پردازش زبان در کودکان

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چکیده:

یادگیری زبان در کودکان فرآیند پیچیده ای است و نیاز به تسلط بر نظامهای زبانی خاصی دارد. دیدگاههای نظری پیاژه (۱۹۲۶)، اسکینر (۱۹۵۷) فیلیپز(۱۹۷۳)، برونر (۱۹۷۵ الف)، اسنو (۱۹۷۷)، مسر(۱۹۷۸، ۱۹۸۰)، الیس (۱۹۸۰) و دیگران همگی دال بر اهمیت موضوع است. در این مقاله با توجه به اینکه قواعد زبان، توصیف کننده زبان است و نه شیوه استفاده از آن مسئله اختصاصی بودن دستور زبان در هر کودک و با هماهنگ بودن آن در مجموع، صحبت کردن و رشد آن مطرح میگردد. ضمنا راهبردهای درک جمله، دانش کلی، کسب توانش ارتباطی، خواندن به زبانهای دیگر، بخصوص مواردی که الفباء زبان با صداهای آن هماهنگی ندارد، از نکات اصلی و مسئله آفرین میباشد که در این مقاله مورد توجه قرار گرفته است. ناهنجارهای رشد زبان، زبان پریشی و تجربیات انجام شده توسط فیرث (۱۹۷۲)، کرامر(۱۹۷۸)، لئونارد(۱۹۷۹) و دیگران نیز نکات قابل توجهی در باره مراحل یادگیری زبان کودکان ارائه میدهد.

Learning to Talk

In order to learn talking, the child has to master a complex linguistic system. It is a difficult task since language is arbitrary and the child has to discover the meaning of the words as well as the rules through which the words are put together in order to comprehend the language and produce novel sentences. All these issues should make it impossible to learn talking. But almost all children all over the world go through these stages and at the age of five they master the linguistic system of their mother tongue (Harris & Coltheart, 1986).

Theoretical Perspectives

Different theoretical perspectives have been developed in order to explain child language acquisition. However, the main question is to what extent language learning is similar to other kinds of learning (Harris & Coltheart, 1986: 29-30).

Skinner (1957) in his book "Verbal Behavior" proposes that language is a set of habits which can be formed (learned), like other kinds of habits, through operant conditioning where parents act as reinforcers (p.23).

On the other hand, Chomsky (1959) criticizes Behaviorism and proposes the nativist theory. According to him language is a set of rules. The child is born with an innate knowledge of language skills and he may work out other rules on the basis of this innate capacity (pp.27-30).

Another perspective proposed by Piaget (1926) concerns language as a part of cognition. The child gets information about the world by touching, smelling, holding and putting the object in his mouth. This cognitive development results in linguistic development. Of course it should be mentioned that, later Chomsky admitted that in language development, a non-linguistic knowledge should also accompany the linguistic one (Harris & Coltheart, 1986: 35).

The Social Context of Early Linguistic Development

Developmental psychologists argue that children not only posses complex perceptual and motor skills, but also show a wide range of social behavior which affects the study of language processing.

The child's social behavior starts from the very begining. Mother interprets baby's early sounds and movements and responds to them. They take turn in communication, not only in their vocalized communication but also in their looking behavior. They both look at the same thing simultaneously. Trevarthen (1975) finds that babies respond to objects by tracking them, exploring them visually and trying to grab them. But their responses to people include waving their hands and silent movements of tongue and lips which Trevarthen has called pre-speech stage. These silent movements seem to be important in language development. But it is not

exactly clear how they work.

Bruner (1975) puts emphasis on the communication routine between mother and child, when the child knows what to expect and how to respond. When the child is 7 months old, he has a specific system of communication with his parents. When the child is taken away from his parents or familiar adults he shows anxiety because of lack of communication. He suggests that the child learns about the language in familiar contexts. Through his games with his mother, the child learns about the concepts and in turn this leads him to learn language. Bruner and Piaget share the idea that the child should grasp the concept first and then learn to express it linguistically. But Bruner puts emphasis on importance of the social environment for language development. Also Bruner argues that the innate knowldge is about human actions, used to derive language rules. He adds that the innate skills do not operate until the child acquires the underlying relationship in social exchanges(pp.3-5).

