CHAPTER – II

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

This chapter deals with the review of the related literature of the study undertaken. The review related to the different variables of the study are broadly categorized and presented as studies related to Reading Comprehension and studies related to Written Expression.

The review related to the various variables related to the study is presented under the following subheadings. They are as follows – studies related to prior knowledge and reading comprehension, studies related to prior knowledge and written expression, studies related to semantic mapping strategy and reading comprehension, studies related to semantic mapping strategy and written expression and studies related to graphical organizers and reading.

The studies related to Written Expression is further classified as Prior Knowledge and Written Expression, Graphical Organizer and Written Expression and studies related to Semantic Mapping and Written expression.

2.2 STUDIES RELATED TO PRIOR KNOWLEDGE AND READING COMPREHENSION

A lot of studies have been carried out to find out the effect of prior knowledge on reading comprehension (Carr & Thompson, 1996; Holmes B.C., 1983; Jackson, Paul & Smith, 1997; Langer & Nicholich, 1981; Lipson, 1982; Maria & MacGinitie, 1980; Schmidt, et al., 1989; Spilich, Vesonder, Chiesi & Voss, 1979). These studies tried to explore the effect of prior knowledge activation on reading comprehension.
Carr and Thompson (1996) conducted a study where he compared the students with learning disabilities (LD) and those of both their age peers and their reading-level peers on reading comprehension. Passages for reading included both familiar and unfamiliar topics, so as to assess the use of prior knowledge under varying conditions. The inferential reading ability was tested for all reading passages. Both the subject activation and experimenter activation of prior knowledge were also compared. The result shows that, the groups benefited from experimenter activation of prior knowledge, but these benefits were most noteworthy for subjects with LD, and when passage topics were unfamiliar. The subjects with learning disability group performed very similarly to their reading-level peers, as opposed to their age peers.

Schmidt, et al. (1989) conducted two experiments by using small-group discussion as a means to assess the effects of prior knowledge activation. A description of natural phenomena was given to subjects and was asked to elaborate on possible explanations for them. In the first experiment, small groups of subjects were presented with a problem, describing the behaviour of a blood cell in pure water and in a salt solution. Additional texts were not given for study. The results showed that the subjects in the experimental group produced more than twice as many propositions about osmosis (the topic) as compared to the control group. In the second experiment, the effects of problem analysis on subsequent text processing for subjects with precise knowledge (experts) and subjects with imprecise prior knowledge (novices) were investigated. Recall of the text indicated considerable facilitative effects of problem analysis. The results are explained in terms of faster accessibility of prior knowledge and better integration of new information into explanatory models that may exist before, or are actively constructed during, problem analysis.
In another study conducted on sixth-grade readers of different abilities – above average, average, and below average, Langer (1984) found prior knowledge to be a significant predictor of comprehension of a passage. Langer’ measure of prior knowledge was subjects’ free associations stimulated by the key words from two passages they were to read. The subjects’ prior knowledge about a topic was divided into three categories: highly organized, partially organized, and diffusely organized.

The students’ background knowledge in relation to the specific text to be read was elaborated by using a pre reading activity and the effects of the pre reading activity subsequent comprehension of the passage by students was tested. These results were compared to results obtained with two other treatment groups, a motivational group and a control group. Prior knowledge proved to be a specific predictor of text comprehension for all three ability groups. Though the elaborative pre reading activity helped to improve the average reader’s comprehension, it had no effect on the performance of below-average readers. Langer further suggested the need for direct pre reading instruction focussed on the most important points in the passage to promote reading comprehension.

In a research study conducted by Holmes (1983), the ability to answer the post reading questions by both poor readers and good readers, when there were no differences in the extent and accuracy of their prior knowledge was examined. Both literal and inferential questions were included in the post reading questions. The results show that, both the poor and good reader answered the literal question correctly, but there was a significant difference in favour of the good readers in the accurate use of their prior knowledge when answering inferential questions.

Lipson (1982) studied the influence of differences in prior knowledge on the reading comprehension. The subjects of the study were 28 good and poor readers
studying in third grade. These students’ prior knowledge about the reading passages they were about to read was categorized as correct, incorrect, or missing. Lipson wanted to know if students could correct their incorrect prior knowledge after reading. It was found that, the subjects’ used their prior knowledge when their prior knowledge was inconsistent with new information in the passages instead of the passage information. However, they relied more on the text to construct meaning, when they lack the prior knowledge on the topic, and consequently, answered more items correctly. The inference questions were the most difficult. Inference formed by the subjects was incorrect when their prior knowledge was different from the information given in the passage.

