Chapter 2

Reading: Theoretical Background

2.1 Introduction

I will start the chapter, focusing on the views given regarding reading by three major approaches to language learning, that is, behaviourist, cognitivist and psycholinguistic approaches to language learning. I will also focus on the product and process view of reading. I will then explore the recent principles and theories in reading pedagogy under which I will talk about the different processes of reading comprehension and will discuss briefly the models that represent the procedures of reading.

2.2 Views on Reading

2.2.1 The Behaviourist View on Reading

Many researchers, psychologist and theoretician believed during the 1950’s that reading is just a process of decoding the written or printed words and so the readers need the ability to recognize and distinguish between the different letters and the correct pronunciation. But then the behaviourist theory of language learning came with the view that all learning whether verbal or non-verbal, is behaviour and it could be obtained through a stimulus – response relation. According to the behaviourist school, the readers’
The association of written words with correct pronunciation or speech is a result of practice and drill, and the reinforcement came when these spoken words in turn linked to their meaning. Hence the reading process was concluded as, successful comprehension of sentences could be achieved by learning words one by one and simultaneously memorizing their meaning. This school claimed that meaning exists completely in the text only and it could be achieved only when the reader first processes the words, links them to their meaning and on this basis constructs the meaning of the text as a whole. Therefore the reading process also come to be known as by them as a linear process.

According the this school, the aim of strategies and skills used by a learner was mainly accessing the words, getting their meaning and hence understanding and comprehending the overall meaning of the text. The role of the teacher here is to supply the meaning of words if the learner encounters the word for the first time or if it is unknown to the learner; because unfamiliar or unknown vocabulary may become a problem in comprehension. As the behaviourist theory gave no importance to activating the learner’s background knowledge, so there is no chance for guessing of word – meaning or comprehending word meaning from the context.

2.2.2 The Cognitivist View on Reading:

In contrast to the behaviourist view, the cognitivist view came in the mid 1950’s. The cognitivist (mentalist) wanted to discover the mental reality behind learning. This theory came up with the view that human mind is active and constructive and not passive in learning. The Cognitivists such as
Piaget argues that the human mind is just not a passive receiver of any input but it processes it actively. He further says that while comprehending, new information is stored in our mental structures called schema. These schemata (plural of schema) are modified to store the new information. Readiness also plays a role in accepting any new input. If the human brain is ready to accept new input then there is no or little need for any clue or hint. This means that the text type and its content are the major tools for successful comprehension. If the reader is very well versed in these tools and has the ability to activate relevant mental structures then it results in successful reading comprehension. Moreover a reader should maintain a balance between the new assimilated knowledge and whatever has already been assimilated. Cognitive theorists paid attention to internal processes and knowledge representation also. According to cognitivist these can only be inferred from whatever mental activities are reported by the learner. The early years of cognitivism emphasized the importance of mental processes in language learning. Then in the 1970’s researchers such as (Anderson 1985) agreed on the presence of mental processes behind language learning and argued that these mental processes vary from individual to individual. Anderson (1985) discovered that various internal and external factors affect mental processes. Thus language acquisition is influenced by various factors such as personality factors, mental and social factors, learning purpose, context and so on, which vary from individual to individual. Cognitivists reflected on the interactive nature of reading and the constructive nature of comprehension. They emphasized three processes as
vital to the reading competence—decoding, text-meaning construction and assimilation with prior knowledge (Koda 2005).

