CHAPTER: 3

REVIEW OF SELECTED STUDIES

3.1 Introduction

The present study aimed at reviewing the feasibility of using the Web 2.0 tool Wiki for training TOEFL aspirants in reading and writing skills outside the four walls of a classroom. This chapter presents a review of selected studies conducted by other researchers in related areas and discusses the need for the present study in this context.

3.2 Research Studies on Online Learning

Online teaching and learning has become a new paradigm in education owing to the capability of modern technologies and the widespread acceptance of distance, value-added and life-long learning. Academic institutions and centres are offering a variety of value-added courses and programs online in order to equip the students to meet their current and future career needs. Studies have been conducted by researchers on the use of instructional media, instructional design and materials in online instruction.

3.2.1 Studies on the Use of Instructional Media

A research study was conducted with a group of 32 online instructors to find out the tools most commonly used by them and also to find out the advantages and disadvantages of online tools as perceived by them (Teles, 2002). The participants were asked to fill out an online questionnaire, besides taking part in a follow-up interview. Nearly 32 participants responded to the questionnaire and six out of 32 respondents to the questionnaire were chosen for the interview by the researcher based on their availability.

The online questionnaire containing 31 questions was divided into four sections. Section one was intended to collect the participants’ data like country they belonged to, age, gender, course level taught (UG/PG), title of the course, number of students enrolled, language used while teaching online, Groupware (Conference systems) or
any other tools used, number of years of teaching online, frequency of being online while teaching and whether assisted by a teaching assistant or other instructors. Section two aimed at recording the participants’ experience while teaching online. The questions focused on mode of teaching (completely online, mixed or adjunct), tools used (whether they used fewer, more, or the same number of tools in comparison with the number of tools they had intended to use before the start of the course). Section three aimed to collect the participants’ rating of the tools related to their use for online instruction. The tools identified were: conferencing system, online grade book, quiz, audio stream, course syllabus, assignment submission box, student course portfolio, usage statistics and class announcement tool. The final section collected details relating to prior training the participants had undergone in using these tools for online instruction, the extent to which the tools were helpful in conducting online instruction, the time taken to become comfortable in using the tool, the type of tools they preferred to use, and the most beneficial tools according to them. In addition to all these questions, the participants were asked to mention the advantages and disadvantages of using online instructional tools.

The interview questions focused on the tool that the participants were familiar with, the tools they used and the way they used the chosen tool for instruction, pedagogical benefits, the effect of the tool on instruction and the extent to which it facilitated instruction. The interview questions also aimed to find out whether the use of technological tools for instruction increased their workload, their perception about its use for instruction and the kinds of tools they felt had to be developed in future.

The analysis of the responses to the questionnaire and interview questions revealed that:

- The respondents were online instructors from Canada, the United States, Mexico, the Netherlands, Greece, Colombia, Spain, the United Kingdom, Australia, and South Africa. Among the respondents 20 (63%) were male, and 12 (37%) were female. Nearly half of them were between 41 and 50 years of age. They had had more than three years of online teaching experience and had also taught in classroom environments. All the respondents were teaching at least one course online when the study was
conducted. Nearly 18 instructors taught courses entirely online and 14 taught in a mixed mode.

- The tools used most by the respondents were conferencing systems and the online grade book. Out of 32 respondents, 30 chose conferencing systems like WebCT, Blackboard, Virtual-U and First Class for online instruction. The majority of the instructors had used the tools that supported course coordination and management.

- The advantages identified by the respondents were flexibility, easy access, flow of communication, sense of community, and capacity to provide structure and unity to the course.

- The disadvantages identified were technical and administrative problems, time consumption in implementation and use, inability to customize the tool in order to accommodate the design the instructor wanted to implement.

- The respondents recommended introducing more functional, user-friendly tools, LMS to support teaching in online environments.

Another research study worth reporting was conducted to develop a comprehensive insight into students’ perceptions regarding the use of an interactive web environment (Kufi and Ozgur, 2009). The participants of the study were students of English communication courses which were offered by the department of General Education at Eastern Mediterranean University. The researchers elicited participants’ perceptions through a questionnaire, which included open-ended questions and structured questions. Responses given to open-ended questions were analyzed through coding the statements and responses to structured questions were analyzed by calculating the frequencies. The analysis of data showed that a majority of the students were positive about the use of an interactive web environment and found its use beneficial for their learning.

In another research study, aimed at identifying an appropriate tool that could be used for online teaching, 10 web-based technology tools were identified and were categorized into six groups: Wikis (PB works), Audio/Video editing packages (Final
Cut Pro and Adobe Audition), Social networking services (FaceBook and Twitter), Screen-recording Software (Camtasia and Adobe Captivate), Synchronous Web Conferencing Platforms (Wimba and Go To Meeting), and 3D Virtual Worlds (Second Life) (Carlson et al., 2012). The tools identified were PB Wiki, Final Cut Pro, Adobe Audition, Facebook, Twitter, Camtasia, Adobe Captivate, Wimba, Go To Meeting and Second Life. The researchers learnt, examined, used and compared them in order to determine the effectiveness of each for online instruction, find out the ease of use of each technology, and assess the type of learning that took place with the help of each of the tools.

The effectiveness of the tool was determined based on its ability to help online instructors in conducting instruction and assisting students in achieving learning outcomes. In this aspect, when the chosen tools were compared, the researchers found that all the tools could be used to help faculty to solve problems in delivering various types of instruction. For example, Wimba, Go To Meeting and Second Life were found to be useful programmes for synchronous online class meetings but were found to be of limited use for classes where students could not get together at the same time. Similarly, Camtasia, Captivate, Final Cut Pro and Audition were found to be useful programs that helped in preparing materials such as Podcasts which could be posted on a website for an online class. Likewise, Facebook and Twitter were reported to be powerful social media programs that allowed the instructors to stay connected with their students, to send and receive messages beyond email and to create class community. Final Cut Pro, Audition and Camtasia were editing and lecture-delivery programs that could be used by the instructors outside of the online classroom. The comparison of the functions of the tools revealed that each of the tools was unique in its own way. They could not be interchanged, they did not serve the same purpose, and they were not capable of solving every problem equally well. Moreover, an instructor would not use every tool in a single course. Under those circumstances, the researchers suggested that online instructors, while choosing a tool for instruction, should think carefully of the pedagogical problems they wish to solve and consider the tool that would best solve the problem and experiment with that tool throughout the course.

Regarding usability of the tools in conducting online instruction, the researchers concluded that Wikis, Facebook, Twitter and Go To Meeting were the easiest to use.
Final Cut Pro and Audition were considered complex requiring formal training. Wimba and Second Life were considered slightly more difficult to take up, while Camtasia and Captivate were somewhat complicated but not to the point of requiring formal training.