Adult Speech to Children

Messer(1980) has performed an experiment the results of which support Brunner's claim on mother's provision of linguistic commentary to interpret events. It was shown that mother's utterances have a close relationship with what mother and child are doing. Mother, while playing with the child, talks about objects usually accompanied by an action and starts a new episode by naming the object.Mother's repetition provides frequent chances for the child to interpret the verbal episodes more easily. In addition, mother's utterances almost always concern the child's immediate environment. Mother- child communication is child- centered and in the first 6 months of child's life, mother responds to whatever the child happens to be looking at. Later this response would be to the child's activity. Mother usually tries to give information or comment on an object while the child is focusing attention on the same object. In addition mother also tries to interpret or comment on child's activities(pp.33-37).

Motherese or speech to children has special characteristics which separate it from normal adult speech. It has a high pitch, maybe in order to attract child's attention; a terminal rising pitch, which requires a response; emphasis and stress on key words, in roder to enable the child to identify the key words easily(Garnica, 1977). There is also a difference between speech addressed to younger or older children. High pitch and emphasis are less frequently used when talking to older children. Phillips(1973) proposes that motherese is syntactically less complex, contains shorter sentences, fewer verbs, modifiers and function words, contrary to what Chomsky had proposed, i.e.children are exposed to ungrammatical sentences.

In order to find the determinants of motherese talk based on Snow's experiment(1972) that mother uses simpler syntax while addressing the child directly rather than talking to an absent child, Cross (1977,1978) proposes

linguistic feedback hypothesis. According to this hypothesis the simplicity of the language is determined based on the receptive maturity of the child(Harris & Coltheart, 1986: 44-46).

Snow's conversational hypothesis (1977) claimes that mothers start talking to children long before they are capable of providing detailed feedback. The important thing is mother's expectation of child's capability of interaction(P.10).

A recent study by Cross et al (1980) suggests a multifactor account of the determinants of motherese. According to this study linguistic receptivity of child is a crucial determinant of motherese as well as child's ability to take part in a conversation and his mother's expectations about his potential skills (p.165).

Ellis and Wells (1980) report that the rate of linguistic development is not related to length and complexity of the utternaces children are exposed to. Rather it is the frequency of particular styles and topics of conversation which affects the rate of learning. Acknowledgement of child's utterances serves as feedback and reinforcement, and directives and questions, mostly regard child's current activity or environment, present a symbolic encoding of items which the child has already represented non-linguistically(pp.48-49). An experiment made by Howe (1980) shows that extended reply to child's comments together with frequent questions make the child play an active role in conversation, so as to show a faster rate in language development.

Rules in Early Child Language
Considering the grammar of the children's language, Braine(1963) through an experiment concludes that children divide the words into two classes, "pivot words" which are fixed in number,occur frequently and always at the initial position; and "open words", larger in number, occur less frequently than pivot words with no fixed position in two-word utterances. Also another group of pivot words is recongnized which follows an open word. (Brown, 1987:21-22).

Another aspect of children's early speech is what they intend to convey. Bloom(1970) argues that while recording the child's utterances the situation must be recorded as well. Providing a context, she is able to list possible meanings of the utterance. One single utterance under different cicumstances may be considered as conveying different meanings. But as it is very subjective, an independent justification is needed to interpret the actual meaning of an utterance.

As Harris & Coltheart(1986) put it, longtitudinal studies in this regard contain two stages. The first stage is the identification of apparant kinds of meanings attached to an utterance before the child develops different ways of expressing the same meaning by the choice of different grammatical and semantic forms; in the second stage it must be pointed out if the previously identified meaning is conveyed. For example ,uninflected form of a verb used

by a child, may express present continous, immediate past, immediate future or imperatives (Brown, 1973). As the child grows up he learns the inflections and uses the correct forms of the verb. Here the question is that whether the particular tenses which the child seems to be aware of when he uses only one verb form, are the ones which he uses when he first uses different verb endings.

Strategies in Sentence Comprehension

Another point is that whether sentence comprehension strategies are the same for all children. Passive, as a syntactically complex form which takes a considerable time to acquire, is taken into consideration here to find the answer to the above mentioned question.