2.2.3 The Psycholinguistic View on Reading.

It was argued once that there is no “psycholinguistic method” as such which could be used for the teaching of reading. The actual value of psycholinguistics lies in the contribution and views it provides to the reading process (Smith and Goodman 1973). Earlier, reading was viewed as a process of picking up information word–by–word from text as a decoding process. But then Smith (1973) criticized this view on the basis of two important contributions given by psycholinguistics to the reading process. He rejected the view that reading is primarily a visual process. According to him, there are two kinds of information involved in the process of reading. One is visual information that comes from the print, and another is non-visual information, that comes from the brain of reader. Non-visual information according to him, is the reader’s background knowledge about the language, about the reading and about world in general. The psycholinguistic theory emphasizes that there is a trade–off between visual and non-visual information. In other words, the readers understand better what they read because they fix in the visual information with the group of concepts already stored in their memories. Thus in this way, more information in order to comprehend the printed material is contributed by the readers than by the print on the page. The second major psycholinguistic contribution to reading is that there is a severe limit to the amount of information a reader can receive, process, and remember at a time
(Miller 1967). The reader does not pick up all the information from the printed page but selects only those textual cues that are important for interpreting the writer’s message.

Goodman (1967,70), describes reading as a “psycholinguistic guessing game”. Clarke and Silberstein (1977) have drawn four inferences from Goodman’s psycholinguistic perspective of reading which are viewed as important factors in the preparation and use of second language reading material.

1) Reading is an active process: A reader does not come blank to the reading material; but he brings some background knowledge and certain preliminary expectations about the material. He/she then selects the necessary textual hints to confirm or reject those expectations. In this process of sampling, the reader takes help from his syntactic, semantic, discourse and real world knowledge.

2) Reading must be viewed as a twofold phenomenon involving process-comprehending and product-comprehension: According to Clarke and Silberstein (1977), giving a false start or making mistakes in any pre-reading task is sometime as important as giving correct responses to post facto comprehension questions. Now besides constructing passages followed by comprehension question, the reading teacher must also construct such reading tasks which reward students for both trying and succeeding.
3) Reading involves an interaction between thought and language:
As it has been already stated, the reader brings certain ideas, beliefs and
thoughts to the text which are then added to his / her ability to make
linguistic predictions. Both these things determine his / her expectations
in the course of his / her reading of the text. Now a skilled and a
successful reading depends on how best the reader is able to interacts his
/ her world knowledge (thoughts) with his / her linguistic knowledge
(language)

4) The Psycholinguistic theory emphasizes the importance of
semantically complete readings: - Committing mistakes and errors at
the beginning of reading any passage is natural; but as the reading
progresses, the errors get significantly corrected. This means that
through continuous reading, reader’s previous store of vocabulary and
knowledge is built up and mistakes and errors are decreased. This brings
out the fact that the nature of the reading passage is also one of the
factors that affect successful reading. Conceptual completeness of
passage is rather more important than being its long or short.

Thus Goodman’s model of reading (shown fig. 2.2) is quite
perceptive and elaborate. This model proves the notion that reading
consists of precise, sequential identification and considers reading as a
psycholinguistic guessing game.
2.2.4 Process and Product View on Reading:

The two most important views for reading skills are the ‘process’ and the ‘product’ view of reading. Alderson (2000) gave a thorough description about the process and product views of reading. According to him the product is basically a result of the process of reading. And the process of reading means ‘reading proper’ (ibid, p. 3). In other words the ‘process’ of reading may be understood as a sort of communication between a reader and the text; where the reader is not only involved in the process of eliciting meaning out of the text, but also relates the text to his/her prior knowledge; gives judgment about the usefulness, theme and tone of the text and also counts the difficulty level of the text. The process of reading can be dynamic and varied for the same/different reader on the same/different text at the same/different time or with a same/different purpose in reading. “The process is normally silent, internal, private” (ibid, p. 4). Research in ‘introspection’ has identified various strategies that are used by good and poor readers in the process of reading. Researches have also looked at the textual problems and the affective issues that arise for readers in the process of reading. Researchers supporting the process view have suggested that the reading teacher should distinguish between the processing of good and poor reading among the students and when the students are able to understand the process thoroughly, they may be able to search out for other existing strategies which may help them. Thus through the help of different strategies a poor or an average reader can improve his/her reading. He/she can choose the appropriate way to approach the text. A good
reader can watch his/her progress of reading comprehension process and can choose the appropriate strategy in order be a successful reader. Thus the reading comprehension process is a complex process which involves various strategies to figure out the intended meaning from the text Alderson (2000).

