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ABSTRACT

An in-depth evaluation of standard English instruction in fourteen primary grade classrooms in the Michigan migrant education summer program was undertaken in 1971 in an effort to describe the actual normal teaching patterns existing in the classrooms. The children in those classrooms averaged 8 years of age, and 90% of all pupils had Spanish surnames. There was a significant gain in their ability to speak standard English over the summer. Teachers tended to shape the interactions of pupils and aides over time to a more consistent pattern of behavior and to encourage group responses over single pupil responses. Those teachers using choral response and a balanced amount of both positive and negative reinforcement obtained the highest gains. The areas of linguistic interference with which pupils seemed to have the most difficulty were medial sound pronunciation, past tense, past participle, and the comparative. There was an improvement with age in subject-verb agreement, plurals, and the past participle. Recommendations suggest that teacher training aim at instructing teachers in maintaining consistency in instruction, encouraging group responses, and balancing positive and negative reinforcement. Related documents are RC 006 240 and RC 006 241. (Author/MJB)

In-depth Evaluation of Oral Language Instruction in the 1971 Migrant Education Summer Program

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An Abstract

IN-DEPTH EVALUATION OF ORAL LANGUAGE INSTRUCTION IN THE 1971 MIGRANT EDUCATION SUMMER PROGRAM

Elli DeLing

An in-depth evaluation of standard English instruction in fourteen classrooms at the primary grade level in the Michigan migrant education summer program was undertaken by the Migrant Education Center in 1971. The children in those classrooms were an average of 8 years of age, and 90% of all pupils had Spanish surnames. There was a significant gain in their ability to speak standard English over the summer. The percentage of Spanish-surname children in the classroom did not appear to inhibit the amount of responses in any way. Teachers tended to gradually shape the interactions of pupils and aides over time to a more consistent pattern of behavior, and to encourage group responses over single pupil responses. Those teachers using choral respo se and a balanced amount of both positive and negative reinforcement obtained the highest gains. The areas of linguistic interference which pupils seemed to have the most difficulty with were: medial sound pronunciation, past tense, past participle, and the comparative. Those areas of least difficulty were uses of Do, beginning sound pronunciation, and uses of Have. There was an improvement with age in subject-verb agreement, plurals, past participle, and uses of Be.

Recommendations: It is suggested from this study that teacher training aim at instructing teachers in:

a. maintaining consistency in instruction
b. encouraging group responses
c. balancing positive and negative reinforcement
d. techniques of instruction in identified areas of linguistic interference.

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1.0 INTRODUCTION

Oral language instruction in speaking standard English has been considered one of the most important areas of the curriculum in the Michigan summer migrant education program for several years. Speaking standard English is seen as a prerequisite to obtaining adequate reading and writing skills. This area of study has therefore been selected for in-depth evaluation.

Language instruction with very young children involves the teacher and pupils in a close interaction which necessitates techniques of analysis appropriate to oral interaction. It was necessary to determine the abilities of pupils to understand and express themselves in standard English, to determine the gains, if any, made in the production of this dialect, and to determine the gains, if any, made in the amount and complexity of the pupil's vocalizations. The behavior of teachers in helping pupils gain in their abilities and contributions also had to be determined.

There was no attempt to influence the behavior of teachers and pupils, and the study was undertaken from a descriptive standpoint only, in an attempt to discover "what works" and what is natural interactive oral language behavior in classrooms.

1.1 BACKGROUND INFORMATION

In a search of the literature regarding oral language instruction and interaction between teachers and pupils, it was suggested that the following components of any study might be profitable:

a. a study of the combined operant conditioning and behavioral adjustment to the pupils on the part of the teacher;[1]

b. a recording of every event which occurs, as the serial order of the interactive events in language learning may be the place where conditioning and adjustment takes place;[2]

c. analysis of the rhythmic quality of teacher-pupil interaction, as the phrasing and interactive nature of speech is dependent mainly on physiological restrictions such as breathing rate and brain functioning which conditions reflexes, but there are individual adjustments affected by motivational factors;[3]

d. recording and analyzing the choral nature of primary grade language learning classes as a function of the shaping of the behavior of learners to the learning situation and providing a receptive environment for instruction.[4]

These four components are then the basis upon which the study was made, assuming from them that those factors which be present in oral language classes and could be tied to successful teaching behaviors.

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[1]Krasner, L. "Studies of the Conditioning of Verbal Behavior," in Psycholinguistics, Sol Saporta (ed.), Holt, Rinehart & Winston, N.Y., 1961.

[2]Lashley, K.S. "The Problem of Serial Order in Behavior," (ibid.).

[3]op. cit.

[4]Kasatkin, N.V. "Gruppovava rech" kak osobvi vid rechi (Group speech as a special form of speech). Voprosy Psikhol., 1958. No. 2, 470-59.

1.2 FOCUS OF THE STUDY

The study is divided into the three following major sections of analysis:

a) Test performance by pupils in the migrant education summer program on the COLT test for receptivity to directions given in English and on the OLPT test for ability to produce standard English;

b) Process of instruction in the classroom as measured by an interaction analysis using the VIA instrument for recording data;

c) Individual classroom profiles showing class characteristics, test performance, and process data.