The researchers assessed the type of learning that took place in each of the tools using Angelo’s four dimensions of learning. Angelo (1991) classified learning as descriptive learning, procedural learning, conditional learning and reflective learning. The researchers found that Wikis, Final Cut Pro, Adobe Audition, Camtasia, Adobe Captivate, Go To Meeting, and Second Life were good for all the four dimensions; Facebook and Twitter for reflective learning; and Go To Meeting for procedural, conditional and reflective learning. Thus, the findings of this study would enable online instructors to make informed decisions about the tool that could be used for conducting their online courses.

### 3.2.2 Studies on the Use of Instructional Models

In a research study to investigate the effect of instructional model strategies, an instructional model was designed for an intensive summer online course in the context of a support-based online learning environment by combining objectivist and constructivist instructional strategies (Chen, 2007). The learning tasks and three support systems - technology support, learning support and social support – were designed and provided based on these two instructional strategies. The course was housed in an online course management system (CMS) developed by the university and was conducted for five weeks. A five-point rating scale questionnaire containing 38 questions and another questionnaire containing seven open-ended items were used as instruments for the study. The open-ended items asked the students to list the most and least valuable aspects of the course, the most and least liked learning activities, and their overall learning experience of the course. Descriptive data analysis and content analysis procedures were adopted. The analysis revealed that students had a positive learning experience in the course and were highly satisfied with their learning outcomes. The study demonstrated the positive results of using a blended approach to designing an intensive online course.
In another research study, instructional designing models were selected on the basis of the classification given by Gustafson (2002) i.e. classroom, product- and system-oriented model depending on the environment, delivery methods and strategies in e-learning (Baig, n.d). ASSURE Model developed by Heinich, Molenda, Russel and Smaldino (1999), Dick and Carey Model (1978) and Rapid Prototype Instructional Design (1990) was reviewed. The review showed the Dick and Carey model as a model applicable for an entire course or a curriculum as it included formative and summative evaluation.

A research study was conducted to find out the instructional models that were used in the design and development of virtual world instruction (Soto, 2013). The objective was to identify specific ID elements that needed to be used to develop virtual world instruction for enabling effective utilization of technology to provide desired learning experiences.

The sample for the study comprised members from the listservs of The Sloan Consortium and the EDUCAUSE Virtual Worlds Constituent Group. Sampling theory was employed to determine the minimum acceptable response rates and to ensure that the respondents accurately represented the target population. Sixty one completed surveys that were conducted with 61 qualified participants were included in the data analysis.

A quantitative, descriptive survey approach was adopted for the study, which included a cross-sectional survey questionnaire. The questionnaire aimed to investigate the following:

- Which ID model did the subjects use for designing and developing virtual world instruction?
- Did they consider the existing ID models appropriate for designing and developing virtual world instruction?
- Did they feel the need for a new ID model because the existing models were found to be inappropriate for designing and developing virtual world instruction?
Among the various steps illustrated in the chosen instructional design model, what was the step that was often followed by the subjects while designing and developing virtual world instruction?

The analysis of the responses revealed that:

- The majority of the participants (65.6%) had always and usually used an existing ID model to design and develop virtual world instruction; 26.2% of the participants had occasionally used it and 4.9% had never used it.

- Forty six of the 61 participants (75.4%) had used ADDIE process and deemed it to be the most appropriate for virtual world instruction. On the other hand, 18 out of 61 participants (29.5%) considered Dick and Carey Model as appropriate for virtual world instruction; it was the second most used model for designing and developing virtual world instruction.

- The majority of the participants (39.3%) felt that the existing ID models were inappropriate for virtual world instruction as they were not suited to the new pedagogical perspectives of complex 3D environments and considered them too process-oriented and too time consuming.

- The design step/stage that the participants most often followed was “identify instructional goal(s),” and the least followed one was “design and conduct formative and summative evaluations of instruction.”

- A majority of the participants (52.5%) suggested that it would be sufficient if the current ID models were adapted to new teaching and learning environments rather than introduce new ID models.

### 3.2.3 Study on the Development and Use of Instructional Materials

A research study was conducted to gain insights into the perceptions and experiences of academicians who had developed online materials (Torrisi and Davis, 2000). The participants for the study were 10 Griffith University academics across three campuses from a cross section of schools including Information Technology, Human Services, Music, Arts, Business and Nursing. They had experience in developing
online materials. The researchers individually interviewed the participants and the interview was organized into four sections:

- Participants’ background on using technology for teaching and learning;
- Perceptions of participants about using online materials before developing or using them;
- Experience of the participants while developing online materials; and
- Reflections of the participants after developing the materials.

A thematic approach was used to analyse the data obtained from the interviews. Therefore, the interview data were consolidated into four focus areas: (1) experiences of engaging in the online materials production process; (2) perceptions on the nature of the production process; (3) intended implementation of the online materials with students; and (4) professional development requests.

The findings revealed that their experiences were positive and at the same time challenging. Though most of the participants said that their involvement in developing online materials was not voluntary and came from top officials, they liked doing it and it aroused their professional curiosity and interest. They also expressed their desire to continue developing online materials. Some of the challenges mentioned by them were: stress of meeting timelines, lack of sense of teamwork, and requirement of utilizing the medium to meet the needs of people whom they did not know. In other words, the experience of producing online materials was described by the participants as a challenging but valuable learning experience. A majority of the participants perceived that online material development was a method in which the content would be simply translated into, or simply presented differently in, another medium and that their primary purpose was to provide learners access to lecture materials. They expressed their willingness to know both pedagogical issues of online delivery and the skills necessary to design Web pages. They wanted to learn technical aspects of creating web pages so that they could modify the website themselves.

Based on the findings the researchers recommended that staff developers concerned with the transformation of practice through the integration of technologies should look into the following:
• Using constructivism as a guiding philosophy for creating learning environments that integrate technology;

• The process of online materials development must be conceptualized as a process of transformation of practice than translating the lecture content to an online platform;

• Addressing the concerns that might arise from online materials developers’ attempts at innovation through technology; and

• Equipping the material developers with knowledge about the potential of new technologies.

Another research project conducted on the feasibility of saving potential cost, time and production while developing course materials by using learning objects assembly process concluded that the prevailing building blocks metaphor was not very helpful, owing to the low availability of topic-specific learning objects (Wilhelm and Wilde, 2005). The study followed a developmental research design (Akker, 1999), assessing the process as well as the outcome of a pedagogical intervention. It examined the way a few select professors and their course assistants experienced redeveloping three established paper-based courses for online delivery. The participants were asked to assess the effectiveness of employing learning objects from a variety of sources to produce cohesive and pedagogically sound learning environments. The research team, after completing the project, reported that the challenges and difficulties faced while redeveloping paper-based courses led them to conclude that the prevailing building blocks metaphor was not very helpful, owing to the low availability of topic-specific learning objects, as mentioned earlier. They pointed out that with the prospects of increase in availability of course-relevant learning objects in future, the object-assembly model might one day become useful in designing specific types of course. However, they suggested that object-assembly approach to course design might not be pedagogically and economically efficient for all types of courses. They reported that the complex design requirements for a skill-based course and the slow adaptation of institutions of higher education to learning-assembly production model would make it unlikely for an instructor to work alone on such a task. Therefore, they suggested that
a discussion-based and ideas-oriented, group-paced course could be designed using available learning objects and low-cost production means.