The study conducted by Spilich, Vesonder, Chiesi and Voss (1979) also highlights the idea that prior knowledge activation has an effect on information processing. The subjects of the study consisted of a high knowledge group and a low-knowledge group. Both groups were present with a text about baseball on audiotape. Low-knowledge group had no or little knowledge of baseball while the high-knowledge group were experts in this domain. After listening to the story, the subjects were asked to write down everything they could recall from the text. The results of the study showed that the high-knowledge subjects recalled more of the text than low-knowledge subjects, specifically of information that was relevant to the topic baseball. Both groups didn’t differ in recall of information that was less relevant to the topic.

A few studies on prior knowledge were conducted exclusively on students with learning disabilities. One such study was carried out by MacGinitie (1980). The subjects of the study were 30 learning disabled (LD) children in grades 4 through 6, and found that the subjects’ prior knowledge about the topic often interfered with their comprehension of reading passage. The students used their prior knowledge as a
template to mould incoming information to conform to their expectations. The new information was often become distorted because the children’s prior knowledge was different from that of the passage. So instead of incorporating new information into their existing schemata and modifying their schemata as a result of newly learned information, these students distorted the new information and hence were unable to comprehend accurately. The investigator described these learning disabled readers as being “disabled in the comprehension of written language when the text contains new information” (p. 19).

Jackson, Paul and Smith (1997) conducted a study on 51 severely to profoundly deaf students. They were assigned to two groups differed by the type of probes (short or long) used to elicit prior knowledge. The reading comprehension was predicted based on prior knowledge. Students responses were assessed based on three types of questions: text-explicit, text-implicit and script-implicit. The regression model showed that, for the group pre-tested with an in-depth, or long, probe of prior knowledge; the best predictor of reading comprehension was their ability to answer text-explicit and script-implicit questions.

In another study by Machiels-Bongaerts, Schmidt and Boshuizen (1995) found that the differences in the nature of the prior knowledge activated can result in different information processes and recall patterns. In the study, he has tested two hypotheses, the cognitive set-point and the selective-attention hypothesis; try to account for the facilitation effects of prior knowledge activation. In this study the assumption was tested that differences in the nature of the prior knowledge activated can result in these different ways of text processing, which, in turn, can explain the divergent recall patterns; thus, that the cognitive set-point and the selective-attention hypothesis could co-exist. One group activated prior knowledge that was represented
in a schema, which would result in processing and recall patterns as predicted by the selective-attention hypothesis. The second group activated prior knowledge that had not evolved into such a fixed cognitive structure, which would lead to the patterns predicted by the cognitive set-point hypothesis. The results of these experimental groups, opposed to a control group, largely confirmed the postulation that differences in the nature of the prior knowledge activated can result in different information processes and recall patterns.

The study by De Grave, Schmidt and Bozhuizen (2001) examined the effect of group discussion of a medical problem on the comprehension of a subsequent problem-relevant text by first year medical students. The subjects of the study were 48 first-year students of medicine. The subjects were randomly assigned to one of two conditions: The experimental group discussed a problem of blood pressure regulation, where the control group discussed a problem of vision. After that all students studied a text on the physiology of blood pressure regulation. A free recall test was administered finally. The number of propositions accurately recalled was analyzed using analysis of variance (ANOVA). The results show that the students who discussed the blood pressure regulation problem recalled 25% more from the text than those who discussed the control problem. This difference was statistically significant. It demonstrated the positive effects of group discussion on the comprehension of text. This study also highlighted the significance of prior knowledge activation of students understanding.

Previous research in the field of reading has demonstrated that prior knowledge is a major influence on reading comprehension (e.g., Langer & Nicholich, 1981; Pearson, Hansen & Gordon, 1979; Taft & Leslie, 1985) and that many poor readers have difficulties using prior knowledge to form inferences (e.g., Holmes,
One intriguing outcome of this research is the notion that observed differences in strategic processing between good and poor readers may be accounted for by knowledge-based differences (Langer & Nicholich, 1981; Pearson, Hansen & Gordon, 1979; Taft & Leslie, 1985).

Pearson and Camparell (1981) reported that students of all ages and abilities benefit from conscious attempts by teachers to focus attention either on the structure of the text to be read or the structure of the knowledge domain to which the text is related. The strategy adopted for activation may be in the form of packaged set of questions, text summary, a story line, or a visual display of key idea to activated.

According to Anderson and Pearson (1984) readers across all levels, age and ability use their existing knowledge as filter to interpret and construction meaning of a given text.

Students’ disposition to draw inference or make predictions improves when they and their teachers make a conscious effort to draw relationships between text content and background knowledge (Hansen, 1981; Hansen & Pearson, 1983).

