ABSTRACT
                This paper serves as an introduction to a group cf
papers produced by the Classroom Interaction Project of the Center
for Research in Social Behavior at the University of Missouri in
Columbia. This project has been chiefly concerned with ascertaining
if black-ghetto and white-suburban classrooms use language
differently and, if so, in what ways. Finding earlier methods used in
classroom interaction research inadequate, the project has
concentrated on the development of formal concepts and methods for
the analysis of classroom discourse, and these papers are meant,
therefore, to illustrate the application of these formal tools for
classroom discourse analysis to the problem of racial differences
among classrooms. The paper begins with a description of the methods
used in producing the videotape recordings which serve as the data
bank for the project. The data bank, which consists of more than 250
videotaped classroom lessons, and the sampling procedures used in
obtaining it are then discussed, followed by an explanation of the
various stages involved in processing the data. Finally, general
conclusions are presented. Although differences between the languages
spoken in black and white classrooms were found, there was no
indication that black classroom usage is inferior to white classroom
usage. See related documents AL 002 751-753. (FWB)

VERBAL BEHAVIOR IN BLACK-GHETTO AND WHITE-SUBURBAN
CLASSROOMS:   AN OVERVIEW*


by


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Beginning about 1962, Basil Bernstein (1962), a British socio-linguist, began to describe the language of lower-class persons as "restricted" and that of middle-class persons as "elaborated." Bernstein's thesis was that middle-class persons exhibited a language that was more precise, less self-referenced, and more suited for abstract reasoning, than was that of lower-class persons. Now this is a comforting message! Berstein's audiences are overwhelmingly middle-class and enjoy being told that (after all) they are superior to less deserving persons. In particular, British teachers are impressed with the Bernstein message, for it appears to account for the fact that lower-class pupils do more poorly in British schools.

Bernstein's thesis has been reflected in America, but with a racial twist. Americans, of course, are more concerned with race than with social class, and American linguists are beginning to develop data to show that the speech of blacks in this country differs from that of whites in systematic ways. Unfortunately, much of this research has also been phrased to say that blacks are "disadvantaged" or "culturally impoverished" in their speech. Once again, such a thesis compliments whites on their "superior" language, appears to account for the fact that blacks do more poorly than whites in American schools, and can be extended to justify our spending more resources on the education of whites who are "obviously" in a better position to bene-fit from education.

Apart from the questionable use of such loaded terms to describe cultural differences, let us assume that Bernstein is right. What differences would we expect to find in the language spoken in classrooms found in black, urban ghettoes versus that spoken in white suburbs? Clearly, the language

of black classrooms should be simpler, "impoverished," and "more restricted" than that spoken in the white suburb. This all sounds quite reasonable. The only problem is that this "obvious" hypothesis has simply not been investigated. In fact, we are unaware of any prior investigations of racial differences in classroom interaction, despite the fact that many hundreds of studies have now been published concerning classroom interaction, and despite the fact that racial differences in school achievement is a major social problem in America. By now it is well known that black pupils, particularly black boys, fall behind their white contemporaries when educated in black schools. Moreover, these findings hold up when black and white pupils are equated for intelligence and other personal characteristics. It is also known that black schools are more likely to be found in Southern states and in the urban ghettoes of Northern cities, and are less well-supported than are schools attended by whites. And yet, little to nothing is known about what goes on in black classrooms, for nearly all previous research on classroom interaction has been laid in white, suburban settings.

The papers making up this session reflect a major, collaborative research effort concerned with analyzing classroom discourse. This effort has made use of a data bank of videotape recordings of live classroom lessons. Among other variables represented in this data bank is race--since many of our recordings were made in white, suburban classrooms, while others came from black, ghetto schools. The project has also focused on the development of formal concepts and methods for the analysis of classroom discourse. From our viewpoint, most prior research on classroom interaction has attempted to make judgements about the semantic properties of verbal exchanges among teachers and pupils without dealing with the explicit, linguistic cues by

which these semantic properties are signaled. For this reason, we have

chosen to go back to our linguistic origins, to look closely and directly

at the language of the classroom, and to develop concepts and methods for

discourse analysis that reflected actual classroom speech. The papers

to be presented, then, illustrate the application of formal tools for

classroom discourse analysis to the problem of racial differences among

classrooms. Do participants in black-ghetto and white-suburban classrooms

use language differently, and if so in what ways?

