Comparison of classroom versus clinical communication samples on pragmatics MLU and vocabulary diversity.

Louise M. Snyder

The University of Montana

Let us know how access to this document benefits you.
Follow this and additional works at: https://scholarworks.umt.edu/etd

Recommended Citation
https://scholarworks.umt.edu/etd/8132

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.
COPYRIGHT ACT OF 1976

This is an unpublished manuscript in which copyright subsists. Any further reprinting of its contents must be approved by the author.

Mansfield Library
University of Montana
Date: 1982
A COMPARISON OF CLASSROOM VERSUS CLINICAL COMMUNICATION SAMPLES
ON PRAGMATICS, MLU, AND VOCABULARY DIVERSITY

By

Louise M. Snyder

B.A., Northern Michigan University, 1979

Presented in partial fulfillment of the requirements for the degree of
Master of Communication Sciences and Disorders
UNIVERSITY OF MONTANA
1981

Approved by:

Chairman, Board of Examiners

Dean, Graduate School

Date
ACKNOWLEDGMENTS

With Jane Rieke's sparkling eyes which more than once breathed life into a fading idea, this project was written. Thanks, Jane!

Through the flow of knowledge, inspiration, and just plain ol' fun times, the teaching staff at the University of Montana became not only supportive teachers but friends. Special thoughts go to Charlie(!!) Parker who gave tons of support and helped me obtain self-confidence, to Bev Reynolds who was one of the first to treat me as a professional as well as a friend, and to Barb Bain who let me bend her ears during hard times and pop a cork during exuberence.

My family--especially Ma, Pa, and Karen--receives warm thoughts for patience, phone calls, letters, and time. Did you ever think I'd finish?

Thanks to the Communications Disorder Specialist staff at the Experimental Educational Unit--especially to Judy--for time and energy spent!

Finally, to myself for developing the thoughtfulness and maturity and having the determination necessary to do it for me!
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>PROLOGUE</td>
<td>v</td>
</tr>
<tr>
<td>The Externship Placement</td>
<td>v</td>
</tr>
<tr>
<td>The Experimental Education Unit</td>
<td>v</td>
</tr>
<tr>
<td>The EEU Philosophy</td>
<td>v</td>
</tr>
<tr>
<td>What Did I Want and What Did I Learn?</td>
<td>vi</td>
</tr>
<tr>
<td>The Evolution of an Idea</td>
<td>ix</td>
</tr>
<tr>
<td>Pragmatics</td>
<td>ix</td>
</tr>
<tr>
<td>A Pervasive Question</td>
<td>x</td>
</tr>
<tr>
<td>1. REVIEW OF PERTINENT LITERATURE</td>
<td>1</td>
</tr>
<tr>
<td>2. ANALYSIS OF THE PROBLEM</td>
<td>6</td>
</tr>
<tr>
<td>Method</td>
<td>6</td>
</tr>
<tr>
<td>Subjects</td>
<td>6</td>
</tr>
<tr>
<td>Procedure</td>
<td>8</td>
</tr>
<tr>
<td>Communication Sampling</td>
<td>8</td>
</tr>
<tr>
<td>Classroom samples</td>
<td>9</td>
</tr>
<tr>
<td>Clinical samples</td>
<td>10</td>
</tr>
<tr>
<td>Analysis of Samples for Comparison</td>
<td>10</td>
</tr>
<tr>
<td>3. RESULTS</td>
<td>12</td>
</tr>
<tr>
<td>Pragmatic Variables</td>
<td>12</td>
</tr>
<tr>
<td>Language Variables</td>
<td>14</td>
</tr>
</tbody>
</table>
PROLOGUE

The Externship Placement

The Experimental Education Unit

The Child Development and Mental Retardation Center (CDMRC) is comprised of four units: (1) the Medical Research Unit, (2) the Behavioral Research Unit, (3) the Clinical Training Unit, and (4) the Experimental Education Unit (EEU). The CDMRC has a threefold mission: service to handicapped children and their families, interdisciplinary training, and research. The EEU functions as a resource school for handicapped children in the Seattle public school area, integrating interdisciplinary teaming with research concepts. Professionals from a variety of disciplines and students from the College of Education, Department of Speech and Hearing Sciences, and other departments on the University of Washington campus work together to serve the enrolled children. The EEU has an infant program, a toddler program, and twelve classes of preschool and school-aged children.

The EEU Philosophy

The EEU philosophy of serving children with communication needs is based on a nationally validated Communication Model Approach which incorporates joint staffing for individual child goals and objectives and specific opportunities for classroom practice (see Appendix, p. 24, The Basic Elements of the Communication Model). The EEU also functions
within an interdisciplinary model in which professionals from physical therapy (PT)/occupational therapy (OT), social work, nursing, communication disorders, and education problem solve on a regular basis regarding specific child needs. The Communication Disorder Specialist (CDS) staff, working within classrooms as support personnel, often develops programs for classroom staff to implement and provides individual or group therapy for the children. A large amount of time is spent discussing suggestions to be used by the classroom staff and collecting classroom data for each child's program. As a school, the unit adheres to federal and state P.L. 94-142 guidelines to establish individual educational program (IEP) goals and objectives, to hold parent conferences, and to complete program pretesting and posttesting for child progress.