Chen and Graves (1995) demonstrated through their study that the activation of specific information that is relevant to the text is more effective as compared to activating more genera background knowledge. He used the text previewing strategy and it was found that previewing of a text prior to reading has contributed to better comprehension in comparison with a both a control and a group that activated prior knowledge.

From the review presented above it is very clear that prior knowledge plays a major role in reading comprehension. The study suggests that, it is one of the factors that differentiate a strategic reader and poor reader. A strategic reader makes use of his/her background knowledge and applies it to the text, so that their comprehension
will be higher. It also highlights that, the children with incorrect prior knowledge will have difficulty in comprehending new information and when the prior knowledge is different from the information presented in the text, it often impede the comprehension process. The studies presented above suggests that, the reader with prior knowledge were able to comprehend and recall more from the text and it is also found that when prior knowledge related to the topic is activated, it helps prediction, make inference and improves overall comprehension.

2.3 STUDIES RELATED TO PRIOR KNOWLEDGE AND WRITTEN EXPRESSION

A study was carried out by Chesky and Hiebert (1987) that examined the effects of low and high-prior knowledge and peer and teacher audiences on high school students writing. The subjects of the study were 48 high school juniors. They were asked to write an essay on the on which they had low-prior knowledge. The other set of 40 high school juniors were asked to write about a topic on which they had prior knowledge. From each group half of the students wrote to peer while the other half wrote to the teacher. The results of the study shows that the students who had high-prior knowledge about the topic wrote quantitatively and qualitatively better. There was no much significant difference in the quantity or quality of students’ writing as they address to peer or teacher audience.

Voss, Vesonder and Spilich (1980) also did a similar study to assess the relative influence of writers’ prior knowledge and teachers’ classroom lesson structure on students’ narrative production. The result of the study shows that prior knowledge has a significant effect on students’ writing. When the students were asked to write a narrative account on baseball, high-knowledge students used more significance statements and auxiliary actions than low-knowledge students in writing the narrative
account of a baseball episode. On the other hand the Low-knowledge students used more non game, irrelevant actions than high-knowledge students. There were no significant differences between high- and low-knowledge students in the academic teachers’ classes.

Langer (1984) conducted a study in which he correlated a number of quantitative and qualitative measure to students’ prior knowledge. The ninety seven tenth-grade students from four American history classes were the subjects of the study. They wrote two essays at two different points during the semester, after having read textbooks passage about a topic. Langer found significant correlations between overall essay quality and three measures of topic-specific prior knowledge.

The studies mentioned above also highlights the role of prior knowledge in the writing process. The writer with prior knowledge produced written products which are qualitatively and quantitatively better. It helps the learners to generate more ideas and to come out with better narrative product.

2.4 STUDIES RELATED TO SEMANTIC MAPPING STRATEGY AND READING COMPREHENSION

Asadollahfam (2012) investigated the effect of semantic mapping strategy instruction on reading comprehension performance of EFL learners. The subjects of the study were thirty homogeneous Iranian intermediate EFL learners attending a language school in Bonab, Iran. They were randomly allotted to the experimental and control group. The same instructor taught both the control group and experimental group. The experimental group was taught by using semantic mapping strategy while the control group was taught by using the conventional method. Single control group pre-test post design was used in the study. Both on-line and off-line post-tests were administered for experimental and control groups after the gap of two month. The
result of the study shows that semantic mapping instruction promotes reading comprehension of expository texts. It was also found that certain types of semantic maps were more effective not only on reading comprehension performance but also on faster reaction time.

Sari, S.K. (2012) conducted a study in which he studied the effect of semantic mapping strategy on narrative comprehension of 8th grade students of SMP Negeri. It used a single group experimental and control group design. The experimental group was taught using semantic mapping strategy while the control group was taught by using quick reading method. The finding of the study shows that the experimental group performed better than the control group. The result of the study suggests that semantic mapping strategy is effective in promoting reading comprehension of narrative text.

Little, David, Box and Ann (2011) in their study show that the use of advance organizers such as the use of semantic mapping has a significant impact on student, who had a lack of prior knowledge on reading new content material. Semantic Mapping strategy was used to assist the students better understand the vocabulary and content of the reading material prior to reading. The study reports that, strategy of semantic mapping, as with all advance and graphic organizers, is based on the theory that a student’s structure of prior knowledge and experiences related to the acquisition of new concepts is a critical element in the student becoming a successful learner and reader.

Another study was conducted by El-Koumy and Salam (1999) on college level students of English as a foreign language. The subjects of the study were 187 freshmen at at an Egyptina University. They were assigned to three treatment groups: teacher-initiated semantic mapping; student-mediated semantic mapping; and teacher-student
interactive semantic mapping. The intervention was over a 5 months in one session per week. In the pretest, there was no much difference in the groups, but the post test result indicated that teacher-student interactive semantic mapping group scored significantly higher than the other two groups, which had similar results.