At the same time the product view of reading has not been set apart. It is always there in the light. In order to support the product view, it has been said that whatever be the process of reading, the outcome, that is, the product, will always come as the same. “What matters is not how you reach that understanding, but the fact that you reach it,…..or, what understanding do you reach” is more important (Alderson 2000:4).

In a second language reading class, students can be given certain tasks with a fixed outcome (product) and with some particular skill or strategy as a way/method (process) to achieve that outcome. Here the tasks are itself the purpose of reading and so should be closer to real life purposes. Such tasks motivate the students; generate their interest and take then into the real world, outside the class and also present a valid picture of the particular type of reading. After analyzing the task, the teacher will come to know that whether it is the language of the text, or the task which is difficult for the learners or whether the learner’s background knowledge is the factor, which influenced the reading ability. This means that both the process and product of reading are affected by the difficulty level, type, organization, genre and language in which the target text is written, by the learner’s prior knowledge related to the subject/topic or theme of the text; and by the task itself (Alderson 2000). Thus
both the process and product of reading checks the reader’s efficiency and ability to read appropriately and reading comprehension may be viewed as a product of the reading process.

The attentions of earlier research and teaching have swung towards the product of reading because of the fact that the process of reading is a highly complex phenomenon and has variations. But then it was realized that variation may occurs in product too as different readers have different background knowledge and experience. Meaning does not reside in the text rather it is created by the readers on the basis of their interaction with the text and their own background knowledge (Alderson 2000). This shows that readers’ background knowledge and the knowledge of the target language affects the product of reading to a large extent. Now the question arises as to which interpretation/understanding the “product” is to be accepted. To this there are as many explanations as there are approaches. According to post modernists “all products are possible and equally correct, or that none are correct, and that the notion of correctness is inappropriate, or theoretically misguided” (ibid, p.6). Hence “the problem remains, for researchers, theorists and test constructors alike: how to decide which interpretations are acceptable and which are not?” (ibid, p.6) .Alderson (ibid) has tried to solve this problem by distinguishing between different levels of understanding / interpretation / product of a text. He calls upon the literal understanding as the least difficult product, the more deeper and difficult is to infer the meaning which is not stated directly in the text, and the most difficult is to approach the text
critically; then to evaluate and so on. Here, he comes closer to Gray’s (1960) concept of reading “the lines”; “between the lines”; and “beyond the lines”. So for Alderson (ibid) both process and product are important aspects of reading and he views “reading as a process, or to examine the product of that process” (ibid, p.7)

2.3 Processes of Reading

2.3.1 The Schema Theory Model

“Every act of comprehension involves one’s knowledge of the world as well”

(Anderson, Reynold, Schallert, Goetz 1977:369)

Immanuel Kant in 1781 proved that new information, new concept and new ideas have meaning only when they can be related to something the individual already knows. Through this view Kant has given the concept of background knowledge. The role of this background knowledge in language comprehension has been called as schema theory (Bartlett 1932; Rumelhart and Ortony 1977; Rumelhart 1980). According to Rumelhart (1980), Schema theory is a theory of knowledge, how knowledge is constructed and how knowledge is used. It is a knowledge that reader brings to a text. Schema theory relies strongly on the idea that text, either spoken or written does not carry meaning on its own, rather it only give cues for decoders to determine the meaning from their own previous knowledge. This previous knowledge is called as reader’s ‘background knowledge’ and the previously
acquired knowledge structures are called as ‘schemata’. [Bartlett 1932, Adams and Collins 1979, and Rumelhart 1980]

Schemata can be understood as abstract knowledge structures that are essential for demonstrating generic concepts stored in memory and abstracted by induction from experience. It is abstracted as ‘it summarizes what is known about a variety of cases that differ in many particulars’ and “it represents the relationship among its component part”. (Anderson and Pearson 1984)

Schema theory is useful for the understanding of texts during reading and for the recovery of comprehended message after reading. While reading; the present schemata are activated by incoming data and make the reader to extract meaning and then after testing prediction or hypothesis get comprehension of the text.