What Did I Want and What Did I Learn?

As I traversed the mountain passes, I faced an unknown—the EEU was but a name to me. Yet, an unknown often leads to challenge. My major want was to be challenged to apply six academic years of acquired knowledge, skill, and experience to a job setting. Some basic challenge areas arose and some learned solutions evolved.

1. Could my strategies and methods for therapeutic change weather a new and different situation? For the most part, I found that I challenged the new setting with a problem solving strategy that allowed for utilization of methods/techniques I had already acquired. My individual therapy programming and delivery strategies were well developed. I could diagnose for programming and develop effective means for facilitating change in a target child. The same kinds of skills

vi
permeated techniques used for classroom group strategies. I functioned as a model and facilitator for the children as well as for the classroom staff in illustration of the programs I was suggesting. My observation skills, facilitating styles, and techniques for directive practice were also used as I assumed the role of consultant for individualized classroom programs. Teachers were able to effectively apply my suggestions for target children as I obtained classroom data to chart progress. Classroom consultation roles challenged my ability to devise and provide meaningful programs. This role also challenged my ability to use an existing classroom style to obtain change.

In facing this challenge, I was able to learn some variations and alternatives. Since other professionals were involved in the process, I was responsible for illustrating my points and child progress. Simple and efficient data keeping systems were necessary to provide feedback to other staff members and parents. I also recognized that group management for classroom organization and opportunities for child practice sometimes took precedent over individual language facilitation. My tendency was toward child-centered therapy within the group, which wasted other children's time and often disrupted the group learning situation. I learned that activities had to revolve around and challenge each child who functioned as a member of the group. Finally, I was faced with an alteration of perspective regarding who made the most ongoing impact on a child in this setting. I was no longer always the primary service giver or special adult in a child's time at school. I assigned that honor to teachers who were given suggestions to utilize on an ongoing daily basis with a child.

vii
2. Could I interact effectively and easily with other professionals? I realized that, although insufficiently practiced, skills for interpersonal communication with professionals were in my repertoire. I was able to express opinions and provide pertinent information as the children were discussed or my ideas were challenged. I also supplied suggestions/options in a nonthreatening way as I was able to feel less threatened when options were presented to me. I discovered I had opinions that were as valid or as easily altered as those of other professionals.

It was important for me to vary or alter some of my style in order to give feedback, facilitate my credibility, and be more efficient. I learned to time my presentation of suggestions better because I realized that people will generally see more value and have more enthusiasm for ideas they have initiated. In other words, I learned the importance of making subtle suggestions and waiting for shifts in thought that I felt were necessary. It was also important to me to become confident about my knowledge and ideas. I found that, if I simplified my professional jargon and presented examples to illustrate my meaning, I received understanding nods and looks from other professionals. With that feedback, I further was able to become more concise and relaxed. With this added confidence I understood that my style of expression or opinions need not be compromised.

3. Did my report writing skills apply? I found that my foundation of knowledge and observational skills allowed me to integrate and note salient components regarding needs a child presented; however, simply reporting results was not sufficient. I learned to better
represent my thoughts by viewing results dynamically. What implication did my observations have? What specific suggestions then followed? I had the information. I learned to use it!

In summary, I found that I stood the challenge not only of the new situation and proving my abilities but in being able to alter or vary my thinking. Philosophically, life is what you make it and growth can be nothing but exciting! Finally, given this setting and my orientation, a merger seemed to occur. My background influenced the setting and the setting influenced my thinking. My idea for investigation evolved from these mutual influences.

The Evolution of an Idea

Pragmatics

I have been heavily influenced by the current emphasis in the field on meaningful use of communication skills to effect change. Children acquire skills as they reason that use of those skills will effect a change when it counts. An effective way for a child to learn what will effect a change is through observation and then active participation for practice. The Communication Model Approach holds observation and practice within its operating foundation. Children are observed within a classroom setting to see how effectively they communicate and at what skill level they are functioning with reference to communication. Individual programs are then based on helping the children become more effective communicators within the natural classroom setting. Classroom programs therefore offer high success with consistent use of new skills as old habits are broken and new ones encouraged.
on an ongoing basis. A clinician could not obtain information and effect change without support from a natural setting such as a classroom. Removing a child from the classroom to obtain information from a clinical mode, and then applying that information to the classroom, seemed far removed from an on-the-job situation as well as emphasis on meaningful use. I wondered, however, if classroom information was as accurate as clinically-obtained information. I also wondered whether information obtained from the classroom was as or more reflective of a child's abilities, it being a more natural setting. Furthermore, which type of information was more effective in terms of sharing information for a child's program with the interdisciplinary team? Based on these concerns I asked a question: "What are the quantitative and qualitative differences, if any, between communication information obtained on children in a classroom as opposed to information obtained in a typical clinical format with a clinician?"

