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**The Effects Of contextual Richness
on the Guessability and the Retention
of Words in a Foreign Language**

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Abstract

This study tested three directional hypotheses: Compared with those receiving cue - inadequate sentences, subjects receiving cue – adequate sentences will

- 1) Report greater ease in word inference
- 2) Score higher in inferring and remembering the contextual meaning of unfamiliar words
- 3) The higher the score of word inference, the better the retention of the contextual meanings of the target words.

With statistical significance, all these hypotheses were confirmed. An approach combining schema theory and the generative model of comprehension was used for the rational of this study and the discussion of its findings.

Since adequate cues in context can relieve learners of English as a Foreign Language from the anxiety of unfamiliar words, it might follow that reasonably sufficient contextual cues should be provided in texts for foreign language learners, so that enough information can be created for them to play “psycholinguistic guessing game” (Goodman 1967) – if it is part of the interactional goal.

Moreover, since adequate contextual cues can enhance inferring and remembering the meanings of unfamiliar words in context, it might follow that “more comprehensible input” (Krashen 1985) should be involved in acquiring vocabulary. To provide “more comprehensible input” means to provide more accessible frames of relevant reference according to schema theory, or, according to schema theory and cartoon (1971), “attributes and contexts that are familiar” to the text-receiver. To make the verbal

input in the text more comprehensible, both linguistic input (i.e. the message conveyed in the language in the text), and extra linguistic input should be available, or familiar, to the text – receiver. This being the case, the learner can better acquire what is known by employing what is given, known or acquired.

Introduction

The traditional view of the role of context in language development is embodied in St. Augustine’s picture of language learning. Wittgenstein (1953,1999) regards this view as underlying a number of major theories of meaning deriving from European thought. Burner (1983: 31-4) identifies Skinner’s behaviorist theory of language learning as a variant of this view and Chomsky’s nativist theory as an unfortunate reaction to it.

St. Augustine (1990) says that a child learns language in the following way: Adults point to things, direct the child’s attention towards them, and at the same time pronounce words. It is noticeable that Augustine quite specifically refers to the adults’ gestures regarding them as culturally universal: “Their

intention was shown by their bodily movements, as it were the natural language of all people: the expression of the face, the play of the eyes, the movement of other parts of the body and tone of voice ..." (Wittgenstein, 1953:2). Thus the context of objects and gestures enable the child to learn language by associating sounds with meanings. Prior understanding of context makes language comprehensible.

Augustine assumes that learning language is learning to name objects. Nobody would now agree with this, so it is not an issue.

Another assumption, which does have some credence, is that context determines language understanding, but not vice versa: there is a one - way relationship of determination between context and language. According to Keller (1978), Cohen (1978) and French and Woll (1981) this assumption was still reflected in language learning research in the 1970s.

But the assumption that is central and much more fundamental is that the learner understands the context: the learner is already in complete possession of contextual meanings and merely needs to connect these with sounds. As Wittgenstein says:

Augustine describes the learning of human language as if the child came into a strange country and did not understand the language of the country, that is, as if it already had a language, only not this one. Or again: as if

the child could already think, only not speak.

(Wittgenstein, 1953: 15-16)

Burner claims that most discussions of language take view and “operate under the assumption that the context, like the text, is there, there to be interpreted”: (Burner, 1983: 120). In other words, contextual understanding is taken as given. Indeed MacNamara (1984: 97) would appear to accept this assumption. He explicitly rejects the problem raised by Wittgenstein and he stresses the role of prior contextual understanding when the young child learns to name objects.

Foreign language learning researchers may well argue that this assumption is precisely appropriate to the situation of foreign language learner: contextual understanding can be assumed, and Augustine has unwittingly offered a description of foreign language acquisition. This may, in fact, be the position of Hatch, Krashen, and Cummins, though they do not say so explicitly. In any case, it is an assumption, which should be tested empirically.

This assumption can be tested in the case of gestures. Augustine assumes that gestures are understood by the young child and that they are culturally universal. This would predict that the four-to-five – year – olds in this study would understand gestures, interestingly enough; one could expect this result even

if Augustine's assumption was only reasonable approximation of his case. He states that children acquire a non – verbal system of communication before the verbal system.

A different view of the relation of context and language learning emerges in Halliday's concept of language as social semiotic (Halliday, 1978). Context is not seen as a given, nor as an obvious physical setting, but as a sociocultural reality which is learned through communicative interaction. "A child learning language is at the same time learning other things through language – building up a picture of the reality which is around him and inside him. ... A social reality (or a culture) is itself an edifice of meaning - a semiotic construct" (Halliday, 1978:1-2). Thus the child is learning language and culture as the same time and there is therefore the complex and dynamic relationship between the development of language and the development of contextual, sociocultural understanding.

