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ABSTRACT

This paper discusses language development in relation to social development, emphasizing the importance of the question-answer format in the development of communicative abilities. A 5-year-old girl's dysfunctional speech behavior is presented as an example of social interaction difficulties resulting from a failure in "social cognition." The question-answer format is described as the basis of communication since questions are designed to elicit a response. Observations of the interaction between mothers and infants are described to show that the exaggerated question form (with its raised inflection) results in a raised arousal level for the infant, and that the termination of the arousal in a discharge such as cooing or smiling serves as an answer. It is suggested that these early interactions form the basis for the more complex answers which the child gives as he develops. Language, social and cognitive knowledge are seen as interrelated and interdependent, and development is viewed as a gradual differentiation between these domains. Because of the importance of social behavior to learning, it is suggested that the student-teacher interpersonal relationship should be a significant consideration in curriculum design. (SB)

Socioemotional Development in the Opening Years of Life: Considerations for a New Curriculum

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To start our discussion today I should like to present the outlines for a new curriculum, one based on the considerations of the learning process both from a motivational-affect point of view as well as a cognitive one. The discussion has four parts, going from an example of a five-year-old child's behavior in a nursery school to a general theory of conversation. This in turn we will embed in still a larger theory of social networks (a problem we have recently given considerable attention). The final remarks are directed to a curriculum on the broad topic of "Teacher as lover."

Sandra Warren

The brief description of a child's interaction with its teacher that follows will be considered within the general framework of the child's attainment of conversational skill. The dysfunctional aspects of the child's speech behavior will be seen as one part of a series of social interaction difficulties. As such, this example provides a concrete setting within which to demonstrate some of the general themes developed in this paper.

Sandra, a physically normal five-year-old girl, sits quietly at a table waiting for her nursery school teacher to begin her lesson. She watches as the teacher moves toward her but says nothing when her teacher

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greets her. "What would you like to do this morning," the teacher says. No reply. "Would you like to look at this picture book?" S. no longer is looking at either the teacher or the picture book the teacher has in her hand. In response to a second request for directed attention (looking at the book), the child finally turns toward the teacher--still not the picture book itself. Asked the question a second time, the child finally says, "Yes" (still not looking at the book before her). The teacher opens the book and turns to a picture of an autumn scene--leaves of many colors. "Show me the red leaves," she says. The child only looks at the page when the teacher, pointing toward the book, directs the child's attention in that direction. "Show me the red leaves" is finally responded to correctly as the child points to the object in the book.

Trying to engage the child still further the teacher asks "Do I have any red on my blouse?" Without looking at the blouse the child answers "Yes." (In fact, there is red on the blouse.) "Touch the red part" requires that the child turn toward the teacher and look at her blouse. After some hesitation the child finally complies with the request. To the final question, "Do you have red on your shirt," the child answers (without looking) "Marvin's birthday." (Today is her four-year-old brother's birthday.)

It appears that the lack of language ability in this child, both in terms of comprehension and production, is embedded in an array of social-interactive dysfunctions. In fact this child was placed in this nursery school setting because she was found to be seriously neglected by her mother. Inquiries, comments and replies are curtailed and for the most part absent. Perhaps the architectural support for verbal exchange that lies in more general forms of social focus and attention have failed to develop because of her neglected background. The child asks little of the teacher, neither information nor

affective support, and shows signs of not comprehending the format of question-answer interaction. She fails to show signs of knowing either (1) that questions require answers or (2) how to organize her behavior to answer correctly (i.e., to direct her attention toward the relevant aspects of her environment which can supply the answer). When forcefully directed and shaped to produce a response, as in the final question, she produces an answer but it is irrelevant to the question.

It would seem that for this child something of the essential nature and structure of language as a social instrument, one of exchange and interaction, has failed to develop. Given her particular history of neglect, it is no wonder why speech, in particular speech having exchange function, remains underdeveloped. Why use interactive speech if its historical function in social interaction is obscure?

Although we cannot reconstruct the developmental history, we might speculate that the neglect of this child involved a whole spectrum of social experiences which impoverished a number of social skills--of which conversation is merely one.

A Theory of Conversation

In our comments we have implied that Sandra represents an example of a conversation dysfunction, in particular the inability to cope with the question-answer format. This example, as well as some recent data by K. Snow (personal communication) and Lewis and Cherry (1977) on mother-infant question asking, raises some interesting considerations concerning the origin of the question-answer format. The following comments are meant to generate a theory of the ontogeny of inquiry and while exciting in its implication, it is necessary for us to keep in mind its speculative nature.