Another research study evaluated the feasibility of reusing learning objects across instructional contexts. A learning object first used for teaching a social work law course to 39 Scottish students was reused for teaching a social work methods course to 26 Canadian students and again for a mental health course to 31 Canadian students. The Scottish students took their course in a face-to-face environment whereas the Canadian students took their course in a blended environment where 50% of the course was conducted in an online environment and the other 50% in a face-to-face environment. While the students in Canada worked on the learning object as part of an online problem-based collaborative module in each of their courses, they had online access to the case from home or through the university lab though they enrolled in a face-to-face environment. At the end of their courses, the students were invited to complete a questionnaire that aimed at finding the feasibility of reusing case-based learning objects (LOs) in different instructional contexts. The findings highlighted the value of exchange of LOs in social work education (Ballantyne and Knowles, 2007).

In a Learning Object project, a collection of learning objects was developed to support grammar and writing instruction using Google sites, YouTube videos and Hot Potatoes (Sakurai and Donelson, 2011). The LO database thus developed was implemented in their classes for over eighteen months and were used by university students, professors and administrative personnel in Mexico, and by ESL students in an intensive English program in the U.S.A. After the first semester, in response to a questionnaire, a majority of students liked the learning objects and considered the variety of tasks offered in LOs as a break from class routine; the LOs also appealed to different learning styles. They felt that the LOs added a fun element. A majority of the students liked using visuals to learn English as visual cues helped them to comprehend and produce the language. In addition to the questionnaire responses, the observations made by the instructors also confirmed the success of learning object use.

**3.3 Research Studies on Strategy use and Teaching Reading and Writing**
According to Genesee et al. (2006) and Short and Fitzsimmons, (2007), English language learners benefit from explicit instruction in the four language skills - reading, writing, listening and speaking - across the curriculum regardless of student proficiency level. Explicit instruction, according to Beckman (2002), is to describe to the learners the strategy and its purpose, model its use and explain how to perform, give feedback, promote students’ ability to use the strategy and encourage its continuous use in different situations.

3.3.1 Studies on Teaching Reading Comprehension

In the literature, studies that have been carried out on reading strategy instruction are divided into two main categories. One describes the readers' strategy use. The results of these studies have revealed that there were differences in strategy use between more and less proficient readers. The other includes studies that have been conducted to investigate the effect of reading strategy instruction on readers' reading performance. The results of these studies have revealed that instruction in the use of reading comprehension strategies has a positive impact on students' achievements. Some of these studies are discussed here. Regarding the second category i.e. reading strategy instruction, the focus is on explicit instruction in reading strategies. In addition to the two categories, the researcher has also reviewed the studies conducted on teaching reading in a technology-enabled environment.

Much evidence has been shown on the use of strategies by successful readers and the importance of using appropriate strategies for developing reading comprehension. Block (1986) used think-aloud procedure and found that more successful readers used general strategies such as anticipating content, recognizing text structure, identifying main ideas, using background knowledge, monitoring comprehension and reacting to the text as a whole. Less successful readers relied on local strategies such as questioning the meaning of individual words and sentences, seldom integrating background knowledge with the text, and not focusing on main ideas.

Singhal (2001) summarized fourteen reading strategy studies and concluded that successful readers tended to use cognitive, memory, metacognitive and compensation strategies far more than less proficient readers. Less successful readers generally
focused on local concerns such as grammatical structure, sound-letter correspondence, word meaning and text details.

Using a reading strategy inventory questionnaire, Saricoban (2002) examined the strategy use of post-secondary ESL students and found that successful readers engaged in predicting and guessing activities, made use of their background knowledge related to the text topic, guessed the meanings of unknown words, skimmed and scanned the text. Less successful readers focused on individual words, verbs in particular.

The influences of meta-cognitive strategies instruction on Thai students’ English reading comprehension that were studied by comparing pre-test and post-test mean scores showed that mean scores of the post-test were statistically higher than those of the pre-test. The study also showed that participants with high and moderate reading proficiency employed more meta-cognitive strategies when reading texts than before (Akkakoson and Setobol, 2009).

In another study, a group of Taiwanese EFL learners' use of three reading strategies (cognitive, meta-cognitive, compensation strategies), their perceived impact on learners' self-efficacy, and the link between reading strategy use and perceived self-efficacy on their English reading comprehension were investigated (Shang, 2010). The results showed that meta-cognitive strategy was used most frequently, followed by compensation strategy, and then cognitive strategy.

A study was conducted to explore relations between comprehension strategies engaged in different aspects of text processing; examine the relationship between different strategies and reading comprehension; and examine the contribution of these strategies and text comprehension to academic achievement of university students (Kolic-Vehovec et al., 2011). The participants involved in the study were 112 undergraduate psychology students. Reading comprehension, self-explanation, question generation and summarizing were identified as tasks to be used with the participants. These tasks were given to groups of 15 to 20 students in two one-hour sessions. During the first session, a reading comprehension task was given. During the second session, the self-explanation, summarizing and questioning tasks were given.
The subject matter of the three passages chosen for the reading comprehension task was cognitive psychology. The students were instructed to read the text and then answer five short-answer questions about text content. Some of the questions were direct questions and some were situation model questions. Two points were assigned to correct and complete answers, and one point was assigned to incomplete answers. The maximum possible reading comprehension score was 30.

The subject matter of the text chosen for the self-explanation task was the evolutionary origin of thinking. The text contained 12 sentences and was presented in booklet form with one sentence per page. The students were instructed to explain the sentence content, the relation of that content to text meaning, and to their previous knowledge of the topic. Two independent coders analyzed the self-explanations in order to identify the strategy being used by the student. The criteria for coding self-explanations were based on the criteria suggested by Best, Ozuru, and Mnamara (2004). Each self-explanation was analyzed in terms of comprehension monitoring, paraphrasing, bridging inferences and elaboration.

The question-generation task contained five scientific texts on different topics taken from high school learning materials. The texts dealt with topics like methods of crime scene investigation, dinosaurs, African history, Ruder Boskovic, and the nature of matter. The students were asked to create a question about the main idea after reading the text. Two independent coders analyzed the questions and the criteria for evaluation of the quality of questions were based on criteria for question construction used by Chi et al. (1994).