De Fina (1999) in their study investigated the effects of semantic mapping and semantic mapping with follow-up discussion, to find out whether there was any benefit in instructing to use these strategies as ways of improving comprehension. The written retellings of the text contents among the experimental and control groups were compared to see the differential effects. The investigator carried out post test interviews and surveys of the study participants to understand their perceptions of the semantic mapping procedure. The subjects of the study were 73 developmental track students within the age group 18 to 20 years, enrolled in freshmen developmental reading classes. Students were randomly distributed into three groups, two experimental (mappings with discussion group and mapping without discussion group) and one control.

The ANCOVA results showed a significant overall difference among the groups. Scheffe tests were used to determine differential effects between groups. No significant difference was found in the performance between participants using semantic mapping only and those who used semantic mapping and subsequent discussion experimental group and participants in a semantic mapping without discussion experimental group and participants in a control group. The results also indicated that participants in the control group significantly outperformed participants in a semantic mapping with discussion experimental group. This result suggests that semantic mapping, either with or without follow-up discussion, does not improve the
comprehension of text material. But in the interview and survey data, the subject (Lipson & Marcia, 1995) presented their comprehension of the textbook passages.

The quality of the student-produced maps, the length and complexity of text passages, the unstructured nature of the written recall task, the limited amount of rehearsal time remaining after participants in the experimental groups completed their maps and the short intervention time provided in the present study were all cited as the possible explanation for the discrepancy in the findings.

Melender and Teresit’s (1991) study investigated the effects of semantic mapping, reading level and cultural matching on the reading comprehension of culturally diverse students, particularly Filipino – Americans. The investigator further studied the possibility that activating familiar schema and relating it with new ones through semantic mapping, would increase comprehension of culturally unmatched text.

The findings of this investigation showed that there exists a strong positive relationship between semantic mapping strategy and reading comprehension. It also demonstrated a strong correlation between semantic mapping and reading level. A third conclusion suggests that there may not have been cultural matching. This study suggests that semantic mapping can be used as an alternative technique for bridging new and known concepts. Semantic mapping was useful in helping culturally diverse students comprehend unfamiliar schemata.

Lipson and Marcia (1995) conducted a study on college freshmen participating in a remedial reading program. The students were assigned to one of three reading instruction conditions: direct instruction in the use of mapping strategies (N = 16); Herber’s (1978) functional approach (N = 12); or a control condition involving reading and discussing expository essays (N = 12). They were given a pre test before
intervention and a post test was administered after the 8-week intervention on comprehension of textually explicit, textually implicit, and scriptally implicit questions. The students who were exposed to the mapping intervention demonstrated superior post treatment performance on both textually explicit and textually implicit questions. No significant differences were observed on scriptally implicit questions. Results were interpreted as indicating the advantages of semantic mapping instruction for below-level readers.

Ziad, M.A. (1995) conducted a study, in which the investigator studied how semantic mapping can be used as a classroom technique for Communicative Language Teaching. The investigator found out the areas where semantic mapping activity comes in terms with the principles of Communicative Language Teaching. Based on the classroom experience, the investigator concluded that Semantic Mapping Strategy foster interaction and negotiation and it can be effectively integrated in CLT classroom and he suggest that semantic mapping can be included in the technical repertoire of CLT (Ziad, 1995).

Svenconis and Kerst (1995) carried out a study to evaluate the effectiveness of using a hypertext/hypermedia environment for teaching the vocabulary of second language. The results of the study showed that the experimental group exposed to semantic mapping with sound achieved the highest score.

Antonacci and Patricia (1991) explain how semantic mapping as a visual representation of knowledge is useful for understanding underlying textbook concepts. The investigator outlines the steps for constructing a conceptual map with 9th grade students for assisting them in reading about the peoples of Middle East.

Ward (1988) reported that Semantic Mapping Strategy was used effectively at the Marion County Adult Learning Centre (West Virginia) as rereading; post reading
and pre writing activity with group of students all of who read at less than the sixth grade level.

Englert, Sue, Mariage and Troy (1991) conducted a study to find out the effectiveness of a reading comprehension instructional technique which uses reciprocal-like teaching formats in groups and semantic mapping to make text structures apparent. The subjects of the study were 28 intermediate grade students with learning disabilities. The result of the study shows that the procedure significantly affected recall of expository ideas and knowledge of comprehension strategies.

Heimlich and Pittleman (1986) reveal that the semantic mapping as a Post reading activity affords students the opportunity to recall, organize, and represent graphically the pertinent information read (Heimlich, Joan, Pittelman & Susan, 1986).

