SYLLABLE IDENTIFICATION IN KANNADA AMONG LITERATES AND ILLITERATES

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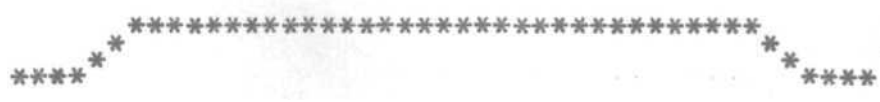

Dedicated to

"The ultimate symphony
my friend Mohan".

CERTIFICATE

This is to certify that the Dissertation entitled:"SYLLABLE IDENTIFICATION IN KANNADA AMONG LITERATES AND ILLITERATES" is the bonafide work on part fulfilment for the Degree of Master of Science (Speech & Hearing) of the student with Register No.M8809.

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CERTIFICATE

This is to certify that the Dissertation entitled: SYLLABLE IDENTIFICATION IN KANNADA AMONG LITERATES AND ILLITERATES has been prepared under my supervision and guidance.

Dr. Pratibha Karanth
GUIDE.

DECLARATION

I hereby declare that this Dissertation entitled: SYLLABLE IDENTIFICATION IN KANNADA AMONG LITERATES & ILLITERATES is the result of my own study under the guidance of Dr. Pratibha Karanth, Professor and Head of the Department of Speech Pathology, All India Institute of Speech and Hearing, Mysore, and has not been submitted earlier at any University for any other Diploma or Degree.

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- My ' Dandawath ' to my revered Guru - Dr. P. Karanth the aureole, pinnacle and zenith of knowledge who with this aura of hers sowed within me the seeds for the quest to know.

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INTRODUCTION

Speech may be defined as a sequence of phonetic or phonemic elementary units, called segments.

Segmental awareness is a necessary, but sometime elusive concept. Someone who is able to verbally report the segments of an utterance must be credited with segmental awareness. Someone who always responds correctly and without hesitation, for instance in a task requiring the deletion of a segment, when explicitly instructed to do so or following a few examples, is likely to possess conscious knowledge ef the segments. However, someone who, after a series of incorrect responses takes advantage of any useful information provided by the examiner, for instance corrective feedback, and begins to produce the correct response shows, for practical purposes, some segmental analysis skill, but he has not necessarily acquired segmental awareness.

In absence of verbal enunciation of the segments of a speech utterance and in the absence of immediate success in manipulation tasks, how can we recognise the presence of segmental awareness in a subject? We need some minimal behavioural criterion. This could be the observation of learning transfer effects. The acquisition of segmental awareness in the course of learning,say, a segment deletion task should enable the subject to perform successfully on other tasks of segmental analysis even when material and procedure are very different between the learning and transfer tasks.

Segmental awareness is not a mere epiphenomenon of segmentsl analysis abilities, but plays a dynamic and interactive role in their development. The acquisition of conscious representations of segments implies some segmental analysis and in turn contributes to increasing the efficiency of segmental manipulations. It is presumably through a constant interaction between the elaboration of conscious representations and their use in analytic operations that one becomes able to analyze complex syllabic structures and to produce relatively infrequent combinations of segments.

Learning to recognize on a purely visual basis all the words we encounter would be titanic. It seems a good strategy to take advantage of the fact that words are made out of letters and that letters correspond roughly to phonemes. A limited set of rules of grapheme, phoneme conversion would help reading onew or insufficiently familiar words and would assist the begining reader in the task of acquiring a direct route to the lexicon. It should be very hard to learn to read in the alphabetic system and reach high standards of reading if the rules of grapheme-phoneme conversion are not mastered. Obviously, the acquisition of these rules implies the ability to analyze speech at the phonemic and phonetic levels (the phone being the surface form of the phoneme). Assuming that segmental analysis abilities cannot reach a high level, allowing isolation of segments whatever the context and all sorts of combinations, if conscious representations of segments are not developed, we may say

that acquisition of reading in the alphabetic system depends on segmental awareness.