A Pervasive Question

As challenges arose regarding use of information, I asked two more questions from a professional standpoint: (1) "What information do we really want when we collect information on a child--what a child can do or do we want to know what a child does in everyday life?" and (2) "Which piece of information provides the greater amount of dynamic input facilitating growth of skills?" My train of thought throughout this paper focused on use.
Chapter 1

REVIEW OF PERTINENT LITERATURE

Lee (1966), via her studies on application of Developmental Sentence Types (DST) to language samples obtained from children, helped to open the field for further research on investigation of the similarities and differences in tools used to analyze results and the effects of a multiplicity of variables on a child's productions. For example, Longhurst and Schrandt (1973) compared the effects of four analysis procedures on picture-elicited language samples of a normal and a language-delayed child. Morehead and Ingram (1973) examined language samples produced by normal and linguistically deviant children by comparing mean length of utterance (MLU: number of morphemes per utterance divided by the number of utterances) and found a developmental pattern of delay. Sharf (1972), Longhurst and File (1977), Beal and Potter (1979), and Fey, et al. (1981) also investigated comparisons between procedures.

With emphasis on pragmatics (the meaningful use of skills/information), several investigators began to compare the validity and reliability of communication samples taken under varying conditions. Important options for obtaining information were recognized (Miller, 1981) as mother-child or child-child samples were compared to clinically-obtained samples. Kramer, et al. (1979) investigated samples of 10 clinic-referred children (3-5 years) taken at home with the mothers and
in the clinic with a clinician by computing MLU and DST on the first 50 intelligible utterances of each sample. They found that the home samples displayed a significantly greater skill level than the clinic samples. This indicated that a natural home setting allowed a child to produce at her/his maximum skill level.

Olswang and Carpenter (1978) also studied elicitor effects on the language of nine preschool language-impaired children. They compared samples obtained from mother-child and clinician-child interactions in a clinic setting and speculated that "different collection procedures will produce important differences in the output of the young language-impaired child" (p. 76). Twenty-five-minute mother and clinician samples were obtained through parallel nondirective play and the use of descriptive comments regarding the activity. Olswang and Carpenter analyzed the samples for amount of talking, vocabulary size (Type-token Ratio [TTR]), grammar and morphemes (MLU), and production of meaningful semantic relationships. Results showed that the only significant difference was an increased amount of utterances with the mother as opposed to with the clinician. The authors speculated that this result may have been due to a greater number of questions asked by the mother about the environment as opposed to the clinician's predominant use of comments. Olswang and Carpenter concluded that the quality of language used by the children was the same for mother and clinician (contradicting Kramer, et al., 1979) and that the difference in quantity may be due to the difference in the amount of questions used by the elicitors. They further pointed out that pragmatic analysis of the
functions of language would probably "reveal differences between the two elicitation conditions" (p. 85).

To compare clinical sampling validity, Scott and Taylor (1978) also chose an interaction situation between mothers and children at home and clinic samples. A typical diagnostic evaluation sampling procedure was used for the clinic samples as a clinician played along with the children using neutral comments. The study used 12 normal preschool children to obtain 125 successive utterances from each setting. MLU and frequency of forms and construction types were analyzed. Based on their results, the researchers listed four variables which they felt encouraged quality samples: (1) a natural setting, (2) topics of significance to a child, (3) the presence of other children to offer verbal competition, and (4) child-initiated verbal interactions. They, as did Olswang and Carpenter (1978), noted the importance of looking at pragmatic interaction variables: "differences in frequency of various structures no doubt reflect interactional differences that occur when a child talks to his mother at home and a stranger in the clinic" (p. 494).

Culatta and Horn (1979) expressed a need for a speech-language clinician to be aware that "language samples recorded in clinical settings may be contextually restricted and therefore provide limited information about the pragmatic functions of language" (p. 16). In their comparison of communicative ability in parent-recorded versus clinically-recorded samples of language-disordered children (at a one- or two-word level), they found no significant difference on MLU or TTR. They did find that the amount of time required to obtain the samples
was greater for a clinician. The children produced more language in the parent recordings.

Results of these studies are fairly consistent. The quality between samples appeared to be stable; however, the quantity aspects varied.

Comparisons of communication samples taken from the classroom versus those from the clinic were not found. With Muma's (1978) comment, "Behaviors are related one to another. Therefore, it is necessary to deal with behavior in terms of systems and processes . . . relative to the conditions under which it occurs" (p. 8), a need for such a comparison was seen by this clinician. Miller (1981) also noted the need to consider a classroom setting as an option for observation.