Videotape Recordings in the Classroom

My task in this paper is to provide an introduction to the project

as a whole and to anticipate the contributions of the papers which follow.

Let us begin with a brief description of the methods we have used in making

videotape recordings in live classrooms, for some in the audience may be

unfamiliar with this technique of gathering data.

Since 1964 we have been collecting video recordings of live class-

room lessons. All of our recordings have involved two video cameras, both

of which are remotely controlled by motors, one of which is trained on the

teacher, the other focused on pupils with a wide-angle lens. Both cameras

are placed in glass-fronted boxes and are invisible to classroom members

for all practical purposes. Cables for both video and audio equipment are

laid to the windows of the classroom, thence to a control truck where opera-

tors sit together with a control console and a videotape recorder. The two

video signals are blended at the control panel to make a single, composite

image which is then recorded. In general, most of the images we have recorded

emphasized the wide-angle view of the pupils, but an "unused" corner of this

general image is used to insert the face of the teacher. In this way, a

view is retained of most of the faces of classroom participants most of
the time.

Two sound channels are also used in our recordings. One of these
records the voice of the teacher and is provided by a small, transmitting,
cordless microphone that hangs around the teacher's neck. This sound
channel provides all verbal utterances emitted by the teacher and nearly
all utterances of others within ten feet. The second sound channel is fed
by several microphones that are scattered throughout the classroom, usually
hung from the light fixtures. This second channel provides pupil utterances
from the back of the room, although it also picks up considerable background
noise too--since classrooms are noisy environments.

So far so good. I have now described a technical set-up that should
allow the making of videotape recordings of classroom events. But how do
we know that the events we record are typical of classrooms? How can we
be sure that teachers and pupils are not "faking it," or are not at least
"up tight" about the process? The answer, of course, is that the best we
can hope for is to minimize the effects of the equipment. Teachers we have
studied were all volunteers, although more than 90 percent of all teachers
we have sampled were willing to participate. The equipment is designed to
operate with no noise or signal whatsoever in the classroom, and in fact
many pupils did not know when it was turned on. In addition, the equipment
was always placed in the room a day or two before our actual recording
sessions so as to familiarize participants to its presence. Teachers were
also told that the purpose of the research was not to evaluate their efforts
but rather to examine various aspects of interaction in "typical" classrooms,
and assurances were given of anonymity and that no one in the school or

elsewhere would ever view the videotapes for other than research purposes.
Finally, it would appear unlikely that most teachers or pupils could "fake"
the linguistic variables we are reporting here--even if they wanted to do
so. Despite these disclaimers, we would guess that some classroom partici-
pants were "on their mettle" during the recording sessions. Videotapes are
not the perfect means for gathering classroom interaction data--simply the
best technique yet available.

The Data Bank

The data bank from which the studies to be reported were drawn con-
sist of recordings of more than 250 classroom lessons. Three samples appear
within the bank. The first sample was obtained from white, upper-middle-class
classrooms from a suburban area in Missouri during the middle of the school
years in 1964 and 1965. This first sample was constituted so that it repre-
sented balanced conditions of four, independent variables. Equal numbers of
first, sixth, and eleventh grade classrooms were represented, along with both
mathematics and social studies lessons, both male and female teachers, and
younger and older teachers. The original sample consisted of approximately
75 different lessons and was obtained in more than 25 different schools.
Some of you may be familiar with an earlier study of the social systems of
these classrooms, conducted by R.S. Adams and myself (1970) that was drawn
from this sample.

The second sample was obtained from black, lower-class classrooms
located in an urban ghetto in Missouri, and were recorded in 1967 and 1968.
In all respects save one this second sample was designed to match the
sample originally obtained from white, suburban schools. Again, the sample
represented equal numbers of first, sixth, and eleventh grades, both male

and female teachers, and younger and older teachers. It also had equal

numbers of mathematics and social studies lessons, but in addition we also

added a number of English-language lessons because we were beginning to be

concerned with the problems of racial differences in language use in the

school. About 100 lessons appeared in this second sample.