This complex relationship can be seen in Burner's (1983) developmental steps in the very young child's ability to refer to objects. The mother's communicative interaction with the child is carefully patterned and adjusted to ensure familiar, easily interpretable settings in which mother and child can locate objects and the child can learn to refer by conventionalized pointing. First, reciprocal eye – gaze establishes mutual attention. At the age of three months, the mother will often introduce objects into the child's line of regard, shaking them and saying, "see the X". As early as four months, the mother

begins “Where” and “What” games, asking, “What’s this?” without any possibility of an appropriate response. Towards the end of the first year, the child first comprehends pointing by adults and then uses pointing to identify noteworthy objects. Then “Where’s the X?” becomes a real request for a point. At fifteen months this query is incorporated by the mother into games such as “body parts:” “Where’s your nose:” is answered by an appropriate point, eventually followed by “What’s that:” which evokes vocalization and finally names.

Though the findings of some research (Tulving and Gold 1963; Goodman 1965) can be considered corroborative of cartoon’s (1971) speculation about context effects on word identification or acquisition, there are two crucial questions about which little inquiry has been made. They are:

- (1) When can verbal contexts be of significant help in vocabulary acquisition as a result of the process of word inference?
- (2) What is the relationship between inferring and remembering meanings of new words?

The lack of such inquiry is especially noticeable in the quantitative study of using or learning English as a foreign language.

The present study was conducted among foreign language learners. It not only focused on the effects of cue – adequacy on inferring and remembering meanings of new words in discrete, semantically disconnected sentences, but also aimed at an

empirical exploration concerning the relationship between word inference and retention.

In this study, cue – adequate sentence were compared with cue – inadequate counterparts for testing three directional hypotheses. These were: Compared with those receiving cue – inadequate sentences, subjects receiving cue – adequate sentences will (1) report greater ease in inferring the meanings of new words, and (2) score higher in inferring and remembering the meanings of new words, and (3) the higher the scores of word inference, the better the retention of meanings of unfamiliar words.

For the purposes of this study, a sentence with certain input information that contains clues sufficient for inferring the contextual meaning of a target word was defined as a cue – adequate sentence, while a sentence without such input information was defined as a cue –inadequate one. For example, the sentence “John took out a collapsible bicycle and rode to school “ was treated as a cue – inadequate sentence, for, in this sentence, there was no input information signaling any clue to the contextual meaning of the target word collapsible. However, the sentence “John took out a collapsible bicycle, unfolded it, and rode to school “was treated as a cue – adequate one, for the word “unfolded provided the clue to approximate meaning of the target word.

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Review of the literature

Inferring, or “inferencing”, the meanings of unfamiliar words in context can be seen as “a process of identifying and acquiring new vocabulary by utilizing attributes and contexts that are familiar” (Carton, 1971). Such processes are of vital importance in both language use and language learning. In language use, the outcome of inferring the meanings of unfamiliar but important words in a text can often lead the way to, or, block the way of, smooth continuation of communication between the text receiver and the text. In language learning, inferring word meanings while reading is a process of vocabulary acquisition, which has an important influence upon comprehension either in a first language or in a foreign language.

Contextual cues can affect the process and outcome of word inference. Carton (1971) hypothesized that in the process of identifying and acquiring unfamiliar words in context, greater certainty results from guesses based on many cues than on few. There has been a growing body of empirical research, the findings of which can be considered corroborative of Carton’s (1971) speculation. Goodman’s (1965) study revealed that children were able to read words in the context of a sentence which they were unable to read when the words were presented alone. Tulving and Gold (1963) found that as the amount of information in a sentence increased, the time required to recognize a target word decreased.

Research (Wittrock, 1975) indicated that meaningful contexts facilitated the learning of low - frequency words.

Schema Theory

According to schema theory (Bartlett, 1932; Anderson 1985; Rumelhart, 1983, and Widdowson, 1983), word inference can be seen as a process of search for and use of, relevant schemata to identify unfamiliar verbal stimuli. Schemata can be seen as frames of reference which provides a basis for prediction and allow for the organization of information in long - term memory (Widdowson, 1983). The search for likely candidate schemata is, as Rumelhart and Ortony (1977) pointed out, by nature sensitive to the context in which the process is occurring. However, for contextual cues to be of real help in word inference, they must (1) be perceptually and conceptually familiar to the text-receiver, and (2) contain the information available for the text - receiver to find the relevant schemata in order to (a) account for the oncoming input in the text, and (b) identify unfamiliar stimuli in context.