A questionnaire (see Appendix, p. 25) was distributed to the Experimental Education Unit (EEU) Communication Disorder Specialist (CDS) staff to determine how it viewed communication samples and what the usual procedures were to obtain them. All the CDSs preferred classroom-obtained samples, noting antecedent-behavior-consequence information (see Appendix, pp. 26-28 for typical forms used) within ongoing interactions. Sample size was typically determined by a specific number of utterances; however, some clinicians also noted time periods (e.g., 10 minutes) to aid in analysis. Analysis of the obtained sample included number of initiations, number of responses, appropriateness, communicative intentions, teacher interaction, and number of interactions in a given time period as well as MLU, semantics, syntax, and vocabulary diversity.

Questionnaire information noted the clinicians' attempts to
obtain representative samples from the classroom and derive as much information from them as possible for programming purposes. They found that use of teacher interaction data was helpful in making specific child-centered suggestions for communication facilitation.
Chapter 2

ANALYSIS OF THE PROBLEM

Hypothesis

Since a spontaneous communication sample provides a clinician with information regarding expressive skill level through several measures and seems to be the most popular tool for initial and continuing analysis of skill level (Launer and Lahey, 1981), it was chosen as the focus for investigating the questions about classroom- versus clinically-obtained information. Three specific questions were posed: (1) Would there be differences in spontaneous communication samples taken from the classroom and those taken from a traditional clinical method? (2) What were the differences? and (3) which method would yield more useful and representational information?

Method

Subjects

The Communication Preschool Program at the EEU services children two to seven years of age referred by the Seattle area public school system. The children are enrolled because they have documented delays in communication skills. Three half-day classrooms operate (two hours each), each with a head teacher, an assistant teacher, a CDS, a practicum student from special education or speech pathology, and nine to ten children. Two of the classrooms are currently participating in research
involving social interaction and the impact of normal models on communication skills. The morning research program consists of nine children, all with communication delay. Ten children attend the afternoon session, three of whom are normal models.

This investigator chose five communication-delayed preschoolers (chronological ages 49-74 months) from the morning research class for communication sample comparisons. Four children were enrolled in the classroom in September 1980. One child (Melissa) entered three months into the school year. Another child (Lakisha) came from a black culture background and exhibited predominantly Black English. All other children were developing communication skills based on Standard American English backgrounds. Each child received group therapy from a CDS, as well as classroom communication input, and had practice opportunities throughout the day. Communication program objectives were based on individualized education program (IEP) goals.

Table 1 (see Appendix, p. 29) supplies receptive and expressive language composites of each child based on The Peabody Picture Vocabulary Test (PPVT) (Dunn, 1965) and Sequenced Inventory of Communication Development (SICD) (Hedrick, et al., 1975) results from recent IEP posttesting. The average receptive-expressive communication gap was 12 months. The SICD indicated a 40-48 month range of receptive skills and 24-36 month range of expressive skills among the children. The range of receptive-expressive gap between the PPVT and SICD was 12-36 months with an average delay-gap of 28 months.

The classroom staff, utilized as adult facilitators during the classroom communication sampling, were specifically trained within the
Communication Model Approach (see Prologue, p. v). All had been involved with the children from the beginning of the school year. Primary importance was given to providing a child with practice time for skill generalization. Direct prompting and indirect facilitating strategies (modeling, expansion, and reflecting) were utilized throughout a child's day.

A CDS graduate extern from the University of Montana Speech, Hearing, and Language Clinic, two months from completion of her M.S., functioned as a facilitator for clinical samples and transcribed and analyzed all communication samplings. She was assigned to the classroom as an assistant CDS and was familiar to the children because she interacted with them in the classroom on a weekly basis.

Procedure

Communication Sampling

Classroom and clinical communication samples were obtained on each child. The Appendix (p. 30) displays the sampling form first devised for the investigation. Prior to the collection of formal data, the form was tried by the clinician on a delayed child in the afternoon class. A revised form (see Appendix, p. 31) evolved because there was a need to note specific nonverbal situation occurrences. A more efficient and detailed method of tallying results (noted at the page bottom) was also needed.

For sample comparisons and to preserve time efficiency, a 30-minute time limit was placed on each elicited sample (Dale, 1980; Miller, 1981). Samples were transcribed verbatim on the sampling form.
Child verbalizations, vocalizations, and nonverbal behaviors were noted. Adult statements and nonverbal behaviors were also noted as they related to a child. Communication direction arrows between the child and adult columns indicated who initiated the interaction and the subsequent flow of conversation.

To limit any spontaneous change or effect of program variables, the two samples were taken two to four days of each other. All samples were obtained in two weeks. The time of day was also consistent across children. All samples were taken within the first one and one-half hours of school prior to formal academic input. The children were fairly accustomed to being removed from the classroom for special work; however, to limit effects of removal from the classroom, the sequence of collection of the samples was counterbalanced.

Classroom samples. The head teacher was briefly informed of the project and a schedule of sampling dates was provided. Some dates were changed due to absences.