Rumelhart (1980) refers to the data driven (bottom-up) and concept driven (top-down) process as two interrelated aspects of the process of comprehension which are related to different functions of schemata. In bottom-up or data driven processing useful schemata are activated by incoming data while comprehending the text. These schemata activate the other larger schemata which may consist of the initially activated concept. Besides, in top-down or concept driven processing these large schemata structures are used to interpret meaning, after the activation of high level schemata. The other sub-schemata are used to test the large conceptual framework against further incoming information (Carpenter 2002).
The role of background knowledge in language comprehension has been highly emphasized in schema theory. Balanced interaction between the reader and the text makes the comprehension effective and it continues to change from reader-based to text-based processing. If the text is known then processing is reader based and when the text is unfamiliar then processing is text-based. Reader based processing results in good prediction of meaning, may be because of prior background knowledge which helps in comprehending the textual information. On the other hand text-based processing results in lesser prediction of meaning may be because here the reader uses different strategies (e.g. inferences, analogy, metaphor etc.) in order to create knowledge structures. These two types of processing are the same as top–down and bottom-up processing of the text.

The third aspect of schema theory according to Rumelhart (1980) is ‘goal driven’ which directs the reader to seek out specific data. It emphasizes that readers are not the passive data processor. They take the text with certain expectations and seek required information, especially those that fit the motivating schemata. Cognitive psychologists and psycholinguists such as (Adams 1990; Perfetti 1985; Rayner and Pollatsek 1989) question schema theory about its usefulness for reading ability. Schema was then seen as a theoretical metaphor for the reader’s prior knowledge. Carver (1992a) also criticized schema theory and argued that it can be applicable to study reading and memorising but not to normal reading. He reviewed two schema theory based studies (Valencia and Stallman, 1989 and Johnston, 1984) and
discovered that they lack in prediction activities and the effect of prior knowledge was less and the effect of general reading ability was high.

“Carver (1992a) is critical of many schema-theory-based studies for failing to measure general reading ability, the time allowed to read, the ‘rauding rate’ (‘typical’ reading done under conditions wherein the individual has no difficulty comprehending each sentences) of the individual and the relative difficulty of the material, since reading speed is known to be an important indicator of reading comprehension”. (Alderson 2000:47)

According to Alderson (2000), schema theory comes in question, when it fails to provide an explicit explanation of the process of understanding. Although it was proved that during the reading process the reader can call up his/her prior knowledge from long –term memory and can use it in understanding the text; but the question arises as to ‘how prior knowledge is called up from memory?’ and ‘how it is then used in understanding?’ (Alderson 2000:18).

“The problem is that schema theory does not lead to explicit definitions or predictions of processes of understanding, although it has clearly provided a powerful incentive to research into the products of understanding for first as well as second language readers. (Alderson 2000:18).

Although schema theory is not a well defined framework for the mental representation of knowledge; Garnham (1985), Kintsck (1988), Rayner
and Pollatsek (1989) but it has been an extremely useful notion for describing how prior knowledge is integrated in memory and used in higher level comprehension processes Anderson and Pearson (1984), and why pre-reading activities improve reading recall (Grabe 1991). Its implications are said to be very useful in improving reading instructions. Schema theory has provided a strong rationale for both pre-reading activities and comprehension strategy training (Carrell 1985, 1988a; Floyd and Carrell 1987). It has also been argued that a high degree of background knowledge can overcome linguistic deficiencies (Hudson 1982). The main idea on which this theory extends is this that students need to activate their prior background knowledge of a topic before they start with it. If their prior background knowledge is not sufficient then they should be given at least that much of the background knowledge which could help them to interpret the text.

