DOCUMENT RESUME

ED 222 859 CS 006 847

AUTHOR Hamilton, Mary E.; Barton, David
TITLE A Word Is a Word: Metalinguistic Skills in Adults of Varying Literacy Levels.
INSTITUTION Stanford Univ., Calif. Dept. of Linguistics.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE 20 Dec 80
GRANT NIE-G-80-0040
NOTE 26p.; For related documents see CS 006 845-846.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adults; *Concept Formation; *Definitions; Language Acquisition; Language Research; *Language Skills; Language Universals; *Linguistic Theory; *Literacy; *Metacognition; Reading Ability; Reading Research; Reading Skills
IDENTIFIERS *Metalinguistic Awareness; Segmentation (Verbal)

ABSTRACT

As part of a wider study of metalinguistic skills, a study examined the metalinguistic awareness of the concept "word" of adults at different literacy levels. Subjects, 60 adult monolingual English speakers enrolled in adult education classes, were divided into three groups according to reading level. Data were gathered through a structured interview consisting of (1) questions about the segmental structure of English, (2) an oral vocabulary test, (3) a question asking for the definition of "word," (4) questions asking for judgments of oral and graphic items, and (5) background questions about schooling and language experience. Analysis of the content of the subjects' definitions revealed three main kinds of features--units, meaning, and functions--with an increasing elaboration of references to units with reading level and a change in the kind of functions referred to, with written functions mentioned more often by lower readers. Analysis of definitional form reinforced the idea that higher level readers are more likely to talk of words as "units of language." In contrast to some developmental theories, these results suggest that factors other than developmental level affect people's concept of "word" and that metalinguistic skills are not one, undifferentiated domain but may be tied into specific areas of cognitive experience and expertise. Literacy is critical to some of these skills but not to all. (JL)

A WORD IS A WORD: METALINGUISTIC SKILLS IN ADULTS OF VARYING LITERACY LEVELS[1]

Mary E. Hamilton and David Barton
Department of Linguistics
Stanford University
December 20, 1980

ABSTRACT

This paper investigates the concept of word in adults with a low level of literacy and compares them with a literate control group. 60 adults gave definitions of word and judged whether specific items were words, during an interview of metalinguistic awareness. Few adults gave definitions which were completely adequate, either in content or form. Definitions were analyzed in terms of 3 main dimensions: functions, units and meaning. There were differences according to literacy level: higher readers gave more elaborated references to units and fewer references to written functions. They more often approximated the ideal form in their definitions. The definitions were compared with data reported for children and the possible effects of development, literacy and schooling were discussed.

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[1] This research was supported by a grant from the National Institute of Education(#NIE-G-80-0040). We gratefully acknowledge the support of Charles A. Ferguson through all phases of the research. We would like to thank the staff and students of the adult education centers where we conducted the research, especially those at the San Francisco Adult Learning Center. We would also like to thank Bill Arsenio and Rebecca Hovey, who assisted in data collection and coding.

1. INTRODUCTION

People not only talk, but they talk about talking. They reflect upon their language activities and skills. Awareness of language is one aspect of a wider, metacognitive ability that characterizes human thought and which Flavell (1978) has defined as 'knowledge and cognition about cognitive phenomena'. Our understanding of the metalinguistic skills that people possess is, as yet, very limited. Does everyone have the same kind and degree of awareness and if not, what accounts for variations in metalinguistic skills? How do they develop and what affect does awareness have on other skills? There are various ways to investigate metalinguistic abilities. We may ask people to identify or define linguistic units and rules. We may ask them for judgements about linguistic items; we may infer their abilities from observations of their language monitoring behavior or the ways in which they play with language. Each of these methods taps a different level of metalinguistic knowledge with definition and identification representing a high level of awareness (see articles in Sinclair et al, 1978 for further discussion of levels of metalinguistic awareness, especially Clark).

One aspect of metalinguistic awareness that has received attention from both linguists and psychologists is peoples' concepts of word.

The reasons why the word has been a focus of attention are well discussed by Papandropoulou (1978):

> This unit was chosen--though it has never been sufficiently defined-- because it seems to be more understandable to naive speakers than other, more technical terms such as syllable or sentence. Words as units have the added advantage that they can be analyzed phonologically, syntactically and semantically; they are made up of smaller units and form part of larger units, and their reference is generally extra-linguistic. Moreover, word is probably the most frequently used term in non-technical discussions about language.