The summarizing task contained the same texts used for question-generation. The participants were instructed to summarise the main ideas of each text. Two independent coders analyzed the summaries. The criteria for the evaluation of summaries were mainly adopted from Friend (2001), and from Kozinsky and Graetz (1986).

To explore the relationship between measures of strategic reading a correlation analysis of the relationship between strategic processing and text comprehension was conducted in two ways: (i) the frequencies of specific types of self-explanations in students differing in text comprehension level were compared; and (ii) variables of strategic reading were analyzed as predictors of reading comprehension. Grade Point
Average (GPA) obtained by the researcher from university records was used as a measure to examine the contribution of reading strategies and text comprehension to academic achievement.

Based on the analysis, it was concluded that,

- Relations between reading strategies assessed in the study indicated some grouping between the variables. However, summarizing was correlated with all the other strategies.

- Regardless of their reading comprehension level, students typically used text-based strategies, e.g. paraphrasing.

- Students with good comprehension skills used more strategies that help readers build a global representation of the text than those with poor comprehension.

- The best predictors of text comprehension were strategies that facilitated global processing of the text in order to develop a situation model.

- Reading strategies were significantly related to academic achievement; however, those effects were mediated by text comprehension.

In another research study, first year Indian ESL students’ awareness of reading strategy use was assessed (Madhumathi and Gosh, 2012). It also investigated the relationship between reading strategy use and reading comprehension achievements of the students. The study was conducted on 52 first year engineering students studying at a private university in south India. The study used two instruments, namely Survey of Reading Strategy Use by Mokhtari and Sheorey (2002) for assessing ESL students’ perceived use of reading strategies and Reading Comprehension Test based on the TOEFL pattern. The survey of reading strategies of Mokhtari and Sheorey included 30 items under three subsections: 1. Global Reading Strategy by which learners monitor or manage their reading, 2. Problem Solving Strategy, actions and procedures that readers use while working directly with the text, and 3. Support Strategy which involves basic support mechanisms intended to aid the reader in comprehending the text. The reading comprehension test consisted of three reading comprehension passages. Analysis of the survey of reading strategy data
showed that the students employed problem solving strategy the most and they least preferred to use global strategies. Analysis of the performance scores in the reading comprehension test showed that high proficiency students performed better than middle and low proficiency students in terms of strategy use. It was concluded that reading strategy use moderately correlated with the reading comprehension achievement of the Indian students.

In an experimental study using a reading comprehension test to find out the effect of skimming on 60 Grade XI students’ reading comprehension (Hutabarat and Arifin, 2012), it was found that the scores of the experimental group were significantly higher than those of the control group, thus suggesting that skimming significantly affected students’ reading comprehension. An action research project aimed at improving the reading skills of high school students in a public school focused on skimming and scanning (Díaz and Laguado, 2013). Content analysis of the data gathered through observations and semi-structured interviews showed that student perceptions about using scanning and skimming while reading were positive.

A study to assess the effect of paraphrasing on the ability of 47 middle school students to find the main idea of a story using a paraphrasing test revealed that the treatment group could identify significantly more ideas from stories than the control group (Ellis and Graves, 1990). Another study, aimed at investigating the effect of paraphrasing in addressing the difficulties in reading comprehension of an African-American male, middle school student in regular education, revealed a positive effect following strategy instruction (Lee and Conn, 2003).

A research study on the summarizing strategy of forty low and high proficiency level university ESL students with an expository text from a low-intermediate textbook of English for business students found that the high level students combined two or three idea units within a paragraph, while the low level students significantly resorted to direct copying of information (Johns and Mayes, 1990). In another study to find out the effect of strategy training on students’ achievement, the students worked on summarizing, finding the main idea, eliminating the wrong main ideas and predicting strategies. Palinscar and Brown (1984) reciprocal teaching method was used in the strategy training. The results of the study with a pre-test and post-test experimental
design revealed a significant difference in the level of students’ reading achievement (Hamman, 1995). A ten-week training on the use of metacognitive strategies showed students’ progress in the use of metacognitive strategies, particularly summarizing strategy (Hess, 2004). A study to find out the effectiveness of explicit instruction in summarization that was measured by the performance of sixty-three students on two reading comprehension tests show that explicit instruction was effective in enhancing reading comprehension. However, there was no statistically significant difference in performance between two groups after instruction (Karbalaei and Rajyashree, 2009). A study that used document analysis method to find out the effective use of summarizing strategy by university students showed that the students were successful in stating the main idea, but they projected their own ideas and thoughts into their summaries (Kirmizi and Akkaya, 2011).

The reading strategies used by Iranian students of English were investigated using a questionnaire and a semi-structured interview (Murad, 2014). Analysis of the data revealed that the students used reading strategies like summarizing the text by using their own words and thoughts, skimming the text and also scanning technique, previewing the text, writing some questions about the passage, and taking notes and drawing graphs.

The effect of explicit instruction in word guessing strategy on reading comprehension provided to seventy-six Japanese students showed that word-guessing strategy training could improve the reading comprehension of the students (Kojima and Narita, 2004). The results of the post-reading comprehension test and the post-word-guessing test indicated that the word-guessing strategy training had an influence on reading comprehension and that the ability of guessing the meaning of unfamiliar words was statistically significant. A study conducted with twenty students in the experimental group over a period of three weeks showed that teaching students how to use context clues while reading improved their understanding of new vocabulary (Yuen, 2009). In a study on the effect of guessing vocabulary on reading authentic texts (Shokoohi and Askari, 2010), the students were randomly divided into two groups, context and no-context groups. A pre-test and post-test were used as the research tool and the findings demonstrated unmistakable learning from contextual guessing strategy. Another study on the effectiveness of contextual and structural
method of teaching vocabulary revealed significant differences between the performances of students taught with the contextual and structural method of teaching. High achievers who were taught with the contextual method performed better than those who were taught with the structural method of teaching vocabulary. It was concluded that the better performance of high achievers was due to understanding the meanings of words with the help of contextual clues in a sentence and in the paragraph as a whole (Kiani, 2011).

The relationship between young children's comprehension skill and inference-making ability was investigated using a procedure that controlled individual differences in general knowledge (Cain et al., 2001). The study showed a strong relationship between comprehension skill and inference-making ability even when knowledge was equally available to all the subjects. It was found that poor readers constructed incomplete representations of the text. They were able to integrate information at a local level but were unable to produce a coherent integrated model of the text as a whole. Their difficulties with inference-making, according to the researchers might be due to their text-level comprehension problems. The effect of drawing inferences in EFL learners' reading comprehension ability was investigated by using recall of short stories (Azizmohammadi, 2013). In this study, two fairly homogeneous groups of EFL learners studying English translation in Arak University were selected. After administering a reading comprehension test to ensure that their reading comprehension differences were not significant, the researcher randomly assigned them to attend a short-story course in two different sections. After two weeks a recall test was conducted and the data was collected. Analysis of the data using T-test and ANOVA revealed that learners who could draw inferences significantly outperformed the others in the reading comprehension test.