2.0 DESIGN OF THE STUDY

Fourteen primary classrooms (grades 1, 2, 3) in the Michigan migrant education summer program in 1971 were selected for this study. They represented a sample of geographic areas in the state and of the rural and urban settings of the summer program. The average age of pupils in these primary classes was 8 years, and 90% of all pupils had Spanish surnames.

Of the teachers assigned to respective classrooms selected, two were males. Furthermore, of the fifteen teachers only two possessed the ability to speak Spanish. Unfortunately, no data was available on their teaching experience generally and in Migrant education programs in particular. Neither was it possible to determine whether these teachers were local residents or permanent staff members of the local school district. Generally, however, it can be expected that these teachers are recruited from the local area. There were sixty-three teacher aides employed in the classrooms observed, making an average of approximately four aides per classroom in the sample.

Of the 63 teacher aides, 12 were males and 51 females. There was a fairly wide range of ages represented among the aides--from 16 to 50 years of age--the majority were persons in their early twenties. Furthermore, more than half of the paraprofessionals were enrolled in colleges and working towards degrees. Four paraprofessionals had Bachelor's degrees and two had earned Master's degrees.

In terms of residence, 52 of the teacher aides were local area residents, two were residents of other areas in Michigan, and nine were persons recruited directly from the migrant stream and therefore out-of-state residents. Of the 63 aides, 25 were bilingual and about a third of these bilingual aides used their Spanish with some regularity or frequency in the classroom.

The particular uses made of the aides by the teachers showed a high degree of variability between classrooms, and between aides within one classroom. In general, two patterns seem to emerge from the observation made. First was the pattern wherein the instructional and non-instructional duties were equally divided between teacher and aides. That is, the class would be divided up between them, and each undertook the instruction and other activities for their respective segments. The other pattern was one in which the teacher would take over all the instructional activities, leaving other non-instructional activities to the aides, although often calling on the aide (when bilingual) for help in translating instructions or functions into Spanish for the child.

Another set of patterns observed had to do with the degree of direction required by aides. In some cases, aides went about their duties displaying a degree of activity as to what was expected of them. Others simply sat or stood in the back of the classroom and awaited the instructions or requests of the teachers.

A particular, non-instructional task common to almost all aides was the supervision of playing, eating and personal hygiene activities. This involved bathing and dressing children, encouraging them to eat, reminding them of their manners and disciplining rowdy behavior in the classroom, dining halls and recreational facilities.

Other non-instructional duties which were usually assigned to the aides included keeping attendance records, operating audio visual equipment, scoring tests and homework, the production of flash cards, charts and other materials for classroom use, handing out materials and running errands for the teachers.

Two tests were given to all pupils in these classes, 1) the Conceptual Oral Language Test to determine the ability of pupils to understand English, and 2) the Michigan Oral Language Productive Test to determine the ability of pupils to produce standard English. Response on the first test was non-verbal and on the second was in English. A post-test to a random sample of pupils in the same classrooms was given on the second test to determine gains, if any, at the end of the summer by pupils who had also received the initial pre-test.

The MOLPT, or Michigan Oral Language Productive Test, was used to obtain a measure of the pupil's ability to produce standard

grammatical and phonological features when speaking English.[5] This test consists of 43 items in which the evaluator gives part of the response and elicits the desired portion from the child. There are from one to four correct responses on items, and from one to six incorrect responses on the same items. The responses which were incorrect were distributed into groups which indicated the type of linguistic difficulties that the child was experiencing. Responses were grouped by classroom and the analysis of data was taken by classroom not individually. The reasoning for this approach was that analysis of teacher behavior was based on teacher interaction with the total classroom, and that data obtained on one individual would not be pertinent to this study.

The COLT, or Conceptual Oral Language Test, was used to obtain a measure of conceptual and language development in pupils.[6] Only the non-verbal response portion will be referred to here, although verbal responses in both Spanish and English were taken and will be reported on later. This test was given only once during the summer, and it appears that the results were not affected by the time at which the test was given. There was no significant correlation between mean class scores and the time during the summer at which the test was given. An item analysis and study of the test itself is in process, with early results confirming reli-

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[5]Michigan Oral Language Productive Test, developed in the Michigan Migrant Primary Interdisciplinary Project, Ann Arbor, Michigan, 1969.

[6]Conceptual Oral Language Test, developed at the same project, 1969-70.

ability of its usage. The item analysis will be used in producing a revised form of the test for future use.

The Verbal Interaction Analysis system or VIA, was chosen as an instrument to record and analyze the teacher-pupil verbal interaction in the classroom. This system records those vocal behaviors which commonly appear in language lessons in such a way as to identify their operant-emotive components.[7] The system allows the recording of every event which occurs, a calculation of the average duration of these events. This fits the requirements of previous researchers who suggested that the rhythmic quality of instruction might be significant, and that the serial order of events was also perhaps important in the analysis of instruction. Although the serial order was seen as important, delays due to problems with the CHAINS program at the University of Michigan when fed the volume of data taken in this study awaits both the compression of this data to fit the program and the adjustment of certain components in the program to handle this volume of information. It is hoped that a future report on the serial order of events will provide much-needed data on the event-by-event teaching strategies used in the classroom which appear to obtain successful results.