In other words, word is assumed to have more psychological validity than other linguistic units and can be discussed without the use of an extensive, technical vocabulary. In addition, word is the prime technical term of reading instruction. In linguistics it is an important but controversial unit, which cannot be abandoned yet has never been adequately defined. (See Hyman 1978). We are dealing here with English, but a similar problem exists in other languages. Most languages have a word for word, though it has a different range of reference in different languages (cf.

Cole 1980, Goody 1977). A brief inspection of dictionary definitions gives an idea of the many extensions and ambiguities of this concept.

For all the reasons stated above, the concept of word seems to be a good starting point for enquiries into metalinguistic awareness. A variety of experimental techniques have been used, but most attention has been focussed on children. Almost nothing is known about how adults conceptualize word. We have only anecdotal evidence from linguists such as Sapir (1921) and assumptions about what 'ideal' adults probably do.

Early observations by Vygotsky (1962) and Piaget (1929) suggested that children possess very limited understanding of the concept of a word. In his early work 'The Child's Conception of the World' Piaget (1929) carried out the first investigations into childrens' concepts of word and their awareness of words as entities separate from the objects they represent. This work and the extensions of it that have been carried out by Papandropoulou and Sinclair (1974), Wetstone (1977) and Markman (1976) suggest a developmental component to the understanding and linguistic expression of the concept of word which is linked to general cognitive development. It seems to be the case, as Lundberg(1978) points out, that "to a pre-school child, it is in no way apparent that language consists of words, that words vary in length, that words are built up of parts and the like".

According to Papandropoulou and Sinclair (1974), children become increasingly aware with age, of words as differentiated from the objects they signify, and increasigly able to reflect upon words as integrated into the system of units that constitutes language. Wetstone (1977) and Markman (1976) confirm the difficulties that young children have in expressing these ideas, but they are more cautious in their interpretation. Markman, in particular, argues that the demands of the nominal realism task and problems of linguistic expression may prevent the children from demonstrating the full extent of their understanding. She emphasizes the problem of investigating language awareness using the medium of language itself. In addition, Litowitz (1977) points out that children have to learn how to define words in terms of other words. Making definitions is, in itself, a skilled verbal activity and one that is not at all common outside of the academic context, except in certain technical activities such as law.

A number of people have recently suggested one way in which metalinguistic ability may be useful to us - that is in relation to literacy. (e.g. See Donaldson 1976 for a review of these proposals.) Reid (1966), Downing & Oliver (1974), Mattingly (1972) and Read (1978) all see such aware-

ness as critical to the acquisition of literacy. Downing (1979) argues that

> the learning to read process consists in the rediscovery of the functions and coding rules of the writing system; their rediscovery depends on the learner's linguistic awareness of the same features of communication and language as were accessible to the creators of the writing system.

Downing reviews research evidence that children approach the tasks of reading instruction in a state of 'cognitive confusion' about the purposes and technical features of language and suggests that reading teachers cannot assume that their beginning students understand linguistic concepts such as word.

Olson and Nickerson (1978) suggest, on the other hand, that literacy may facilitate metalinguistic awareness because of the different qualities and demands of written language: awareness, in turn, leads to the development of more abstract thinking.

We thus have several hypotheses about factors which may affect metalinguistic performance: that metalinguistic abilities develop with age; that our methods of assessing metalinguistic skills are not always adequate and that awareness of language is in some way related to the acquisition of literacy.

This paper describes part of a wider study of metalinguistic skills. The study extends the range of our knowledge of metalinguistic awareness by focussing on adult populations who differ according to their degree of literacy. We hope to begin to disentangle the effects of development, schooling and literacy on metalinguistic awareness. The present focus is on adults' concepts of word. The paper addresses the following questions:

1. How do adults express the concept of word? What variety of definitions do they give and how adequate are these definitions?

2. What light can the responses of these adults throw on the child data obtained in previous studies, and on the adequacy of the suggested developmental hypothesis?

3. What differences are there between literate and non-literate adults in their concepts of word. For example, do literate adults appeal more to written aspects of words in their definitions? What can these differences tell us about the relationship

between literacy and awareness of language? Are there some of these skills which develop even without literacy or others which are not necessarily present even among literate adults?

2. POPULATION

60 adults attending learning centers in San Francisco were interviewed for this study. The adults were new students in adult education classes. Some were enrolled in literacy classes specifically, and others in a variety of Adult Basic Education and vocational skills classes.