A research study was conducted to find out whether the reading comprehension difficulties faced by average and below average readers while reading expository texts was due to their lack of familiarity with conjunctions or their tendency to ignore these markers (Geva and Ryan, 1985). The study was conducted on 93 students in grades 5 and 7 with whom the Gates and MacGinitie (1972) Reading Comprehension Test, levels D and E was used. Based on their performance the subjects were classified into high, medium, and low reading levels. All the students read short expository texts
under four conjunction manipulation conditions (explicit, implicit, highlighted and deep) and then answered comprehension questions. Analyses indicated that all of the groups benefited from highlighting of explicit conjunctions. The comprehension of inter-propositional relationships by average and below average readers was enhanced when explicit conjunctions were available, relative to an implicit condition. Furthermore, the deep processing manipulation (conjunction multiple-choice cloze) actually hindered, rather than facilitated, comprehension by all the students. Data on appropriate selection of conjunctions in this condition revealed less knowledge of these important cohesive indicators among average and below average readers than among above average readers. Finally, it was concluded that average and below average readers exhibited problems with both knowledge of conjunctions and control over their use in comprehending expository texts.

In another research study, the effect of logical connectives and paragraph headings on reading comprehension was investigated (Chung, 2000). With the help of a reading comprehension test, the subjects were categorized into high, medium and low performance groups. As the instrument of the study four versions of an authentic text were produced: Version 1 was a non-signaled passage; Versions 2, 3 and 4 were written with logical connectives, paragraph headings and these two signals in combination. The findings revealed that the subjects who were in the low performance group benefited most from signals in reading comprehension. Another line of research which studied the use of discourse markers by native speakers and Japanese and Chinese non-native speakers in their English compositions showed an obvious difference among the three groups of students in their preferences for particular types of discourse markers (Ying, 2006). Also, various kinds of misuse of discourse markers were found in the essays written by non-native speakers. In yet another study, knowledge of discourse markers and its relation to reading comprehension were investigated (Khatib and Safari, 2011). The knowledge of discourse markers was measured by examining the subjects’ recognition. It was found that there was a high correlation between the students’ knowledge of discourse markers and their reading comprehension.

In a study conducted with Iranian intermediate EFL learners, the effect of teaching metacognitive reading strategies in the classroom in an explicit manner in fostering
motivation and comprehension was examined (Ravari, 2014). The experimental group received explicit instruction for about two months in some of the reading strategies such as setting a purpose, making predictions, visualizing, making inferences, asking questions to check understanding, summarizing, seeking clarification and making connections, while the control group was not given any such training during the same period.

The instruments used to collect data for the study were: (i) motivation for reading questionnaire, (2) pre-test, and (3) post-test. Prior to the intervention training program, the subjects were administered the motivation questionnaire and the pre-test. Motivation to Read Profile reading survey of Gambrell (1996) was adapted for conducting the survey. The survey instrument was a 20-item Likert scale questionnaire that examined two specific subtopics of reading motivation – self-concept as a reader and value of reading. A pre-test on reading was conducted which comprised a reading passage with multiple-choice items, vocabulary, and grammar sections. The questions were taken from Barron’s TOEFL test.

The experiment started with some treatment sessions in which the strategies were taught by Cognitive Academic Language Learning Approach, developed by Chamot and O’Malley (1994). This model included five instructional phases. First, the teacher defined the underlining strategy in context while reading. Second, the teacher modeled and practised the strategy for an entire session. In this instructional phase, the students were given explicit instruction in the use of the underlining strategy. Third, the students practised the underlining strategy on the reading tasks provided by the instructor. In the subsequent strategy practice, the students were encouraged independent strategy use. Besides, scaffolding was provided until they became independent. Fourth, the students evaluated their own strategy use immediately after each practice session by checking the strategy they had used and monitoring their understanding. Finally, to develop a larger repertoire of strategies, the students were asked to apply this strategy to do new tasks.

After the treatment sessions, which lasted about two months, the subjects took a post-test, which included the same reading comprehension texts as the pre-test. Then they were asked to complete the motivation questionnaire again. The results of both pre-
The findings revealed that

- No significant difference was found between the control and experimental group before strategy training.
- There was no significant difference between pre-test and post-test in the control group but the difference was significant in the experimental group. This proved that explicit reading comprehension strategy training based on CALLA instructional model could play a significant role in enhancing EFL learners’ reading comprehension.
- No significant difference between pre- and post-test motivation was found in the control group but with the experimental group the results of data analysis indicated that there was a statistically significant difference between students’ performance in motivation in pre-test and post-test.

Thus, the outcome of the study showed that students increased in comprehension and motivation after strategy training. It was suggested that EFL teachers should be familiar with using various reading strategies in order to train students in using those strategies.

The possible effects of reading instruction on reading in Turkish and English were investigated (Salataci and Akyel, 2002). The results indicated that strategy instruction had a positive effect on both Turkish and English reading strategies and on reading comprehension in English. In a small-scale study the potential of reading strategy instruction in raising students’ awareness of reading strategies, in extending the range of strategies they employed and in encouraging learners to monitor and reflect upon their reading was explored (Wright and Brown, 2006). The students were given explicit reading strategy instruction during which their strategy use was promoted and reviewed at regular intervals by means of review exercises and interviews. The
findings of the study revealed that strategy training could encourage learners to reflect on their strategy use and seemed to boost their confidence in their own reading abilities. A study to investigate the potential of implementing reading strategy instruction in raising learners' reading comprehension ability, extending the range of strategies they employed and enhancing their awareness was conducted with Iranian pre-university students (Soleimani and Hajghani, 2013). The analysis of the data collected through a reading comprehension test, questionnaire and interview, however, showed that while strategy training appeared to raise students' awareness of reading strategies and could encourage strategy use by some students, reading strategy instruction was not able to enhance the students' reading performance.

The effect of strategic reading instruction on ESL learners of South Africa who took up English for Professional Purposes course offered within a technology-enhanced environment was studied through quasi-experimental non-randomized control group design (Dreyer and Nel, 2003). The subjects were divided into experimental and control group, and each group was further divided into two: successful and unsuccessful or “at risk” for failure. The students were put into groups based on their scores in reading comprehension tests in English, Communication Studies and the TOEFL. All those students who obtained below 55% were categorized as “at risk,” whereas those who scored above 55% were categorized as “successful”.

