The research methodology of this study is at least as important as the actual findings. For certain types of information seeking, directed conversations, or interviews, seem most desirable. Yet, although such conversations are easy to carry on with teachers, they are difficult to manage with 6-year-old children, especially when the interviewer is unfamiliar to the child. In this study, one of the interviewer's assistants wrote a detailed description of five minutes of the child's behavior while another assistant took Polaroid pictures of the child at the same time. In the afternoon, the interviewer took each child aside and asked him to describe what he was doing in the pictures. The children spoke freely and easily with the interviewer about the pictures and their own activity. Data collected in this manner and from other techniques were used to compare the Follow-Through classrooms of Teacher A (child-directed individualized learning) and Teacher B (teacher-directed group instruction). The children in Teacher A's class valued "other activities" (block play, water play, listening to records) more than "doing what the teacher likes" and "doing" traditional academic tasks, while Teacher B's students did not. Also, the language used by Teacher A's students was more differentiated and varied than that used by the other class. (MH)
Transplanting English Infant School Ideas to American Classrooms

And Some Effects on Language Use

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The purpose of this presentation is twofold: to describe the use of Polaroid pictures as a research technique, and to report some findings.

The setting consists of four Follow Through first-grade classrooms which are allied with the EDC - English Infant School "model" (or consulting service). Two are in a school in an urban, largely Black, community; two are in a smaller, largely white, town. By virtue of qualifying for Follow Through money, both school neighborhoods can be considered lower-class. The purpose of the EDC Follow Through project is to help teachers change themselves and their total classroom life from the usual teacher-directed group instruction to more child-directed individualized learning. This purpose was described in more detail by David Armington, director of the project, and Rosemary Williams, an infant school "head" from Leicestershire, England who is working as one of the "advisors" (or consultants). They believe that children's learning will be of a higher intellectual quality when they work at self-selected tasks than when following the teacher's directions; this will be so because there is a greater chance that the task will fit the growing edge of their cognitive development and elicit greater involvement and attention. Learning to make choices and decisions is also valued for its own sake. To direct a classroom where children can work as learners in this way, it is necessary for teachers to radically alter some, or even most, of their attitudes and behaviors.

I have tried to analyze to what extent this change was taking place, and what factors seemed to be helping or hindering. Methodology for doing this was a serious problem, given very limited time in each classroom - probably not more than 4 days in each classroom during the school year. David Armington suggested a nice trichotomy of techniques for classroom research, depending on how overtly expressed the researcher's questions are.
When the questions are in "the front of your mind," you're the non-participant observer, taking notes, tape recordings etc. without interacting; if the questions are in "the back of your mind," you're the participant observer, talking and working with the children and hoping thereby that some answers to unspoken questions will emerge; if the questions "on the tip of your tongue," you're the interviewer. The role of nonparticipant observer seemed unlikely to tap the attitudes and values of the children and teachers, and the role of participant observer - while undoubtedly best - required more time than was available. Some kind of directed conversation - call them interviews - seemed desirable. With teachers this is easy to do. With six-year old children it is much harder, especially when the interviewer is a virtual stranger.

The use of Polaroid pictures provided one solution. In his book *Visual Anthropology*, John Collier Jr. (1967) describes the use of photography as a research tool both for documenting observations and as stimuli for eliciting further information from informants. A student of his at San Francisco State College, Alyce Cathey, used photographs to study the noon-time groupings of fifth grade girls: their lunches, seating arrangements on the playground benches, games, team organization and territoriality. In order to take pictures and show them to the children during the same visit, I used a Polaroid camera, model 340. Since Polaroid black and white film is extremely fast (speed 3000), one gains the added advantage of pictures with excellent depth of focus in natural light under any classroom conditions. Here are slides made from ten of the pictures, five from each of the two communities.

- 10 slides shown here -

I took pictures for a short time in the morning, and then spent part of the afternoon talking with children individually, "interviewing them." As I had hoped and anticipated, these first grade children were eager to see and talk about the pictures of themselves and their classmates. They talked easily about what they were doing when the picture was taken:

Here's me again watching John write letters about the play - that play that we made (pointing to blocks). About a truck - a milk man - I mean an ice-cream truck.
or what other children and the teacher were doing:

She's learning them (about the teacher shown with a reading group).

They could express feelings:

I was trying to read. I was having a hard time. I was mad right there cause I didn't want to write in my book.

They could project themselves into the situations portrayed and suggest what individuals were, or might have been, saying:

"I asked Mrs. Smith could I paint." This turned out to be a particularly illuminating comment. I had not been aware of any expectations on the part of the teachers that children had to ask permission to engage in activities. I asked the teacher to explain what the child had meant. She explained that in Kindergarten (where both she and children had started with the Infant School model the previous year) she had been concerned about children "flitting" unproductively from one activity to another and so had instituted a system of checking at all transition points. While she had not insisted on this checking in 1st grade, some children persisted. The teacher admitted she was still concerned about ways to hold children "accountable" for their decisions.