In coding interactions between teachers and pupils in the classrooms, the coder sat at the back of the room and recorded

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[7] Verbal Interaction Analysis System, developed by the author at the above project in 1968.

events as they occurred with a shorthand system consisting of fifteen categories which reflected assumed operant-emotive phenomena, or those vocalizations with conditioning potential with an affective component which could be isolated and identified. Due to the affective nature of the coding system and the events being coded, the coding is of necessity subjective. Reliability and validity checks on this system in 1968 showed a high consistency between coders on their interpretation of events and of their ability to record events.[8] This is probably due to the rhythmic quality of the interaction and the physiological connection to this rhythm, making it possible for the coder to follow the events as they occurred. The interpretation of the meaning of an event from an operant-emotive point of view probably had such a high reliability because of the nature of language instruction. There are certain inflections in the voice which are interpreted as directives, questions and statements due to the fact that they maintain the same pitch, change pitch higher or lower at the end of the vocalization, and have different intensities. This physical nature of the sound produced is interpreted as having certain affective characteristics. What is then seen as an "affective" component to this study may only be the classification of a sound as falling into one of these categories due to the physical nature of the sound produced. Positive and negative reinforcers were also coded

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[8]Report by K. Seifert on VIA, Foreign Language Innovative Curriculum Studies Project, Ann Arbor, Michigan, 1968

due to their physical characteristics, with a positive reinforcement by the teacher almost always having the physical quality of a sharp rise in inflection or a sharp rise followed by a falling inflection to a point midway of the original beginning sound. A negative reinforcement by the teacher almost always had the physical quality of a short sound which maintained pitch and was more intense than the previous vocalizations.

VIA categories are as follow:

Numerical: "Who is speaking"
- 0 = Teacher
- 1 = Aide
- 2 = Single pupil
- 3 = Group

Alphabetical: "Type of vocalization"

A = Statement - "This is a red car." (Initiated by the speaker, not seeming to request a verbal response.)

B = Question - "Is that a red car?" (Initiated by the speaker, seeming to request a verbal response.)

C = Direction - "Put the blue car on the table." (Initiated by the speaker, seeming to request a non-verbal response.)

D = Positive Reinforcement - "That's right." (Initiated by the speaker, seeming to give approval for a previous vocalization.)

E = Negative Reinforcement - "No." (Initiated by the speaker, seeming to indicate an error for a previous vocalization.)

G = Response - "Yes, the blue one." (A vocalization not initiated by the speaker, a non-specific reply to another person.)

H = Extended - "Bl-l-l-oo-oo-oo (blue)." (A vocalization which is drawn out temporally longer than normal.)

I = Alternating - (Teacher) "Pur. . ." (Chile) "Pur. . ." (Teacher ". . .ple." (Child ". . .ple." (Vocalizations broken into parts, and repeated.)

J = Concurrent - (Teacher and child at same time) "Purple." (Vocalization from two or more persons at the same time.)

K = Non-lesson - "May I get a drink?" (Vocalization which is not part of the lesson.)

M = Repeat - "This is red." (Not initiated by speaker, repeat of vocalization just preceding it by another speaker.)

O = Silence - (No vocalization after vocalization by another which asks for a response.)

Classrooms were coded by research assistants who spoke both Spanish and English and could interpret vocalizations by both teachers and aides and by the children in either language. Classrooms were coded not less than five times during the summer, and the data obtained was grouped into three time periods, with Time I representing data obtained at the beginning of the summer, Time II data taken during the middle portion, and Time III data representing data obtained at the end of the summer. This data was studied for category frequencies in each time period for each teacher, and for the number of categories used by teachers, aides, single children, and groups of children.

Desired VIA responses were identified for both single pupils and groups of children and that data treated separately in studying results for desired changes from Time I to Time III.

2.1 LIMITATIONS

It must first be remembered that this is a descriptive study, and that "desired vocalizations were based on a rationale developed by the researcher and were not in any sense goals of teachers. Since pupil oral language growth and participating have been stated

goals by program administrators for several years, it was assumed that there was some goal-orientation on the part of teachers, but no attempt was made to determine the extent of this orientation. In addition, there may have been goals other than those related to oral language behavior which were achieved in these classrooms but which were not analyzed in this study.

Since there was no control-experimental group, groups were evaluated on the basis of change in performance from the beginning of the summer to the end of the summer.

By observing without attempting to influence pupils, it was expected that those components which are "typically" successful in helping pupils gain in their ability to speak standard English and in gaining in the amount and complexity of their class participation during lessons would be identified. The stress was on discovery of typically occuring influences, rather than the experimental manipulation of components.

3.0 RESULTS

The results of the study are reported in the three following subsections. Each of these subsections reports the results of data analysis pertinent to one of the three areas of concern: COLT/OLPT test performance, VIA characteristics of classrooms, and individual classroom profiles. The data is organized to show the answers provided to specific evaluation questions.

3.1 COLT/OLPT TEST PERFORMANCE

The following data describe the COLT and OLPT performance of children in the migrant programs.

Is there a relationship between COLT scores of ability to understand directions given in English and the age of pupils?

There appears to be an indication that age is related to achievement. A rank order correlation of mean class COLT scores and mean class age was .91, significant at the .01 level of confidence.

Does the ability to speak English as measured by the OLPT test change from the beginning to the end of the programs?

The OLPT total score classroom means were evaluated for pre-post program change. The pre and post program means for the 14 classrooms were 13.26 and 11.18 respectively. A t-test for differences between matched scores yielded a value of 2.06, significant at the .05 level of confidence. Significantly fewer errors, on the average, were made in the classrooms at the end of the program than at the beginning.