All adults were monolingual English speakers. Adults with any known visual or hearing problems or spoken language disabilities were excluded from our sample.

The 60 adults were divided into 3 groups on the basis of reading level: Reading level was assessed through a battery of tests which students took at the time of their enrollment in the learning center: each student was assigned a grade-equivalent reading score on the basis of these tests.

The mean reading level and the range of reading levels were:

	READING GROUP		
	BASIC	MEDIUM	HIGH
Mean Reading Level (Grade equivalent)	2.7	5.8	9.1
Range	1.0-3.9	4.0-7.3	7.5-12.0

The three groups of adults did not differ according to their mean age (28.0 years) or school grade completed (10.5).

3. THE INTERVIEW

The data on which this paper is based were collected during a structured interview designed to elicit a number of different aspects of metalinguistic awareness.

The interview consisted of a) questions about the segmental structure of English; b) an oral vocabulary test, adapted from the Weschler Adult Intelligence Test; c) a question asking for the definition of word d) questions asking for judgements of oral and graphic items and e) questions asking background information about schooling and language experience.

Immediately following the vocabulary test, adults were asked 'What does word mean?' The format of this question was identical with the preceding questions, thus situating it in the context of giving definitions. It was hoped that this orientation would ensure that the question was always understood in the same way and also that it would have face validity for adults. People were prompted to give as full a definition as possible. If a person had great difficulty in answering the question, the question was rephrased as 'What is a word?"and if there was still no response, 'Can you give an example of a word?"

After this question, adults were presented with a series of oral and graphic items. For each item they were asked to judge whether or not it was a word and to give a rationale for their judgement.

Responses were tape recorded and later transcribed and coded onto interview scripts.

4. ANALYSIS AND RESULTS

4.1 CODING

Responses to the question "What does word mean?" were transferred verbatim from the interview scripts to separate index cards, one card for each adult. The contents of these cards constituted the data base for classification and analysis. The cards were identified only by a number which gave no clue as to the reading level of the respondent. In this way, definitions could be classified and scored blind.

The adults in this study, even the most basic readers, were able to answer the question 'What is a word?' and to give some kind of definition. Only one person failed to give a definition at all. The definitions that were given were diverse and the question engaged people in serious

thought: many people commented on the difficulty or novelty of the question and said they had never considered it before. The responses ranged from simple word associations ("Like word, syllables; I know words is words. Letters?") to complex definitions which mentioned more than one aspect of word ("a sentence is made up of words and a word is made up of letters; a word is a part of speech, it's something that talks about something or tells about something")

Before analyzing the definitions a coding scheme had to be developed. 25 features were identified which described the content of the definitions. In part, these features reflect suggestions from the literature as to the important elements of definitions of word and in part, they were categories which were suggested by the data itself. Appendix A lists the features, together with examples from the adults' responses.

Each definition was coded in terms of the 25 features. Repetitions or rephrasing of the same feature in a given definition were not coded separately. The number of features mentioned in a definition ranged from 0 to 6.

It is not a simple matter to assess the overall adequacy of the definitions because people varied in how ambitious their definitions were: some people aimed for complex definitions but failed on account of misused terminology or ambiguous expression of their ideas. Others gave accurate but oversimplified or incomplete definitions. We will therefore consider not only the content of the definitions but also the form and language in which the ideas were expressed.

4.2 CONTENT OF THE DEFINITIONS

There appeared to be three main kinds of features included in the definitions: these were mention of units, mention of meaning and mention of functions. A fourth dimension which was used less frequently, was mention of other specific attributes. We will discuss each of these in turn. The number of subjects referring to the various dimensions is given in Table 1 (The full data is given in Appendix B).