The question format of all the functional classification of utterances has the unique function of eliciting a response and as such should be considered the form most related to conversation, that is, the exchange of behavior (in this case, verbal) between two people. This question form is most common and functions in social contexts to elicit interaction. For example, when two adults in our culture meet, a most common form of greeting is "How are you?"--a question. True, an answer announcing a headache or some other disorder would elicit surprise--the question was not really meant to elicit an elaborate reply--it is nevertheless a question which does function to get the other person to respond. An even clearer example of the function of the question form can be seen when two adults who are not familiar with each-other are placed together, or even people who know each other but who have not seen each other for a long time. "What have you been doing lately?" "How is . . .?" "What's new?" etc. If you think of yourselves in this situation I think you will find that the number of questions asked by two people meeting represents an attempt to produce conversation. It is our belief that this format, the prototype of conversation, has its roots in earliest social interaction.

If one measures what mothers of infants do (K. Snow, personal communication), one finds that question asking is a very common activity. This is surprising when we consider that in some sense the verbal form of question is inappropriate for the infant since it cannot process the verbal information. Several factors, however, indicate that it may not be as inappropriate as we might initially believe. First, there is some evidence that at very early ages the infant is, in fact, sensitive to the question form; that is, questions have a raised inflection and this raised inflection is detectable (Kagan & Lewis, 1965; Lieberman, 1967). Moreover, this raised inflection is

exaggerated by the adult speaker; the function, we believe, is to produce a response in the infant. Observation of mothers interacting with their infants indicates that the exaggerated question form with its raised inflection ending results in raising the arousal level of the infant. The termination of the arousal in a discharge such as cooing or smiling serves as the answer to the caregiver's question. Let me give you an example. The mother is changing the child on a table; there is zero degree facial looking--both are looking at each other's face. The mother, having powdered the infant, says "Does that feel goooood?" This question is repeated sometimes with variations--and at the same time the mother displays a variety of facial expressions which are somewhat exaggerated. Her tempo increases until the infant's arousal is raised and the infant breaks into a broad grin. This appears to be the answer to the question since two events usually take place after the infant's response: (1) the mother stops asking the question and (2) most often she supplies the verbal answer for the infant. "Yes it does," she says. Notice this strange but not unusual phenomenon where the mother seems to both ask and answer the question. Careful observation, in fact, reveals that she has been able to elicit an answer from the infant. Of course for the infant it could not be a verbal response; nevertheless it is an answer and the caregiver accepts it as such. This format of question asking is quite common for mothers and their infants. These early question forms are now slowly being related to more formal linguistic acts. We have shown that starts and terminations of questions in both mother and 12-week-old infants are related to the language ability of these same infants at two years (Freedle & Lewis, 1977) as well as to the mother's desired socialization attempts (Lewis & Cherry, 1977).

Although the conversational structure of question-answer continues throughout infancy and early childhood, the behaviors subsumed under this activity change. The behavior repertoire changes as a function of the developmental level of the infant--as it gets older it can perform more acts and these acts become more complex--as well as the change in the caregivers' rule for acceptance of what constitutes an answer or reply to their questions (this in turn of course is dependent on the caregivers' perception of the child's changing skills).

Observation of the mother's questioning behavior indicates that initially almost any response is acceptable as a response. Within the first 18 months arousal discharge becomes less acceptable and infant responses such as orientation--looking at mother when she asks a question--and verbal responses--grunts to simple single word utterances--become increasingly preferred. These responses are accepted as replies which covary with the unfolding skills of the child itself. By two years of age the child appears to (1) recognize questions as opposed to directives given in a question format (Shatz, 1975). For example, "Jerry, can you close the door?" does not really mean can you but will you close the door. (2) The child also knows that a true question format requires a reply. This is a particularly interesting rule, "respond if questioned," since it often leads to a rather strange behavior in young preschool children. Many of you have found that if you ask a young child a question you get a reply which has little to do with the question. This behavior can be explained if we believe that the child has overlearned the simple rule, "respond if questioned." Parenthetically, this rule learning may explain some of the unusual responses given when children's beliefs are questioned. To the question format an answer is needed and the child's answer often

has less to do with the question itself than with the desire to produce an answer, resulting in a non sequitur or worse. By 24 months, the child's predominant reply is a verbal response, even though nonverbal responses are still being employed and will continue through adulthood.

The final question-answer form chiefly involves the verbal mode but accompanying it is usually visual regard and facial expression, an integration of the earlier modes of reply with the more cognitively advanced skill of language.

Individual Differences

While the preceding discussion attempts to develop the growth of the question-answer format--from a nonverbal to a verbal interaction--it must be recognized that the rate and degree of skill development in this area is very much an individual difference. Before going into the discussion of individual differences, there are at least two dimensions of this skill which should be considered: the rate or the time of appearance of the verbal use of question-answer by adult and child and the degree of use or the amount of conversation (number of utterances) which can be considered to be question-answering.