The possibility that significant change in the ability to speak English as reflected in the OLPT pre-post change scores might be correlated with the amount of response by children in a classroom as indicated by the frequency of single and group desired vocalizations was investigated. Spearman correlations between OLPT change and the two categories of desired vocalizations were not significantly different than 0, suggesting that pupil response in the classroom is not affected as much by linguistic ability as by other factors which obtain in the classroom.

Is there a relationship between the initial ability to understand directions given in English, as measured on the COLT test, and in the performance and gains in speaking English as measured by the OLPT test?

In a rank order correlation of the results of the COLT test with pre-post test gains on the OLPT test, no significant correlation was observed. There was also no correlation between the pre-test results on the OLPT and results on the COLT test. Again, the results suggest that other factors in the classroom may be influencing gains in the ability to speak English, perhaps within the teaching strategies used by the teachers.

Is there a relationship between the mean classroom age or percentage of Spanish-surnamed children in the classroom and gains in the ability to speak English?

A rank order correlation of age with pre-post change on the OLPT test showed no significant correlation. The correlation between the percentage of Spanish-surnamed children in the class and OLPT pre-post change was also not significantly different than 0.

In summary the test data revealed the following:

1. There was a significant correlation between age and achievement on the COLT test for ability to understand directions given in English.

2. There was a significant gain over all classes in the ability to speak English as determined by pre-post change on the OLPT test.

3. There was no significant correlation between gain on the OLPT test and the percentage of single pupil and group class desired vocalizations.

4. There was no significant correlation between gain on the OLPT test and ability to understand directions as measured by the COLT test.

5. There was no significant correlation between gains on the OLPT test and the age or percentage of Spanish-surnamed children in the classroom.

Assuming that maturational changes are minimal during the brief period of the programs, it appears that present teaching techniques are producing desired changes in oral language production. The age of the child is directly related to ability to understand directions given in English. Factors other than age, percentage of pupil response, ability to understand directions given in English, or percentage of Spanish-surnamed children in the classroom appear to be responsible for the changes.

Which areas of linguistic interference were identified in the analysis of OLPT subtest scores?

Areas of linguistic interference were determined by analysis of the distribution of OLPT scores into different groups. Groups thus studied were as follows:

Comparative
Uses of Be
Uses of Have

Uses of Do
Plural
Negatives
Subject-Verb Agreement
Past Participle
Past Tense
Beginning Sounds
Medial Sounds
Ending Sounds

Areas which were the most difficult for pupils were medial sounds, past tense, past participle and comparative. Areas in which less dificulty was indicated were uses of Do, beginning sounds, and uses of Have. On the basis of this information, teachers of primary age children in the summer migrant program should expect that sequencing oral language and other curriculum materials according to the implied priorities would result in the most efficient use of instructional time.

What is the relationship between age and interference characteristics of language performance?

Age level analyses revealed the following trends in the data. There was a gradual improvement with age for the following areas: subject-verb agreement, plurals, past participle, uses of be. This seems to indicate that instruction in these areas is necessary but that change occurs in the course of typical language development and migrant children do not need a heavy emphasis unless a child is over 10 years of age and still having considerable difficulty.

It was found that children aged seven years experienced considerable difficulty in the following areas: Comparative, uses of be, plurals, subject-verb agreement, and medial sounds. Since there appears to be an age-related improvement for plurals, uses of be, and subject-verb agreement, teachers of this age child might make most effective use of instructional time by concentrating on the comparative and medial sounds.

In studying the data on children aged eight years, the evidence revealed that they found the following areas most difficult: uses of Be, uses of Have, uses of Do, plurals. Since two of these areas improve with age (plurals and uses of Be) teachers might best concentrate on uses of have and uses of do with these children.

For children aged nine years, difficulty was experienced in uses of have, plurals, and medial sounds. Those aged 10 showed difficulty on the comparative and past participle. At age 11 years, the most apparent difficulty was with uses of Have. Each of these areas should receive concentration for children having difficulty at these age levels.

In summary, data on areas of interference revealed the following:

1. Migrant children have the most difficulty with medial sounds, past tense, past participle and the comparative.

2. Migrant children have the least difficulty with uses of Do, beginning sounds and the uses of Have.

3. There is gradual improvement with age in subject-verb agreement, plurals, past participle, and uses of Be.

There is some indication that programs might concentrate on lessons which help children produce the following: medial sounds, past tense, past participle and the comparative. Remedial work for older children might concentrate on uses of Have, past participle and the comparative.

Teachers who can pre-test their pupils with the OLPT Test and determine those areas of difficulty for children in their classroom should do so. The generalizations of the study with respect to language interference may not hold for small groups or samples.

3.2 INTERACTION ANALYSIS

What categories or types of classroom verbal behavior occurred most frequently and how did verbal interaction change over the length of the program?

VIA data analysis showed that of the operant-emotive categories, seven appeared more frequently than others: teacher statement, teacher

question, teacher direction, teacher positive reinforcement, teacher negative reinforcement, single pupil statement, and single pupil response.

Of these categories, three changed significantly over the summer:

Teacher direction
Dropped off significantly during Time II, or the middle of summer.

Child Statement
Increased significantly at the first part of the summer in Time I.