Bever(1970) proposes that as children apply the NVN strategy(noun-verb-noun) incorrectly to passives, they cannot understand such sentences correctly. He adds that children above the age of 3 do not apply NVN strategy if the interpretation of the sentence does not fit in the child's experience of the world. It is argued that nonreversible passives, in which one noun is more likely to be the actor(e.g. The cat was run over by the car) are better understood than reversible passives, in which each of the nouns is equally likely to be the actor(e.g. The cat was chased by the dog). It shows that children use their nonlinguistic knowledge to recreate meaning. Additionally, information provided by linguistic context is useful in interpreting the syntactic structure. With regard to passive interpretation, animacy is another cue. Children tend to use active sentences when the actor is an animate.

Anoter experiment (Harris, 1976)shows that for children between the age of 5 and 6 interpretation on nonreversible passive is easier than that of reversible form, as well as truncated passives, those without mentioning the agent, being easier than those with a mentioned agent. At the same time children under 5, show difficulty in interpretation of all types of passives while those above 6 years of age have no difficulty (pp.420-424).

Dewart (1975) in his experiments shows that different startegies are used in order to find the direct object. they choose the noun not marked by "to" as direct object or else, select the noun nearest to the verb. Also regarding comprehension of passive sentences some children may treat nonreversibility and the absence of an agent as cues to better understanding of passive, while others may take only one of them as a cue.

Such differences between children appear in the very early stage of language development. Nelson (1973) divides children into two different groups. Those in "referential group" are object oriented and have a large number of object names in their first fifty words, have a vast vocabulary development and attain higher vocabulary by two years. Another group is called "expressive group". These children are more oriented towards people including themselves, use language mainly to express their feelings and

needs, show a faster rate of syntactic development, and produce more complete grammatical utterances by two years of age. Such differences are in contrast with Chomsky's innate knowledge of linguistic knowledge or perhaps it could be said that Chomsky's ideas in this regard just counts for a general innate knowledge(pp.1-2).

Developing Linguistic Hypotheses about Language

Language acquisition involves the use of non-linguistic knowledge, although sometimes the child has to deal with linguistic problems without any non- linguistic counterpart. The example is the gender system in French. It has no semantic basis and is closely related to particular word endings. For the child, it will initially be the phonological rather than orthographic characteristics of word endings which are noticed. Karmilloff-Smith(1979)finds that even children who are 3 years old, while refering to non- words as names assigned to pictures, make use of phonological regularities in the language, as even if the picture itself represents the gender. But after 10 years of age the children first take account of the appearance of the picture then follow the phonological cues (Harris & Coltheart, 1986).

Acquiring Communicative Competence

Together with the semantic and syntactic knowledge of a language, acquiring the communicative competence is important. It means "when to speak, what to talk about, with whom, where and in what manner" (Hymes, 1971).

Piaget(1926) suggests that children are not able to explain something appropriately, because their speech is egocenteric, i.e. they take for granted whatever themselves know and do no explain those points. But different experiments proved the opposite. Maratsos (1973) made the children between 3 and 5 years to explain some toys to an experimenter. For the first time the person could see the toys. For the second time he covered his eyes with his hands. Comparing the children's explanations in these two different situations, it was proved that even a 3-year-old child feels the need for more information while talking to someone who cannot see the object. The reason why piaget reached such conclusion may be the fact that he asked the children to explain the system of a tap to another child, which may not be fully comprehended by the child himself in order to explain it.

Providing the right kind of information is only one aspect of communicative competence. Another aspect is selection of an appropriate speech style.

Another experiment done by Martlew, Connolly and McCleod (1978) shows that children use different speech styles while addressing different people, e.g. their mothers or a friend of the same age or younger children. Speech to mother is identified by more elaborated utterances, fewer

commands and more responses to mother's questions. Shorter utterances, less complex sentences without co-ordinate and subordinate constructions and use of words which would attract the attention are characteristics speech to younger children (pp.86-90).

Learning to Read

So far acquisition of spoken language has been discussed which takes place over the first five years of life, while another linguistic skill, namely learning to read undergoes a different process. The process of learning to read is different from that of spoken language. Learning to talk is a gradual process at learner's own speed and is not taught. But reading is almost always taught with the speed and sequence of learning dictated by the teacher.

Alternative Procedures for Reading

Studies show that early phonological awareness contributes to successful reading development. It has frequently been argued that there are two strategies available to children to recognize printed words (Liberman, Shankweiler, Liberman, Fischer, 1977). It may be an attempt to memorize the visual pattern of the word or it may be an attempt to relate orthographic components of the printed words to their phonological counterparts. This latter strategy implicitly suggests the knowledge of the spoken words as being composed of smaller phonological units. It is assumed that early phonological awareness acts on reading development by enabling children to use phonological reading (Stuart & Masterson, 1992: 168).