The following instruments were used in the study:

- A reading strategies questionnaire, to determine the students’ use of reading strategies;
- A TOEFL test on listening comprehension, reading comprehension, structure, written expression and vocabulary to determine the students’ English proficiency; and
- Two reading comprehension tests, one within Communication Studies and the other within the English for Professional Purposes course- the scores in these two tests along with TOEFL reading comprehension scores were taken into consideration to classify the subjects as successful or ‘at risk’; similar tests were used for the post-test.
Statistical t-tests were used to find out the differences in mean scores between experimental and control group, successful and ‘at risk’ group in pre-test and post-test.

The analysis of the pre-test data revealed that:

- Reading comprehension scores of the students in the experimental and control groups indicated no significant difference.

- The mean scores on pre-test reading comprehension in English for Professional Purposes and Communication Studies, and TOEFL Reading for the ‘at-risk’ students were below 55%. The ‘at-risk’ students differed statistically from successful students on all the reading comprehension measures.

- In terms of reading strategy use, there was no statistically significant or practically significant difference in the reading strategies used by the students in the experimental and control groups.

A strategic reading instruction component consisted of the following: a printed interactive study guide, contact sessions (face-to-face), and the technology-enhanced feature, namely ‘Varsite’, a Content Management System designed and developed by computer specialists at Potchefstroom University. The study guide explained the main features of each of the strategies and explained why those strategies should be learnt. The contact sessions gave the students additional information on the strategies, to model the strategies for the students, and provided practice opportunities both individually and in groups. The ‘Varsite’ environment provided access to the electronic study guide, announcement section, assignment and resource section, assessment section, and interaction with peers and instructors, but it did not provide modeling of strategy application.

After instruction for a period of 13 weeks, a post-test was conducted. The comparison of pre-test and post-test data revealed that:
• The experimental group differed statistically, as well as practically significantly, from the control group on all the reading comprehension measures.

• Successful students in the experimental group as well as ‘at-risk’ students in the experimental group achieved statistically as well as practically significantly higher mean scores on the reading comprehension measures than successful students as well as ‘at risk’ students in the control group.

• Unsuccessful or ‘at-risk’ students in the experimental group showed a significant increase in both their reading comprehension scores and their use of reading strategies.

Thus, the findings showed that students benefited from strategic reading instruction offered in a technology-enhanced learning environment. The integrated features of printed interactive study guide, contact sessions with the instructor and the added features of ‘Varsite’ facilitated the development of students’ reading comprehension and reading strategy use.

The EFL learners’ attitudes toward reading comprehension instruction through the Internet were examined (Alipanahi, 2005). The researcher also explored the issue of whether the teaching of reading comprehension through the Internet led to better achievements than through traditional, non-internet-based teaching. The forty students who participated in this study were divided into two groups: experimental and control. The experimental group received EFL instruction through the Internet, whereas the control group received EFL instruction in a traditional manner. The analysis of the results indicated that there were significant differences between the two groups in relation to their attitudes and achievement. EFL learners who received Internet instructions had more favourable attitudes and performed better than the control group. Based on the results, Alipanahi (2005) stated that “it can be argued that Internet based teaching of reading comprehension can be an extremely powerful educational tool” (p. 44).

The possible effect of strategy awareness training in facilitating and scaffolding learners’ online reading tasks were investigated (Lai, 2009). Three tools were used to
collect data of students’ online reading strategies: Anderson’s (2003) OSORS questionnaire, e-portfolios and retrospective interviews. Lai (2009) found that “the various strategies employed by the learners demonstrated that strategy awareness training not only equipped learners with more pertinent strategies; it also allowed them to use different paths available on the Web” (p. 144). One of the significant findings was that the learners used supporting tools such as glosses and online dictionaries to help them find meanings of unknown terms. This proved that the students could be autonomous and self-sufficient in learning with emerging forms of literacy. It was found that the participants used pre-reading strategies for print texts such as skimming and scanning when reading online texts.

3.3.2 Studies on Teaching Writing

Studies on second language writing showed that L2 writing did not attract much attention until 1960’s and had gained prominence only in 1980. Reid (1993) indicated that along with a drastic increase in textbook writing, conference presentations, published research and commentary about L2 writing and the inclusion of writing tests on standardized tests of English proficiency such as the TOEFL, have seen importance given to L2 writing. Research studies on teaching writing for second language learners showed that until 1980, the focus of ESL writing was mainly accuracy and only in 1980’s ESL writing moved from a language-based approach to a process approach. Hence, in present study, review of studies conducted by other researchers on the effectiveness of the process approach to writing and the difference between skilled and unskilled writers in their strategy use is presented. A review of studies conducted on teaching writing in a technology-enabled environment is also presented.

Investigation on writing strategies of less experienced and more experienced writers showed that less skilled writers were more concerned with vocabulary and grammatical rules than modifying content, whereas more experienced writers changed the ideas and reordered whole chunks of discourse (Sommers, 1980). That is, more experienced writers viewed writing as a whole and made global changes, but less skilled writers failed to see writing from a global perspective and made only limited changes. Even though both skilled and unskilled writers seemed to understand writing
as an on-going process, unskilled writers lost focus on exploring their ideas because of their concerns about surface-level correctness (Perl, 1980).

A study on the differences in writing processes between expert and novice EFL writers showed that experts wrote longer and more complex texts, and spent more time in pre-writing in order to make a detailed outline, whereas novice writers wrote relatively short texts, needed more time to generate ideas, and had a less global outline (Sasaki, 2000). Expert writers did not stop and think while writing as frequently as novices did. They differed from novices in their strategy use. While experts made a global outline before writing and adjusted it while writing, novices struggled with time constraints because they often had to stop to translate ideas from their native language to English. It was concluded that experts’ strategies such as global planning and adjustment of the planning could not be developed over a short period. Investigating writing strategies of successful and unsuccessful writers, Baroudy (2008) found that most successful student-writers followed process writing characteristics either consciously or unconsciously. According to Baroudy, writers went through pre-writing, multi-drafting, revising, and editing being aware of the cyclical nature of the writing process. They kept in mind the readers of their writing and put aside grammatical accuracy and local mechanical concerns until they produced meaningful texts.

A year-long experimental study of the effects of writing as a process was conducted on two groups of students: (i) the experimental group, who received instruction in the process approach to writing, and (ii) the control group which received instruction using the standard methods of teaching composition (Scanella, 1982). The results showed that the students in the experimental group showed greater improvement in their expository writing but not in their creative writing. Furthermore, the positive attitude towards writing was greater in case of the experimental group than in the control group.

