculation that teacher identification of BI students might be a result of the

amount of nonverbal behavior displayed by the student. It could be assumed that since the amount of nonverbal behavior is not an indicator of behavioral impairment in the present study, other possible factors involved in identification of BI students need to be considered and researched.

Obviously, while single, isolated forms of nonverbal behavior failed to differentiate labeled and nonlabeled students, a cluster of nonverbal cues could create an overall nonverbal message that elicits positive or negative impressions from others. Most of the times it is not a single body movement or posture that calls our attention, but a consistently displayed cluster of nonverbal cues that lingers in our minds long after the incident has passed. Furthermore, teachers' expectations of a student affect which cues are noticed and which ignored, thus making the identification and interpretation of nonverbal behavior highly subjective (Peterson, 1983).

The degree and type of nonverbal behavior might assume a more significant role than its frequency in the interpretation of a student's behavior. This is particularly true of those types of behavior that have a strong effect on a teacher's emotional stability or are not well tolerated by a teacher. Identification of the nature of the nonverbal signals emitted and of the teacher's response to different types of behavior could provide us with a better understanding of what is considered to be

troublesome in a student's behavior . Self-limiting behavior and behavior that is easily ignored by teachers and classmates would seem to be better acceptable socially than certain types of behavior that disrupt or perturb the teacher, other students, or the student himself. Thus the quality of the nonverbal behavior, its type, degree and the orientation it takes (towards self or others), might be an irritant that draws the teacher's attention and might contribute substantially to labeling a student BI.

Another factor besides complexity and quality of nonverbal behavior that could possibly differentiate labeled students from nonlabeled students might be the degree of visibility of the behavior displayed. An informal anecdotal report of types of behavior observed in this study suggests that the group of labeled students engaged in a somewhat greater amount of postural behavior (GROUP 1), behavior not directly related to the task (GROUP 4), hand-raising behavior (GROUP 5), and non-word vocalizations (GROUP 6). Most of these categories of nonverbal behavior could be considered to be highly visible or audible to others. On the other hand, the group of comparison students showed a slight tendency towards behavior of a repetitive nature (GROUP 3), such as scratching, fumbling with fingers or shuffling with feet, that might not necessarily be well noticeable to others. The slight tendency of the comparison students towards more behavior interrupting and/or involving

others (GROUP 2), might possibly be attributed to the fact that students in regular classrooms sat closer together and farther away from the teacher, and seemed to seek more interpersonal contact than students in Engineered Classrooms.

Difficulties in finding differentiating behavior might be due to the use of less sensitive time-sampling observational procedures rather than continuous recording of nonverbal behavior, and/or to the failure to take situational factors into account in designing the research. An important factor that should be considered when interpreting the results of the present investigation concerns the difference of settings in which behavior of BI and comparison students was observed. Since BI students enrolled in Engineered Classrooms comprising fewer students, greater teacher availability and intervention, and a highly structured and individualized program displayed almost the same quantity of nonverbal behavior as comparison students in regular classrooms, it might be concluded that the Engineered Classroom setting is able to fulfill the purpose intended in controlling these kinds of behavior which interfere with effective learning.

During observation of nonverbal behavior of both student groups, it was often noticed that the amount of nonverbal behavior (particularly repetitive behavior of GROUP 3) seemed to be highest when the student was off-task

and usually lessened considerably when the student appeared to be on-task. Generally, students engaged in a higher number of nonverbal behavior in classrooms with low structure and less teacher availability, suggesting a high negative correlation between frequency of nonverbal behavior and structural control. Increases in nonverbal behavior might be precipitated by decreases in external and internal structure, and low structure settings might produce a type of anxiety seen in fidgety, repetitive behavior.

These observations are also supported by the findings reported by Werry & Quay (1969) in their extensive study on the classroom behavior of normal children and children with conduct or acting out disorders. Their results did not differentiate the groups of children in different settings (regular and self-contained classrooms respectively), but highly differentiated the two groups when in the same setting (regular classroom).

Further research needs to be conducted on the observation of amounts of nonverbal behavior of students labeled BI and students not labeled BI in comparable settings, for example on mainstreamed BI students in regular classrooms, to better control for situational factors that might affect the occurrence of nonverbal behavior. Since the present research design involved only a group of labeled students that were already being served in a special educational intervention program designed to deal with



behavioral problems, further research should mainly focus on the behavioral assessment of students at the very beginning of the labeling and remediation process. It might be found that the data collected of the amount of nonverbal behavior of regular classroom students at the point when students are first referred for special educational services is significantly greater than the amount of nonverbal behavior of comparison students in the same type of setting. This approach would also allow for a more accurate answer to the question of whether teachers' identification of students with behavioral impairment is an indirect result of differing amounts of nonverbal behavior as compared to nonlabeled students. Overall, a longitudinally designed study could assess amounts of nonverbal behavior in students labeled BI at succeeding stages of identification, intervention, and remediation in the special educational program, providing a possible measure of differing nonverbal behavior and of the effectiveness of the Engineered Classroom in reducing behavior that could lead to the labeling of a student.