According to Carpenter (2002: 3,5) all knowledge of the world (content-schemata) of discourse structures (formal-schemata) as well as of specific elements of language (linguistic schemata) come under schema theory “…………….if a reader does not possess the relevant schemata (content, linguistic or formal) then comprehension will be hindered”.

2.3.2 Bottom-up Process of Reading Comprehension

Bottom – up view of reading makes its origin with the research work done by Gough in 1972.

This model suggest that if a reader wants to construct meaning out of a text, then he must begin with the individual letter and sounds of the
language; and in a set order should move further to the higher stages of processing. The emphasis here is on the text and what the reader is able to extract from the text. So here vocabulary knowledge and word recognition becomes the vital tool in the reading process and for the comprehension of the text. Bottom-up processing is therefore called as ‘data-driven’.

Word recognition here refers to attaching or giving semantic references to the recognized word. And proficiency comes when the reader recognizes the words automatically. According to Stanovich (1991), the automaticity of a native reader makes a complex process look deceptively simple. A reader decodes phonological and graphemic features of the word, attaches semantic meaning and integrates all into an evolving understanding of the text as moderated by the reader’s existing schemata (Bernhardt 2000).

Efficient L1 readers can have fluency over a text with simultaneously constructing its meaning. But research shows that L2 readers faces problem both with vocabulary knowledge and word recognition, when reading is referred to in general terms. Here linguistics and orthographic distances between the mother tongue and the target language are the main factor in focus in L2 word recognition skill. This means that some degree of phonological decoding is also needed in word recognition than attaching semantic values only.

As far as vocabulary knowledge is concerned, it has been suggested that words must be known to be recognized, and a high degree of text coverage (> 90%) is necessary for comprehension. Vocabulary knowledge
plays a vital role in the reading process. Through high frequency vocabulary, word recognition ability automatically gets increased. So it has been suggested that L2 learners should develop their vocabulary in target language for better processing.

Bottom – up approaches have been questioned by researchers arguing that words can be recognized more quickly than individual letters. In Gough’s model (1972), letters were taken in a set order into the scanner for recognition. According to this model, letters should be processed faster than words; but research has shown that the case is just the opposite. Readers have known to process words faster than letters, even pseudo- words. According to the bottom-up model, the next stage of processing begins only and when all the processing of the previous stage has been ended. If this were true then all the words would have been recognized before the syntactic processing began.

2.3.3 Top – Down Process of Reading Comprehension

Top-down view of reading makes its origins with the research work done by Goodman in 1967. For top-down approaches the reader is the most important entity. The reader brings certain hypotheses to analyze the text and then uses textual inputs to confirm or disconfirm the hypotheses. Goodman (1967) calls reading “a psycholinguistic guessing game” in which the reader judges his hypotheses, depending upon his schemata and using selected information from the text. In other words the reader begins with meaning and picks up only minimal cues from the text; especially those cues that they would need to construct meaning. Their prior background knowledge of language and
content help them in selecting those cues from the text that they would need to construct meaning. In addition, it also contains their knowledge of syntax, semantics, phrases, sentences etc. of the language.

Top-down processing is based on the system where higher level general schemata are used to predict meaning and then search the input for information to fit into these higher order schemata. Top-down processing is therefore called as “concept driven”.

### 2.3.4 Interactive Process of Reading Comprehension

The ability to recognize words rapidly and accurately was then regarded as an important predictor of reading ability chiefly with younger L1 readers as well as for college level students. However, it was felt later that neither the bottom–up nor the top–down approach is sufficiently account for the reading process, and hence this resulted in the proposition of the interactive model which incorporates both the bottom–up (lower level) and the top–down (higher level) processing skills of reading.


i) it can refer to the general interaction which takes places between the reader and the text.

ii) ……refers to the interaction of many component skills potentially in simultaneous operation; the interaction of these cognitive skills leads to fluent reading comprehension.
“….. reading is interactive; the reader makes use of information from his / her background knowledge as well as information from the printed page. Reading is also interactive in the sense that many skills work together simultaneously in the process” (Grabe 1991:378).