Functions. The most common dimension used was mention of the functions of word. Some function was mentioned by 39 (60%) of the subjects. There were 6 features concerned with functions (features 6,7,9,10,11,14). They can be divided into references to three types of function: mention of speech; mention of writing; and mention of non-medium specific functions of word, such as "communication". The spoken function of language was the most popular function

TABLE 1

Number of subjects who included the different dimensions in their definitions of word

Dimension	Number of subjects in each group BASIC	MEDIUM	HIGH	TOTAL
FUNCTIONS:	11	14	14	39
Type of function:				
Spoken only	4	8	11	23
Written only	3	2	0	5
Spoken+Written	3	2	1	6
Unspecified	1	2	2	5
MEANING:	10	10	10	30
Highest level mentioned:				
Names etc.	7	4	3	14
Direct reference	3	6	7	16
UNITS:	9	9	12	30
Highest level mentioned:				
Letters,vowels,etc.	3	2	1	6
Elements grouped	4	2	3	9
Part of a sentence	2	3	4	9
Part of language	0	2	4	6
ATTRIBUTES:	4	4	4	12
Type of attribute:				
Kinds of words	3	0	1	4
Definitions etc	1	3	3	7
Metaphors	0	1	0	1
NO CONTENT:	6	2	4	12
Type of response:				
Context dependent	1	1	1	4
Word associations	4	1	3	9
Both	1	0	0	1

referred to. Writing was referred to less often and on half the instances it appeared in combination with a reference to speech. Non-medium specific functions consisted of more generalized references to the communicative, expressive or descriptive uses of words and were infrequent.

Although overall there was no difference in the number of people mentioning functions, we can see that the groups differed in the functions that people referred to. Contrary to our original hypothesis, people in the high group were more likely to refer to spoken functions, while those in the basic group were more likely to refer to writing. Seven basic level subjects made some reference to speaking and 12 high level subjects; six basic level subjects referred to written functions while only one high level subject did so. This difference is significant ($p < .05$, using Fisher's exact test). Non-medium specific functions were more frequently mentioned by higher readers (6 people versus 2 in the basic group).

Examination of the content of the definitions shows this difference to be more marked than the figures show. When talking about spoken functions the basic readers would say that words are something one 'says', while high level readers would go further and refer to 'sounds' and other spoken units (though no-one ever referred to words as being composed of sounds). Secondly, the one high reader who referred to written functions did so only obliquely and after some probing.

Meaning. This consisted of some reference to the fact that a word is a signifier. Such references ranged from an apparent equivalence of word and object to the recognition of a highly abstract relationship between the signifier and the signified. Half the subjects mentioned meaning in their definitions; they were spread evenly through the three groups. Eight features of the definitions are relevant to meaning. We have ordered them in terms of sophistication into three levels.The number of subjects giving definitions at each level is shown in Table 1.

Although identical proportions of subjects in the three groups mentioned meaning, those in the higher group gave more sophisticated references: while subjects in the basic group mentioned the naming and labelling aspects of word meaning and relied on noun-like examples of words, (features 1,3,4 and 5), subjects in the higher groups were more likely to mention the symbolic and signifying meanings that word has (features 16,17,22,24). This tendency is not significant, however.

Units. This was expression of the idea that words are integrated into a system of units which constitute language.

There were six features concerned with units (features 8,12,13,15,20,21). They ranged from the simplest mention of letters, through references to words as part of a sentence, to the most sophisticated idea of a word being a unit in the overall system of language. Overall 30 subjects (50%) mentioned units. (In the table the most complex use of units by the subject is the one counted.)

Instances of all the types of references occurred in all groups except for the most abstract type which was not mentioned by any basic readers. The major difference between the groups was in mentioning that words are part of the larger system of language, including sentences: eight people from the high reading group mentioned this fact, as opposed to two people in the basic group (Chi-square=7.2, $p < .01$).

Attributes. This included references to other specific attributes of words not included above. Specific attributes were responses such as "the truth" (feature 23) or references to dictionaries and definitions (feature 19) or to the fact that there are different kinds of words (feature 18). There were 12 subjects (20%) whose answers included features from this category.

The above dimensions account for all the features except for references related to the immediate context (feature 3) and the direct equating of words with other language units (feature 25). These are shown in Table 1 as non-content features.

The three main dimensions were combined in various ways by the subjects, as in Table 2. (Other Attributes always occurred with some main dimensions and are not included here.)

It seems that subjects choose either meanings or functions for their definition and may include units or include all 3 dimensions. 29 subjects mentioned no more than one dimension in their definition. The remaining 31 subjects mentioned two or more dimensions in combination. There was no evidence that literacy level affected the number of dimensions included in a definition. If only one dimension is mentioned, it is most likely to be Functions. If more than one dimension is included, Units are almost always mentioned (in 27 out of 31 instances) and they are frequently mentioned first.