Employing a relevant schema to identify the meaning of an unfamiliar word in context, on the other hand, entails a further generative process (Wittrock, 1999). The meaning of an unfamiliar word in context must be constructed by the text - receiver in the processes of inferring not only the relationship among the parts of the text, but also the relationships between the text and the real world which (1)

the text presents, and (2) the text - receiver conceives of. In other words, to infer the meaning of an unfamiliar word in context, the text - receiver has to acquire something new by means of (1) what one has experienced in, and known of the real world as well as (2) what is conveyed in the text that aims at depicting the real world.

Frames

One way of representing the background knowledge which is used in the production and understanding of discourse can be found in Minsky's frame theory. Minsky proposes that our knowledge is stored in memory in the form of data structures, which he calls "frames", and which represent stereotyped situations. They are used in the following way:

When one encounters a new situation (or makes a substantial change in one's view of the present problem) one selects from memory a structure called a frame. This is a remembered framework to be adapted to fit reality by changing details as necessary. (Minsky, 1975)

At a very general level, the notion of "frame" provides an attractive metaphor for thinking about discourse understanding as, at least partially, "a process of fitting what one is told into the framework established by what one already knows" (Charniac, 1978). Thus if you receive a postcard telling where you should go to register your vote in a local government election, your understanding of this received information can be described in terms of a "voting -

frame”, perhaps, which has a slot for “voting -place”. The specific locational information on the card instantiates the stereotypic locational information slot in your knowledge frame.

Scripts

The notion of script was developed by analogy with Minsky’s frame, but ‘specialized to deal with event sequences’ (Schank & Abelson, 1977). The script concept was used by Abelson (1976) to investigate the relationship between attitudes and behavior but, when applied to text understanding, it incorporates a particular analysis of language understanding proposed by Schank (1982) as conceptual dependency.

In analyzing stories, Riesbeck & Schank supplement the conceptual analysis of sentences with a more general understanding device described as a “script”, which has a function similar to a Minskyan frame. Whereas a frame is generally treated as an essentially stable set of facts about the world, a script is more programmatic in that it incorporates a standard sequence of events that describes a situation.

Some empirical research has shown that treating scripts as “action stereotypes” (Bower *et al* 1979) for people’s knowledge of routine activities can produce experimental results to support the views of Schank and his collaborators. Bower *et al* (1979) found that when they asked subjects to recall texts involving routine activities (e. g. Going to a Restaurant, Grocery Shopping), their subjects tended to confuse in memory actions

that were stated in the text with actions implied by the “script”. They also found that, when presented with scrambled texts which caused script - actions to be out of predictable sequence, subjects recalled the texts with script - actions in their canonical order. There is, then, some evidence that the script -concept may have some psychological validity, over and above its function as an organizational device in computer data storage.

Scenarios

Sanford & Garrod (1981) choose the term “scenario” to describe the “extended domain of reference” which is used in interpreting written texts, “since one can think of knowledge of settings and situations as constituting the interpretive scenario behind a text”. Their aim is to establish the validity of scenario— account as a psychological theory (1981: 110) in opposition to the proposition based theory of Kinstch (1974). According to the proposition - based approach, the existence of a waiter, for example, in the mental representation which a reader has after reading a text about ‘Going to a Restaurant’ depends entirely on whether a waiter was explicitly mentioned in the text. According to a scenario account, a text about going to a Restaurant automatically brings a waiter slot into the representation.

Sanford & Guard emphasize in the success of a scenario - based comprehension is dependent on the text - producer’s effectiveness in activating appropriate scenarios. They point out that in order to “elicit a scenario; a piece of text must constitute a specific partial

description of an element of the scenario itself' (Sanford & Guard, 1981: 129). These points lend support to the view that effective staging, particularly thematization, facilitates processing of text.

One function of thematization at the text level may be to activate a particular scenario representation for the reader.

Schemata

Schemata are said to be "higher - level complex (and even conventional or habitual) knowledge structures" (Van Dijk, 1981: 141), which function as "ideational scaffolding" (Anderson, 1977) in the organization and interpretation of experience. In the strong view, schemata are considered to be deterministic, to predispose the experiencer to interpret his experience in a fixed way. We can think of racial prejudice, for example, as the manifestation of some fixed way of thinking about newly encountered individuals who are assigned undesirable attributes and motives on the basis of an existing schema for members of the race. There may also be deterministic schemata which we use when we are about to encounter certain types of discourse, as evidenced in the following conversational fragment.

A: There's a party political broadcast coming on - do you want to watch it?

B: No - switch it off - I know what they are going to say already.

Bartlett (1932) believed that our memory for discourse was not based on straight representation, but was constructive. This constructive process uses information from the encountered discourse, together with knowledge from past experience related to the discourse at hand, to build a mental representation. That past experience, Bartlett argued, cannot be an accumulation of successive individual events and experiences, it must be organized and made manageable - "the past operates as an organized mass rather than as a group of elements each of which retains its specific character" (1932: 197). What gives structure to that organized mass is the schema, which Bartlett did not propose as a form of arrangement, but as something which remained "active" and "developing" (1932: 201). It is this active feature which combined with the experience of a particular piece of discourse leads to the constructive processes in memory.

