DOCUMENT RESUME

ED 063 580 CS 000 009

AUTHOR Menyuk, Paula
TITLE Language Development: Universal Aspects and Individual Variation.
PUB DATE May 72
NOTE 17p.; Paper presented at the Annual Convention of International Reading Association (17th, Detroit, May 10-13, 1972)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Basic Vocabulary; *Beginning Reading; *Child Language; Generative Grammar; Grammar; Language Ability; *Language Development; Language Patterns; *Prereading Experience; Preschool Children; Sentence Structure; Syntax; *Verbal Development

ABSTRACT

Universal trends and individual variations in the language development process of the child are described and their relationships to beginning reading instruction are discussed. Child language begins with single word utterances to name things or to express needs and feelings. With a two-word utterance, the child can describe relationships more precisely: he has a "topic" of conversation and a modifying "comment." He begins to use the linguistic conventions of intonation and stress to define meaning. The child then begins to add grammatical structures to his language, and mastering the simpler structures before the more complex. The child is able to make generalizations about the language he hears and is able to form structural descriptions or rules spontaneously. By school age the child possesses a vocabulary of 2,000-3,000 words, and he can generate a variety of types of sentences. His language continues to become more precise and rich. The most important linguistic development from kindergarten on is the acquisition of more and more complete descriptions of relationships within and between sentences. (Examples of child language patterns are given; implications for reading instruction are discussed; and a bibliography is included.) (AL)

Language Development: Universal Aspects and Individual Variation*

Paula Menyuk
Massachusetts Institute of Technology
Research Laboratory of Electronics
Cambridge, Mass.

*Paper to be presented at the Seventeenth Annual Convention of the International Reading Association, Detroit, Michigan, May 9-10, 1972.
Work supported by grant NINDS 5 R01 NS 04332-09.

Since language development is rather a huge topic, I've decided to narrow it down to a discussion of some universal trends and individual variations that have been observed in the language development process. I believe this topic is, at least potentially, very relevant to the interests of this association since these factors may have direct bearing on how children learn to read. I intend to give you some examples of these universal trends and individual variations during the early years of life (many of these concepts are expanded on in Menyuk, 1972) and then attempt to come to some conclusions about what implications these developments have for the course of later development in the acquisition of reading. I think, however, that these comments should be viewed as being speculative since there is, at present, no conclusive data about the correlation between the status of the child's language performance and his level of ability in learning to read (Chall, et al, 1965).

Universal aspects of development and individual variations have been observed at the very earliest stages of development. It is the case that the age at which a child begins to use recognizable words and structures varies widely. There is also some evidence that the surface form of these early structures can vary although these differences have not been carefully documented and described. Some children have been found to begin language production by primarily using single words that are

clearly articulated while others use phrases that are difficult to comprehend (Nelson, 1971). In addition, the function of the language usage appears to be different for the two groups. The single word producers appear to use language to name things in the environment while the latter group uses language to express needs and feelings. In analyzing the data in this study, it appears that the differences found may be due to the birth order of the child or differences in the linguistic styles of the mothers in their verbal interactions with their children. These differences in mothers' styles may be due to the fact that the child is a first or later child or to the mother's level of education. In any case, how these differences in the earliest productions of language can effect the course of later development is not clear. Both groups of children use language for both functions. They differ only in proportion of usage. An intriguing possibility is that these differences are early indicators of different conceptualizations about the use of language. These conceptualizations could, logically, strongly influence the course of later development, and could do so especially in those situations where language usage is removed from the usual direct speaker-listener communication as it is in reading.

Despite these variations in the phonological form and use of early utterances, the sequence of development of structures that has been found reflects both the universal functions of language and the human child's ability to capture the universals

in his language use. At the very earliest stages of development, when he is primarily producing one word utterances, the child uses language in accompaniment to an action in a particular situation to declare, either descriptively or emphatically, to demand and to question. The situation and action help to make clear the meaning of these utterances and, in addition, he uses a purely linguistic device, intonation and stress which also clarifies the meaning of these utterances. He may be describing relationships in these one word utterances, but the listener must rely on the situation to interpret the relationship the child wishes to express (Bloom, 1970).

When he achieves the two word utterance, he can describe relationships more precisely by using certain lexical items in a particular order and by also using intonation and stress. He not only has a "topic" of conversation but he also has a "comment" and this "comment" modifies the "topic" (Menyuk, 1969). Several factors about these early developments should be noted. First, the child uses some linguistic conventions, intonation and stress, in addition to content words to define meaning even at a very early stage. Second, the meanings he conveys fulfill some basic functions of language: to declare, to question and to demand. Third, each convention he adds allows the child to convey meanings in his utterances that are increasingly precise and he does this with increasing independence from the situation per-se. That is, those aspects of human language which may make it unique - to talk about things that are displaced in time and space, to hypothesize, and to invent (Hockett, 1963) are increasingly evident in children's

utterances.