In this model every component in the reading process can interact with any other component, be it “higher up” or “lower down” (Alderson 2000:18). The reader uses different kinds of information from multiple knowledge sources which interact simultaneously.

Overall it concludes that reading involves both lower - level rapid automatic identification skills and higher – level comprehension / interpretation skills (Carrel 1988b, 1989a; Eskey and Grabe 1988; Rayner and Pollatsek 1989; Samuels and Kamil 1984; Grabe 1991).

Stanovich (1980) has introduced a model and has named it as an interactive compensatory model. In this model readers have an opportunity to compensate their weaknesses in one area by their strength in another area. For example poor/weak orthographic knowledge may be compensated by good / strengthful syntactic knowledge. These models were widely accepted as they gave innumerable range of models and also they “poist an interaction of a variety of processes ………..” (Day and Bamford 1998).
2.4 Models of the Reading Process

The above discussed processes and theories of reading are based on the following models.

2.4.1 Goodman’s 1967 Model

Goodman (1967) defined reading as a ‘psycholinguistic guessing game’, where the reader extracts the best information according to his capabilities and knowledge from the written text. In doing this, the reader depends mainly on his prior knowledge and picks up only minimal cues from the text. His capabilities contain his knowledge of linguistic constraints and his prior knowledge includes his knowledge of the world. His prior knowledge and the knowledge of content help him in selecting those minimal cues from the text that he would need to construct meaning out of that text.

Goodman (1967) has presented a model of reading shown in figure 2.1. The processing sequence starts with and eye movement and a fixation on new material. After this the reader selects “Graphic Cues” from the field of vision and uses this information to help in the formation of a “perceptual image” of part of a text. The selection of visual information is guided by a number of factors including the reader’s strategies, cognitive style, and knowledge and in particular it is guided by the contextual constraints imposed by the material previously analyzed. The resulting perceptual images is made up partly what the reader “sees and partly what he is expected to see” (Goodman 1970:270). At the next stage the reader “searches his memory for related syntactic, semantic and phonological cues” and uses them to enrich the
perceptual images. At this stage according to Goodman the reader makes “a
guess or tentative choice consistent with the graphic cues” and if the reader
becomes successful then he keeps the result in “medium-term memory” and if
he is unsuccessful then he looks back at the previous text and makes “a
tentative choice” which is completely a guess. Then this choice is tested
against the previous context and grammatical and syntactic accuracy is being
checked. If it is correct for the earlier material then its “meaning is assimilated
with prior meaning” and the results are kept in “long-term memory”. At this
stage predictions are made about what is coming next and the cycle is
repeated. If the word does not get fit with the earlier context then the reader
goes backs and repeats the process until an acceptable cue of the word is
found.

This model contains several weaknesses. For example, it does not
speak much about the reading process for all its boxes and arrows. It does not
spell out how various non-visual sources of information are drawn upon and
used to modulate the formation of the perceptual image. At the word-
recognition stage, it does not indicate, how the extra information is used to
facilitate the choice at “tentative choice” stage. In the later stages the model
does not clearly explain the phrase: “the meaning is assimilated with prior
meaning” (Goodman 1970:270).
But inspite of all its weaknesses the model is quite explicit as it maintains that reading is a predictive process; that the reader samples from the print “just enough to confirm his guess of what’s coming” Goodman (1970:266).