Some of the children were willing to categorize situations portrayed as to whether they were "work" or "play" and whether children had chosen them or whether the teacher had told them what to do. I visited one teacher during a period when she was uncertain about her new role and had temporarily set the desks back in rows and reintroduced more group teaching. If I had had my camera and previous pictures present, it would have been easy to elicit comments and feelings from the children
about the two kinds of "school." With the pictures providing concrete possibilities to choose or reject, all the children could also talk about "what are other good things to do in school." The pictures were also useful in talking with the teachers about which activities they valued most and why. But their main value was in making it possible for me to have honest easy talks with first grade children even though I was a very infrequent visitor.
In two classrooms my own observational notes and the pictures were supplemented by additional observational records collected on a systematic basis by two research assistants. The two classrooms were selected because they represented a contrast—within this small group of four—in degree of change in the hoped-for direction. If one momentarily simplifies reality to place the four teachers on a continuum from teacher-directed group instruction to child-directed individualized learning, Teacher A was farthest toward the child-directed end while Teacher B was having the hardest time moving in that direction. Both teachers are in the same school; both have only white children. But the teachers, and therefore the classroom life, are quite different.

Teacher B is in her 1st year as a teacher, Teacher A is in her second year, both as a teacher and in this Follow Through program. Further, for Teacher B the Infant School philosophy seems less consonant with the values and attitudes she had developed up to the point of taking this job. I have a hunch, as yet untested, that the consonance or dissonance between general life values and the specific educational philosophy the teacher is asked to reflect is one important factor in the teacher’s successful adoption of this teaching role. While such a connection may not be necessary in England where this kind of classroom for young children is common and officially approved, it may be important here in the United States where one must counter the prevailing and accepted beliefs and behaviors in order to change in this way.

Both of these classrooms had times during the day devoted to what is called a "work-period" or "free activities." Since this is the heart of the Infant School model, our observations were concentrated here. In one classroom, most of the day was spent in this way; in the other classroom, more teacher-minutes and child-minutes were occupied in teacher-planned tasks, but there still was time for each child to select his own activity at some time during each day. Working from an alphabetical list, one assistant wrote a detailed description of five minutes of the child’s behavior while the other assistant took a picture of the child during the same time. In the afternoon I interviewed the children observed in the morning, while the
two assistants continued their work in the other classroom. After school, the notes were typed so that they could be shown to the teachers the next day. 3

In talking with the children in these two classrooms about the pictures, I showed them the pictures taken that day (no more than 11) and asked two questions: (1) Can you find yourself and tell me what you were doing when the picture was taken? (Most children were in more than one picture.) (2) What are some other good things to do in school? The contrast between the values implicit in the two classrooms can be seen clearly in the children's answers to the second question. In each class, 17 children answered that question, and each gave at least three answers except for one child who only gave one. (If they gave more than three, only the first three were considered.) The set of answers (49 or 51 in all) were then divided into three groups:

- doing what the teacher likes, described in general terms: - e.g. "be nice," "learn," "do your homework"
- doing tasks with traditional academic labels: "writing stories," "do their ABC's," "reading books"
- doing other activities, regardless of actual intellectual content: "listening to the record player," "make presents for your mother," "playing in the water," "play with blocks"

The answers to the question "what are other good things to do in school" are:

<table>
<thead>
<tr>
<th></th>
<th>Doing what the teacher likes</th>
<th>Doing traditional academic tasks</th>
<th>Doing other activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>classroom A</td>
<td>2</td>
<td>6</td>
<td>41</td>
</tr>
<tr>
<td>classroom B</td>
<td>5</td>
<td>24</td>
<td>22</td>
</tr>
</tbody>
</table>

\(\chi^2\) probability < .001)

Since all of the pictures were taken of free activities, this difference in what these two groups of children think is valued most come from differential experience in these two classrooms and not from the momentary effect of the pictures which they had just examined.
Being interested in children's language, and the relation of language to planning and thinking, I then looked for any contrasts between the language children in the two classrooms used to talk about their activities. The classrooms differed in the importance placed by the teacher on the child carrying out his intentions, and this difference might be reflected in language use. They also differed in the particular kinds of activities most valued and most frequent. The generalization that in a society language becomes more differentiated in domains of cultural significance is by now commonplace. Eskimos have words for many kinds of snow; MIT has names for many kinds of engineering. If children in different classrooms place differential value on certain kinds of activities, their language might be correspondingly more or less differentiated. Note that I am comparing the language "performance" (not "competence") of similar children in different environments; I am not comparing children who themselves differ in some way, such as race or social class background (Cazden, in press).