The third sample is a longitudinal one. It was obtained from a

single, fourth-grade classroom, taught by a female teacher in a small city

in Missouri in 1967. This third sample includes a total record of each

classroom day during the first ten days of the semester plus samples of

classroom days throughout the rest of the semester.

Samples

Studies to be reported here all made use of matched lessons chosen

from the first and second samples--that is, lessons that were equated for

subject matter, grade level, age, and sex of teacher--but were contrasted

for race. For convenience, we shall describe these classrooms as "black"

and"white" respectively. It should be understood that the faces of all the

pupils in "black" classrooms were Negroid and those of all or nearly all the

pupils of "white" classrooms were Caucasian. However, the black and white class-

rooms differed in other respects too. The black pupils were from lower-

class homes, the white pupils from middle- or upper-class homes--so

that findings we shall report as racial differences might also be interpreted

for social class. (But then race and social class are correlated events in

America--to our everlasting shame.) Again, the white classrooms were located

in newer schools, were better lighted, and had more artifacts to support

the educational effort. Finally, racial differences also appeared among

those who taught in these classrooms, although these differences were associated

with grade level. All of the teachers in the black first-grades were also
black, about half of the sixth-grade teachers in black classrooms were
black, while all of the eleventh-grade teachers of black classrooms were white.
In contrast, but one black teacher appeared in our white sample, at the
eleventh-grade level. In several of our papers we will present data concern-
ing the verbal behavior of teachers in black and white classrooms, and you
may want to remember the racial composition of teachers within each grade as
you look at these findings.

Each of the studies to be reported represents the product of thou-
sands of hours of methodological development and data processing. For this
reason, each study was performed on a small sub-sample of lessons, matching
black and white classrooms. All data were drawn from social studies lessons.
In some cases, entire lessons were used as a data source, while other studies
made use of ten-minute samples of discourse taken from the middle of the
sampled lesson. Lessons selected for sub-samples were chosen to complete a
balanced design or because the quality of the videotape recording was better
for one lesson than for another. The studies reported by Hays and Barron
made use of 12 classroom lessons that were matched, two each for black and
white classrooms at each grade level. For certain purposes, Hays also
augmented this sample with additional, black classrooms. Still a third sub-
sample appears in the studies reported by Keyes and Loflin, in that data
from 15 classrooms are involved, including two extra eleventh-grade, and one
extra sixth-grade classroom. The study reported by Guyette makes use of
two sub-samples, the same one used by Keyes and Loflin, and a second one in-
volving eight classroom lessons.

## Data Processing

The studies to be reported also represent three, different stages of data processing, each of which is concerned with the analysis of classroom discourse. The first of these stages is the preparation of a discourse record in the form of a textual transcript. All of us are familiar with such texts which represent, in written form, all that transpired in the public exchange of the lesson, together with a listing of the identities of the speakers and enough supplementary notes to make sense out of ambiguous utterances. In our case, texts were passed through several stages of editing so as to provide absolute control over identification of speakers, spelling, punctuation, and format and content of supplementary notes. We refer to such a transcript as a fine post-edited text, and data in the form of fine post-edited texts are entered into the computer--in English--as a data source. The paper by Hays demonstrates some of the ways in which a fine post-edited text may be mined for surface characteristics of classroom discourse.

A second stage of data processing attempts to break the discourse stream into a series of units of meaning, which we term simplex sentences. The notion of simplex sentences is roughly similar to that of clause, and it is our presumption that at its simplest level a discourse may be reduced to a string of simplex sentences containing but a single verb, one or several nouns and modifiers, plus a set of judgements that tell how the simplex sentences may be fitted back together again to make the original discourse. We refer to a record of classroom discourse in the form of a string of simplex sentences as a reconstructed text. Three types of judgements are required in converting a fine post-edited text into its reconstructed equivalent. First, the discourse must be broken into simplex components. Second, coded judgements

must be provided that tell us how those simplex sentences were originally
strung together. And third, information <u>implicit</u> in the original text must
be provided. Several forms of implicitness appear in natural speech. Some-
times we complete our sentences by means of gesture, sometimes we reference
other persons or events with ambiguous pronouns such as "that" or "you,"
sometimes our sentence structure depends upon an agreement between the speaker
and listener that each remembers what has just been said. Each of these forms
of implicitness must be recovered and provided parenthetically in the simplex
sentence in order to follow the logic of the discourse. The paper by Guyette
provides a justification for the inclusion of implicit information within
reconstruction, while that of Marlin deals with the methodology of recon-
structing and processing reconstructed textual materials in the computer.