Child response
Increased significantly at the first part of the summer.

The decrease in teacher direction statements could be attributed to a decrease in the need for teacher direction. If teacher change in behavior is interpreted as teacher response to pupil need, an increase in single pupil statement and response at the first part of the summer (a pupil behavior which would be observed by teachers and interpreted as desirable) may resulted the change in teacher direction behavior.

What changes were seen in the frequency of vocalization by different classroom participants?

An analysis of the amount of vocalizations produced by the different vocalizers in the classroom (teacher, aide, single pupil, groups) revealed that teachers began with a great deal of variation among them with respect to the amount of teacher talk which was used during oral language instruction. There was much less variation among teachers by the end of the summer, however, and the amount of teacher vocalization tend to decrease slightly. This decrease was not significant.

The percent of aide talk in the classroom varied greatly from classroom to classroom and showed no significant change over the length of the program.

This very slight decrease in teacher talk and very slight increase

in aide talk is not seen as significant, and in general the amount of adult talk remained consistent over the summer during oral language instruction with pupils.

In addition there was no significant change in the percents of either single pupil or group talk over the summer. The amount of pupil talk remained the same over the course of the summer and no long term shift from single pupil to group response or vice-versa was observed.

The pattern of interaction obtained over the summer when viewed from a standpoint of the relative amounts of adult and pupil talk was consistent and unchanging. The average relative percents for the entire summer were the following: teacher talk--54 percent; aide talk--4 percent; single pupil talk--27 percent; and group talk--8 percent.

Was there any change over the summer in the complexity of vocalization as determined by the number of categories used?

Examination of the number of categories used by teachers, aides, single pupils, and groups was expected to reveal changes in the complexity of vocalization over the summer. Table 1 shows the mean number of different categories used at each of three times.

Table 1: Mean Number of VIA Categories Used by Different Vocalizers at Three Different Times

Vocalizers	Time I	Time II	Time III
Teachers	7.56	6.94	6.69
Aides	2.13	2.94	3.00
Single Pupil	4.25	4.50	4.44
Group	2.5	2.5	2.5

A t-test for related measures was used to test the difference between the mean number of categories used in time period I and the number in time period III for each category of vocalization.

On the basis of this analysis one group showed change--the mean number of categories used by teachers diminished significantly ($t = 2.4^{\sim}$, $p. < .05$). Teachers' vocalization became less complex during the course of the summer.

Although the vocalizations of aides, single pupils, and groups of pupils for all sixteen classrooms showed no significant change, there appeared to be a trend in the data. Variation among classrooms at the beginning of the summer on these variables appeared to be nearly normal. By the end of the summer, distributions appeared to be bimodal with a group of classrooms using many categories and a group of classrooms using few categories. This suggests the possibility that two distinct teaching styles are operating. In summary, although teachers modified the complexity of their vocalizations in the direction of simplifying them and aides, single children, and groups of children tended to remain consistent on the average, this consistency obscured the fact two distinctly different groups of classrooms were emerging with respect to these characteristics. It is possible that the teacher was shaping this behavior and creating this phenomena.

Were there any differences in the use of the aide during language instruction in the different classrooms?

Those teachers who used the aide during instruction tended to obtain higher percentages of pupil response than those who did not. There is a tendency to have more pupil participation in those classrooms where the aide participates in the oral language lesson.

Were there any changes in the amount of pupil vocalization identified as "desired vocalizations?"

Certain pupil behaviors were selected as "desired vocalizations," and analyzed for their change over the summer. The mean percent of desired vocalizations in each of the three time periods was 28.3,

25.2 and 25.2. The t-test for significance of difference between means showed that there was no significant change.

Was there any correlation between mean age of pupils in the classroom and the percentage of single pupil or group desired vocalizations observed?

Rank order correlations between mean age of pupils in the classrooms and percents of desired pupil vocalizations in each three time periods were not significant.

Is there any correlation between the percentage of Spanish-surnamed children in the classroom and the percent of desired vocalizations?

Although 90% of all children in the classrooms had Spanish surnames, the range of percentages of Spanish-surnamed children in classrooms was from 36% to 100% of the class enrollment. There was no correlation between this variable and changes in desired VIA category vocalizations. The amount of pupil response does not appear to be related to the make-up of the classroom with respect to this variable. This would indicate that Spanish-surnamed children are similar to other children in the classroom and no less inhibited in their responses.

Was there a relationship between the pacing of instruction and the changes in OLPT scores?

The rhythmic nature of the teacher-pupil interaction during oral language instruction was analyzed by recording the duration of each coding session and counting the number of events coded, finding the average number of events per minute for each teacher over all times coded. The mean number of events per minute were 13.42, with a range of from 8.48 to 16.58.

In a rank-order correlation between pre-post change on the OLPT test and on number of events per minute comparing phenomena for all teachers there was no significant correlation.

Was there a relationship between the percent of group response for classrooms and OLPT change?

The group response data was compared with OLPT pre-post test change by a rank-order correlation. There was no significant correlation between these groups.

In summary, the interaction analysis indicates the following general trends in the data:

1. Teachers tended to decrease in the amount of direction given to pupils, and pupils tended to increase in the amount of independent statements and teacher-stimulated responses.

2. Teachers, aides, and pupils tended to remain consistent in the amount of talk each contributed to the lesson. There was some increase in choral response toward the end of the summer. Teachers tended to become more consistent in their behaviors, as did group responses.