We can take as a unit for analysis the verb phrase - verb plus direct object or prepositional phrase. Whether the subject is provided, or eliminated as is so often the case in answers to questions, doesn't matter; it is not counted anyway. So we have phrases like:

- playing - with the pegs
- do - work sheets
- learn - how to write things
- color

In the description of their own activities, only the initial statement was counted. Some children then went on to give extended narratives of what they were doing. These are undoubtedly important, but there seemed no way to obtain a unit which would have the same functional status across children, particularly when their answers would be influenced by the number of follow-up questions I asked. In the descriptions of good things to do, if children gave more than three answers their three longest answers were counted.
The next table gives the number of different verbs, and total number of words in the verb phrase, when children in the two classrooms describe their own activity and the activities "good to do." In the first row the numerator is the number of different verbs (types) and the denominator is the total number of responses (tokens) as given in the preceding table. Type-token ratios are not comparable across different numbers of tokens because it becomes harder to add new types as the number of tokens increases. Therefore the only interpretable ratios are in the first column. In the second row, the length of the verb phrase is given.

<table>
<thead>
<tr>
<th>What were you doing?</th>
<th>What other things are good to do in school?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Doing what the teacher likes</td>
</tr>
<tr>
<td></td>
<td>A  B</td>
</tr>
<tr>
<td>no. of different verbs</td>
<td>12  8</td>
</tr>
<tr>
<td>20  20</td>
<td>2  5</td>
</tr>
<tr>
<td>mean no. of words in verb phrase</td>
<td>4.1  3.8</td>
</tr>
</tbody>
</table>

Teacher A's children use more varied verbs to describe their own activities than do Teacher B's children: 12 vs. 8 out of 20. Their language is in this respect more differentiated. Following are the verbs:

<table>
<thead>
<tr>
<th>Classroom A</th>
<th>Classroom B</th>
</tr>
</thead>
<tbody>
<tr>
<td>playing</td>
<td>playing</td>
</tr>
<tr>
<td>doing</td>
<td>doing</td>
</tr>
<tr>
<td>making</td>
<td>making</td>
</tr>
<tr>
<td>watching</td>
<td>watching</td>
</tr>
<tr>
<td>building</td>
<td>building</td>
</tr>
<tr>
<td>listening</td>
<td>writing</td>
</tr>
<tr>
<td>tossing</td>
<td>putting</td>
</tr>
<tr>
<td>taking</td>
<td>looking</td>
</tr>
<tr>
<td>asking</td>
<td></td>
</tr>
<tr>
<td>sewing</td>
<td></td>
</tr>
<tr>
<td>thinking</td>
<td></td>
</tr>
<tr>
<td>finding</td>
<td></td>
</tr>
</tbody>
</table>
In both groups, playing was the most common verb but whereas it received 7 out of 20 tokens in Classroom A, it was used only 4 times in Classroom B.

In both classrooms children sometimes used such vague language that the noun-phrase object of the verb contained no concrete referents at all. In response to the question about "good things to do," this occurred in 5 of the A children's responses and 9 of the B children's responses:

**Classroom A**
- building stuff
- build things
- make stuff
- play that
- counting some stuff

**Classroom B**
- get things out of there
- play that game
- play with those things
- play with the things
- build those together
- build that thing you put together
- cut out stuff
- make stuff
- learn how to write things

I can find no interpretable pattern in the responses about "good things to do." Thus while the language of children in classroom A is in some ways more differentiated than in classroom B, the differentiation does not extend in these data to particular domains within a single classroom.

My original hypothesis rested on two alternative assumptions: children's language could reflect a selection of activities on other grounds; or, in a classroom where events are less pre-determined by an outside source, the language of the participants as it expresses awareness of possibilities could be a significant influence on those events. There is also considerable evidence from other research that children's ability to verbalize lags behind their ability to do. After rereading the children's responses I was impressed with that same phenomenon here. Occasionally a child gave an example of very elaborated language - e.g. referring to geoboards as "making sets with rubber bands." But then there was an equally strong counter example of a child describing a very high level, intellectual activity of exploring the action of bubbles in a medicine dropper as "playing in the water."
FOOTNOTES

1 Revised version of a paper presented at AERA Symposium on Anthropological Approaches in Educational Research, Minneapolis, March 6, 1970. The research reported here was supported in part by a grant for documentation from the Ford Foundation to the Follow Through Project of the Educational Development Center (Newton, Mass.), David Armington, director.

2 I am grateful for research assistance to Dr. Ingrid Sommerkorn of the MIT Educational Research Center and to Judi Jones of the Harvard Graduate School of Education staff.

3 Teacher A had an interesting comment on this time-sampling technique. She objected to the descriptions because they didn't show either the beginning or the end of the child's activity. In other words the intention, planning, and persistence through to a goal which is so fundamental in this kind of classroom was violated by the very nature of our research technique. In retrospect, I realize that Smith & Brock (1970) include a discussion of this very problem. But I had to commit the error to be truly aware of it.

REFERENCES