If our analysis is correct, the most effective source in determining the rate and degree of this skill is the social environment. There are large individual differences in the development of this skill. Some mothers consistently use the question-answer format, which if it does not provide an answer at least seems to alert the child to an event taking place and as such may facilitate the verbal coding onto an ongoing activity. Other mothers hardly use this format at all. Individual differences in this format appear to be based on two premises which vary among adults in the degree

to which they are held. The first premise we shall call interpersonal and reflects the person's attitude toward other people. If one wishes to be interactive, to be reciprocal in interpersonal dealings, then the question-answer format is ideal in order to facilitate this desire. If, however, one is not interested in the responses of another, then reciprocity is not necessary and behavior facilitating this will be ignored. People usually don't ask questions if they are not interested or willing to hear the opinions of others.

The second premise, more specifically related to the behavior toward children, is informational in nature. Why ask young children questions--or more broadly, why talk at all--if the child cannot understand you? This premise, then, is based on the view that any verbal interaction with a young child is silly since it can do no good; the organism is too immature to profit from it. Both these premises seem to be operating, usually affecting group differences such as social class where one can find the middle class much more likely to engage in question asking than the lower class (Cherry & Lewis, in press; Minton, Kagan, & Levine, 1971).

One further group difference in this regard is of some interest, that of the difference between child-child and adult-child patterns of speaking. We believe that adults are normally more likely to attempt to elicit a response from a child than another child; thus we should be more likely to find conversation, reciprocal and exchange behavior, around a single theme, to be more likely to occur in adult-child than in child-child speech.

In our original example, highlighting individual differences, we see in Sandra's behavior a retardation or failure to develop the appropriate question-answer format. Her failure may be in what should be called social cognition rather than cognitive dysfunction. This difference

and its implications can best be understood if we first explain the phrase "social cognition."

Social Cognition

If we are to consider the possibilities of considering plans for a new curriculum, I think it necessary that we embed the specific comments in the broadest context. To do this we will talk about human nature, understanding the risk in any discussion which reports to deal with such a broad conceptualization.

It is our belief that language, social and cognitive knowledge are interrelated and interdependent since all are aspects of the same unified development of the child (Lewis & Cherry, 1977). Individuals develop social, language and cognitive knowledge in interaction with each other. Language, cognitive and social knowledge are not discrete domains but are aspects of the interaction of individuals.

Within this unified framework an important developmental phenomenon can be observed. In general, development from this unified framework is a gradual differentiation between the various domains. We would strongly support a model of development in which change from a unified, highly interactive system to one which is differentiated and specialized occurs as a function of age. We envision such a system as a tree, the trunk being the unified and integrated system of knowledge and the branches being the separate areas of knowledge, some of which are totally independent of others while others are still somewhat dependent. This specific model allows for both the integration of knowledge from a developmental perspective as well as a statement of functional independence as an end product development.

Moreover it allows for a consideration of what behaviors (or skills) remain consistent of change and which undergo transformations. Consider linguistic knowledge as an example. At first children understand the meaning of a linguistic act only by attending to the occurrence of that act within a specific social context. That is, cognition in general and language in particular is embedded in a unified frame of knowledge. Only with development is knowledge separable into its component parts. Thus for example, it is only later that the child is capable of understanding or producing language without its embeddedness in a social context. This movement from a unified and interlocking set of knowledge into a large set of specific, single and separate capacities is the hallmark of early development.

We have assumed the unified framework to be embedded in a social context. This assumption is based largely on our belief that the task and context of the infant's adaptation is to its social world (Lewis & Weinraub, 1977). Without the skills and ability to prosper within its framework, the newborn infant cannot survive (Bowlby, 1969). Moreover, much of its structure--such as hemispheric differentiation for processing speech and non-speech sounds (Molfese, 1972)--as well as its organization principles (Sander, 1977; Stern, 1974) may be constructed around its social world. Finally, much evidence is accumulating that the child's earliest knowledge is organized around social information (McGurk & Lewis, 1974). It is our belief that man is a social animal and it is within and from its social world that the skills uniquely human emerge.

Teacher as Lover

I hope that I have been able to convince you that social behavior is an essential dimension in the consideration of both what and how infants and young children learn. The early learning experience cannot be separated from the context of the experience and that context is a social one. One might wish to broaden this analysis to argue that learning in general may require a social context. In a more traditional sense the learning experience must have a socioemotional component in order for learning to occur. The teacher-learner relationship will be significant only to the degree that it is embedded within the social experience. Consider the parent-child as a teacher-student relationship, it must certainly be characterized as a learning experience in which learning is embedded within a rich fabric of socioemotional behavior. All relationships, in which significant learning takes place, appears to possess this complex fabric of information exchange within a socioemotional context--lovers and siblings being examples that readily come to mind. Even more formal learning situations--for example, an apprenticeship system--require that the learners totally embed themselves within the whole life of the teacher. Finally, even formal educational systems--those employing tutors--likewise embed formal learning situations within an interpersonal relationship.