In sum, despite small numbers due to the wide variety of responses, we can point to two clear trends in the poor data: the increasing elaboration of references to units with reading level and the change in the kind of functions referred

Table 2: Combinations of the three main dimensions that were included in definitions

Dimension	Number of subjects in each group			
	BASIC	MEDIUM	HIGH	TOTAL
Functions only	6	7	4	17
Meaning only	2	2	2	6
Units only	1	1	1	3
Functions + Units	1	1	5	7
Meaning + Units	4	2	3	9
Functions + Meaning	1	1	2	4
All three	3	5	3	11
None	2	1	0	3
Total	20	20	20	60

to, with written functions being mentioned more often by lower readers. There were other non-significant trends which when combined with these results all point in the same direction: they imply a change toward use of a more technical vocabulary to express more linguistically sophisticated ideas.

4.3 DEFINITIONAL FORM

In addition to the content analysis, definitions were also scored according to the form in which they were expressed and the language that was used in the definition. Definitional form was scored following the framework of Litowitz (1977). In this framework the forms ranged from semantically empty statements, through word associations, lists of concrete examples or attributes, purely functional definitions to approximations to an 'ideal' Aristotelian form. The 'ideal' form is "A word is a (class) which (attributes)". An additional form was observed in our data which was not readily integrated into Litowitz' scheme. This is where word is described solely in terms of smaller or larger units of language. 6 of the definitions coded as 'unclassifiable' in fact took this form with no other (3 in the basic group, 1 in the medium group and 2 in the high).

as in Table 3

Table 3: Form of definitions given by adults

Type of definition	Group			
	BASIC	MEDIUM	HIGH	TOTAL
Non content or unclassifiable	5	3	2	10
Listing examples or attributes	5	3	2	10
Functional	4	2	2	8
Approximations to ideal	6	11	8	25
Ideal	0	1	6	7
All	20	20	20	60

The majority of adults in our sample gave responses that reach or approximate to the ideal. Few people gave complete Aristotelian definitions - only seven in all. Of the adults in our sample who did not give ideal definitions, or approximations to the ideal, their responses were evenly distributed between functional definitions, attributes or concrete examples and the lowest category of word associations or contentless definitions: other examples of these lower forms were sometimes included within a more complete definition: people would rephrase their definitions several times, as if striving towards the best expression of an idea. For example:

> "Alphabets, like in a sentence.....Alphabets put into order. Any alphabet that's put into a structure in a sentence."

Significantly more high level readers gave ideal, or approximately ideal forms than lower readers did (Chi-square = 6.4, $p < .05$). Nevertheless, when defining word, adults do not necessarily give the highest form of definition.

As mentioned above, there was a form of definition in which 'word' was defined in terms of other language units: it is a group of smaller elements, usually letters, or a part of larger units of speech. The number of adults who used this form were as shown below.

The 3 reading groups differed significantly in the rate at which this form occurred (Chi-square =14.3, $p < .001$). The definition of word as part of larger units of speech was given particularly by members of the high reading group.

	BASIC	MEDIUM	HIGH	TOTAL
Part definitions:				
smaller units	4	3	5	12
larger units	0	1	8	9

This definitional form, of course reflects our finding that higher level readers are more likely to talk of words as 'units of language' and reinforces the idea that this notion of words integrated into a system of units becomes a central defining one for the higher readers.

5. DISCUSSION

5.1 COMPARISON WITH PAPANDROPOULOU AND SINCLAIR'S FINDINGS

In their study of children between the ages of 4-10 years, Papandropoulou and Sinclair (1974) describe a tentative progression in conceptualizing words which we could apply to adults' responses. They observed a range of responses in children's definitions of word and propose 5 levels of understanding. At the lowest level of response, there was an apparent lack of differentiation between a word and its object and an exclusive focus on the objects and actions referred to by words. There was a gradual change in responses with age up to the fourth level. At this level, words were referred to as autonomous units that can be discussed according to different attributes (they can be written, defined, pronounced etc.) Words are seen in the context of a structured system of language, and are described as having individual meaning within that system. Papandropoulou and Sinclair see these high level responses as prefiguring an adult-like understanding, an hypothesised level 5, where there is formal expression of the idea that words are integrated into a system of relationships between signifiers.