Stuart (1990) shows that prereaders, who can read no words on a standardized test of reading and who have not received any formal tuition in reading, but who have good phonological analysis abilities and sound -to-letter correspondence knowledge, are able to use these skills in a recognition task with printed words , pseudohomophones, and nonwords as stimuli. That is, given pictures of a pan, a comb, or a monster called moz, the children were able to choose correctly the written stimuli "pan", "com" or "moz" from distractors sharing either zero or one letter with the target. It seems unlikely that the children will not use these abilities immediately on being required to learn to read, by sometimes adopting a phonological reading strategy (p.137).

There is also evidence that some skills in assembling phonology are being acquired along with a visual word- recognition system (Stuart & Coltheart, 1988). However, detailed knowledge is lacking of what letter-sound rule knowledge and skills children acquire in the early phases of reading. Baron and his colleagues (Baron & Baron, 1977; Treiman & Baron, 1983) have shown that from the second grade, children apply grapheme- phoneme correspondences when reading unfamiliar words. Graphemes are defined as sh,ee, and eigh (Stuart & Masterson, 1992: 169- 170).

Coltheart (1978) describes grapheme- phonoeme correspondences and outlines a procedure that can be used by the reader to convert letter strings to a phonological representation by the application of a stored set of grapheme- phoneme correspondences. Grapheme-phoneme correspondences are documented by Benezky who refers to them as functional spelling units that represent single phonemes. Subsequently, Berndt, Reggia, and, Mitchum (1987) provide statistical data on the relative frequencies with which various pronuncrations are associated with each grapheme. However, for the majority of graphemes there is a single phoneme most commonly used in English words. If these most frequent grapheme-phoneme correspondences are applied by the reader, then the great majority (estimated at 80%- 95%) of English words can be accurately read (Coltheart, 1978). For the remainder, usually termed exception words, these grapheme-phoneme correspondences yield an incorrect pronunciation (e.g. pint pronunced as [pint] and aunt as[&nt]). Coltheart (1978) proposes that the use of a grapheme- phoneme correspondence system would require three stages. In the first, "graphemic parsing", the reader must segment the letter string into its functional spelling units (graphemes); thus, night must be parsed into the units (n), (igh), and (t). The second stage, "phoneme assignment", involves retrieval of the appropriate set of single phonemes [n], [ai], and [t]. The third stage, "blending", requires that the retrieved phonemes be blended together into a coherent pronunciation,[nait]. Incorrect but rule-based pronunciations of exception words are indicative of the application of grapheme correspondences. The fact that children from second grade onward use such correspondences in reading is demonstrated by their superior reading of regular words (which conform to spelling- sound rules) in comparison to their reading of exception words and by their regularization errors on exception words(e.g. reading pint to rhyme with mint). Furthermore, both competent and incompetent young readers use grapheme-phoneme correspondences when reading nonwords (Coltheart & Leahy, 1992: 718-719).

As Coltheart & Leahy(1992) put it, there is another possibility that larger subword segments may be used to assemble pronunciations for familiar and unfamiliar words. Glushko (1979) suggests that "analogies", that he indentifies with terminal segment of words are used by skilled readers.Support for this suggestion has been obtained by studies of skilled readers (e.g. Andrews, 1982). Children readily segment spoken words into an onset and rime, for example, stream ⟶ str- and- eam (Treiman, 1983), finding this an easier task than phonemic segmentation. A recent study by Treiman, Goswami, and Bruch (1990) shows that by the end of first grade, children are more accurate at reading nonwords rimes shared by many words(e.g.tain) than they are at reading nonwords with uncommon rimes (e.g.taich). Thus they are more likely to read tain as [teIn] than they are to read taich as [teIt \] (p.719).