In another study Lim, Cheng, Lam and Ngan (2003) investigated how semantic mapping/webbing strategy was used to facilitate reflective and critical thinking skills in a kindergarten teacher education program in Hong Kong. It examined some of the affective outcomes for teacher educators and student teachers resulting from the use of semantic webbing/mapping as a strategy. Interviews of a random sample of participants and an analysis of their mind-maps revealed a change in perspectives and attitudes toward subject matter content and teaching curriculum.

Berkowitz 1986; Heinze-Fry and Novak (1990) caution for teachers interested in using mapping strategies in the classroom that students require practice for mapping to become an effective learning tool, which means that teachers should not expect the strategy to show immediate results.
Semantic mapping has been defined as “a graphic arrangement showing the major ideas and relationships in text or among word meanings” (Sinatra, Stahl-Gemakel & Berg, 1984).

Experimental studies carried out by Newton (1993) showed that combined lexicons of learners in a group provide more extensive coverage of L2 vocabulary than the lexicon of any individual learner.

Long and Porter (1985) report that group-based peer interaction provides a low-stress environment for the learners, where learners can make errors without the fear of exposing their weakness to the teacher. Similar studies conducted by Hunt and Beglar (2005), Nation and Newton (1997) reported that there are some other studies that report that Semantic map is an effective tool in promoting group work and student collaboration in the classroom. Through group work and negotiation, learners can interact with each other and can continue to deepen their understanding of new words. It was also reported that the use semantic mapping strategy promotes more interaction among the students and may also be one of the reasons behind the better vocabulary scores (e.g. Skehan, 1996). It was also showed that high level of learners’ engagement in pre-teaching tasks leads to better retention of the target vocabulary.

According to Wallace (1992), “brain storming” is one of the best methods to activate prior knowledge before instruction. This may take the form of giving the class a particular key word or key concept, or it may be a newspaper headline or book title. Students are then invited to call out words and concepts they personally associate with the keyword or words provided by the teacher. It has many advantages as a classroom procedure. First, it doesn’t require much preparation on the part of teacher; second, it allows learners considerable freedom to bring their own prior knowledge and opinions to bear on a particular issue; and third, it can involve the whole class.
The learners feel comfortable and less threatened when any bid is acceptable and be added to the framework.

Freedman, 1980; Heimlich and Pittleman (1986) suggest that one of the effective strategies for activating student's prior knowledge is semantic map. The map is an organized arrangement of vocabulary concepts which reveals what students already know about the topic and provides them with a base upon which they can construct the new information learned from the text.

Heimlich, Joan, Pittelman and Susan (1986) suggest the ways in which a semantic mapping strategy can be used. They list out the following ways that it could be used.

- general vocabulary development
- as a pre writing, pre reading and post reading activity
- as a study skill strategy

Parker, Guillemand, Goetz and Galarza (1996) explored the possibility of pilot-test maze-like semantic maps for assessing reading comprehension of content-area information.

Semantic map tests helps to examine the understanding of relationships among key ideas and concepts, as an integrated whole among students. The test was standardized. The results showed that good quality maps could be produced and scored with high reliability among pre service teachers. Criterion related validity based on a standardized test was weak, but moderate-to-strong validity was obtained against criteria of teacher ratings and science grades.

The studies presented above suggest that semantic mapping strategy has been used widely to promote reading comprehension in various settings. The results of the study suggest that it could be used as a strategy to promote reading comprehension
among students. There are studies which suggest that, semantic mapping strategy is effective in the reading comprehension of expository and narrative text. Studies also explored the differ types of semantic maps and its relative effectiveness in developing comprehension skill. The above review also included the studies related to the use of semantic mapping strategy to develop various other aspects like critical thinking and its use for evaluative purposes.

2.5 STUDIES RELATED TO SEMANTIC MAPPING STRATEGY AND WRITTEN EXPRESSION

Kalgren and Ann (1992) report that semantic mapping is offered as a prewriting strategy to help students (of all ages) with hearing impairments organize and structure their writing. Semantic mapping can offer these students a visual access to the writing process.

Cronin (1990) has reported that, the Moss Point, Mississippi, school district uses a semantic mapping teaching approach called “Writing to Learn” that visually and graphically displays ideas and concepts. Students with the help of computers work on writing projects, and their achievement scores in the state’s reading and writing examinations have increased remarkably.

Washington and Moss (1989) conducted a study on learning disabled students. The students were provide with a semantic mapping heuristic is presented which provides an instructional strategy for teaching note taking, recognizing main ideas and pertinent details, and sorting and organizing them into a report. The strategy enables learning-disabled students to read independently about a topic and subsequently write a report, thus establishing a reading-writing link.