The writing process of advanced ESL students was investigated to figure out how much they understood writing as a discovery of meaning and how much L2 factors affected this writing process (Zamel, 1983). The study showed that skilled writers seemed to be aware of the writing process as exploring ideas and constructing
meaning. Pre-writing and revising occurred throughout the writing process continuously, and skilled writers spent a great deal of time thinking about the outline of the essay and revising it. Both skilled and unskilled writers seemed to know the recursive nature of writing and paid major attention to generating ideas first and correcting local grammatical errors last. Revising and rereading occurred simultaneously. Skilled ESL writers attempted to make meaning-level changes to clarify ideas in the revision stage. In terms of the difference between L1 and L2 composition, it was argued that language-related difficulties did not seem to hinder the on-going writing process. In other words, L2 students did not consider grammar or mechanics-related difficulties as major concerns in writing. Rather, they acknowledged generating and organizing ideas as major difficulties when writing both in L1 and L2.

In another experimental study that compared the writing achievement of students taught using the process approach to writing with that of students taught using the traditional method using pre-test and post-test, the writing process approach was rated superior to the traditional method, especially in terms of the overall organization and format (Bruno, 1983). An experimental study to find out the effects of process writing instruction and to determine the number of revisions done by the students to their writing after 1 and 2 day lessons on revision showed that students who were taught using the process approach scored high on final writing and they engaged in 2.5 times more revisions than those taught using a traditional composition method (Robinson, 1986).

The impact of a process-based approach on students’ written products over 16 weeks of instruction was examined using quantitative and qualitative data (Honeycutt, 2002). Quantitative data included standardized and teacher-developed pre- and post-tests, and scores on a writing test and on the Writer’s Self-Perception Scale (WSPS). Qualitative data consisted of teacher lesson plans, student writing portfolios, written reflections by students, instructor’s notes on conferences, and individual and focus group interviews with 11 fifth grade students and seven teachers. The effects of explicit instruction and practice in applying writing process strategies and also strategies for dealing with negative emotions that arise during various stages of the
writing process were examined. Pre- and post-test results indicated that the overall quality of students’ compositions improved when students:

1. Internalized specific strategies for pre-writing and revising.

2. Employed self-regulation strategies to monitor the development of a text; and

3. Activated strategies for dealing with negative emotions that arose during the composing process.

In another research study, the effectiveness of the process approach to writing in improving the writing skills of primary school students of Hong Kong and their attitude towards writing was examined (Ho, 2006). A two-month process writing programme with the objective of enabling the students to write a story individually and independently at the end of the programme was given. The students were taught the strategies needed at each stage of the writing process.

Before starting the programme the following were administered:

1. A survey questionnaire before the training to find out the students’ attitude towards writing and their writing habits;

2. A pre-test to assess the writing ability of the students - the students were asked to write a story on a topic, with the first sentence given,

3. An observation checklist was designed - observations made on the strategies used by the students while writing were recorded.

During training the students were led through five stages of writing: brainstorming, organizing ideas, drafting, revising and editing. A spider web was used to help students brainstorm and generate ideas. A story planner was designed to help students organize ideas and put them into different parts of the structure of a story. A revising checklist was used to help students revise the content and organization of their drafts. An editing checklist was used to help the students edit their language in their stories. The students worked from modeling to collaborative practice and then to individual practice, ensuring that they had clear input and enough consolidation to help them master the strategies. At each stage, teacher help was given first, replaced by peer
help and later on the assistance was gradually withdrawn to allow students to work independently.

After training, a survey questionnaire and post-test were administered. The survey questionnaire aimed at collecting not only the students’ attitude towards writing and their writing habits but also their feedback about the programme. During the post-test only the topic was given for writing. Organizing tools like spider web graph, story planner, revising checklist, and editing checklist were kept for students to use and the use of strategies by students while writing were observed. A follow-up interview was conducted to collect feedback about the programme.

A comparison of the pre-test and post-test data revealed that the writing programme was successful. It was evident that the training programme brought about positive changes in most students’ attitudes towards writing and improved their writing habit. The programme also helped the students to improve their writing performance and to learn how to use the strategies at each stage of the process of writing.

An action research to investigate the efficiency of the process approach in improving written expression skills was conducted with Turkish students (Cavkaytar and Yasar, 2008). A lesson plan was prepared and sent to an expert committee for approval and the approved lessons were introduced to the students. Reflective evaluation was done by the students and the teacher, and the points to be addressed were video recorded or recorded in reflective diaries and teacher diaries. The points were reviewed by the committee of experts and the lesson plan was revised. A pre-test and post-test on composition were administered. The data for the study was collected through “video recordings”, “reflective diaries”, “teacher diaries”, “composition tests”, and “balanced literacy control forms” via quantitative and qualitative data collection tools. The analysis of the data was split into two phases: the analysis during data collection and the analysis after data collection. In the analysis of quantitative data, SPSS for Windows was used. In the analysis of qualitative data a descriptive method was used. The findings obtained from quantitative data showed that students improved in written expression skills. However, qualitative data did not support this result. While students showed improvement in the “outer structure” dimension of written expression, in the “inner structure” and in language and expression dimension of
written expression, only a limited improvement was observed. Results from qualitative data revealed that teaching the writing process through balanced literacy components in an interactive teaching environment enabled progress.

In another research study, the effects of using a multiple-draft process approach on reducing students’ anxiety levels, as they related to the academic writing process was investigated (Demirel, 2011). The participants of the study were 26 students who were doing a one semester academic writing course. The course followed the process writing approach. As per the curriculum of the course, each student had to complete an academic research paper of about 10 to 15 pages on a topic of their choice, which had to follow either of the two writing styles: MLA or APA. The papers had to include references to credible sources – books and articles on the selected topic. Most of the students, when informed about this requirement, expressed a high level of anxiety.

Data for the study was collected through a semi-structured interview and written reflections by students. The questions focused on:

- how they felt at the beginning and at the end of the course;
- factors causing anxiety;
- factors which helped them cope with their anxiety;
- useful components of the academic writing course; and
- their suggestions for improving the academic writing course.

The responses revealed that:

- 92% of the students felt anxious and negative during the beginning of the course, whereas it had reduced considerably to 65% towards the end of the course.
- Complexity of writing rules or conventions, unfamiliarity with academic writing, lack of sources or inability to find useful resources, and required length and time constraints were considered to be anxiety-provoking factors.
• Step-by-step learning and application of the writing process, clear instructions from the instructor, opportunity to select their own topic, doing writing and revision exercises, and consistent rules of MLA and APA style were considered to be anxiety-reducing factors.

• Collaboration with classmates, repeated writing and studying rules of MLA and APA styles helped them to overcome anxiety.

• Majority of the students were happy with the instruction method adopted. However, they expected more sample papers and separate instructions on MLA and APA style.

It was clear from the study, that step-by-step implementation of the process approach with revision, rewriting and peer feedback practices reduced student anxiety, a common problem in academic writing classes.