Grapheme- phoneme correspondence, rime-level correspondence along with consistency (the number of words in which rime ending is pronunced the same), and regularity, led Patterson and Marton (1985) to propose dual-route models of reading .According to dual- route models skilled readers use two forms of orthographic unit to assemble pronunciation to nonwords. The first and more commonly used segment is the "grapheme", which is a letter or letter cluster, represents a single phoneme(Coltheart, 1978). The second is the "rime" (which they termed "body") and is the terminal segment a monosyllabic word left after the initial consonant or consonant cluster has been stripped off. Patterson & Marton (1985) argue that the existing data indicate the application of grapheme- phoneme correspondences along with rime-level correspondences. Also they suggest both levels are likely to be acquired through experience with printed words. The basic tenet of dual-route models is that separate lexical and sublexical representations exist (Coltheart & Leahy, 1992:719).

Four Phases in Learning to Read English

Harris & Coltheart(1986) distinguish four phases in learning to read English. The first phase is known as "sight-vocabulary phase" in which the child, about 4 or 5 years of age, can read aloud a small set of words. This can be taught or the child may lrarn to read some words through his own observations of matching certain printed words and their spoken forms. This phase of reading has not been systematically studied. But a general proposal is that the child makes use of the overall shape of the word to read it. But experiments reject it. A 4-year- old child who is able to read Harrods can also read a novel form of the word such as hArRoDs. The other view is that the child identifies some or perhaps one of the letters in the word. Again when the child is exposed to different forms(Max, mOX, mAV) and is asked to indicate which one is Max, she succeeds. It shows that she used all three letters in the word Max to recognize it.

Unlike the first phase, in the second phase which is "discrimination- net phase", the child seems to make use of fragmentary cues (for example initial letters). In this phase the child chooses the correspondence spoken form among a set of words used in his reading lessons. The logic of this choice may be the word length, use of a single letter in letter- strings (e.g. any string of letters containing k are read as black), or some other similarities (e.g. smaller and yellow because they both have two sticks!).

Gradually as the reading becomes more and more complicated the child enters the third phase which is "phonoligical- recoding phase". In this phase the child applies the phonics procedure. His responses are no longer selected from the reading vocabulary and he can read novel words including nonwords. If the child is given pseudosentences to read, he may face difficulty in finding that those which are meaningful by use of a phonics procedure(e.g. Tell me wear he went) are actually meaningless. But no

difficulaty arises in dealing with those which are meaningless even when phonically recoded (e.g. Tell me new he went). This experiment shows that in this phase phonics procedure appears to be the dominant one.

The phonics procedure has its own disadvantages. One is that of homophonic words in English like sail and sale, which have identical phonological representations, as well as exception words in contrast with regular words which follow a fixed phonological recoding. So phonics procedure is an appropriate way to acquire reading but not sufficient. In order to become a skilled reader, the individual must be able to deal with homophones and exception words.

Homophonic homographs, letter strings that have a single pronunciation but two or more meanings, e.g. bank, are another form of word ambiguity. Ambiguity may also exist in the relationship between the orthographical and the phonological forms of a word. For example, in contrast to bank, the printed word "wind" has two different pronunciations , each of which has a different meaning(Frost & Bentin, 1992: 58).

Considering homographs, different views are proposed. One is that all possible meanings of a homograph are retrieved in parallel. Another view suggests that according to the context only those which seem more appropriate are retrieved. But according to the third view it is the frequency of the two meanings related to the ambiguous word which determines the retrieval of one or the other. Simpson and Burgess (1985) report that the latter view is applicable for isolated homographs. Another cue is the orthographic form of the word. Little by little the use of phonological recoding decreases as age increases. The child moves on to the fourth phase: "orthographic phase", when he learns the spelling (Frost & Bentin, 1992:58).

Dual- route models of reading are also applicable to spelling (Ellis, 1982). According to this view, spelling can be retrieved directly as whole word patterns from an orthographic output lexicon (the lexical route) or assembled (the sublexical route)(Stuart & Masterson, 1992: 170).

Regular words can be read correctly by applying spelling to sound correspondence knowledge; irregular words cannot. Similarly, since nonwords have no lexical representation, their accurate reading must be accomplished sublexically. The same can be applied to spelling, where an advantage in terms of spelling accuracy for regular over irregular words indicates a contribution from the sublexical processing system, since regular words can be spelled correctly by applying sound to spelling correspondence knowledge,but irregular words cannot. Presenting nonwords for spelling also tests the ability to use sublexical procedures.