Washington and Valerie (1988) reports that semantic mapping technique can be used a technique for teaching children to gather new facts and ideas or to confirm
previously selected information for the purpose of writing reports is described. Semantic mapping, a model for enhancing passage comprehension, in the entire process of reading, recalling, note taking, organizing ideas, and paragraph writing.

Webster and Parker (1998) used Semantic Mapping to help English as a Second Language (ESL) learners at a vocational trade school overcome their writing anxiety and generate ideas on paper. Semantic maps serve as a prewriting framework for brainstorming and organizing ideas. Semantic mapping can be used in many creative ways to help ESL students develop their writing across disciplines.

Long and Porter (1985) suggested that group-based peer interaction provides a low-stress environment where learners can make errors without fear of exposing their weakness to the teacher.

Peresich and Lee (1990) describe the Thinking Network approach and the cognitive mapping strategy used in a rural Mississippi school district to increase students’ content acquisition and theme conceptualization of textbook units. Notes that the district’s pass rate for state-mandated written communication, reading comprehension, and written essay tests dramatically increased after implementing these strategies.

Sinatra and Richard (1986) present the steps a college composition instructor can take to help students connect the idea relationships in a reading selection or in a writing assignment. The steps are based on a conceptual strategy known as semantic mapping or semantic networking. It proved to be effective as a pre, while writing activity.

Weisber and Balajthy (1986) studied whether the organizational device of semantic mapping could improve students’ sensitivity to important ideas in passages as well as the quality of information in their written summaries. Subjects were trained
to construct semantic maps from passages using telegram writing. That is, condensing important sentence information into phrases or clauses. Later original passages were removed, subjects were asked to write their summaries in complete sentences using only the telegram writing in their semantic maps. The results of the Post-test indicated a significant improvement in the inclusion of important passage information in subjects’ summaries. Consequently, the researchers concluded that semantic mapping is a useful generative learning strategy for disabled learners. These studies attribute the effectiveness of semantic mapping strategy in fostering students written expression to these factors – semantic mapping strategy helps to gather and organize idea, it gives a visual representation, heighten the students’ sensitivity to important points in the passage and further it provides an environment that is free from anxiety in the classroom, etc.

Mathilangan, J. (1990) conducted a study on the teaching of composition through semantic mapping. It was highlighted in the study that the maps is an effective diagnostic tool to write an essay. Moreover the study reveal that it can be used a pre-writing strategy.

During the last three decades the constructed response format has gradually gained entry in large-scale assessments of reading-comprehension. Solheim and Skaftun (2009) report that, the constructed response format is ascribed special significance as bearer of central insights to the definition of reading literacy and its significance is presented by highlighting its use in national level assessment of writing.

Ozuru, Best, Bell, Witherspoon and McNamara (2007) in their study examined how passage availability and reading comprehension question format (open-ended vs. multiple-choice) influence question answering. The subjects of the
study were college undergraduates. They read an expository passage and after that answered open-ended and multiple-choice versions of text-based, local, and global bridging inference questions. Half the participants were allowed to referred the passage when answering the questions and half were not. Participants’ prior domain knowledge relating to the text contents was assessed using Correlation-based analyses in the two experiments indicated: (a) a decline in the relationship between prior domain knowledge and comprehension when the passage was available during question answering; and (b) a high correlation between multiple-choice and open-ended question answering performance when the passage was not available for reference. Overall the results indicate that the nature of the reading comprehension assessment is influenced by the specific task with which comprehension is assessed.

The studies listed above suggest that semantic mapping can be used effectively in promoting writing ability of the students. The findings report that, the strategy helps the students to organize and structure their ideas and it also provides students with a visual access that helps them to present the ideas logically and systematically. It was further observed that the semantic mapping strategy provides a tension free atmosphere in the classroom that helps the children to interact freely and it naturally facilitate better writing products.

2.6 STUDIES RELATED TO THE GRAPHICAL ORGANIZERS AND READING COMPREHENSION

The study conducted by Oliver (2009) analyzed how well the students have represented text structures from a 900-word textbook chapter on soil conservation. The sample of the study was 74 6th grade science students in which he, given a concept map template with four super ordinate terms and 24 unsorted concepts. In the study he found that students were more successful at classifying pre-selected terms
under given super ordinate categories than they were at fully identifying relevant concept sets and articulating three different relationship types between terms. At different reading levels, no significant differences were noted in the mapping performance of students. About two-third of students expressed their satisfaction on concept mapping and preferred to read and map rather than just read without mapping. Students also expressed a strong preference for mapping in pairs or small groups compared to mapping alone. Multiple recommendations are provided for improving the relational thinking of students tasked with concept mapping expository science texts, including bridging to more open-ended maps, embedding mapping in longer-term inquiry projects, and leveraging collaborative and tool-based scaffolds.