A third stage of data processing calls for judgements to be made con-
cerning structural and semantic properties of simplex sentences and their con-
stituent words. Although not all aspects of meaning in classroom discourse
can be reduced to judgements made for simplex sentences, many can--and the
remaining three papers illustrate semantic judgements that can be made about
this unit. Barron presents data concerning the use of various grammatical
cases in classroom discourse, Keyes concerns herself with structural prereq-
uisites to the study of paraphrase, while Loflin reports data on the linking
structures for simplex sentences. Each of these types of data was originally
<u>coded</u> as a series of semantic judgements for simplex sentences or words and
was entered, along with other types of coded judgements, into the computer
for analytic processing. Each constitutes a source of base data that may be
related to notions about classroom interaction that could be studied only
vaguely heretofore.

Three types of data, thus, have become available to us so far in
the process of developing tools for the analysis of classroom discourse:
fine post-edited text, reconstructed text, and coded judgements of the
structural and semantic properties of simplex sentences. Each of these
sources provides its own variety of data. The fine post-edited text
can be analyzed for surface characteristics of discourse, such as sentence length,
vocabulary, and sequences of utterances. A reconstructed text provides a basis
for analyzing the micro-logic of discourse and enables us to conduct more
realistic content analyses of the referents to which speakers addressed them-
selves in the classroom. Semantic judgements concerning words and simplex
sentences provide us an approach to such educational concerns as the clarity,
complexity, paraphrase, case use, and other characteristics of interest in
classroom discourse.

Findings

So much for our data, samples, and methods. Is Bernstein right? Does
the black classroom exhibit "restricted" language forms? And if so, can we
use this fact to "explain" why it is that black pupils(particularly boys)
do more poorly than do whites in the educational race?

As is so often true, it turns out that the answer is not a simple one.
In general, our data show that black and white classrooms are remarkably simi-
lar in language use, using the variables we have examined to date. All
speakers use the same language forms. In addition, profiles of language use
are closely similar when examined for black and white classrooms. It would
also appear that the teacher is a greater source of variance for classroom
language use than is race, for there is similarity between the language of
the teacher and the language of the pupils in all classrooms! (It is possible

that his means that teachers using complex language forms produce similar
complexity in pupils, but it is also possible that pupils who use simple
forms coerce teachers into descending to their level--or even that norms
within our culture prescribe an "appropriate" level of language complexity
for teachers at a given grade level, as would certainly appear to hold for
the nursery school teacher.)

However, within this general picture, several patterns emerge. For
one, the differences appear between black and white classroom discourse and
clearly relate to grade level. First grade black pupils appear to use
different frequencies of language forms than do white pupils, and in terms
of several indicators their language appears simpler. Data pertaining to
this conclusion are offered by Hays, Guyettte, and Loflin. But by the time
pupils have reached the sixth grade, differences between black and white
pupils are disappearing, and blacks actually exceed their white contemporaries
in some indices of language complexity at the eleventh grade. Loflin will
argue that these data suggest a "phaseology" to the learning of complex language
forms, and that white pupils are apparently learning complex forms at an
earlier age. For another, some differences between black and white class-
room language usage appear to withstand the effects of time. Guyette advances
data suggesting that blacks use more implicit language forms than do whites.
Barron not only demonstrates black-white differences in case usage but
suggests that this variable is as much determined by sex of the speaker as
it is by his race. Keyes suggests that some racial differences persist in
linking structure forms.