METHODOLOGY

Thirty-six intermediate level evening student freshmen majoring in the English literature and Translation at Allameh Tabatabaee University were involved in this study. Their average age was 22, ranging from 18 to 26. Test subjects were randomly assigned in two treatment groups, namely: RC (i.e. reading group with inadequate cues); RC+ (i.e. reading group with adequate cues).

There was only one independent variable: the text which had Two Levels-sentences with adequate cues versus inadequate cues. There were there dependent variables: These were group means is terms of:

- (1) measures of word inference (i.e. inferring the meanings of unfamiliar words);
- (2) measures of word retention (i.e. recall of the inferred meanings of the target words),
- (3) ratings of degrees of difficulty of word inference

The design is represented schematically in figure 1.

Thirty discrete, semantically disconnected sentences were constructed for the experiment. They formed two set of counterparts. Each set was composed of 15 sentences .one set consisted of cue- adequate sentences, and the other of cue-inadequate sentences. In this study there were an average of 11 words in a cue – adequate sentence, and 6.5 words in a cue – inadequate sentence. This difference implied that the amount of input information was greater in the cue – adequate than in the cue - inadequate sentence. Usually, each sentence contained one idiomatic expression – the target word. (See Appendix 1).

A target word was defined as a perceptually, not conceptually, unfamiliar term. Take the word “collapsible”: The subjects knew the meaning of its equivalent in their first language: what was unfamiliar to them was which word in their first language was equivalent to this English word. In other

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words, conceptually, subjects had acquired the counterpart construct of “collapsible” in their first language, yet perceptually they had not established the connection between this acquired concept and its English label, or the specific sound or spelling of the term in English. Since the target words were only perceptually unfamiliar, it would not be a prerequisite for the subject to acquire any new concept to perform the task of this experiment.

By the same token, the topic of all the test items was based on common knowledge: thus, there was no need to turn to any biased or specialized frame of reference for inferring word meanings in this experiment. Furthermore, no meaning of any target word for this study could be deduced simply by applying morphological knowledge in terms of stems, affixes, or other devices of word formation.

Three more tasks were performed. The first one was to infer the contextual meaning of the target words based on the input Information in the sentence in which the target words were embedded. The tests were presented in an open – ended, not in a multiple – choice, form. After reading each sentence, the subjects were asked to state (either In English or Persian) their guesses of the contextual meaning of the target word in the sentence.

The second task was to rate the degree of difficulty in terms of word Inferences. A nine - point scale was used, with “1” indicating that the contextual meanings of the 30 target words were “very

difficult” to infer or guess from the sentences the target words were in, “5” indicating “moderately easy”, and “9” “very easy”.

The last task, word retention, was a cued recall of the target word’s inferred contextual meanings. Each target word was cued by another word from the same Sentence that had been processed for inferring the contextual Meaning of the target word. For example, ‘bicycle’ was the cue word for the target word “collapsible” in the sentences previously mentioned. With such retrieval cues, the subjects were asked to recall the contextual meaning of the target words they had inferred. The target words were listed in exactly the same order as they appeared in the tests for word inference.

HYPOTHESES

In this study, cue - adequate sentences were compared with their cue – inadequate counterparts for testing three directional hypotheses. These were: Compared with those receiving cue – inadequate sentences, subjects receiving cue – adequate sentences will:

- (1) report greater ease in inferring the meanings of new words, and
- (2) score higher in inferring and remembering the meanings of new words, and
- (3) the higher the scores of word inference, the better the retention of the meanings of the target word.

DEFINITION OF TERMS

Cue – adequate sentence: A sentence with certain input information that contains clues sufficient for inferring the contextual meaning of a target word is defined as a cue – adequate sentence. For example, the sentence

“John took out his collapsible bicycle, (unfolded it), and rode to school” is treated as a cue – adequate one, for the word ‘unfolded’ provided the clue to the approximate meaning of the target word.

Cue – inadequate sentence: A sentence without such input information is defined as a cue – inadequate one. For example, the sentence “John took out his collapsible bicycle and rode to school” is treated as a cue – inadequate sentence, for, in this sentence, there is no input information signaling any clue to the contextual meaning of the target word collapsible!

Contextual cues: The meaning carrying cues, in this case word(s) which help the reader arrive at the meaning of the target word. For example, in the sentence “John took out his collapsible bicycle, unfolded it, and rode to school” ‘unfold’ is the contextual cue that serves the reader to infer the meaning of the target word “collapsible”.