Kim, Wanzek and Wei (2004) carried out a synthesis of research. A number of studies examining the effect of graphic organizers on reading comprehension for students with learning disabilities (LD) were reviewed. 21 group design intervention studies between 1963 and 2001 are included in this synthesis. Using graphic organizers (semantic organizers, framed outlines, cognitive maps with and without a mnemonic) was connected with improved reading comprehension for students with learning disabilities. The ultimate conclusion derived here are as given in the following.

1. Semantic organizers, cognitive maps with a mnemonic and framed outlines were all found to be highly effective in improving reading comprehension. Cognitive maps without a mnemonic were found to be moderately effective.

2. Graphic organizers were effective regardless of who implemented (teachers/researchers).

3. Students using graphic organizers significantly outperformed their peers who did not use graphic organizers.
4. Students ranging from elementary to high school were benefited significantly from using graphic organizers.

One of the fundamental problems many English language teachers face with is enhancing L2 learners’ reading ability and maintaining their interest in reading. The present study investigates the possible effects of instruction on four concrete graphic organizers (GOs) on students’ application of those visual displays in a text, and examines their attitudes towards reading in an EFL classroom. Data coming from pre and post questionnaires, focus group interviews and think alouds revealed congruence between instruction on graphic organizers and learners’ attitudes towards reading in an EFL classroom (Kim, Wanzek & Wei, 2004).

Mohammadi, Moenikia and Zahed-Bebelan (2004) investigated the role of advance organizer on English language learning as a second language. To do so 65 subjects (two classes) were selected as experimental group and 76 subjects (two classes) were selected as control group via random sampling from 31,000 students of Ardabil city high schools in 2008-9 academic years. Before treatment, pretest was performed on both groups. Then experimental groups were taught two months through advance organizer method and control groups were taught conventional method by the same teacher. After two months posttest was performed in two groups. The research method was quasi experimental and research design was pre and post test with control group. The obtained scores from criterion based exam were considered as progress indicator. Analyzing of gathered data by using t test indicated that: Advance organizer promote English language learning as a second language significantly.

This study is a part of a larger project undertaken to understand the construction of meaning during collaborative concept mapping. Here the focus is on
the teacher who engages the students through the emerging concept maps in reflections about their knowledge of scientific concepts and how they are integrated in a larger framework. It is based on data collected over a two-year span with about 150 students in ten sections of junior and senior physics. The data included videotaped concept mapping sessions included video-taped and concept maps produced during these sessions and those produced individually at home, reflective essays by the students and the teacher’s reflective notes. The study concluded that, collaborative concept mapping becomes a context which can assist teachers in changing their referents of action from objectivist to constructivist metaphors of teaching (Roth & Roychoudhury, 1994).

A study was carried out by Joseph (2002), in the study he investigated how graphical organizers like semantic mapping helps students in developing reading comprehension. In this study he examined the use of concept maps to aid reading comprehension of science articles by 10th grade students (n=49) in a Florida high school biology classroom. By comparing scores on reading comprehension tests for two articles, one read without concept mapping and one read while doing a concept map organizing key themes and ideas in the article, significant evidence for the effectiveness of concept mapping was found for one of two groups of participants. These results call for additional investigations into the effects of concept mapping on reading comprehension.

A study was carried out by Davis (1994) in which he studied the effect of the two teacher directed pre-reading instructional procedures – directed reading activity (DRA) and structured overview story mapping on literal and inferential reading comprehension of students were compared. The study consisted of 60 third grade and 60 fifth-grade students. They were randomly assigned to experimental and control
groups. Within the grade the data were analysed by using analysis of variance (ANOVA). The study revealed that the pre-reading modified story mapping procedure resulted in better inferential comprehension and literal comprehension than DRA did at the third grade level. In the case of fifth grade level there was no much significant difference.

The research conducted by Kamisha, T., Subahan and Mohd (2004) on the effect of concept mapping and vee diagram in the teaching of chemistry in enhancing students’ attitude towards chemist. The result of the study reported that, overall the attitude change is comparatively high as compared to the control group. The study suggests that concept mapping can help to improve students’ attitude towards chemistry.

2.7 INSIGHTS GAINED FROM THE REVIEW

The review of related literature revealed that prior knowledge in an important predictor of students reading. The studies carried out by Carr and Thompson (1996); Holmes B.C. (1983); Jackson, Paul and Smith (1997); Langer and Nicholich (1981); Lipson (1982); Maria and MacGinitie (1980); Schmidt, et al. (1989); Spilich, Vesonder, Chiesi and Voss (1979) found that prior knowledge plays a major role in the comprehension process. So making use of prior knowledge is vital to enhance the reading comprehension of children.