Each preschool day schedule included (1) interaction time (50 minutes), (2) grossmotor/music time (10 minutes), (3) work group time (30 minutes), (4) free choice (15 minutes), and (5) snack time (15 minutes) with some variation in length of activity times. Set-up of the classroom allowed for three large activity areas for each interaction time. Activities focused on concepts, social interaction, and communication target practice for each child. Dramatic play (doctor's office, shoe store, the zoo, or birthday party), art activities (barrel painting, body tracing, and sand painting), and less structured activities...
(blocks, puzzles, and lottos) were provided as activity choices. Suggestions were given by the adults as facilitation of the focus components occurred. Children chose their activities and were encouraged to spend 10-15 minutes within each.

The children were accustomed to adult observers because program or research data were generally obtained during this time. This clinician observed from the perimeter of the activities as a target child played, shifting position as necessary to achieve as accurate a sample as possible. Samples were recorded directly on the communication form and were completed when 30 minutes had occurred. If an interaction sequence occurred beyond that time, the 30-minute line was marked and recording continued until the sequence resolved. Beginning and ending times were noted.

**Clinical samples.** A clinical sampling method with concrete stimuli was utilized. Child-clinician interactions were tape recorded in a quiet room. Play centered around a Sesame Street house and characters/objects. A child-centered reactive language strategy of facilitation was used by this clinician.

Each child was taken from the classroom during the transition between interaction time and work group time for special work; she/he remained in play for the 30 minutes. The examiner introduced the Seasme Street play with, "I wonder if you like Seasme Street. I brought these toys just for you to play with," and play was initiated. If the child did not engage in play, she/he was encouraged through suggestion of a party theme. To provide clarification of the situation or what the
child said/did, the examiner frequently made statements surrounding what occurred for future ease of tape transcription. At the end of the 30 minutes, the examiner told the child it was fun to play with her/him, but it was time to go back to the room. Samples were transcribed from the tape as soon as possible in an attempt to preserve nonverbal behaviors and situational cues.

**Analysis of Samples for Comparison**

Pragmatic aspects were analyzed in terms of number of verbal versus nonverbal exchanges, number of topic switches, number of child versus adult verbalizations within the 30-minute period, and coded for number and variety of expressed communicative intents (see Appendix, p. 32, Code: Communicative Intents). Each sample was also analyzed for MLU and range of morphemes per utterance according to procedures outlined by Miller (1981:24). The Brown Stage (I-IV) (Brown, 1973) for each MLU was determined (see Appendix, p. 33, Table 2). Syntactical complexity and correctness were also noted. A noun, verb, and adjective vocabulary diversity count was completed by counting the total number of words produced in each category, then tallying the different nouns, verbs, and adjectives a child produced within the samples. Nouns included agents and objects; auxiliary verbs (e.g., is, do) were eliminated. The number of use of specific references was also tallied. For instance, the pig as opposed to it, cleaning as opposed to doing, and friendly as opposed to more.
Chapter 3

RESULTS

Pragmatic Variables

Table 3 (see Appendix, p. 34) compares the pragmatic analyses between the two conditions for each of the five children. Overall, the clinical condition allowed for greater verbal output for each child.

Lakisha produced 21 verbalizations (V) and 9 nonverbal behaviors (NV) in the classroom, and 167 and 39 (V + NV) in the clinic. Two appropriate topic switches occurred in the classroom and six occurred in the clinic. Five classroom and 11 clinic communicative intents were noted. Sharing information (SI) occurred frequently in both conditions. The child-to-adult verbalization ratios were 21:15 (classroom) and 167:149 (clinic).

John produced 24 V and 11 NV in the classroom, and 199 V and 16 NV in the clinical sample. Three appropriate topic switches occurred in the classroom and 13 occurred in the clinic. Seven classroom and nine clinical communicative intents were noted. SI, answering (Ans), and requesting action (RAc) occurred frequently in both samples. The child-to-adult verbalization ratios were 24:21 (classroom) and 199:127 (clinic).

Melissa produced 22 V and 17 NV in the classroom, and 165 V and 78 NV in the clinic. Three appropriate topic switches occurred in the classroom and six occurred in the clinic. Nine classroom and 11 clinic
communicative intents were noted. SI was prominent in both. The child-to-adult verbalization ratios were 22:23 (classroom) and 165:225 (clinic).

Anna produced 45 V and 19 NV in the classroom sample, and 74 V and 46 NV in the clinical sample. Three topic switches occurred in the classroom and 13 occurred in the clinic. All were inappropriate. Eight classroom and nine clinical communicative intents were noted. SI and RAc were prominent in both samples. The child-to-adult verbalization ratios were 45:22 in the classroom and 74:128 in the clinic.

Joey produced 50 V and 7 NV in the classroom, and 46 V and 84 NV in the clinic. Four appropriate topic switches occurred in the classroom and none occurred in the clinic. Nine communicative intents occurred in both samples. SI and affirming (A) were prominent. The child-to-adult verbalization ratios were 50:43 (classroom) and 46:147 (clinic).

In summary, four of the five children increased their output and exhibited a more diverse repertoire of communicative intents in the clinical sampling. Predominant communicative intents were consistent across both samples. The child-to-adult verbalization ratios increased in the clinical sample.