Reading acquisition provides a illustration of the functional importance of awareness in the cognitive system. Awareness plays a limited role in perceptual processing but is crucial to the development of cognitive abilities that require postperceptual processing. Segmental awareness is also viewed as a specific but non-modular competence.

The studies of segmental awareness and literacy have been carried out in Portuguese and Japanese predominantly and it has been found that there is a lack of generality of segmental analysis ability in non-literate subjects. It has also been found that illiterate adults with very low scores on syllable deletion could perform well on rhyme detection. However judgement of rhyme may not require any analytic ability at all. Judgements of rhyme do not necessarily imply isolation of the common part. They may rest on the apprehension of phonological similarities which are probably influenced by the saliency of stressed vowels but perhaps also of initial consonants. Perhaps a better test for ability to mentally isolate segments without resorting to production tasks would be the classification of utterances according to the presence of a given segment independently of position.

Next is the developmental issue which has gained importance in the study of segmental awareness. It has been found that age is not a crucial factor in the emergence of segmental analysis ability and segmental awareness. In illiterate adults ranging between 20 and 70 years, age and segmentation performance are unrelated. It was also found that with explicit instruction and continuous correction, illiterate adults could learn initial segment deletion. In addition it has been found that there is no correlation between 4.6 and 5.6 years tested during the same school term.

Among the prerequisites of segmental awareness i.e. an appropriate perceptual representation of speech, a sufficient analytic capacity and explicit instruction on grapheme - phoneme correspondence either must be bound to age. Regarding perceptual representation of speech, recent data suggest some development till atleast five years, but no evidence is available concerning the analytic capacity. Segmental awareness hence could be reached by very young children. A child who could identify letters at one year and could read unfamiliar words fairly well at three, reached 80% in the rhyme condition. This supports the absence of strong maturational constraints on its development.

But as a matter of fact we find differences. Whereas segmental analysis can be acquired belatedly, there is a clear sensitive period for speech production whereas speech

production depends on a highly specialized built-in biological equipment, segmental analysis depends on a central cognitive capacity. Thus rather than putting speech production and segmental analysis in the same box, it seems more interesting to consider how each of them relates to the architecture of the cognitive system, and whether there are relations of dependence between them.

Further Mattingly proposes that segmental awareness might be reached easily in languages displaying certain morphological features. Compositional analysis which concerns isolable units, (words and syllables) at the level of words pertains to the competence of the sophisti-cated literate subject.

Until now some progress has been made at defining empirical relations between factors of reading ability. Some researchers are trying to specify more precisely the information represented in the orthographical representations.

But the main issues of segmental analysis ability revolve around the literacy aspect i.e. alphabetic literacy acquisition, understanding the development of literacy and its implications in the sphere of reading abilities.

The present study was carried to study the effect of literacy in the syllable identification task in adults, literate and illiterate who were native speakers of Kannada.

REVIEW OF LITERATURE

A little over ten years ago, it became clear that the major stumbling block to reading was - failure to appreciate the segmental nature of the speech stream. The Reber & Scarborough volume (1977) contained the conceptual and empirical framework of Rozin & Gleitman for this view. The primary datas were demonstrations of a correlation between measures of "phonemic awareness" and early reading skills.

Then along came the Brussels group who with their Portuguese colleagues put the accepted view to empirical test. The result was the paper of Morals, Gary, Alegria & Bertelson (1979) which serves as the starting point for the present review. In it, it was shown that nonllterate but otherwise normal adults were poor at segmenting speech sequences into phones. The authors have drawn attention to the componential nature of segmental awareness. It appears that useable knowledge of the phonemic principle does not come all of a piece. For eg. Content (1985) has shewn that there is little transfer from a deletion task to segment counting. One might even easily imagine a child who could delete/f/ from fan but not from ref. Furthermore different ways of assessing segmental awareness may produce results even if the subject has a robust representation of words as sequences of phones and phonemes. Thus the land-mark research of the Brussels group has been that phonemic

awareness arises in context of literacy training. But it is difficult to be more precise about the fine details of how this aspect of knowledge relates to emerging reading skill.