3. Teachers tended to become less complex in their vocalizations and groups became more complex in their vocalizations.

4. Children with Spanish surnames did not appear to affect the amount of vocalization in the classroom, and appear to be no less inhibited in their responses than Anglo children.

5. There was no significant correlation between desirable changes in the ability to speak English or in classroom participation and in the rhythmic nature of instruction or the use of choral response in the classroom.

Since the trends emphasize the consistency and stability of teacher-pupil interaction over the summer, it is not possible to associate the change in oral language production with the process of oral language instruction as measured by VIA categories.

4.0 ANALYSIS OF INDIVIDUAL TEACHERS

The descriptive nature of this study necessitates a more detailed analysis of each teacher and class to determine phenomena which occurred in the context of the above data.

Teacher No. 1

There were 100% Spanish-surname children in this classroom, and on their OLPT pre-test they obtained a medium number of errors. Their COLT test indicated a rank of second highest in comprehensive abilities. Their OLPT change score indicated very little change or improvement over the summer.

The teacher used fast-paced instruction. There was little use of the aide during instruction. There were an average number of teacher statements, questions, directions and positive reinforcement during instruction, and a very low use of negative reinforcement. This teacher, however, used the repeat strategy more than any other teacher.

During the first part of the summer, this teacher encouraged single pupil responses, but this dropped off sharply. The use of group responses did not pick up appreciably, however.

Analysis: This teacher did not obtain results in helping pupils speak standard English. There is an indication that this became apparent and that the drop in encouraging single pupil response was an attempt to change teaching style. The use of the repeat might have been a problem also, as research in process by the author indicates that this is a technique which is appropriate with much younger children or infants, and may not be advisable for use with older children.

Teacher No. 2

This classroom also had 100% Spanish-surname children, with a median number of errors on the OLPT pre-test and ranking third highest in comprehensive abilities on the COLT test. Their pre-post test scores on the OLPT showed next to the most gains of all classrooms.

There was high use of the aide, and the teacher used a low average amount of statement, direction and question. There was very low use of both positive and negative reinforcement. The teacher encouraged single pupil responses and discouraged group responses consistently over the summer. There was a tendency to narrow the complexity of responses, especially on the part of aides and groups. Instruction was very fast paced.

Analysis: This teacher was consistent and tended to draw others to become more consistent in oral language interaction. The aide was pulled into the instruction but shaped during the lessons. Single pupils were encouraged to speak, with little evaluation of what they said by the teacher. Interactions were fast paced. This class showed considerable growth.

Teacher No. 3

There were 100% Spanish-surname children in this classroom, and they obtained a slightly high average pre-test OLPT score. They had a low average COLT score. This class made the most significant gain on the OLPT pre-post test scores.

There was very low use of the aide in this class during instruction, and the teacher was high on the use of questions, with low negative and positive reinforcement. Instruction was slow-paced.

Single pupil desired responses ranked very low, and group desired responses ranked very high. There was consistency in the complexity of responses in the classroom. This teacher gained the most on frequency of teacher-talk for all teachers.

Analysis: Since this teacher made the greatest gain in class production of standard English, the areas of difference in teaching style are of great interest. These appear to be high use of group response, low use of the aide, and slow pacing of instruction, with consistency in interaction with gains in frequency of teacher-talk.

Teacher No. 4

This class was also 100% Spanish-surname, with a medium number of errors on the OLPT pre-test and also on pre-post changes. They achieved the highest scores on the COLT test.

There was a high use of the aide during instruction, with the highest aide scores on statement, question and repeat. There was an average use of teacher statement, question and direction, and low positive reinforcement, with very low negative reinforcement. This class had the highest single pupil statement and questions scores, and ranked highest in single pupil responses. The teacher decreased the amount of group responses over the summer. The complexity of responses increased, and the pacing of instruction was average.

Analysis: There were few gains in this classroom, although the children were receptive to instruction. The aide was used a great deal, and single pupils were encouraged to speak. Perhaps low use of choral response and the more fast-paced instruction held this group back. Certainly single pupil responses did not obtain improved performance and although the aide was used, there was some essential element missing in the instruction.

Teacher No. 5

This classroom had 89% Spanish-surname children, and they obtained among the highest errors on the OLPT pre-test. There was a medium score on the pre-post OLPT test change score. This class did not receive the COLT test.

The teacher used an average amount of statements and questions, but was very high on directions. There was a very low use of positive and negative reinforcement, and a very low use of the aide during instruction, except for the continued encouragement of the aide to repeat what the teacher was saying. Both single pupil and group responses were ranked in the medium range, but single pupil responses lost in complexity and group responses gained in complexity over the summer, as did the aide. Instruction was fairly slow paced.

Analysis: Considering the high number of errors on the pre-test, this class obtained a fair degree of change. It was probably necessary to give directions for a longer period of time than other classrooms. The teacher did not select single pupil or group responses to concentrate on as a teaching strategy. The instructional pacing may have been important here, with slow instruction which pulled in the aide as a reinforcer.

Teacher No. 6

There were 100% Spanish-surname children in this classroom, with a medium amount of errors on the OLPT pre-test, and also a medium score on the COLT test. The OLPT change score showed second highest amount of change in this class.