One child displayed an opposite pattern. He decreased his verbalizations, showed no topic control, and exhibited the same number of communicative intents in the clinical sample. His clinic child:adult verbalization ratio was greatest of all the children.
Language Variables

Lakisha's classroom MLU was 3.33 (Brown's Stage III) and her clinical MLU was 3.61 (Brown's Stage IV). Classroom/clinic MLU ranges were 1-5 and 1-13. Black English occurred in both samples. Noun (N), verb (Vb), adjective (Aj) diversity counts were 6/30 (classroom) versus 40/222 (clinic), 5/21 (classroom) versus 37/142 (clinic), and 2/2 (classroom) versus 3/6 (clinic), respectively.

John's MLU was 2.97 (Brown's Stage III) in the classroom and 2.99 (Brown's Stage III) in the clinic. The MLU range was 1-7 (classroom) and 1-8 (clinic). Thirteen syntactically correct sentences were produced in the classroom sample. Eighty-one were correct in the clinical sample. N, Vb, Aj vocabulary diversity counts were 9/33 (classroom) versus 39/265 (clinic), 6/12 (classroom) versus 23/177 (clinic), and 2/2 (classroom) versus 7/41 (clinic), respectively.

Melissa's MLU was 1.68 (Brown's Stage I) in the classroom and 1.51 (Brown's Stage I) in the clinic. The MLU range was 1-5 (classroom) and 1-4 (clinic). One syntactical utterance was produced in each sample. N, Vb, Aj vocabulary diversity counts were 10/26 (classroom) versus 28/118 (clinic), 4/8 (classroom) versus 16/35 (clinic), and 0 (classroom) versus 5/13 (clinic), respectively.

Anna's classroom MLU was 2.77 (Brown's Stage III) and her clinical MLU was 2.81 (Brown's Stage III). The MLU ranges were 1-5 (classroom) and 1-7 (clinic). Ten syntactic utterances occurred in the classroom sample and 20 occurred in the clinic sample. N, Vb, Aj diversity counts were 19/62 (classroom) versus 13/89 (clinic), 11/35 (classroom) versus 7/41 (clinic), respectively.
versus 16/65 (clinic), and 3/7 (classroom) versus 6/14 (clinic), respectively.

Joey's classroom MLU was 2.52 (Brown's Stage II) and his clinical MLU was 2.02 (Brown's Stage I). Classroom/clinic MLU ranges were 1-5 and 1-6, respectively. Fifteen syntactically correct utterances were produced in the classroom and six were produced in the clinical sample. N, Vb, Aj diversity counts were 12/48 (classroom) versus 16/30 (clinic), 13/33 (classroom) versus 11/18 (clinic), and 3/5 (classroom) versus 3/3 (clinic), respectively.
Chapter 4

IMPLICATIONS

The scope of this investigation focused on observing differences between the types of communication samples obtained. A review of the results tended to indicate quantitative differences between classroom and clinical samples. A larger quantity of output was displayed by four of the five children in the 30-minute clinical sample which, perhaps, created a more accurate picture of abilities. Qualitative differences, as indicated by MLU and Brown's Stages occurred in two of the five children (one in favor of the clinic, one in favor of the classroom).

Some children may respond to the different sampling situations, materials, or listeners with qualitative differences in their output. Several authors (Shriner, 1969; Hadjian, 1978\(^1\); Kramer, et al., 1979; Massekokite, et al., 1980; Fey, et. al., 1981; Miller, 1981; Snyder, 1981) discussed the need for examiner awareness of effect of the listener, activity, materials, and listener-speaker relationship on a child's responses. This investigation reiterates the need for clinician sensitivity to individual responses. Statistical analyses and reliability

checks with a larger sample population would allow for a more thorough review of quantitative and qualitative differences. This may indicate that one type of sample provides a more valid picture of a child's abilities than the other.

With these cautions in mind, classroom communication samples may be as representative of child abilities as clinically-obtained samples, allowing for information of what a child uses in a more natural setting. Hadjian (1978), Launer and Lahey (1981), Miller (1981), and Tyack (1981) discussed the importance of the observation of abilities in a natural context. In this clinician's observation, by four years of age a child often begins her/his school experience and becomes increasingly comfortable within that environment. The classroom seems to become another arena in which meaningful use of communication skill occurs and in which it may be evaluated and developed. Launer and Lahey (1981) noted that natural environments can be pivot areas in which language learning can occur.

In further consideration of the use of classroom versus clinic information regarding communication skills, a clinician must also appraise how best to use an on-the-job environment. Miller (1981) noted the importance of seeking options for obtaining information and providing service. The American Speech, Hearing, and Language Association also stated that "the speech . . . specialist must work in harmony with his surrounding[s]. . . . services must be integrated into the general goals of the setting" (ASHA, 1962:31). Pickering and Kaelber

\[2\text{Ibid.}\]
(1978) further noted that "school speech-language pathologists have a professional responsibility to help create a total school environment conducive to speech and language learning" (p. 43).