How do our adults responses compare with these findings? In some respects our data fit well with Papandropoulou and Sinclair's observations: adults frequently mentioned combinations of attributes; they described words as having meaning and referred to words in relation to other language units. However, functions, which was the most popular dimension in the adults' definitions, is not identified by Papandropoulou and Sinclair. References to written, communicative or expressive functions of words or to other, specific attributes of words, can only be integrated into their system of levels when they are mentioned in combination as different aspects of words. Using the classification in this way, we were able to include all features except metaphors (feature 23) and word associations (feature 25).

Papandropoulou and Sinclair assigned levels on the basis of information about 2 types of awareness: definitions of word and judgements and examples of words given by children. We will deal with the evidence from these different kinds of awareness separately. We will first discuss definitions and then turn to the information obtained from adults' judgements of words. Table 4 shows the distribution of definitions found in our data. Adults' definitions were spread throughout all levels. The majority fell into Level 4, the highest level of understanding found in children's responses. Level 5, which was postulated by Papandropoulou and Sinclair but not observed by them in their data, was rarely reached in our data either: 8 definitions were so classified out of the total of 60. Moreover, one third of all definitions fell into the lower levels of this scheme. This is a substantial and surprising number of responses, considering that we are supposed to be dealing here with developmental levels.

Table 4: Distribution of definitions using Papandropoulou and Sinclair's levels

Level of Definition	GROUP			
	BASIC	MEDIUM	HIGH	TOTAL
NONE	1	1	0	2
LEVEL 1	0	0	1	1
LEVEL 2	2	6	0	8
LEVEL 3	5	1	3	9
LEVEL 4	11	10	11	32
LEVEL 5	1	2	5	8
TOTAL	20	20	20	60

When using Papandropoulou and Sinclair's system, definitions are assigned a level in one of two ways: either on the basis of evidence of misunderstanding or by default, that is to say, through lack of any evidence of a higher level understanding. There was only one instance of real misunderstanding of the concept of word, where a basic reader indicated that a word has to have a minimum of 3 or 4 letters. We looked to the rest of the interview for more evidence of understanding (as Papaandropoulou and Sinclair did). We found that the definition question elicited only one aspect of the adults' concepts of word: when adults

were asked to give judgements about whether oral and graphic items were words and to give reasons for their judgements, the results were quite unlike those given by young children.

Papandropoulou and Sinclair report evidence of serious misunderstandings in the responses of young children. Among these were: a) refusal to accept non-content words such as 'the' as being real words b)specification of a minimum number of letters to be included in a word c)offering phrases instead of individual words, as examples of word.

Acceptance of non-content words like the represents at least a level 3 understanding. Two adults in our sample, one in the basic reading group and one in the high group denied that the is a word. Two other basic readers were unsure. This means that the majority of those people who gave level 2 definitions or below, showed a level 3 understanding when asked for a judgement, rather than a definition. This is as one would expect from our understanding of metalinguistic awareness: definition requires a higher level of awareness than making judgements.

Interestingly, the two people who denied that the is a word, were both people who gave good, high level definitions of word. One person, who defined word as something having meaning and letters, gave a consistent rationale for excluding the:
"It's not a word because it doesn't symbol anything. It's the beginning or middle of a sentence."
The other person, who gave a functional definition of word explained their judgement in this way:
"No, I wouldn't consider it to be a word. It is a word, but just something to help out a word. Like in rock and roll where and is just to help out a word".
Both of these people, and the 2 others who were uncertain about the status of the seemed to correctly understand that the meaning of the lies in its relationship to other words, rather than to an external referent, but were not able to describe this difference in a formal way.

Adults never proposed or judged a phrase to be a word, although from time to time their explanations were obscure as a result of confusions of terminology. (for example:"a word is a group of words put together"); word associations sometimes suggested that words were being confused with larger units, but probing revealed this to be untrue: rather they were putting word into an appropriate domain.

"A word, a sentence, letter...."
(Is a word the same as a sentence?)
"No, a word is single, by itself"

We have already noted that very few people used a class term such as symbol to describe words. However, symbol was frequently used in other parts of the interview to refer to other written and graphic items. The failure of these adults to apply abstract class words such as symbol or unit to the concept of word was one reason why there were so few Level 5 definitions. Level 5 really requires that a definition explicitly include such vocabulary, in order to reach the highest level of generality. We cannot explain this failure as a lack of appropriate vocabulary, since we observed this vocabulary being used during the rest of the interview: simply, it is not applied to the concept of word. This suggests that symbol, for example has a range of application that does not include word or that there is not sufficient integration of these two specific terms.