From the stage at which the child is using one and two word utterances until he reaches some levelling off stage of grammatical development he continues to add structures to his grammar. The order in which he adds these structures is dependent on several factors. Structures which involve the addition of items are acquired before those which involve the movement of items. Thus, for example, negative structure rules are used before question structure rules. Structures which are simpler in derivation are acquired before those that are more complex. Thus, for example, negative sentences are used in their full grammatical form before negative-question sentences (Brown and Hanlon, 1968). Rules which operate on a small domain are acquired before those which operate on a large domain. Thus, number agreement is evidenced within a noun phrase before it is evidenced within the sentence (Cazden, 1968), and in the latter before it is evidenced across sentences (Menyuk, 1969). Rules which describe concrete relationships are acquired before those which describe abstract relationships. Thus, for example, prepositional phrases which describe place are used before those which describe time (Menyuk, 1971). Increasing complexity or sophistication in language production cannot be merely equated with increasing sentence length or gross language output, although, both, on the average, increase with age during the pre-school period. It can be seen, even in the few instances given, that complexity is a multi-faceted influence on the sequence of acquisition of the grammar

of the language. It consists of types of operations required, number of operations required, the domain of the application of rules and the concreteness of relationships expressed by structures. These facets overlap so that several are operating simultaneously.

The child's ability to add structures to his grammar indicates that he is able to make generalizations about the language he hears, abstract the parameters of these generalizations and store these in memory as structural descriptions or rules. For example, he makes generalizations about what composes a negative, or imperative or declarative, or question sentence. At different stages of development he makes different generalizations about the composition of these sentence types. It should be stressed that these parameters are not specifically pointed out to him. He selects them spontaneously. The generalizations he does make are dependent on both those aspects which are most important and salient to him and the level of analysis he can achieve because of the limitations of his own memory and cognitive capacities.

It is the case that the sequence of acquisition of various types of structural descriptions is very similar for children within the same language community during these early stages of development. In so far as the data is available it also appears to be similar for children from widely different language communities, although, probably very similar culture (Slobin, in press). It certainly would be reasonable to find universal aspects in

this early developmental period since shildren do not differ widely in their neurophysiological capacities if they are physically and intellectually normal, since there are universal categories and relationships which are expressed in many languages (Greenberg, 1963), and since the uses of language during this early period seem to be quite similar for children from similar cultures.

By the time the child enters school he has a vocabulary of 2 to 3 thousand words or more. He uses all the major syntactic categories of sentence, subject and predicate, verb, noun, pronoun, determiner, adjective, adverb and preposition. He can generate declarative, imperative, negative and question sentence types and he can generate them in the active and passive mood. He uses markers of number, place, time, manner and possession. He can conjoin and embed sentences, and, thus, theoretically has achieved the ability to create indefinitely long sentences. He can express the logical notions of actor-action-object, of negation, of conjunction, of cause and effect and of equality. Although this has been accomplished by the end of the pre-school period, the child continues to develop his linguistic skills and he does so for some time to come. These further developments are important because they lead to much greater precision in language use than was achieved during the early stages of development, and they allow the child to hypothesize and conceptualize about his experiences in a much fuller manner than he did pre-

viously.

Although the child at the end of the pre-school period can generate new sentences by embedding one into the other, the contexts and forms in which he does this are quite limited. He embeds sentences with only certain verbs and only at the end of other sentences. For example he produces sentences such as "I know what he's doing" and "I see the store that's on the corner" but not sentences such as "It seems that he's the wrong boy" or "The store that's on the corner has a sale." Although he produces noun phrases he elaborates them only to a certain degree. For example, he produces sentences such as "The old man was mean and he hit the boy" but not sentences such as "The mean old man hit the boy." His tense markers are limited and he rarely expands the verb phrase by adding markers to the verb. For example, he produces "I was playing' but not "I have been playing." He persists in trying to maintain the subject + verb + object order, and, therefore, does not use structures which disturb this order or intervene for too great a length of time between the occurrence of the subject and the verb.