Target word: The unfamiliar word in the sentence the meaning of which the reader is trying to arrive at. In other words, a target word is defined as a perceptually, not conceptually, unfamiliar term. Take the word “collapsible”: the subjects knew the meaning of its equivalent in their first language; what was unfamiliar to

them was which word in their first language was equivalent to this English word. In other words, conceptually, the subjects had acquired the counterpart construct of “collapsible” in their first language, yet perceptually they had not established the connection between this acquired concept and its English label, or the specific sound or spelling of the term in English.

DESIGN OF THE STUDY

Sixty discrete, semantically disconnected sentences were constructed for the experiment. They formed two sets of counterparts. Each set was composed of 30 sentences. One set consisted of cue – adequate sentences, and the other cue – inadequate sentences. In this study, there were an average of 11 words in a cue – adequate sentence, and 6.5 words in a cue – inadequate sentence. This difference implied that the amount of input information was greater in the cue – adequate than in a cue – inadequate sentence. Usually, each sentence only contained one new word – the target word. (See Appendix 1).

The group means were in terms of:

- (1) measures of word inference (i.e. inferring the meanings of unfamiliar words)
- (2) ratings of degrees of difficulty of word inference
- (3) measures of word retention (i.e. recall of the inferred meanings of the target words)

The design is represented schematically in figure 1.

	RC ⁻	RC ⁺
Inference		
Ratings		
retention		

Figure 1: design of the study

SIGNIFICANCE OF THE STUDY

Inferring the meanings of unfamiliar words in context is a process of vital importance in language use and language learning. Word inferences entail the search for, and use of, accessibly relevant schemata to generate the messages conveyed in the unknown verbal stimuli. The outcome of such processes can be determined by the amount and quality of contextual cues (i.e. the input information in the verbal context in which the unfamiliar words are perceived and inferred). Moreover, the nature of the verbal context in which an unfamiliar word is inferred can affect how the inferred word meaning will be retained.

The processes involved in inferring and remembering word meanings can be very similar, for what is involved in these two processes seems to be a search for desired information in context (Mandler, 1984).

Memories are, in a sense, natural effects of the comprehension process (Rumelhart and Ortony, 1977), which, by nature, is schematic. Research (Craik and Tulving, 1975) has shown that memory performance is enhanced to the extent that the encoding context forms an integrated unit with the to-be-remembered word. This implies that the nature and quality of the initial process of word inference can affect the retention of the inferred meanings of the words in question.

DATA ANALYSIS

To test the hypotheses, three statistical procedures were used. Hypothesis 1 was tested by a Chi-square, Hypothesis 2 by two separate one – way ANOVAs, and Hypothesis 3 by a Correlation Test.

Since the Chi-square is a test especially designed for nominal data, it was decided beforehand that the nine - point scale should be dichotomized: ratings less than 5 were defined as “difficult” (to infer the contextual meaning of the target words from the discrete sentences), while ratings equal to or greater than 5 were defined as “easy”.

The results of the tests were scored by the researcher. In the tests of both word inference and word retention, a correct response (either in English or Persian) was scored as one point, and an incorrect one as zero. A “correct” response was an answer giving an inferred meaning that approximately identified with the contextual meaning of the target word. For instance, when the

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target word “collapsible” was defined by a subject as something similar to “begin able to fold and unfold”, the response was treated as a correct one. However, to test hypotheses 2 and 3, analyses were strictly based on the “net scores”. That is, when it turned out that a target word was not new to a subject.

Cronbach’s Alpha was used for computing the test reliability. Reliability coefficients for the two tests of word inference were 0.54 for RC-, and 0.64 for RC+, which were rather low. However, they can be considered as begin acceptable for this study, for both the sample size (12 per cell) and the number of test items 30 for each test) were very small.

RESULTS

Data analyses indicated that the three hypotheses were confirmed with statistical significance. Cell means and standard deviations of both word inference and word retention are displayed in table 1.

Table 1. Cell means of word of word inference and word retention

	n	Inference Mean	Retention Mean
RC-	18	3.000	2.916
RC+	18	18.50	13.75

HYPOTHESIS 1

Hypothesis 1 in its null format would state that there was no significant difference between the three groups in rating degrees of difficulty of word inference. However, the results of the Chi – square Test presented in table 2 showed that the null Hypothesis could be rejected ($X^2=33.44$, $df=3$. AND $P=.0001$).

This indicated that subjects who received - adequate sentences did report greater ease in inferring the meanings of the target words than those who received cue - inadequate sentences.

Table2. Difficulty of word inference

Easy	Difficult	Total
RC- 2	156	18
RC+ 18	0	18
$X^2=33.44$ $df = 3$		

HYPOTHESIS 2

Statistics showed that subjects in the three groups performed differently on both tasks of word inference and word retention. So far as word inference is concerned, the result of the one – way ANOVA as reported in table 3 revealed that there were significant differences among the three groups. Since critical F

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 is 4.26 which is less 8.03 and 38.4 so we can safely conclude
 that our obtained values represents significance at the .01 level.