The fact that all the levels discussed by Papandropoulou and Sinclair were observed in our data suggests that these levels are not purely developmental ones. It is true that if we utilize all the information in the interview, we can adjust many low level definitions upward. All default definitions at level 2 or below, move up to level 3. Level 4 remains the most common level. Most responses still do not reach level 5, as we would expect from Papandropoulou and Sinclair's developmental hypothesis. Level 5 is not universally the adult form: it involves explicit integration of abstract vocabulary and concepts that is not necessarily demonstrated by adults. We must, therefore question its status as a developmental level and suggest that other factors may also affect peoples' concept of word.

5.2 THE ROLE OF LITERACY

Word is a difficult, abstract concept to talk about. All adults we asked, except for one, and including even the most basic readers, were able to give a definition. However, the adequacy of the definitions varied a great deal; some people experienced great difficulty in expressing their ideas and needed repeated prompting. The definitions ranged from simple word associations to complex and explicit definitions.

We looked for differences between the three reading groups in both content and form of their definitions, to see whether literacy level affects peoples' concepts of a word. There was some evidence that higher readers express a more elaborated notion of the system of language units of which words are a part. There were significantly fewer references to written language with increases in reading level, which was not predicted. High readers were more likely to approximate the 'ideal' definitional form in their responses and to use more technical vocabulary, though this did not always imply greater conceptual adequacy.

Papandropoulou and Sinclair's system did not differentiate clearly between any of the three reading groups. The most frequent kind of definition in all groups was a level 4 definition. More high readers gave level 5 definitions than either medium or basic readers did. A closer look at the content of the definitions classified as level 4 does reveal some differences between the reading groups, however. Many of the definitions classified as level 4 that were given by the basic readers, reached level 4 because they mentioned a combination of aspects of words, usually the dual functions of written and spoken forms (9 out of 11 responses). In the medium and high reading groups, level 4 definitions were more likely to be so classified because they contained references to meaning (5 out of 11 responses).

Differences between literacy levels are blurred, and not absolute: most kinds of definitions found among the high readers were also found in the basic reading group. There were no significant differences between the groups in the number of features they mentioned or in the frequency with which the three main dimensions were used to talk about words. Completely adequate definitions, in terms of both form and content were rare among any of the adults in our sample.

Recent exploratory work by Cole (1980) bears on our findings. Cole worked with Vai-speaking adults in an African community, some of whom were literate and some of whom had had a Western style schooling. Not all the literates had received formal schooling, so these two factors are independent in Cole's study. In that study metalinguistic tasks which elicit peoples' concepts of <u>word</u> in the Vai language, such as nominal realism and word definition tasks, did not discriminate between literate and non-literate people, though responses did vary according to whether or not people had received formal schooling. cole found that almost no one was able to give an adequate definition of <u>word</u> in Vai, although people had greater success in defining more concrete concepts.[2]

Our findings of few clear effects of literacy level contrast with other measures of metalinguistic awareness which were obtained from our interview study: significant

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[2] We have also informally interviewed a number of highly literate adults (with at least 4 years of college education). They differ from our present group of informants in many ways and so could in not be considered an adequate comparison group. However, they represent an upper range of education and literacy skills. Level 5 awareness was much more common among these people, but as in the present study, a range of responses was still given.

differences were found between high and basic Readers in awareness of segmental structure (Barton & Hamilton 1980). This suggests that metalinguistic skills are not one, undifferentiated domain, but may be tied into specific areas of cognitive experience and expertise. Literacy is critical to some of these skills, but not to all.

In the present study, schooling was controlled so we cannot conclude anything about its effects on metalinguistic skills. However, there are indications in our data that this would be a useful question to follow up in future research. Many reflections of schooling were observed in peoples' descriptions of language. In the rest of the interview we observed numerous examples of technical or schooled langage being used. Use of these terms was frequently idiosyncratic: they were used incorrectly or to cover a different range of reference than is commonly accepted. People struggled to talk about different kinds of words, but did not have a firm grasp of the vocabulary describing parts of speech such as articles or prepositions; Terms such as word, letter and alphabet were sometimes interchanged, and references to punctuation were often incorrect. This suggests that the "cognitive confusion" that Downing describes in young children is far from resolved in the adults we interviewed, at least as far as it relates to the featural concepts of language.

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Appendix A

FEATURES IDENTIFIED IN ADULTS DEFINITIONS OF WORD

N.B. Letters in parentheses indicate reading group from which the example was taken: (B)Basic,(M) Medium,(H)High.