Learning to Read in Other Languages

So far the discussion was about learning to read English. But is it the case that those phases apply in learning to read in any other language? There are some languages for which letter- to- sound relationships are

inconsistent (e.g. English, French and Dannish) whereas for some other languages it is extermely regular(e.g.Finnish, Italian and Hungarian). So in the languages of the latter group there are no exception words or homophonemes. Some phonemes like [p], [b], [t] cannot be pronunced without pronuncing a vowel after it which is not the exact sound of it. Such a problem does not exist in syllabic scripts, where a symbol corresponds to a syllable. Though it is as unavoidable problem for alphabetic scripts but ideographic scripts will be at a severe disadvantage. In ideographic scripts a symbol corresponds to the whole idea and one cannot determine the exact pronunciation of the word which has never been seen before. In order to find phases involved in learning to read other languages, Chinese and Japanese languages are considered here (Harris & Coltheart, 1986: 100-103).

Chinese is written in ideographic script. But it has another written form in Roman alphabet names "pinyin". After mastering reading and writing in pinyin, the students are exposed to ideographic script, while still encouraged to use pinyin when necessary. The students may forget pinyin in later life but it is learned because the child can learn it by using phonological recoding while ideographic script cannot be learned in this way. This procedure distinguishes two phases, a "phonological recoding phase" followed by a "visual encoding" one.

Japaneses, on the other hand, is written in an ideographic script, named "kanji", and a syllabic one, named "kana". Again kana is taught first and then kanji characters are presented together with kana equivalents. So the student can use the kana character to derive the phonology of kanji character. In Japanese, skilled readers use both types of scripts.

There are eight major languages spoken in China, though the same writing system is used throughout the country, which can only be possible with an ideographic writing system. That is why they cannot limit their writing system to pinyin.

The case is the same in Japan. In order to descriminate homophonic words, Japanese people make use of kanji characters. A word in kana may represent different meanings, but each has a different kanji representation. Although the government has limited kanji characters and popular newspapers today use only this limited set of characters and the same is taught in schools, many people know more characters and use them.

Developmental Disorders of Language

Not all children acquire the language to the normal degree. Developmental language disorders are said to be in three kinds: "developmental dysphasia", impaired acquisition of spoken language; "developmental dyslexia", impaired acquisition of reading; and "developmental dysgraphia", impaired acquisition

of writing and/ or spelling (Harris & Coltheart, 1986: 107-108).

Developmental Dysphasia

Different factors are involved in slow rate of learning to talk. Being deprived and isolated, fortunately a very rare case; hearing- impairment or emotional problems are some of the factors. But developmental dysphasia is characterized by the late appearance or slow development of language in children of normal intelligence which cannot be explained in terms of enviromental, sensory or emotional factors. Such phenomenon can provide an insight into the processes which operate during the normal acquisition of language. The question is whether the language of dysphasic children is actually different in kind from that of normal children(i.e."deviant") or whether it is like the language of younger normal children (i.e."delayed").

Experiments done by Leonard(1979) show that dysphasic children have considerable difficulty with syntactic features. It is suggested that dysphasic children typically reach a higher MLU (mean length of utterance) than normal children before they begin to acquire their first grammatical morphemes. A group of dysphasic children has been compared with a group of normals matched for MLU. It revealed that dysphsics use grammatical morphemes less frequently. They usually tend to omit the final grammatical morphemes marking tense or number. Dysphasic children preserve the meaning but make syntactic simplifications (pp.216-221).

Semantic development is related to syntactic development. Ristriction in syntactic skills results in restriction in the ability to express semantic forms. Leonard et al(1978) compared the range of semantic relations expressed by two groups of dysphasic and normal children matched for MLU. It revealed that the semantic development of dysphasic children is slow in comparison with that of younger normal children. Vocabulary development is also a problem for dysphasics.

Pragmatic aspect of language is another source of difficulty for dysphasic children. Gallagher and Darnton (1977) show that dysphasics face difficulties in reformulating their speech even when they try to do so. Also they reveal that among groups of dysphasic and normal children equated for MLU, the more advanced normal children alter the structure of what they have just said while less advanced normal children make phonetic changes in reformulating their speech. Since the dysphasic children make phonetic changes rather than structural ones, it is concluded that they are not capable of making such changes and have difficulties with paraphrasing task.

The first theory of developmental dysphasia proposes that such children have general deficit in their representational abilities. According to Piaget the ability to use language is a part of general ability to represent the world symbolically. Those children might have difficulties with other tasks which involve symbolic representation. If so, developmental dysphasia is not

language- specific deficit.