Table 3. One – way ANOVA for word inference

Source	df	SS	MS
Model	3	24.11	8.03
Error	44	5.09	11.0

$$F-(44/3)= 4.26 \qquad P=.0001$$

Table 4. one – way ANOVA for word retention

Source	df	SS	MS
Model	3	11.53	38.4
Error	44	41.6	9.4

$$F-(44/3)= 4.26 \qquad P=.0001$$

HYPOTHESIS 3

The result of data analysis presented in Table 6 revealed that
 there was a positive correlation of statistical significance
 between word inference and word retention.

Table 6. Correlation between word inference and word retention

Variable	n	Mean	sd
Inference	36	9.35	7.88
Retention	36	6.92	5.77
$r=.69$			

5. DISCUSSION AND CONCLUSION

This study revealed two associated findings. First, subjects receiving cue adequate sentences, in contrast to cue – inadequate sentences, not only reported greater ease in word inference, but also scored significantly higher in inferring and remembering the meanings of unfamiliar words in context. Second, there existed a positive correlation between word inference and word retention. That is, higher the group means in inferring the contextual meanings of unfamiliar words, the better the performance in remembering the meanings of those words.

THE FIRST FINDINGS: DISCUSSION

The study indicated that subjects who received cue – adequate sentences, in contrast to cue - inadequate sentences,

- (1) reported greater ease in word inference, and
- (2) scored significantly higher in both word inference and retention.

This finding further sustained cartons (1971) hypothesis that texts with adequate contextual cues minimize errors in the process of identifying and acquiring new words in a natural

context. This is very likely to be the case, for with adequate contextual cues, one would be in a better position “to connect something that is given with something other than itself” (Bartlett, 1932) – i.e. its meaning. According to schema theory, to identify something new involves an attempt to find a relevant schema, i.e. “some general setting or label as we have repeatedly seen” (Bartlett, 1932) in order to form and test some hypotheses that are likely to account for the unfamiliar stimuli question.

The presence of contextual cues means “bridging information” (Garrod and Sanford, 1981), grammatical and/or semantic, conceptual as well as perceptual. Without adequate bridging information, it would seem next to impossible to infer and recall the contextual meaning of any unfamiliar word. This explains why the **RC⁻** group scored so low on both word inference and word retention. On the other hand, the more adequate the contextual cues, the more likely a relevant schema, or a set of schemata, can be found in order to connect something that is given with something other than itself (Bartlett, 1932). This explains why the **RC⁺** group scored significantly higher in both inferring and remembering the contextual meanings of the target words.

THE SECOND FINDING: DISCUSSION

A positive correlation of statistical significance was found between word inference and word retention in this study. An

analysis of the most valid items showed that the target words associated with less powerful retrieval cues. For instance, while none of the subjects who had correctly inferred the meaning of the target word “repugnant” (as in the cue – adequate sentence: “Move these ugly things out; they’re so “repugnant” to the eye”) could recall its contextual meaning, almost all (33 out of 36) subjects who had correctly inferred the meaning of the target word “blare” (as in the cue – adequate sentence: Don’t let your radio blare; the noise will disturb the neighbors) were able to recall its contextual meaning . This might be due to the fact that the retrieval cue word radio in the latter case was more powerfully associated whit the contextual meaning of the target word blare than the retrieval cue “ They’re “ in the former case. Probably, more powerfully associated retrieval cues better triggered the schematic theory, which created a short cut that linked the process needed for recalling the contextual meaning of the target word and the initial process involved in inferring the contextual meaning of the target word.

IMPLICATIONS AND SUGGESTIONS FOR FURTHER STUDY IMPLICATIONS OF the STUDY

From the evidence of this study some implications might be drawn:

First, since adequate cues in context can relieve learners of English as a foreign language from the anxiety of unfamiliar words, it might follow that reasonably sufficient contextual cues should be provided in texts for foreign language learners so that enough information can

be created for them to play the “psycholinguistic guessing game”(Goodman, 1967) – if the game is part of the instructional goal.

Second, since adequate contextual cues can enhance inferring and remembering the meanings of unfamiliar words in context, it might follow that “more comprehensible input”

(Krashen, 1985) should be involved in acquiring vocabulary. To provide “more comprehensible input” means to provide more accessible frames of relevant according to schema theory, Or, according to carton (1971), “attributes and contexts that are familiar” to the text – receiver .To make the verbal input in the text more comprehensible, both linguistic input (i.e. the message conveyed in the language in the text), and extra linguistic input should be available, or familiar, to the text – receiver. This being the case, the learner can better acquire what is known by employing what is given, known, or acquired.