In short, then there are differences between the languages spoken in
black and white classrooms. We have no data that suggest that black

classroom usage is in any way inferior to white classroom usage, in fact in some ways the language of blacks scores "above" that of whites. Moreover, the data suggests that black and white pupils are jointly capable of using the same language forms. However, it would appear that black pupils arrive in first grade with characteristic forms of language that differ somewhat from those of whites, and that not all of these characteristic anomolies are overcome by the homogenizing practices of education. Whether these language differences are sufficient to account for differential learning by blacks and whites--or whether other factors such as the wretched support given to black schools and the lack of male teachers at the primary level have greater effect--is for future research to establish.

REFERENCES

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        with Video Tape.  New York:  Holt, Rinehart and Winston, Inc., 1970.

Bernstein, Basil.  Social class, linguistic codes and grammatical elements.
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Handout A

# GLOSSARY OF TERMS

for

## VERBAL INTERACTION IN THE CLASSROOM

Biddle
Hays
Guyette
Marlin
Barron
Keyes
Loflin

GLOSSARY

Embedding: The combination of at least two simplex sentences so that
one simplex (the constituent or embedded sentence) serves a
syntactic function (i.e., nominal, modifier, etc.) within the
other simplex (the matrix sentence).

Types of embedding

1. for-to complement

It's all right <u>for</u> Harry <u>to</u> be late.

2. -ing complement

Nancy enjoys <u>swimming</u>.

3. Possessive -ing complement

<u>John's riding</u> is terrible.

4. to complement

Annie started <u>to move</u>.

5. whether, if complement

Harry asked <u>whether</u> Tom had gone.

Harry asked <u>if</u> Sue wanted turkey.

6. Wh- complement

John knew <u>what</u> Helen wanted.

7. That complement

Mary said <u>that</u> Jim would be late.

8. The fact that complement.

<u>The fact that</u> I am a woman is irrelevant.

9. Possessive

<u>Jim's</u> house is on the corner.

10. Relative

The girl <u>who</u> left was Pat.

11. Appositive

  The word _seizing_ has many meanings.

12. Comparative

  Tom is friendlier _than Bob_.

13. Verbal noun

  _The struggle_ for civil rights continues.

Conjoining: Two source sentences are joined together by the conjoining

  links _and_, _but_, _or_, or _and/or_ or their meaning equivalents.

  Conjoining may occur with or without deletion. In all the

  examples below the words in parentheses have been deleted

  from the spoken sentence.

  1. _And_ (Additive)

    Tom left _and_ Mary stayed. (without deletion)

    Tom (left) _and_ Mary left.  (with deletion)

  2. _But_ (Adversative)

    Jim danced, _however_ Sue just sat. (without deletion)

    Jim danced _but_ Sue didn't (dance). (with deletion)

  3. _Or_ (Disjunctive)

    Mark must go _or_ I'll stay home. (without deletion)

    Surely Mark (will go) _or_ Pete will go.  (with deletion)

  4. _And/or_ (additive disjunctive)

    I want to go swimming _and/or_ (Iwant to go)to the movies.
     (with deletion)
    Linda can wear a dress _and/or_ she can wear slacks.

    (without deletion)

Adjoining: Two source sentences are joined together by a function word

  or link which exhibits the logical relationship of adjoining

  links (see below). Adjoining may occur with or without deletion.

1. Temporal

   I'll go <u>when</u> you go. (without deletion)

   I'll go <u>whenever</u> you want to (go). (with deletion)

2. Causal

   <u>Because</u> you cried, I cried. (without deletion)

   I laughed <u>because</u> you did (cry). (with deletion)

3. Concessional

   <u>Although</u> today is Saturday, I'm going to school.

   (without deletion)

   Even though you won't (sing), I will (sing). (with deletion)

4. Conditional

   <u>If</u> you leave I'll cry. (without deletion)

   <u>If</u> you leave, I will (leave). (with deletion)

5. Purposive

   Study hall is provided <u>for</u> pupils to study in.

   (without deletion)

   A hammer is <u>for</u> (someone)pounding. (with deletion)

6. Inferential

   If it snows <u>then</u> we'll have to stay home.

   (without deletion)

   We'll come <u>if</u> we can (come). (with deletion)

Natural sentence: An utterance which contains one or more simplex

sentences and is the unit in the fine post-edited text which

begins with a capital letter and ends with a period.

Simplex sentence: A primitive sentential form irreducible into

additional sentences.