Morois, Alegria and Content have widely discussed correspondence between phonemes and graphemens. They say that spoken words can be divided into phonemes, written words into alphabetic letters and these units often (eg. the spoken and written word 'cat') though not always (eg. light) completely coincide. This means that many written words can be deciphered on a letter by letter basis.

A second, but less well recognized, possible reason for a connection between phonological awareness and learning to read involves other phonological units than phonemes. Words can also be broken up into units which are larger than the phonemes. Adults and young children have a natural preference for dividing a one syllable word into its onset, i.e. the word's opening consonant or consonant cluster and its 'rime' i.e. the rest of the word. Our awareness of rime is particularly interesting because from an early age we are clearly sensitive to the fact that different words have common rimes - that, in fact they rhyme. We group spoken words into rhyming categories and when we learn to read and spell, we also have to learn to group words into spelling categories. So this suggests connection between phonological awareness and reading.

Furthermore segmental analysis ability does not develop without specific stimulation. It usually appears when learning to read and write i.e. the alphabetic system. The review of the findings of the paper of Jose Morois, Alegria and Content (1979) throws light on this aspect. Illiterate adults in Portugal who had never attended school for social reasons served as subjects and ex-illiterates of nearly the same age and of the same social origin who had not attended school before adolescence and who learned to read and write later on in special classes. The tests consisted in repeating an utterance, but either deleting the initial segment or adding a segment at the beginning. Each test was introduced by means of 15 trials during which the experiments provided the correct response to each item whenever the subject was unable to give it himself. Half of the illiterates failed on every trial and only one scored 80% correct responses. By contrast, no ex-illiterate failed on any trial and more than half scored atleast 80%. These results are hence totally incompatible with the notion that segmental analysis must be installed before starting learning to read and write and that it "develops naturally spontaneously - under the influence of linguistic stimulations provided by current life.

Segmental analysis skills might develop as a consequence of literacy in general and not specifically as a consequence

of alphabetic literacy learning to read provokes the emergence of segmental analysis abilities if the writing is alphabetic, but it does not if the writing is logographic. In a study of Japanese first-graders who learn to read a syllabary, the Kana, were compared to their American peers. The fact that Japanese children attain a relatively high level of segmental ability by grade form is probably linked to existence in Kana of diacritics which permit readers to distinguish syllables with voiced stops from syllables with unvoiced stops. Kana also includes separate characters for some segments namely vowels and one nasal consonant.

The results obtained with adult illiterates from Portugal and with non aphabetic literates from China demonstrate that segmental analysis ability is not a pre-condition, i.e. does not have to exist before starting learning to read and write in alphabetic system. It has been demonstrated that some segmental analysis ability may be acquired very rapidly by prereaders independent of confrontation with the alphabet.

Content, Morois, Alegria & Bertelson (1982) found that prereaders performance on the task of deletion of the initial consonant improves after several sessions of oral games in which subjects attention was called to the segmental constituents of speech without graphic aids. The improvement after such a training was greater than in a control group whose

training time had been devoted to mathematical games. It was also found that learning during the deletion task was transferred to a task of free segmentation in which the subject was invited to produce any segment that was present in a syllable. These results indicate some segmental analysis ability. However they do not imply that the children operated on the basis of conscious representations of segments. In a series of experiments, transfer effects from the deletion task to classification or counting tasks were slight or null. Improvements in initial consonant deletion tended to transfer more to classification on the basis of a common vowel than on the basis of a common consonant.

Furthermore, deletion of the initial consonant displayed no effect of phonetic class, while isolated productions of the same segment did. Thus, there is no compelling reason for interpreting the learning effects as reflecting discovery of the segmental structure of speech. The children might simply have discovered a procedure that works in a particular situation. There are other studies in which training on one task does not transfer to another task.