The most important linguistic development from kindergarten on is the acquisition of more and more complete descriptions of relationships within and between sentences. These more complete descriptions require the addition of properties to the definition of words and these properties are syntactic and semantic. At the kindergarten stage the child's knowledge of these properties

is limited. For example, although the child is in most instances appropriately using prepositions in phrases his comprehension of the meaning of these prepositions and of the structures they can take is limited. He may substitute one preposition for another as in "She took me at the circus" and "I wake up on the morning" or he may use the preposition in a limited way. His use of the preposition "with" indicates that the word only has the meaning of accompaniment ("I want to go with him") and not the instrumental meaning ("I broke the chair with my foot"). The child's use of verbs in sentences clearly indicates the growth of his comprehension of the role and meaning of words by the addition of syntactic and semantic properties. As he adds properties to his readings of verbs, restrictions are found on the words that co-occur in a sentence. For example, at one stage of development the verb "make" is used in all contexts of "to form" and, therefore, in the context of both +human and -human ("make a team" and"make a box"). The verbs "say", "tell" and "ask" share properties so that sentences such as "say the story" and "tell the question" occur frequently in pre-school and kindergarten language samples, but rarely in the language samples of older children.

Not only is the child adding to the structures in the syntactic and semantic components of his grammar after he enters kindergarten, he is also adding rules to the phonological component of his grammar. These are primarily consonant cluster

rules and morphological rules. Those morphological rules which are limited in the contexts to which they apply are acquired after those that apply most generally. Thus, plural markers are acquired in the following order: +/z/ as in bees, +/s/ as in bats, +Iz as in matches, +voice+z as in wolves and irregulars as in mice. The same factor of increasing specificity operates in the sequence of acquisition of present and past tense markers. Children begin to expand their dictionaries to include many more multi-syllabic words and, thus, to learn the rules for application of suffixes and stress to generate new classes. For example, they learn that stress on the second syllable converts noun to verb (address versus address) and that the addition of suffix plus change in stress converts verb to adjective (telegraph versus telegraphic). Some children age 8 to 10 years have been found to apply appropriate stress rules to nonsense material in much the same manner as adults do. Interestingly, however, there are large individual variations among children so that some older children cannot carry out this task.

Just as with the earlier stages of development there seem to be universal trends in later development. The sequence of acquisition of increasing numbers of properties of words, comprehension and expression of relationships within and between sentences and acquisition of phonological rules seems to be similar for a large number of children at this later stage of development. However, there clearly are individual variations as well, and these seem

to become more marked during the later stages of this early development.

During the developmental period from about 18 months to 5 years the child radically alters the content of his grammar at least as evidenced by his language production. The nature of his analysis of the linguistic data he hears seems to change as well, although there is a great deal about the structures in the language that he appears to understand before he produces them in his own sentences. The exact differences between comprehension and production at various stages of development have not been described. When the child is producing one and two word utterances there is some indication that he only comprehends the meaning of the words and relationships expressed in his own utterances. Thus, comprehension and production are closely related. However, the more advanced children at this same early stage of development (those producing 2 and 3 rather than 1 and 2 word utterances) can comprehend sentences that are more complex than those they produce (Shipley, et al, 1969). Perhaps it is the case that those children who initially exhibit a greater distance between what they produce and what they understand continue to do so at an ever increasing rate as they mature because they are capable of a deeper analysis of the structure of a sentence as compared to those children whose comprehension and production of structures are more closely tied together. Thus, the former children more quickly acquire

more complicated structures. This is a very speculative comment, and there is, at present, no data to support it. Nevertheless, although the sequence of acquisition is similar for children within the same linguistic community, different children acquire structures at different rates.

It is possible, also, that different children approach asymptote in terms of acquisition of new structures at different levels of analysis of the structure of sentences. By the time the child enters kindergarten he seems to understand some quite complicated structures that he never uses or only uses rarely, but there are limits to this understanding as well as limits to the structure of utterances that are produced. Structures which involve transformational operations that disturb the subject-verb-object order are difficult for him to interpret and these structures continue to be difficult for some time. It is the case that the child entering kindergarten produces conjoined sentences that express logical relationships, but he comprehends and uses conjunctions which do not place many restrictions on conjoined elements ("and") or those which reflect concrete cause and effect relationships (because"). He rarely uses and doesn't completely comprehend the conditional ("if", "so") (Menyuk, 1969) or antithetic relationships ("but") (O'Donnell, et al, 1967). Children express and understand causal relationships before the temporal ("when" and "while"), the temporal simultaneous before the temporal sequential (before and after), and the temporal relationships before the antithetic (Katz and Brent, 1968). At

a still later stage of development he comprehends some structures in which the subject is separated from the verb by the object ("I promised him to go"), but different children vary widely in this ability perhaps depending on their cognitive development and language experience (Chomsky, 1969). It is the case that some structures of this type are not comprehended by adults in the community. Coincidentally, it has been found that almost 50% of American adults never reach adolescence in the Piagetian cognitive sense (Kohlberg and Gilligan, 1971). Thus, different structures may be "available" to different children at various stages of development, and, also, there are some structures that may never become available to certain children in their sentence analyses.