Feature	Name	Example
1	Example of noun or verb	'a word could be anything: apple, mechanic, flying, that's a word' (H)
2	Example of non-content word	'like the, if, which, you is a word' (B)
3	Example related to immediate context	'like you're showing me now, learning some new words' (B)
4	Names, labels	'A name, a city, a name of a book, school, my name, your name' (B)
5	Definition of referent of a noun	'a word is a place, a person or thing' (M)
6	Reference to spoken language	'something people use when they speak' (M)
7	Reference to sounds	'its a sound to talk'(H)
8	Reference to vowels and consonants	'every word has to have at least a vowel'(H) 'a word means vowels and consonants together'(B)
9	Expressive function	'to express, to state, to make a statement'(H)
10	Descriptive function	'words are like pictures that describe something' (M)
11	Communicative function	'way of communicating'(M)

12	Simple reference to letters	'letters'(B) 'a letter like in the alphabet'(B)
13	Minimum number of letters specified	'a syllable that 3 or 4 letters make'(M)
14	Reference to written language	'a word is something you write'(B) 'you spell the word'(B)
15	Elements grouped together	'a group of letters put together'(B)'a combination of the alphabet'(H) 'sylonyms (sic) together' (M)
16	Indirect mention of meaning	'a word is something that tells about something or talks about something"(H)
17	Direct expression of meaning	'every word has a meaning' (M) 'to make sense'(H)
18	Different kinds of words	'there's different kinds of words'(B)
19	Mentions definitions, dictionaries etc.	'definitions'(H) 'a word is in a dictionary'(B)
20	Part of a sentence	'words are part of a sentence'(H) 'You write down sentences into words'(B)
21	Part of speech, language	'its part of language, a part of speech' (M) 'a part of communication or civilization'(H)
22	Mentions symbols, signs	'its a sign'(B) 'words have symbolical meaning for things'(M)
23	Metaphorical extensions	'the truth'(M)
24	Creation of ideas	'to create a subject or explain it'(H)
25	Word is equated with other language units	'a word is language'(H) 'a word is a phrase'(H) 'a word, sentence, letter'(B) 'syllable'(B)

Appendix B

FEATURES MENTIONED IN EACH DEFINITION

CASE NO.	NO CONTENT	MEANING	UNITS	FUNCTIONS	ATTRIB	TOTAL
1		2				1
2		2				1
3				6,14		2
4		22	15	6		3
5	25					1
6	25	5	8,15,20			5
7		1	20	14		3
8			15			1
9				6,14		2
10	25	4,17	12		18	5
11	3	1		14	19	4
12	25			6,9		3
13				6,14	18	3
14			12	6		2
15		1,16,17	15			4
16				14		1
17		1	12	6		3
18		5	15			2
19	25,3					2
20				11	18	2
Total	7	13	11	15	4	50

Figure 1: Features mentioned by basic readers in their definitions

CASE NO.	NON CONTENT	MEANING	UNITS	FUNCTIONS	ATTRIB	TOTAL
1				6		1
2		16	8,15	9		4
3				6,14		2
4		2	12			2
5			13 ,15		23	3
6		16	20	6		3
7				6		1
8		4,5			19	3
9		17	15,20		19	4
10		5,17,22	21	11		5
11			20	6		2
12	25	17	12	10,14	19	6
13	3			6		2
14				6,14		2
15		17		7		2
16						0
17				6,11		2
18		1,4				2
19				6		1
20		1	21	14		3
Total	2	17	12	18	4	50

Figure 2: Features mentioned by medium readers in their definitions

CASE NO.	NON CONTENT	MEANING	UNITS	FUNCTIONS	ATTRIB	TOTAL
1			21	7	19	3
2				7,11		2
3	25	17		6		3
4			8,15	7,14	19	5
5		17	15	6		3
6		17		6		2
7		17,24	15,20			4
8			20	9		2
9				6,9		2
10		16	15,20,21			4
11	25		15,20			3
12	3	2	20,21	6		5
13		5	15,20			3
14		17				1
15			8,12	6		3
16			21	6,7,9		4
17		1				1
18	25			6,7	19	4
19		1,16,17	15	9	18	6
20				6,11		2
Total	4	13	20	21	4	62

Figure 3: Features mentioned by high readers in their definitions