In turn, attempts to teach segmental analysis to pre-readers suggest that some operations appropriate to particular tasks may be learned. These operations do not necessarily imply segmental awareness. The importance of distinguishing

between segmental analysis abilities and segmental awareness is thus substantiated. Developing segmental awareness and learning to read and write are things that usually go together. Whether or not it is possible to become aware of the segmental structure of speech in the absence of confrontation with alphabetic material still remains an open question.

Receiving reading instruction in the alphabetic systems not sufficient to develop segmental analysis ability, but alphabetic literacy is (almost) a sufficient indication of segmental skill. Backward readers despite having received reading instruction are often very poor on segmental analysis tasks.

Braelley & Bsyant (1983) found that training children on sound classification and letter-sound correspondence leads to improvement in later reading reading performance. They concluded from this that the link between " phonological awareness " and reading is causal. They suggested that there are different forms of phonological awareness and that some precede reading while others follow it. But one point of Bryant & Bradley is disagreed upon. If we consider the meaning - form distinction, understanding rhyme certainly implies attention to the form dimension i.e. to phonology, but it does not necessarily involve attention to any specific constituent of speech and in particular the

kind of unit that corresponds roughly to the letters of the alphabet, the phonemes. If phonological awareness is awareness of phonological strings without separate represe-ntation of constituents then we agree that phonological awareness probably precedes learning to read in a great majority of people. This is usually acquired (atleast regarding phones and phonemes) in the situation of learning to read and write in the alphabetic system.

Young preliterate children also engage in tongue-twisters and rhyming games. In a study by Morois Etal(1986) in a group of adult illiterates and ex-illiterates performed better, the literates too were not insensitive to rhyme. Luz Gary studied the case of an illiterate poet. In his poems he is extremely expert at manipulating rhyme. He performed without error on several tasks of rhyme detection and production. He repeated without difficulty all the alliterating words presented within a sentence. However in a test of initial consonant deletion, he performed within the range of non-poet illiterate adults, failing most of the trials. These findings are inconsistent with Bradley and Byrant's claim that rhyme and alliteration depend on "breaking words and syllables into phonological segments". Rhyme and alliteration hence may both depend on sensitivity to phonological similarities without necessarily requiring an analytic competence. Hence it is the ability to disregard

meaning and attend to phonological form rather than ability to notice and manipulate.rhyme that probably is a precondi--tion for learning to read. Hence children who seem to be unable to appreciate or produce rhyme despite recurrent stimulation are at a serious risk of not developing segmental abilities and falling in reading.

Phonetic awareness is awareness of speech as a sequence of phonetic segments i.e. the minimal units of expression which are relevant for perceptual differentiation. The analysis of speech into segments that is observed in Kindergarteners or is elicited by former experiences with alphabetic material probably occurs at the surface level i.e. at the phonetic rather than phonemic level. Several empirical facts support this idea. First differences in Kindergartener's ability to isolate the consonant from a or syllable as a function of consonant type, namely plosive versus fricative (Content 1985) probably reflect the importance of perceptual or articulatory properties at this stage, and suggest phonetic rather than the more abstract phonemic analysis. Second , when merely taught the conventional names of the letters of the alphabet, children may spontaneously create a spelling that shows sensitivity to phonetic relationships. For example, vowels that are similar in terms of phonetic features are spelled the same by those children. The consonants also are

properties (for instance affrication of (t) and (d) before (r). Third, children spell plosives incorrectly under the influence of phonetic cues and the proportion of these spellings decreases with increases in reading level.

The fact that syllables are easier to isolate than segments might still be accounted for by assuming that some units of speech are more salient than others. Indeed syllables roughly correspond to unitary articulatory acts.

As shown by Content etal (1986), prereaders display both a strong tendency to produce initial parts of utterances in a free segmentation task, and better performance for deletion of the final than the initial consonant. Similarly, prereaders are better at producing the consonant from a VC than a CV syllable and also better at producing the consonant from a CV than a VC syllable and one possible interpretation of this position effect is based on the sequential nature of speech. In order to suppress the final segment of an utterance onr could monitor his own articulatory activity and interrupt it just before the last articulatory gesture. Thus, isolating initial parts or segments would involve intentional control of one's own motor activity. On the contrary, non-initial parts cannot be directly produced and some complementary process is necessary to locate the appropriate starting point. This process might consist of scanning the mental representation of the utterance in order to identify some particular properties

that define a possible new onset. This account of position effects, though pending further clarification, provides more precise contents to the notion of analytic abilities.