SUGGESTIONS FOR FURTHER STUDIES

First, this study dealt with words that were perceptually, not conceptually, unfamiliar to the subjects. Thus, the findings are confined to the conditions defined as such. Second, in terms of cue – adequate, the working definition for this study was not so much quantitative as qualitative. How to quantify the adequacy of contextual cues would be a question that merits consideration for further empirical studies, though as Craik and Tulving (1975) pointed out, memory performance cannot be considered simply as a function of the number of encoded attributes. Finally, to rule out

the difference in length between cue – adequate and cue – inadequate sentences as a possible alternative explanation of the results, future tests should employ sentences of equal length.

APPENDIX 1

1. John insulted Sarah in public, **but she paid him with interest**.
(She said very bad things about him in front of his employer).
2. John is **tied to his mother's apron strings**. (She decided every thing in his life).
3. The film – star's daughter became a famous actress **in her own right**. (No one could say that her success was due to her father's fame).
4. Katie **held her breath** as the aircraft landed. (Hoping every thing would be all right).
5. I don't know why you're **making such a song and dance** about the changes in the timetable. (They are only minor ones).
6. When he told us about his plant to help the team, it was **music to our ears**. (It gave us so much hope for the future).
7. Let's go out tonight and **paint the town red**. (We've got no more worries about exams).
8. He **pulled a long face** when the results of the competition were announced. (And found he hadn't won).
9. Sandra is a real **nosey poker**. (And always wants to know what every body else is doing).

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10. I'll do that job when I'm ***in the mode***. (I can work much faster when I'm ready and feel like it).
11. Carol asked Henry to drive her into town. "***No sooner said than done***," he replied. (And they set off immediately).
12. We had to surprise Mary by giving her an expensive present for her birthday. However, my husband ***let the cat out of the bag***. (And told her what it was).
13. Tina said she adored James and loved getting telephone calls from him. But I know she was ***speaking with her tongue in her cheek***. (She doesn't like him at all).
14. Sylvia, your cooking is ***out of this world***. (What a wonderful meal we have just had!).
15. This is a ***catch 22*** situation. I can't get a visa unless I have an air – ticket. (And I can't get an air – ticket unless I have a visa!).
16. The food in the hotel was ***nothing to write home about***. (It was never very interesting).
17. It is ***on the cards*** that he will be invited to join the news government. (As he is very friendly with the president).
18. Marriage is ***out of the question***. (I do not love you).
19. (I haven't read her report in detail, but) ***speaking off the cuff***, I'd say that most of her ideas are very good.
20. It's ***anybody's guess*** where John's gone. (I've simply got no idea at all).
21. When offered the choice of two plays, the actress took ***the soft option***. (And chose the one she had played in before).

22. If our company wants to win this contract, it'll have to ***pull out all the stops***. (There's a lot of competition for the contract).
23. Once the topic of conversation turned to sport, Alan ***came into his own***. (And started talking in a very interesting way).
24. The government refused to invest any more money in a company (which never made a profit and) which it regards ***a lame duck***.
25. When the young writer won a prize in the story competition, it was ***a shot in the arm*** for him. (He had started to lose all hope of success).
26. Miss Wallace got ***her marching orders*** because her work was unsatisfactory. (She was told not to come back).
27. Margaret ***took her cue*** from her friends, who always shopped at the super market. (She now does the same herself).
28. Some of the employers are ***hand in glove*** with the security men at the gate. (And can walk out with things belonging to the company).
29. When we go out together for a meal, my girlfriend and I always go Dutch – (each of us pays half).
30. The inspector certainly ***made his presence felt*** at the factory. (He asked a lot of questions and checked everything and carefully).

References

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Abelson, R.P. (1976): Script processing in attitude formation and decision-making. In: J.S. Carroll & J.N. Payne (eds.), *Cognition and social behavior*. Hillsdale, New Jersey: Erlbaum.

Anderson, R.C.1977. The notion of schemata and the educational enterprise: *General discussion of the conference*, Anderson, R. C., Spiro, and Montague 1984. Interest level: academic.

Anderson, J. R. (1985) Language Comprehension, in: *Cognitive Psychology and Its Implications*, pp. 335-63 (New York, W. H. Freeman).

Bartlett, F. C. (1932). Remembering. Cambridge: Cambridge University Press.

Brewer, W.F. (1987). Schemas versus mental models in human memory. In P. Morris, Ed., *Modeling Cognition*. Chichester, UK: Wiley, pp. 187-197.

Bower, G. H., J. B. Black, and J.Turner. (1979).Scripts in memory for text. *Cognitive psychology* 11:177-220.