Prior knowledge plays a significant role in students’ written expression too. The studies conducted by (Chesky & Hiebert, 1987; Langer, 1984; Mosenthal, Conley, Colella & Davidson-Mosenthal, 1985; Voss, Vesonder & Spilich, 1980) show that prior knowledge that students bring to the act of writing contribute significantly in the writing process. The study by Chesky and Hiebert, (1987) reported that the students who wrote with high-prior knowledge wrote quantitatively and qualitatively
better. So enhancing prior knowledge before writing activities will have a positive impact on students’ written expression.

Another insight we gained from the review is that graphical organizers helps improve the reading comprehension of students. Kim, Wanzek and Wei (2004) synthesized the researches on the effects of graphic organizers on reading comprehension with students of learning disabilities. They conducted an extensive review of 21 studies carried out during 1963 and 2001 June. The review revealed further that graphical organizers like semantic organizers, cognitive maps etc., were effective regardless whether they were implemented by teachers or researchers. There are several other studies also that were conducted on normal children, which have shown that, visual representations in the form of graphical organizers enhance students’ reading comprehension and writing ability (Berkowitz, 1986; Boyle, 1996; Davis, 1994; Peresich & Lee, 1990; Sadoski, Paivio, & Goetz, 1991).

The literature review in the area provided a lot of insights in the use of Semantic Mapping too. The review showed the positive effect of semantic mapping strategy in fostering reading comprehension. It was found effective in studies of (e.g., Antonacci & Patricia, 1991; Englert, Sue, Mariage & Troy, 1991; Goetz & Galarza, 1996). But there were contradicting evidence also that suggest semantic mapping strategy is not effective in fostering reading comprehension. De Fina (1999) based on the study reported that semantic mapping is not effective in improving the reading comprehension of text material. There are some other studies that indicate semantic mapping strategy is not effective in developing comprehension at all levels (Lipson & Marcia, 1995). Their studies showed that the semantic mapping strategy was not effective in helping students to answer ‘scriptally implicit’ questions. Studies conducted on semantic mapping strategy on written expression (Kalgren & Ann,
1992; Washington & Moss, 1989; Webster & Parker, 1998; Weisberg & Balajthy, 1986) also reveals the positive effect of the strategy. It has reported that semantic mapping strategy has a positive effect on developing writing.

The review further showed that, the studies on the effect of semantic mapping on writing is very less as compared to that of reading comprehension. Another observation was that in most of the time, the teacher played an upper role in the implementation of the strategy. The review further show that, there are a few studies carried out in the secondary school level and most of the time the reading comprehension is assessed by retelling and recalling. Higher order cognitive process like critical reading comprehension was not given much emphasis. It is further noted that, the studies conducted in the area of writing were focused mainly on composition writing.

In the light of the review, the researcher made a few observations. The first one was, there were contradicting evidence on the effectiveness of semantic mapping as a strategy to improve students’ comprehension. While some studies suggest that semantic mapping is effective, there are some other that shows it is not effective in promoting comprehension, so the investigator felt that there is a need to ascertain the effectiveness of the strategy through further study.

The second observation, based on the review was, though there are researches carried out in the area of semantic mapping; semantic mapping under constructivist paradigm is unexplored. So the researcher was keen in investigating the effect of a semantic mapping strategy that is designed by incorporating the principles of constructivism and social constructivism in promoting reading comprehension and written expression in English.
The review of the literature suggests that the types of text one read has got an impact on reading comprehension. So in the present study, an effort has been made to see the effect of semantic mapping strategy on two different types of texts – expository text, and argumentation and persuasive text, in finding the effect on reading comprehension. It needs to be explored further.

The review further reveals that, though there were studies carried to study the effect of semantic mapping strategy on writing, the effect of the strategy on improving various communicative purposes like – to persuade, to explain and to convey experience etc. were not studied. So there is a need to explore research in those areas. There are studies conducted on reading comprehension, that suggest that, sometimes it takes longer time to see the effect of a strategy instruction (Berkowitz, 1986; Heinze-Fry & Novak, 1990), so studies need to be carried out to see the delayed effect of cognitive strategy instruction on the performance of the students. The review clearly shows that there are still areas that are unexplored and there is incongruence in the finding of the effectiveness of semantic mapping strategy on reading comprehension. In the light of all the observations, it was felt there is a need to study the effect of semantic mapping strategy on reading comprehension and written expression in English among secondary school students. The study helps to understand how a semantic mapping strategy that has incorporated the principles of constructivism and social constructivism will work out in the classroom and how far it helps in promoting the reading comprehension and written expression of students.