Some segmental ability may appear by age four. Hence the cognitive capacities that underlie segmental ability must be mature enough to be brought out by experience. On the other hand segmental analysis is displayed by only a minority of human beings. If the ability for segmental analysis does not depend on specific capacities but on general ones, it might be less constrained by age.

Children's first meanings for letters do not coincide with adults meanings and syllabic interpretations precede alphabetic conceptions of writing. When children discover the alphabetic conception of writing, they both deal with letters by attributing to them meanings which correspond to their segmental analysis of words and search for letters to represent phonological segments they have identified.

This convergence between phonological analysis and the availability of letters to represent segments in turn strengthens their analytical skills. Having symbols to representphonological segments provides children with conventional way of representing and thinking about them. This is how learning to read may provoke segmental analysis - by providing representations for phonological units which often

are not even pronounceable in isolation. This hypothetical process still implies that segmental analysis is a necessary condition for learning alphabetic literacy but it also shows why it may be developed during reading instruction.

While evaluating segmental awareness in an alphabetically naive but phonologically - curious person we find that as a native speaker, he has access to mental representations of spoken utterances in his language. These representations have many subtle properties resulting from modular linguistic processes that are themselves inaccessible. The naive phonologist readily realizes that "longer" utter - -ances can be divided without remainder into two or more pronounceable units and that the number of these units in an utterance is a measure of its apparent length. Thus many preliterate english-speaking children can count the syllables in a word.

Hence there does appear to be enough evidence to conclude that a much shallower type of speech sound sensitivity does serve something close to a prerequisite function in acquiring speech sound literacy. This shallow phonemic sensitivity or perhaps rust speech sound sensitivity may also be in a reciprocal relationship with reading. Just what level of speech sound sensitivity below full phonemic awareness is necessary is currently an open issue.

METHODOLOGY

This study is concerned with the representation of syllables rather than that of phonemes. This is based on an effect observed by Mehler, Dommergues, Frauer - felder & Segui (1981) which suggests that the syllabic unit is used in speech processing atleast in some languages (called the syllable effect). Given that the intentional analysis of speech into syllabic units seems to be influenced by the acquisition of literacy, though to a lesser extent than the analysis of speech into phonemes, hence the need to examine the syllable effect versus literacy seemed quite interesting.

SUBJECTS:

Sample comprised of 20 literates and 20 illiterates aged 19 to 67 years. The illiterates were gardeners, servants, and vendors, and literates were students, teachers, and executives. The sample comprised of both males and females.

MATERIALS & PROCEDURE:

A total of 12 pairs of common words sharing the same three initial phonemes (CVC) were selected. (As in the appendix).

In each pair, one had a syllable boundary after the initial CV. Each word was included in a sentence four to eight words long. The position of the target bearing word was varied (as in the appendix). There were also 24 distractor sentences, thus making a total of 48 trials. These were recorded at a slow-normal rates and presented to the subjects in blocks of eight trials. Each block was defined by a particular target /ni/, /nim/, /be/, /bad/, /na/, /nad/. Four trials in a block contained the target and four did not. Among the former, the target was a syllable in two trials and less than or more than syllable in other two. For example: the target /ni/ was a syllable in nimisa but not in nimdalla and the target /nim/ was a syllable in nimbe but not in nimage.