Cromer(1978) proposes a different view of developmental dysphasia. Using an experiment, Cromer makes a comparison between the written language of dysphasic and deaf children. Dysphasics are chronologically older. Both groups were asked to write about a puppet show. It revealed that dysphasic children use less complex sentences. The hierarchical structuring deficit, as proposed by Cromer, means that as language can be broken down into constituents which in turn can be broken down themselves, therefore, a complex sentence contains embedded constituents which is difficult for the dysphasic child to handle.

The third explanation, proposed by Tallel and Peircy (1978), claims that a very specific deficit which affects certain type of auditory processing, results in problems for the dysphasic child. The auditory information for discriminating two synthesized vowels is presented rapidly and that of two synthesized consonants lasts even for shorter period. Dysphasic children are not able to discriminate consonants because of this rapid presentaion. In order to make sure that this is the reason, they slow down the presentation of auditory information which results in improvement in dysphasics' performance.

It must be noted that all dysphasic children do not form a homogeneous group. So far, common production difficulties have been dealt with, but a number of children may have comprehension problems as well.

Developmental Dyslexia

Developmental dyslexia and developmental dysgraphia occur much more frequently than developmental dysphasia, so those are the subjects of more research. Developmental dyslexia is studied in four phases of learning to read.

The sight- vocaublary phase is not known as a crucial and basic phase for learning to read. One reason is the result of Firth's experiment(1972) which shows that indirect procedure is more dominant than direct proceure in learning to read. As the first phase involves direct procedure, it can not be realy important. Another reason is that those readers who reach the first phase at an abnormaly early age, do not necessarily start the next phase at an abnormaly early age.

The next phase requires an analytic processing in order to enable the child to discriminate the words. A possible variety of developmental dyslexia during the discrimination- net phase can be studied by doing expriments on young children at an age when they ought to be in this phase. There is not much information about possible varieties of developmental dyslexia associated with the first two phases of reading acquisition.

In order to determine how well someone can apply letter- sound correspondence rules, one may be asked to read aloud nonwords. The dyslexic child has impairment in the ability to use letter- sound rules. Also a

previously normal reader may show the same difficuity in using the rules because of an injury to the brain. An impairment of the ability to use such rules makes it very difficult to progress from a reading age of 11 years or so on to a normal adult level of reading skill.

Exception words and homophones, as mentioned before, are sources of difficulty in the reading process. But it can be removed by the use of their orthographic representations. Those who have difficulties in written form of a language cannot move on to the fourth phase of reading acquisition and also misread exception words and confuse homophones. Such cases of developmental dyslexia are called "developmental sufrace dyslexia".

Developmental Dysgraphia

Spelling acquisition, like reading acquisition involves progress through a series of phases. Firth(1980, 1984, 1985) suggests that children need first to develop the ability of phonoligcal segmentation, i.e. the ability to analyze spoken words into constituent sounds. This is the phonological phase in which words are spelled phonologically. Later, the individual moves on to orthographic phase, in which the spelling of words, especially exception words are retrieved from a learned spelling list. At the phonological phase child's errors are considered phonologically correct but orthographically incorrect. Developmental dysgraphia occurs when the child cannot remove the phonological errors and move on to orthographic phase (Harris & Coltheart, 1986: 129-131).

Conclusion

From the beginning of his life, the child tries to communicate. The first stage of child's communication is non- verbal which gradually changes to a verbal communication. Motherese, or speech to children, with its special characteristics guides the child through the first stage of language acquisition. Two- word utterances of the child show a grammatical categorization and semantically they may convey different meanings under different circumstances. Gradually the child masters the grammatical rules and develops linguistic hypotheses about langauge. He also feels the need of communicative competence which affects his way of talking.

In learning to read the child moves on from a phonological stage to an orthographic stage. The problematic point in this procedure is the lack of a letter- to- sound corresponednce in some languages. So a grapheme-phoneme correspondence can be used in the majority of cases.

Developmental language disorders may be the results of a brain injury or some other factors. The impaired child is not able to either speak normally (developmental dysphasia), read normally (developmental dyslexia), orwrite normally (developmental dysgraphia). Studies show that dysphasia is a very rare case, but dyslexia and dysgraphia are more common.

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