In consideration of these professional concerns, direct involvement of other professionals in a child's communication programming within a classroom is important. Using classroom communication data may be an appropriate and important clinical option for involvement of other professionals who function as primary communication facilitators and for utilization of a child's daily environment to increase chances of skill generalization. An analysis of teacher-child interaction can be helpful in providing suggestions to the teacher. A common reference can be established for specific child-centered suggestions. Baseline and ongoing treatment checks can then be incorporated. With the CDS's general involvement in the classroom, teacher observation of the clinician may lead to the learning of specific techniques or strategies that work for children in general.

Bowen (1973) described a reworking of personnel in the Salt Lake school system in which the primary service delivery person for speech/language facilitation was the resource teacher. The support personnel, including the CDS, interacted with her to provide programs for needy children. Bowen discussed a trend toward this type of service delivery.

In summary, a future application of statistical analyses to data of the type obtained in this investigation may indicate significant differences in validity between classroom-obtained and clinic-obtained communication samples. This investigation displayed quantitative differences in favor of the clinical data. Some similarities in
quality of child output between the samples may be indicated. In the use of communication data, this clinician sees the value in obtaining classroom samples as an option to involve the teaching staff and to obtain information from a more natural setting whether they are significantly different or not. The importance of validity of information is also seen. Further study into classroom versus clinical comparisons of communication data appears to be necessary. Future research would need to address validity and reliability issues regarding procedures.
BIBLIOGRAPHY


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


Siegel, G. M. "Interpersonal Approaches to the Study of Communication Disorders." Journal of Speech and Hearing Disorders, 32:2 (1967), 112-120.


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
THE BASIC ELEMENTS OF THE COMMUNICATION MODEL

(The Difference in Child Progress)

The three components are what the classroom staff does, what the CDS does, how the team works together.

1. What the classroom staff does.

   It expects a child to communicate and it provides opportunities for communication to occur.
   • From these expectations the classroom staff can identify relevant concerns.
   • With opportunities there will be a place for habits to be formed and for generalization to take place. This is a classroom staff role.

2. What the CDS does.

   He/she attends to the concerns which have arisen from a child's environment.
   • He/she provides service based on a child's communication needs.
   • He/she spends some time in the classroom.

3. How the team works together.

   It meets regularly and everyone is included in the discussions.
   • It identifies concerns (and strengths) together.
   • It pursues options for serving the children.
   • It assures that practice-for-habit formation will occur and that opportunities for generalization will be provided.

Jane Rieke 7/81
Revised by Louise M. Snyder 9/81
QUESTIONNAIRE: THE BLACKS AND WHITES OF A LANGUAGE SAMPLE

As part of my endeavor to make a qualitative comparison of classroom and clinical communication samples, I began to wonder, "Well, what do working CDSs think?" I therefore devised the following questionnaire to capture the thoughts of the EEU CDSs regarding communication samples. (Communication sample is defined as a sampling of how an individual uses the communication modes available to him/her. Language is perceived as one mode—a subsystem.)

How would you define your sample?

How do you take an initial sample on a preschool-level child?

What is your preferred method?

What is your concept of a representative sample?

What do you look for in the sample?

Comments:

Please return the questionnaire to my desk when completed. Thank you very much for your help.

Louise
A.B.C. DATA FORM

The Communication Program, the Experimental Education Unit
of the College of Education, and the Child Development and
Mental Retardation Center, University of Washington,
Seattle, WA 98195

Name: ___________________________  Date: ___________________________
Observer: _________________________  Time: _________________________

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

27
### LANGUAGE/COMMUNICATION SAMPLE

<p>| | | | | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 1

Subject Composites Based on Recent IEP Posttests

<table>
<thead>
<tr>
<th>Child</th>
<th>In program (months)</th>
<th>Program target</th>
<th>7/81 CA (mo.)</th>
<th>PPVT (mo.)</th>
<th>Receptive Scale (months)</th>
<th>SICD Expressive Scale</th>
<th>Receptive/Expressive Gap* (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lakisha</td>
<td>9</td>
<td>Initiating responding</td>
<td>66</td>
<td>47</td>
<td>44</td>
<td>48</td>
<td>32</td>
</tr>
<tr>
<td>John</td>
<td>9</td>
<td>Use of complete sentences</td>
<td>74</td>
<td>54</td>
<td>48</td>
<td>48+</td>
<td>36-40</td>
</tr>
<tr>
<td>Melissa</td>
<td>6</td>
<td>Expand one to two words</td>
<td>49</td>
<td>46</td>
<td>40</td>
<td>48</td>
<td>24</td>
</tr>
<tr>
<td>Anna</td>
<td>9</td>
<td>Behavioral use of complete sentences</td>
<td>66</td>
<td>73</td>
<td>48</td>
<td>44</td>
<td>36</td>
</tr>
<tr>
<td>Joey</td>
<td>9</td>
<td>Use of complete sentences</td>
<td>52</td>
<td>62</td>
<td>40</td>
<td>44</td>
<td>32-36</td>
</tr>
</tbody>
</table>