It is possible that individual differences in the level of language analysis that is achieved at the time of entering school may result in differences in performance in the acquisition of reading and writing skills. Although there is no conclusive data which indicates that this is so, it intuitively seems to be a logical assumption. There are, after all, a great many similarities between the two language systems to be acquired not only in that there are rules for sentence formation which are similar in both systems, but, also, in that acquisition of the two language systems both require the capacity to generalize, abstract and store information that is hierarchically structured as sentence, phrase, word and segment. The fact that no data is available on the relationships between these two processes may be due

to the ways in which language development has been measured in the studies that have attempted to examine these relationships rather than to there being no correlation between these two kinds of language performance.

There are, then, both universal trends and individual variations that can be observed in the child's acquisition of language. The universal trends reveal themselves as fairly fixed sequences in the acquisition of basic structures of the language. They are probably the product of the constraints imposed by maturation of the neurophysiological and cognitive capacities of the child, the functions of language, and the structure of the system he is acquiring. The individual variations reveal themselves as differences in the rate at which various structures are acquired by children and the different levels of analysis of the language that are reached. These differences are probably due to particular language experiences and/or intellectual capacities. I have purposely left out of this discussion the topics of dialect variation and bi-lingualism since you'll be hearing about these somewhat later. These differences obviously play an important role not only in the use of language but also in the child's conception of language function. Both these factors, universal trends and individual variations should be considered when planning for the child's acquisition of reading. The universal aspects indicate why and how a child goes about acquiring a language system. The individual variations may prescribe his

level of competence at the time of school entrance or where he is "at" at the beginning of the reading acquisition process.

References

Bloom, Lois. Language Development: Form and Function in Emerging Grammars. Cambridge: M.I.T. Press (1970).

Brown, R. and Hanlon, C. Derivational complexity and order of acquisition in child speech. Paper presented at Carnegie-Mellon Symposium on Cognitive Psychology, Pittsburgh (1968).

Cazden, Courtney. The acquisition of noun and verb inflections. Child Development, 39, 433-448 (1968).

Chall, J., Roswell, F., Alshan, L., Bloomfield, M. Language: visual, auditory and visual-motor factors in beginning reading. Paper presented to annual meeting of the Amer. Educational Research Association, Chicago, Feb. 11 (1965).

Chomsky, Carol S. The Acquisition of Syntax in Children from 5 to 10. Cambridge: M.I.T. Press (1969).

Greenberg, Joseph (Ed.) Universals of Language. Cambridge: M.I.T. Press (1963).

Hockett, Charles F. The problem of universals in language. In J. Greenberg (Ed.) Universals of Language. Cambridge: M.I.T. Press (1963).

Katz, E.W. and Brent, S.B. Understanding connectives. J. of Verbal Learning and Verbal Behavior, 7, 501-509 (1968).

Kohlberg, L. and Gilligan, C. The adolescent as a philosopher: the discovery of the self in a post conventional world. Daedalus, 100, 1051-1086 (1971).

Menyuk, Paula. Sentences Children Use. Cambridge: M.I.T. Press (1969).

Menyuk, Paula. The Acquisition and Development of Language. Englewood Cliffs, New Jersey: Prentice Hall Inc. (1971).

Menyuk, Paula. Aspects of language acquisition and implications for later language development. Paper presented at Curriculum Officers Conference on Primary School English, Melbourne, Australia, August 30 - September 3, 1971. Published in English in Australia, No. 19, February (1972).

Nelson, Katherine. Presyntactical strategies for learning to talk. Paper presented at Biennial Meeting, Society for Research in Child Development, Minneapolis, Minn. (1971).

O'Donnell, R.C., Griffin, W.J. and Norris, R.C. Syntax of Kindergarten and Elementary School children. Champaign, Illinois: National Council of Teachers of English, Research Report No. 8 (1967).

Shipley, E.F., Smith, C.S. and Gleitman, L.R. A study in the acquisition of language. Language, 45, 322-342 (1969).

Slobin, D.I. Early grammatical development in several languages with special attention to Soviet Research. In T. Bever and W. Weksel (Eds.) The Structure and Psychology of Language (In Press).