The blocks were presented randomly except that blocks containing a target with same initial CV were presented in succession. For one of these blocks, 10 subjects in each group were to detect the target CV and 10 were to detect the corresponding CVC target. Thus for each subject asked to detect /ni/ in nimisa & nimdalla, and /nim/ in nimbe & nimage, there was another who was asked to do the reverse. In addition, for each subject with CV-CVC target order there was another with a CVC-CV target order. The target was presented orally

to the subjects before each block. Their task was to tap on the table whenever they heard the target and to pronounce the word containing it.

oOOOo

RESULTS

On the average the literate subjects detected 72.29% of the targets with individual performance ranging from 45.8% to 95.8%. The illiterates detected 46.45% on average with individual performance ranging from 29.16% to 58.3%.

The responses obtained were put in the form of a Three Factor Table or pxqxr table. The three factors p, q & r were divided into levels A, B, C. These levels further had factors a1, a2,; b1, b2,; d, c2, c3, c4, for levels ABC respectively. Thus the table used in this study for a factorial analysis was as follows:

Subjects v	CV (b1)		CVC (b2)	
	CV (C1)	CVC(c2)	CV (c3)	CVC(c4)
a1				
a2				

TABLE-I(a)

T A B L E - I (b)

SUBJECTS		b1		b2	
		CV		CVC	
		CV d	CVC c2	CV c3	CVC c4
LITERATES	1	6	4	4	4
	2	5	3	1	4
	3	4	4	2	5
	4	5	2	4	6
	5	6	4	5	6
	6	4	1	3	5
	7	4	2	1	4
	8	5	2	4	6
	9	6	3	5	6
a1	10	5	1	3	6
	11	6	2	4	6
	12	6	4	6	6
	13	5	3	4	6
	14	6	5	6	6
	15	5	3	4	6
	16	5	2	4	5
	17	5	3	5	5
	18	4	3	4	5
	19	6	4	3	6
	20	4	3	4	5
ILLITERATES	1	3	1	3	6
	2	3	0	4	5
	3	4	3	2	6
	4	3	2	2	4
	5	4	2	2	5
	6	5	1	3	5
	7	3	1	2	3
	8	3	0	2	2
	9	2	0	1	4
a2	10	5	1	2	4
	11	2	1	2	3
	12	3	2	2	5
	13	4	1	3	6
	14	2	2	1	3
	15	2	0	3	4
	16	5	3	2	4
	17	3	2	3	5
	18	3	1	2	3
	19	4	3	3	5
	20	2	0	2	3

In the table a1 & a2 represent the two group of subjects i.e. literates & illiterates. b1 & b2 are the factors that stand for the manner of presentation of the materials. c1, c2, c3 & c4 indicate the syllable length.

To calculate the analysis of variance, the interaction between the three factors was calculated.

First the ABC table was formed which outlined the interaction between the three groups (Table-II) - it indicated that the literate performed better than the illiterates.

ABC Summary table

	b1		b2	
	c1	c2	C1	c2
a1	100	58	76	108
a2	65	26	46	85
	165	84	122	193

TABLE-II

AB Table

TAELE-III

	b1	b2	
a1	158	184	342
a2	91	131	222
	249	315	564

Next the AB interaction table which showed the interaction between the subjects and the mode of presentation was formed (Table-III). It indicated the responses were better when the CVC block was presented first. Here too the literates performed much better than the illiterates.

AC Table

	c1	c2	
a1	176	166	342
a2	111	72	183
	287	238	525

TABLE - IV

AC table (Table-IV) summarized the effect of syllable length and subject interaction. The results obtained indicated that the responses were better when the target syllable and the block were the same i.e. (CV from CV or CVC from CVC). Performance of literates was again better than the illiterates.

BC Table

TABLE-V

	c1	c2	
a1	165	84	249
a2	122	193	315
	287	277	564

The last table (Table-V) showed the interaction of the syllable length and the way of presentation. The results were same as that of Table-IV.

The analysis of variance showed a significant effect of literacy across subjects (F=0.426 at 0.95 level).

There was also a significant interaction between the word structure and target type. It was significant for illiterate subjects also.