*Receptive/Expressive Gap = PPVT - SICD spontaneous scores.
### SPONTANEOUS COMMUNICATION SAMPLING FORM

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOUNS:   VERBS:   ADJECTIVES:

MLU:
# Spontaneous Communication Sampling Form

**Child:** [Blank]  
**Adult:** [Blank]

<table>
<thead>
<tr>
<th></th>
<th>Verbal</th>
<th>Nonverbal/vocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Nouns:**  
**Verbs:**  
**Adjectives:**

**MLU:**  
**Intelligible Utterances:**  
**Time:**

---

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
CODE: COMMUNICATIVE INTENTS

A: affirming
Ans: answering
C: calling
Com: commands
D: demands
Den: denial
G: greeting
L: labeling
P: practicing
Pro: protesting
RAc: requesting action
RI: requesting information
SI: sharing information
Table 2
Examples of Syntactical Development Based on MLU

<table>
<thead>
<tr>
<th>Brown's Stage</th>
<th>MLU</th>
<th>Approx. age (months)</th>
<th>Type of utterance</th>
<th>Primary syntactical features</th>
</tr>
</thead>
</table>
| I             | 1.7-2.2 | 18-24               | "boy stone"  
               |                   | "boy walk"  
               |                   | Uninflected forms.  
               |                   | Two-word semantic relations. |
| II            | 2.2-2.7 | 24-30               | "boy on stone:"                                    | Emergence of grammatical morphemes, e.g., preposition or ing form. |
| III           | 2.7-3.5 | 30-36               | "boy walking on stones"  
               |                   | "he walking"  
               |                   | More consistent use of grammatical forms; wider variety, primarily active declarative sentence. |
| IV            | 3.5-4.0 | 36-42               | "He walked on my stones."  
               |                   | "They not walking."  
               |                   | "Were they walking?"  
               |                   | "Make them walk."  
               |                   | Use transformation of basic sentence into negative sentence; question form imperative. |
| V             | 4.0-5.2 | 42-50               | "They are walking up the hill."  
               |                   | "He doesn't want to walk."  
               |                   | More consistent use of auxiliaries and obligatory do use of subordinate clauses and phrases. |
| Post V        | 5.2-6.0 | 52-60               | "When it's raining, the boys don't walk."  
<pre><code>           |                   | &quot;They walk fast because they'll get wet.&quot;        | More complex sentence structures. Use of dependent and independent clauses. |
</code></pre>
<table>
<thead>
<tr>
<th>JOEY</th>
<th>ANNA</th>
<th>MELISSA</th>
<th>JOHN</th>
<th>LAKISHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/7</td>
<td>45/19</td>
<td>22/17</td>
<td>24/11</td>
<td>21/9</td>
</tr>
<tr>
<td>46/84</td>
<td>74/46</td>
<td>165/78</td>
<td>199/16</td>
<td>167/39+V</td>
</tr>
<tr>
<td>4+</td>
<td>3-</td>
<td>3+</td>
<td>3+</td>
<td>2+</td>
</tr>
<tr>
<td>0</td>
<td>13-</td>
<td>6+</td>
<td>13+</td>
<td>6+</td>
</tr>
</tbody>
</table>

Table 3: Comparisons Between Classroom (CR) and Clinical (C) Conditions Across Variables for Each Child

**Pragmatic Variables**

<table>
<thead>
<tr>
<th>JOEY</th>
<th>ANNA</th>
<th>MELISSA</th>
<th>JOHN</th>
<th>LAKISHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>C R =</td>
<td>C R =</td>
<td>C R =</td>
<td>C R =</td>
<td>C R =</td>
</tr>
</tbody>
</table>

**Language Variables**

<table>
<thead>
<tr>
<th>JOEY</th>
<th>ANNA</th>
<th>MELISSA</th>
<th>JOHN</th>
<th>LAKISHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>15+50</td>
<td>10+45</td>
<td>1+22</td>
<td>13+24</td>
<td></td>
</tr>
</tbody>
</table>

**Vocabulary Diversit**

<table>
<thead>
<tr>
<th>JOEY</th>
<th>ANNA</th>
<th>MELISSA</th>
<th>JOHN</th>
<th>LAKISHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6+46</td>
<td>20+74</td>
<td>1+165</td>
<td>81+199</td>
<td></td>
</tr>
</tbody>
</table>

**Code:**

- A = affirming
- Ans = answering
- C = calling
- Cl = communicative intentions
- Com = commands
- Den = denoting
- D = demanding
- Def = denial
- G = greeting
- L = labeling
- P = practicing
- Pro = protesting
- R Ac = requesting action
- RI = requesting information
- SI = sharing information
- TS = topic switches

**Note:** Inappropriate correct.

**Reference:** Black English

**Notes:** Further reproduction prohibited without permission.