This teacher used an average amount of teacher statement, question, and direction, with some negative reinforcement and a

low use of positive reinforcement. There was very low use of the aide. There was a balance of single pupil and group response encouraged during instruction, and a medium-fast paced instructional technique. There was a tendency toward consistency in the complexity of interaction.

Analysis: Nothing stands out here to account for the fairly high degree of improvement on the part of the pupils on the OLPT test except the use of negative reinforcement on the part of the teacher and the consistency of the interaction in the classroom.

Teacher No. 7

This teacher made the greatest gain on the OLPT test scores, but it was not seen as significant on the t-test. The class was 82% Spanish-surname, and the children attained in the low average group on the COLT test. They made a high average score on the OLPT pre-test, and obtained the fewest errors on the items of most variance on that test.

There was a great decrease in single pupil talk, but teacher and aide remained nearly the same, and the group talk increased a great deal. Single pupil desired responses ranked highest at the beginning of the summer and lowest at the end of the summer. Group desired responses ranked lowest at the beginning of the summer and highest at the end of the summer. This great change in single and group responses indicates a tremendous change toward the group-teacher interaction seen in Teacher No. 3. This seemed to be the most significant difference in this particular teacher's instructional behavior.

There was low use of the aide, and the teacher was low on use of questions, positive and negative reinforcement. There was considerable use of direction, however. Instructional pacing was very slow.

Analysis: This teacher made the greatest gain on the OLPT scores, but not a significant gain. The class was not as receptive as some other classes to learning to speak English. This teacher used direction a great deal and paced instruction slowly. The most significant thing about this teacher was the tremendous change from single pupil to group responses encouraged as the summer wore on, as though there was an awareness that a pattern was not working and there was a switching to the choral type of instruction. Teacher No. 1 did the same over the summer.

Teacher No. 8

The children in this classroom did very poorly on their pre-test on the OLPT, and made next to the greatest errors on those items with the most variance. Their COLT test scores were average. There was no significant gain on the pre-post test on the OLPT. This classroom had 100% Spanish-surname children.

The teacher made low use of the aide during instruction, and used statement, question, and direction an average amount. There was some use of positive reinforcement, and low use of negative reinforcement. There was low use of single pupil response, and high average use of group response at the beginning of the summer, with a decrease at the end. The complexity of single pupil responses increased sharply over the summer, however. Instruction was the fastest paced of all teachers.

Analysis: The above classroom made little gain on the OLPT, and seemed to have low average receptiveness to instruction. This teacher seemed to recognize a need for group responses at the beginning of the summer, but did not discourage complex single pupil responses during instruction as did the teachers with a higher rate of success. Perhaps the fast-paced instruction made it impossible for children to use their "switching" facility in inner translation necessary for bilingual children.

Teacher No. 10*

This classroom had a 93% Spanish-surname attendance. The children had among the highest number of errors on the OLPT on items with the most variance, and did poorly on the OLPT as a whole on the pre-test. They made no significant gain on the pre-post scores on that test. They ranked high average on the COLT in receptivity to instruction.

The teacher made average use of statement, question, and direction during instruction, and used some negative reinforcement, with low use of positive reinforcement. There was low use of the aide during language instruction. There was more use of group response than of single pupil response consistently over the summer and the complexity of responses during instruction remained stable. Instruction was next to the fastest of all teachers.

Analysis: This class did not gain in their ability to speak standard English, although they were receptive to instruction. The use of negative reinforcement may have discouraged responses, and the pace of instruction may have been too fast for the pupils.

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*Teacher No. 9 is not included in this study as no pre-post scores were available.

Teacher No. 11

There were only 36% Spanish-surname children in this classroom, the lowest of all classrooms. Children tested average on the OLPT pre-test, but made the highest number of errors on the items with the most variance on that test. There was no COLT test given. No significant gain was seen on the OLPT pre-post test score. This teacher maintained consistency in the complexity of instruction, and made average use of statement, question, and direction during the lessons. There was some negative reinforcement and low positive reinforcement. There was very low use of the aide during lessons. Single pupil response was encouraged over group response over the summer, but group responses increased somewhat toward the end. Instruction was fairly fast-paced.

Analysis: This class had very low receptivity to instruction, and obviously this was not due to their being bilingual, as seen in the percentage of Spanish-surname pupils in attendance. The type of instruction was fairly consistent, but used negative reinforcement, which may have discouraged responses. The teacher seemed to make some attempt to switch to more group response toward the end of the summer, but not to a sufficient degree. The pacing of instruction was probably too fast for pupils.

Teacher No. 12

This class also had a low Spanish-surname attendance, with only 57% in that group. Their OLPT and COLT tests showed average

receptivity to instruction, but there was no significant change seen on the pre-post OLPT scores.

The teacher used low teacher-statement during instruction, average pacing, and was high on teacher-question, average on teacher-direction, and very high on the use of the category of "teacher-repeat"(repeating what the pupil has just said). The single pupil repeat was the highest for all teachers, and single pupil complexity of response gained a great deal over the summer. Group responses were encouraged over single pupils on the whole but they lost in their complexity over time. There was very low use of the aide during instruction.

Analysis: This class had average receptivity to instruction but made no significant gains. Perhaps the use of the repeat category by both the teacher and single pupils was overdone, and by not obtaining gains in the complexity of group responses, only single pupils were able to gain in this classroom, perhaps only a select few. This appears to be the case, as the all-over gains were low.