When the targets corresponded to the initial syllable of the word the task was much easier (F=0.20 at 0.95 level) and was significant for literate subjects. There was a significant difference between the literate and the illiterate subjects when the target syllable did not correspond to the initial syllable of the word. This shows that the performance was dictated to a larger extent by the literacy component.

DISCUSSION

Phoneme segmentation ability has been shown to be significantly related to reading achievement. The study of Morais, Cary, Alegria & Bertelson (1979) shows that nonliterates were poor at segmenting speech sequences into phones. Thus the landmark research of this study was that - phonemic awareness arises in context of literacy training.

It has been found that segmental analysis ability does not develop without specific stimulation. It usually appears when learning to read and write. Paper of Jose Morais, Alegria & Content (1979) showed that half of the illiterates failed on every trial and only one scored 80% correct responses. By contrast, no ex-illiterate failed

on any trial and more than half scored 80% . The task was repeating on utterance by either deleting or adding a segment at the beginning. Hence segmental analysis might develop as a consequence of literacy in general.

Also alphabetic literacy is almost a sufficient indication of segmental skill. Backward readers despite having received reading instruction are often very poor on segmental analysis tasks. Braelley & Bryant (1983) found that training children on sound classification and letter-sound correspondence leads to improvement in later reading performance.

Phonetic awareness is the awareness of speech as a sequence of phonetic segments i.e. the minimal units of expression which are relevant for perceptual differentiation. Further the difficulty of phonemic tasks varies with the complexity of the operations required e.g. recognition, counting, partial or full segmentation, manipulation and reversal of phonemic units (Golinkoff 1978, Lewkowicz 1980). The difficulty also depends on type and position of the phonemes. Continuants are easier to identify than stops (Marsh & Mineo 1977) and phonemes in initial position are easier than in terminal. or middle position (Bruce 1964, Zhurova 1973)

The initial consonants seem to be more segmentable, final consonants seem to be easier to synthesize (Helfgot 1976). Syllables are more easier to isolate as they correspond to unitary articulatory acts.

In the present study the CVC targets were more frequently detected than CV targets. The explanation of this effect is that CVC targets provide more cues and so the subject's uncertainty diminishes. In other words, facility of detection would depend on the proportion of phonological information that is shared by the target and by the target bearing word.

In the situation where the CVC target has to be found in a word initiated by a CV syllable, it implies that the subject disregards the last consonant of the target and isolates the consonant that initiates the second syllable of the word. Phonemic segmentation demands are thus much greater in this situation than in opposite situation which consists of detecting a CV target in a CVC syllable - initiated word. Therefore this explains the low performance in this situation. Furthermore the illiterates have been found to be very poor on phonemic segmentation tasks in previous studies. The present study confirms it.

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SUMMARY AND CONCLUSION

Previous work on the mental representation of spoken language in illiterate adults has dealt with metalinguistic abilities more than with perceptual processing. However, the possibility of an influence of literacy on speech perception should not be neglected. Learning to read and write in an alphabetic system entails the ability to analyze speech intentionally into phonemic units. It also contributes to the elaboration of new processing strategies. The phonemic representation that is required in reading and writing provides the basis for processes of spoken word recognition, consisting of finding the best match between a sequence of discrete segment and a lexical entry.

The present study was concerned with the representation of syllables rather than that of phonemes in Kannada among literates and illiterates. A total of 12 pairs of common words sharing the same three initial phonemes(CVC) were selected. These words were then put in six blocks with 8 sentences in each block. For one of these blocks, 10 subjects in each group were to detect the target CV and 10 were to detect the corresponding CVC target. In addition, for each subject with a CV-CVC target order ,

there was another CVC-CV target order. The target was presented orally to the subjects before each block. Their task was to tap on the table whenever they heard the target and to pronounce the word containing it. The responses were then recorded in a Three Factor Table and was subjected to analysis. The analysis concluded that :

1) Literacy did surely have an effect on syllable identification.

2) CVC targets were more frequently detected than CV targets - as CVC targets provide more clues.

3) Phonemic segmentation demands are much greater in the situation where the CVC target has to be found in a word initiated by a CV syllable.