Fig. 2.1 A Flowchart of Goodman’s Model of Reading
2.4.2 Gough’s 1972 Model

Gough (1972) has given a model of reading which is represented here in Figure 2.2. Here in the first stage visual information on the page is registered in the icon where it remains available until the reader makes another fixation. The reader uses this information as a raw material for identifying the series of letters in the display. This recognition process is assumed to operate serially from left to right across the display and in the course of operation, the scanner (device used for the identification process) is assumed to consult pattern recognition routines held in long-term memory. The series of letters read from the display is then put up in a Character Register and immediately operated by a mechanism (the Decoder) which organizes the characters onto a sequence of “systematic phonemes” (hypothetical entities that are systematically related to speech but are capable of being setup much more rapidly then speech itself.) During this operation process the Decoder makes use of a Code Book of grapheme – to – phoneme correspondence rules. The end products of the process are stored temporarily in a form analogous to tape recording. The phonemic representation, i.e. lexicon is used to identify the series of words in the sentence and these words are put in Primary Memory until the sentences can be parsed and held in another more stable form of storage termed TPWSGWTAU for (the place where sentences go when they are understood). The comprehension device draws upon syntactic and semantic rules in the course of analyzing the sentences. This model has several shortcoming and weaknesses. In this model there is no provision for dealing
with letters that are encompassed in more than one fixation. The model pays no attention to the problem of integrating sentences and propositions. The model speaks little about the control of eye movement. The model is weak as it does not speak about the way in which the reading process is influenced by prior context.

In spite of these shortcomings Gough’s model has contributed remarkably to reading research. The bold and unambiguous statement of the model has played a role in directing a large body of research (Mitchell 1982).

Figure 2.2 Gough’s Model of Reading
2.4.3 The La Berge and Samuels Theory of Reading (1974)

It is not a comprehensive model of reading but really a theory about the relationship between attention and the sub-processes of reading. It defines reading as a process of activating internal codes e.g. features, letters, spelling patterns etc. The model is concerned mainly with the conditions under which successive codes can be activated with or without the reader’s attention. It does not clearly indicate what is actually used in activating the different types of code and it does not tell the conditions under which various possible direct and indirect routes to the lexicon are used. The model speaks little about comprehension and nothing about eye movement. The model strongly claims that while fluent reader can carry out certain operations without attention, this is the outcome of considerable practice. It says that in the beginning of learning, the reader lacks the automaticity in the processing of letters and words. It also says that reader uses attention differently in different kinds of reading tasks; for example, in fluent reading, the reader pays attention towards the meaning of the passage leaving the visual system.

Although the theory does not give any comprehensive account of the reading process, however it is worth emphasizing the flexibility of the model; since this is a desirable feature of any realistic description of reading (Mitchell 1982).
2.4.4 Rumelhart’s (1977) Interactive Model

Rumelhart (1977) has proposed a more balanced model in which both the raw material and reader’s expectation are drawn upon before the reader settle upon an interpretation of the text. A systematic representation of the model is shown in figure 2.3. In the first stage the information is picked up by the eye and registered in a visual information store (VIS) or icon. ‘Feature extraction device’ then picks up the visual features and makes them available to the ‘pattern synthesizer’ [central component of the model]. This central component i.e. pattern synthesizer then draws upon a wide variety of different sources of information e.g. syntactical, semantic, orthographic and lexical and uses them to make the most probable interpretation” of the text.

Rumelhart’s model deals with contextual effects more adequately, unlike earlier models, but still it fails at a number of other aspects. It tells nothing about the basis on which the various kinds of hypotheses are generated. It does not say anything about the relative importance of the contribution from each knowledge source. It also does not indicate how the influence of each source varies with the reader’s strategy and with the reading conditions.

Rumelhart was well aware of the shortcoming of his model. He clarified his point and said that in presenting this model his aim is to give a framework for the development of models, which is an alternative to the conventional serial flow-chart and to give more importance to highly interactive parallel processing (Mitchell 1982).
Thus in this chapter, I have discussed the views of various approaches to reading. In the next section I have attempted to define the principles and theories proposed for reading pedagogy where we can see the different processes involved in reading comprehension and the models that represent the procedures of reading demonstrating how models of reading are concerned with the perceptual, linguistic and cognitive processes that come into play during the act of reading.