Teacher No. 13

This class had 100% Spanish-surname children, and their test scores on the COLT test were average. The OLPT test showed them among the highest in ability to produce standard English, with the group falling in the category of the fewest errors on items of the most variance. They made no significant change on their pre-post test scores on the OLPT.

This teacher made high use of teacher statement and question, and low use of direction. The aide was not encouraged to participate

a great deal during instruction. There was low use of both positive and negative reinforcement. Group responses were favored slightly over single pupil responses, but there was an increase in single pupil responses and a decrease in group responses over the summer. Complexity of responses dropped off for the teacher, increased slightly for the aide, and remained nearly the same for pupils. Instruction was fairly fast paced.

Analysis: Although this class was highly receptive to learning, they made no significant gains, in standard English production. Perhaps this was due to fast pacing of instruction and the encouragement of single pupils during the lesson.

Teacher No. 14

This classroom, like many others, had 100% Spanish-surname attendees. The children made an average number of errors on the OLPT and COLT tests, and made no significant change on the OLPT pre-post test scores.

Instruction was very fast paced. The complexity of responses during instruction remained stable for all but the aide, who gained a great deal in complexity of responses over the summer, although the aide participation was very low compared with others in the classroom. The teacher made average use of statement, questions, and direction, and used high positive and low negative reinforcement. Single pupil responses were favored over group responses consistently over the summer.

Analysis: There were no significant gains in this classroom on the OLPT test. Perhaps this was due to the fast pacing of instruction, and the favoring of single pupil responses over group responses, and may represent singling out of children for attention to the loss of the group's gains.

Teacher No. 15

Attendees in this classroom were of 100% Spanish-surname, and ranked average on the OLPT pre-test scores. They were quite receptive to instruction, being among those with the fewest errors on the items with the most variance on the OLPT test. They ranked low on the COLT test.

Instruction was of average pacing, and there was consistency in the complexity of instruction over the summer. Single pupil responses were encouraged over group responses, and the aide did not participate to a great deal during instruction. This teacher made average use of the statement, question, and direction, with low use of positive and negative reinforcement.

Analysis: This appears to be a case where children were receptive to instruction but did not gain. This may have been due to the encouragement of single pupil responses over group responses, and the low use of the aide during instruction. Instruction might have been slower paced, also, and perhaps more positive reinforcement would have helped.

4.1 REVIEW OF INDIVIDUAL TEACHERS

Teachers Numbers 2, 3, 6, and 7 made progress in instructing their pupils to speak standard English over the summer. Three of the four used low positive and negative reinforcement, and one used higher negative than positive reinforcement, but none of them used higher positive than negative reinforcement. A balance between reinforcers seems to be workable. Of those teachers using high positive and low negative reinforcement, none made gains, and of the three teachers using high negative and low positive reinforcement, only one made gains. Therefore, it might be suggested that the balance between positive and negative reinforcement be part of the teaching strategies in second language learning. This may be necessary in giving children a measure as to whether they have achieved the desired results or not, and indicates that interaction without some kind of benchmarks is meaningless.

Pacing ranged from fast to very slow and does not appear to be significant at this time.

All four of the teachers were consistent in their complexity of instruction, with the types of responses remaining fairly constant over the summer. One tended to narrow the range slightly to a consistent pattern and then remain constant.

Three of the four teachers made low use of the aide, and one made high use during instruction. One teacher gained in the amount of teacher-talk used, one used questions a great deal, and one used directions at a high rate. There seemed to be no consistency in the types of teaching patterns used. Three of the four teachers

used group responses, with one of the teachers changing to group from single pupil responses over the summer. Only one of these teachers obtaining gains used single pupil responses as a teaching technique.

Of those teachers who did not make gains, pupils exhibited a distribution of low to high receptivity to instruction, but among those teachers who did make gains, pupils exhibited a high average receptivity in all four cases.

Use of aides did not seem to be significant, for although most teachers made low use of the aide during instruction, three of the four teachers who made gains fell in this category.

Four teachers made high use of single pupil responses, but only one attained gains, while three of the four teachers making gains used group responses to a high degree. There seemed to be a tendency on the part of teachers not having gains to attempt to change to group responses over the summer.

4.2 REVIEW OF INDIVIDUAL TEACHERS - SUMMARY STATEMENT

The following statements might be furthered as possible guidelines for instruction in the teaching of a second language or dialect at the primary age level:

1. Pupils should be tested for their receptivity to instruction, grouped by age if possible, and lessons structured to their group needs.

2. A balanced use of both positive and negative reinforcement should be attempted by the teacher, with low use of both and only as indicators of having attained benchmarks. There should be an attempt to reduce any tendency to use negative reinforcement above positive, or positive above negative.

3. Instruction should remain consistent, without encouraging change in behaviors during instruction on the part of the aide or single children especially, but an increase in group talk during instruction may be favorable.

4. Group responses should be encouraged and used consistently, and single pupil responses during instruction not encouraged unless every child receives the same amount of instruction.

4.3 FINAL STATEMENT

This report is submitted in an effort to describe the actual normal teaching patterns existing in our summer classrooms. The variety and individuality of teaching techniques is apparent, and the above analysis of patterns of behavior is furthered in an effort to find out "what worked" and suggest further study.

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