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***

/ni- nim/

nimdu, nimiša, nimṇalla, nimage, nimbe, nimṭara, nimagosKara, nimapraKara.

/ba- bad/

baṇḍlu, baṇḍuKi, baṇḍlisu, baṇḍane, baṇḍuKalu, baḍvaru, baḍabaḍisuṭṭare, baḍai.

/na- nad/

naḍka, naḍuve, naṇḍu, naḍaṭṭe, naṇḍi, naḍeḍu, naḍigege, naḍvaliKe.

I BLOCK

[Kageya baṇṇa Kʌppu].

[kašṭa pəḍəḍe sukʰsiguvuḍilla].

[əvəru ī Kagəḍan nimḍu anṭa heḷiḍu].

[kʌled nimiša punah barḍu].

[pərvaṭ prəḍešdəlli čəḷi hečʊ].

[ī pusṭaKəgəḷu yavəḍu nimdalla ənta –
heḷṭaiḍare].

[kogile vəsəntəKaləḍəlli hečagi kugutəde].

[nimage yava ṭondreyūilla].

II BLOCK

[həsuvina Kəru nōḍəlu čəndə].

[ī nimbe haṇṇu ṭumba huḷiyagiḍe].

[ḍīpavəḷiyanḍu pəṭʰāKi harisuṭare].

[guṇəḍəlli nim məKəleḷḷa nimtəra].

[nanu yella Karyəkrəməgallənnu nimagoskara-
nədesikoḍutene].

[KāḍU hečagidəlli məḷeyu hečʊ].

[rʌlu prəyaṇvenḍəre məKəḷige bəlu hučʊ].

[nimaprakara i pusṭəkage yešṭu bele –
koḍəbəhuḍu]

III BLOCK

[bəteyə baɖlu ʈindi haṇčōṇə].

[əṇekəttinəlli nīrənnu sāgrahisuʈāre].

[baɖukige onɖu ərʈʰə irbēku].

[səmuɖrəde nīrininɖa ūppənnə —
maḍuʈare].

[amma bəṭṭə baɖlisu anɖu].

[həsuvinə koralige gejje kəttuʈāre].

[badane kāyi pəlyakke uppu jyasʈiāgide].

[čigurida mavin mərə nōdlu čənɖa].

IV BLOCK

[birugaḷige hədəgu məḷugətu].

[nəməge baɖukəlu niru aʈʈyavašyəka].

[badvaru jivišəlu dinənitya kəšṭa —
pədəbeku].

[šaleyə suttə hūʈotə beḷesidare].

[huḍugə prəʈidina raʈri kənəsinəlli —
badbadisuʈare]

[ī bʰumi pʰələvʈāgiɖe].

[habbədəlli məkkəḷḷu hosə bətte ʈoduʈare]

[yaru badai kočuvərō əvəru keləsə —
maduvuɖilla]

V BLOCK

[jœnu ʈuppə seviyəlu bəlu ruči].

[mœsurin ɖəsəra jəgəʈa prasiɖəvagiɖe].

[maneyinɖa nanu nəɖɖu banɖe].

[ūrinə nəɖuve dēvastʰanə iɖe].

[vyəvəsayə manəvena jīvanəɖə —
muɭāɖʰarə].

[əvanu nōɖi kaləlli nədka šuruāiʈu].

[ī bʰumi pʰələvətāgiɖe].

[i kaləɖəlli oɭɭe naɖaʈe belesē illa].

VI BLOCK.

[əvərə nadni bombayiyəlla iɖare].

[naɖeɖu ruɖi iruvəvəru pəttaṇəɖəlli-
kəɖime].

[baɭeyə ʈōtəke ānegəɭu nuggidəvu].

[udəyisuvə čanɖra nōɖəlu čənɖa].

[jənnru maruhōɖəɖu əvəɭə naɖigege].

[nadiyə niru jɹlašəyə sēriʈu].

[jənnru təmmə nadvalikeyə bəgge-
gamənə koɖuʈare].