Another question that needs to be asked when interpreting the present findings is whether the diversity of the sample, which included a broad range of school grades and student ages, might have affected the results of this study. In further research studies this extraneous variable could be better controlled by limiting the sample of

students to include only primary or intermediate grades.

Finally, two remaining issues need to be studied before definite conclusions regarding nonverbal behavior in BI students can be drawn.

Informal observation of students labeled BI raises the question whether these students lack some ability in controlling their nonverbal behavior, letting it escalate easily and perhaps having difficulties handling and stopping it effectively. As a result of this lack of control over their nonverbal behavior, students might respond somewhat slowly to teacher intervention.

Also, a major issue concerns the relationship between verbal and nonverbal behavior, including a comparison of this relationship between students labeled BI and students not labeled BI. Emotionally disturbed children, especially children conforming to childhood psychosis syndromes, are often characterized as having problems in language. Moreover, an unexplainable inability to function in the language area is taken as evidence, in some cases, that there are emotional problems present. A child's linguistic competence can be masked and repressed by a variety of performance variables, such as emotional overlay, emotional trauma, or psychological disturbances (Swanson & Reinert, 1984).

Considering the importance of language for self-satisfaction through social acceptance, control, and as

an outlet for self-expression, it could be assumed that students with limited and/or inhibited verbal skills, possibly due to overwhelming internal emotional conflicts, would rely increasingly on the nonverbal mode to satisfy their needs and to communicate their messages. The resulting discrepancy between a student's infrequent use of verbal and frequent use of nonverbal behavior could have serious implications for the child, as the social acceptance for frequent disruptive behavior in the classroom seems to be higher for verbal than for nonverbal behavior.

To relate well and express oneself effectively, one must have an efficient means of communication. A repertoire of skills and rules for situationally appropriate verbal and nonverbal behavior must be developed and consciously practiced (observation of self and others, role-play, direct experience, etc.). This should include fostering positive characteristics, actions and habits, as well as overcoming negative ones that depress an atmosphere for learning and communicating.

In addition, it is extremely important for both, regular classroom and special education teachers, to be aware of students' nonverbal behavior to become better receivers of student messages and understand student wants and needs. Only understanding WHAT is being conveyed, can lead us to understanding WHY it is conveyed.

## Bibliography

- Beier, E.G. Nonverbal communication. How we send emotional messages. Psychology Today, 1974,8(5),53-56.
- Bremme, D.W. & Erickson, F. Relationships among verbal and nonverbal classroom behaviors. Theory into Practice, 1977,16(3),153-61.
- Dunning, G.B. Research in nonverbal communication. Theory into Practice, 1971,10(4),250-58.
- Eckman, B. Making valid nonverbal judgements. English Journal, 1977,66(8),72-74.
- Galloway, C.M. Nonverbal communication. Instructor, 1968,77(8),37-42.
- Galloway, C.M. Nonverbal communication: A needed focus. ED 025484, 1968.
- Knapp, M.L. Nonverbal communication in human interaction. New York: Holt, Rinehart and Winston, 1972.
- Koch, R. Nonverbal observables. Theory into Practice, 1971, 10(4),288-92.
- Melson, G.F. & Hulls, M.J. The interplay of verbal and non-verbal communication in young children. Paper presented at the Annual National Conference on Language Arts in the Elementary School, Phoenix, 1977.
- Mehrabian, A. Silent messages: Implicit communication of emotions and attitudes. (2nd ed.) Belmont, CA: Wadsworth, 1981.

- Miller, P.W. Nonverbal communication. What research says to the teacher. Washington, D.C.: National Education Assoc., 1981.
- Parker, L.R. & French, R.L. Description of student behavior: Verbal and nonverbal. Theory into Practice, 1971,10(4), 276-81.
- Patterson, M.L. Tape-recorded cueing for time-sampled observations of nonverbal behavior. Environmental Psychology and Nonverbal Behavior, 1977,2(1),26-30.
- Peterson, J. Instructor resource manual for cooperative education. Seminar: Nonverbal communication. Richland College, Dallas, 1983.
- Raskind, M.H. , Drew, D.E. & Regan, J.O. Nonverbal communication signals in behavior-disordered and non-disordered LD boys and NLD boys. Learning Disability Quarterly, 1983,6,12-19.
- Schusler, R.A. Nonverbal communication in the elementary classroom. Theory into Practice, 1971,10(4),282-85.
- Swanson, H.L. & Reinert, H.R. Teaching strategies for children in conflict. (2nd ed.) St.Louis: Times Mirror, 1984.
- Werry, J.S. & Quay, H.C. Observing the classroom behavior of elementary school children. Exceptional Children, 1969, 35,461-70.
- Zentall, S.S. Behavioral comparisons of hyperactive and normally active children in natural settings. Journal of

Abnormal Child Psychology, 1980,8(1),93-109.

Zentall, S.S. Language and activity of hyperactive and comparison children during listening tasks. ED 216483, Purdue University, 1981.