We may have lost sight of the importance of the teacher-student interpersonal relationship when we engaged in the system of public and free universal schooling. The present model of teacher-learner, one which can be viewed as chiefly an exchange of information, would appear to be derived from the public education requirement of teaching many children at the same time. Public education and the model it produces may be unique in that it separates the learning experience of the child from the fabric of

the underlying social motivational systems.

We have attempted to demonstrate that the importance of the interrelationship of learning with the socioemotional context is developmentally bound; the younger the child the more incapable the organism is in separating action (and response) into its various domains. We would argue as a general rule that the younger the child the greater is the need to embed the learning experience within a social-emotional context. In fact, for the very young, as our example of mother-infant question-answer implies, they are inseparable.[1]

Individual differences in learning ability may not be a function of some underlying dysfunction (although we cannot rule this out) but differences in learning within the context of what is to be learned. In fact, it may be the interaction of the mismatched learning situations and an underlying dysfunction that may be the most debilitating of all. For example, a powerful social class difference (at least among certain groups) may be the degree of adult or peer orientation. If poor children have less adult and more peer orientation--a striking finding reported by C. Brown in Manchild in the Promised Land (1971)--then learning differences when an adult is the teacher may be due to the context of learning, not any underlying cognitive dysfunction (Lewis & Rosenblum, 1975).

We started our discussion with an example of a single child. To conclude I should like to return to her. If, up until this point, my comments have been unclear or if the implication for a new conceptualization of learning has escaped you (or me), perhaps the example of how we are attempting to teach this child will help to clarify some of my comments.

Our first attempts at teaching her was along more traditional dimensions. Since her language usage, concept attainment and general knowledge store seemed inadequate, we thought to teach her colors, letters and those other skills which could help her in school. After two months it was apparent that Sandra wasn't learning; she was making little progress in learning her colors and letters while the other children were showing gain. Observation of the child within the learning situation confirmed our earlier impressions. Her behavior in the classroom matched what we saw when she was alone with the teacher. She did not selectively attend--the adult was not a potent stimulus for her. She did not look or answer when the teacher asked questions, either to her or to the class in general. She did not ask questions. She was not learning because she appeared to lack the skills for learning: she had to be taught how to learn!

Our curriculum was designed to meet that need. Sandra's behavior was reminiscent of a young child's behavior who had not benefited from normal mother-infant interaction--there was no flow and reciprocity in her behavior (see Brazelton et al., 1974, for example). We need to start a program of conversation, specifically the question-answer format. To this end, each day Sandra is given a 30-minute episode where her teacher, alone with her, engages in question asking behavior. The questions center around her ongoing activities, what she is feeling, and on occasion what she has done or will do (these questions we have found less effective in eliciting responses). The question asking occurs at a frequent level with an acceptable answer initially being a visual regard and selective attention response. No verbal response was initially required. Sandra's failure to produce a smile or visual regard to a question elicits a repetition

of the question with the inclusion of high and exaggerated inflection and facial expression. It is our hope to follow this initial curriculum development with increased usage of verbal response; this, however, will only occur after we have established the conversational/interactional skill.

The curriculum developed for the child is only two months old. Great progress has been made in this initial phase. Question asking elicits selective attention and appropriate facial expression. One and two word replies are beginning to emerge. Sandra appears happier, she is more integrated into the activities of the nursery and she shows increasing signs of reciprocal interaction within her social world. It remains to be seen whether her deficit can be overcome through this procedure--more, it awaits further testing to determine whether our formulation of social cognition dysfunction is a legitimate conceptualization.

We believe that learning in general and some language acquisition skills in particular, involve the social environment of the child. Moreover, it is our strong view that this interconnection between competencies (social, cognitive, linguistic, etc.) changes as a function of ontogeny--the younger the child the greater the interrelatedness. The implication for dysfunction, intervention and curriculum development is broad. We must come to understand the dimensions of the child's world--we hold it to be social--and manipulate that world to effect the changes we think best. We have conceptualized the child's social network containing parents, other adults and children as comprising the context out of which later skills are to develop. It is this context which provides the prototype of much subsequent development.

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Footnote

[1]The child learning literature is full of examples of this; see for example, Lewis, Wall and Aronfreed (1963) who showed that first graders learned faster when a social versus nonsocial reinforcer was used, but by the sixth grade children showed little difference in their learning ability as a function of the nature of the reinforcer.