Bruner, J. S. (1983) Child's talk: *Learning to Use Language*, Oxford: Oxford University Press.

Carton, A. S. (1971). Inferencing : A process in using and learning language . In P. Pimsleur & T. Quinn (Eds.), *the psychology of second language learning* (pp. 45-58). Cambridge University Press.

- Charniak, E.** (1978). On the Use of Framed Knowledge in Language Comprehension. *Artificial Intelligence* [<http://www.dfki.uni-sb.de/imedia/lidos/pbir/s0004-3702.html>](http://www.dfki.uni-sb.de/imedia/lidos/pbir/s0004-3702.html), **11**:225-265,
- Cohen, P. R.** (1978). On knowing what to say: *Planning speech acts*. Technical Report TR 118, Department of Computer Science, University of Toronto, Ontario, PhD Thesis.
- Cohen, P. R.** (1995) Empirical Methods for Artificial Intelligence. MIT Press.
- Craik, F.I., & Tulving, E.** (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental psychology: General*, *104*, 268-294.
- French, P. and Woll, B.** (1981). "Context, meaning and strategy in learning to read, "in C.G. Wells, ed., *Learning through Interaction*. Cambridge: Cambridge University Press.
- Goodman, K.** 1967. Reading: A psycholinguistic guessing game. *Journal of the Reading Specialist*, *6*, 1, pp. 126-35.
- Goodman, K. S.** (1965). A linguistic study of cues and miscues in reading. *Elementary English*, *42*, 639-645. Reprinted in K. S.
- Halliday, M.** (1978). *Language as social semiotic*. London: Arnold.
- Keller, R.** (1979). Gambits: conversational strategy signals. *Journal of Pragmatics* *3*:219-37.
- Kintsch, W.** 1974. *The Representation of Meaning in Memory*. Hillsdale, NJ: Erlbaum.

Krashen, S. (1985), *The Input Hypothesis: Issues and Implications*, Longman

Mandler, J.M. (1984). *Stories, Scripts, and Scenes: Aspects of Schema Theory*. Hillsdale, NJ: Erlbaum.

Mandler, J. M. (2000). Reply to the commentaries on perceptual and conceptual processes in infancy. *Journal of Cognition and Development*, 1, 67-79.

McNamara, T. P. (1984). Introducing cognition. Review of M. Matlin, *Cognition*. *Contemporary Psychology*, 29, 309-310.

McNamara, T. P. (2000). Data structures for cognitive science. Review of A. B. Markman, *Knowledge representation*. *Contemporary Psychology: APA Review of Books*, 45, 226-227.

Minsky, M. (1975). A framework for representing knowledge. In p. H. Winston. Ed., *The Psychology of Computer Vision*. New York: McGraw-Hill, pp. 211-277.

Rumelhart, D. E., and A. Ortony. (1977). The representation of knowledge in memory. In R. C. Anderson and R. J. Spiro, Eds., *Schooling and Acquisition of Knowledge*. Hillsdale, NJ: Erlbaum, pp. 99-135.

Rumelhart, D. E. (1983). "Schemata: the building blocks of cognition." *Theoretical issues in reading comprehension*:

perspectives from cognitive psychology, linguistics, and artificial intelligence, edited by R. J. Spiro, B. C. Bruce, and W. F. Brewer. Hillsdale, NJ: Lawrence Erlbaum, 61-83.

Sanford, A. J., & Garrod, S. C. (1981). Understanding written language. Chichester, NY: Wiley.

Schank, R. C., and R. P. Abelson. (1977). *Scripts, Plans, Goals and Understanding*. Hillsdale, NJ: Erlbaum.

Schank, R. C. (1982). *Dynamic Memory: A Theory of Reminding and Learning in Computers and People*. Cambridge: Cambridge University Press.

Tulving, E, & Gold, C. (1963). Stimulus information and contextual information as determinants of tachistoscopic recognition of words. *Journal of Experimental Psychology*, 66, 319-327.

Van Dijk. 1981: Dijk, Teun A. van, *Studies in the pragmatics of discourse*, The Hague ; New York : Mouton, 1981.

Widdowson, H. G. (1983). *Learning Purpose and language use*. London: Oxford University Press.

Wittgenstein, L. 1953. *Philosophical investigations*. (Anscombe, G.E.M., Trans.). Oxford: Basil Blackwell.

Wittgenstein, L. (1999) *Philosophical Investigations*, tr. by G. E. M. Anscombe (Prentice Hall,) {Order from Amazon.com

<[http://www.amazon.com /exec/ obidos/ASIN/0024288101 /philosophypages](http://www.amazon.com/exec/obidos/ASIN/0024288101/philosophypages)> }

Wittrock, M. C. (1991) Generative Teaching of comprehension,
Elementary School Journal, 92, 169-84.