A case study on an online writing course that was given for first year undergraduate students of arts, social sciences and engineering using Pearson's MyCompLab website discussed institutional and student resistance to the course, technological challenges, use of peer review, cheating, course problems and course success (Singleton-Jackson and Colella, 2012). Course success was evaluated by comparing pre-test and post-test scores of the students. The pre- and post-tests consisted of multiple-choice questions that were based on the content of the entire course. The data and analyses supported the claim that the online writing course was indeed effective. However it was suggested that course effectiveness could be further validated by finding a positive association between improvement during the course (based on differences in pre- and post-test performance) and students’ later writing ability.

3.4 Research Studies on Using Wiki for Teaching and Learning

The different uses of Wiki in education, including language learning, have been broadly studied and documented. Some of the studies conducted by other researchers on the effectiveness of using Wiki as a collaborative tool, a supplementary tool that could be integrated into another tool, and as an exclusive learning management system are reviewed here.
A study in which Wiki was used to provide space for teammates to write their project collaboratively in three different courses (i.e., Composition, Survey Literature and Business Writing) showed that the use of a Wiki made students more aware of their own writing processes (Penna 2007). The Engwiki project started in 2006 at the Faculty of Organization and Informatics, University of Zagreb, Croatia aimed at testing the application of Wiki technology in teaching English for special purposes (ESP) and English as a foreign language (EFL) at the university level. It also aimed to use the Media Wiki innovatively by engaging the students in various types of individual and collaborative online learning activities. The activities done in Wiki were evaluated positively by students of the ESP/EFL and thus the open source Wiki technology proved to be easy to use, simple and efficient, as well as cost effective for them.

In another study, a Wiki was used to support in-class presentation in a foreign language (McInnis-Dominguez, 2007). The Wiki provided a space for teammates to prepare their presentation material and for commenting on other students’ work. It was observed that using Wiki helped students to prepare effective presentations.

A Wiki was created for free at http://www.pbwiki.com as part of a course that focused on the use of telecommunication in education for initiating a class project page in which all members of the class posted discussions relating to designing and creating a summary of the major course content addressed during a 15-week semester (Wang and Beasley, 2008). It was observed that the initial anxiety and concerns about the technical and other aspects of the medium dissipated after the instructor’s demonstration and guided hands-on practice in the use of the Wiki. Even initially reticent students not only read the content posted by active students, but also made
modifications to the structure as well as the content of the Wiki at a later stage. At the end of the semester, it was observed that the students were generally pleased and impressed with the scope of what they had created. They were not only comfortable with using the Wiki as a tool but also valued the summary document that represented the best that everyone could create by working together.

Fifty-five college students majoring in information technology and management, randomly divided into 11 groups, participated in a two-week study conducted in a programming language course using PB Wiki (Chou and Chen, 2008). A course Wiki with several web pages modified to coincide with the learning goal of the activity was created. Then, a detailed activity description and a Wiki instruction package were formulated to guide students towards successful learning. Assessment was in two parts: the final product and the Wiki page. The functionality, creativity and aesthetics of the final product and online performance in the Wiki page were assessed. The effect of Wiki on the students’ learning outcomes was evaluated through qualitative data. Content analysis approach was adopted to explore students’ online behaviour as demonstrated in each group’s folder. Survey questions were distributed to the students to elicit students’ perceptions of using Wiki in the classroom. Comparison of the results from the two sources (i.e., qualitative and quantitative data) yielded reliable evidence of the use of Wiki. The findings of the study showed that this teaching method motivated students to engage in collaborative learning and supported their learning outcomes.

In another study, Wiki was used as an online collaborative writing tool involving a class of 24 students in an ESL programme at the secondary level 1 (year 7), where the medium of instruction was English (Mak and Coniam, 2008). The results showed that the students produced vast amounts of text in the Wiki environment and when expanded, reorganized and corrected by the students, their writing showed improved coherence. However, as peer reviewing was a new experience, they were reluctant to engage in that activity with the result that collaboration was not fully used by the students.

A comparison of two Wiki projects in intermediate German classes in which small groups of students used Wikis to research cultural and historical topics related to
Brussig’s novel *Am kürzeren Ende der Sonnenallee* was made to throw light on the online collaborative writing and revision process of foreign language learners (Arnold et al., 2009). While the Wiki assignment in one class was purposely unstructured, the other was heavily guided by the instructor with regard to page content, due dates for a bibliography, outline and revised versions, and also included instructor and peer feedback. All archived versions of each Wiki were analyzed by coding students’ revisions based on an adaptation of Faigley and Witte’s (1981) taxonomy. Research questions addressed the amount, type and quality of revisions comparing the two groups, as well as learners’ perceptions of the project. Results indicated that both groups engaged in a large number of revisions, mostly concerning content and formal accuracy. While the group with the unstructured approach focused more on meaning-changing revisions, the group with the instructor-guided approach concentrated more on formal revisions and also achieved a slightly higher success rate in linguistic accuracy in their revisions. Learners regarded the collaborative writing projects as a positive experience and valued the feedback they received. The study showed that students not only performed a large number of revisions of their writings; they also created higher quality texts due to teacher- and peer-initiated feedback. These results suggested that Wikis could foster both writing skills and revision performance in linguistic accuracy.

Another research study reported on student-initiated attention to form within the collaborative construction of a Wiki among pre-service Non-Native Speaker (NNS) English teachers (Kessler, 2009). Forty NNS pre-service teachers from a Mexican university were observed over a sixteen-week semester in an online content-based course aimed at improving their language skills while studying about the cultures of the English-speaking world. The course, ‘Cultures of the English Speaking World’, is an academic course with a secondary function of providing students a meaningful target language exposure. The Wiki, intended to serve as a final product of the class, allowed students to define collectively the abstract term *culture* throughout the 15-week course. The Wiki task was entirely different from other tasks of the course because other tasks included teacher presentations, feedback, interaction and also feedback on grammatical inaccuracy. There was no intervention from the teacher in the Wiki task. It was initiated by the teacher and the students were thereafter asked to
continue the task on their own. It was their responsibility to construct the Wiki collaboratively and present their reflections on what they had learned in the class as a community. This was intentionally done so as to determine whether the autonomy would enable students to establish a sense of responsibility for the ongoing maintenance and revision of the document.

The study relied upon data provided by the Wiki. The students were instructed to select the portion of the text that they would work with. Language-related episodes (LREs) (Swain and Lapkin, 1995) were used to identify learner attention to form throughout the construction of the Wiki. Language-related episodes were coded. Form/Content was used to refer to revisions that seemed to focus on form with some additional, often minor or extraneous, alteration to the content of the text. Content/Form was used to refer to revisions that seemed to focus on content with a minor contribution to form.

After the completion of tasks by students, interviews were conducted with the students to gain insight into their decision-making process and develop an understanding of their willingness and ability to attend to errors in form observed in the wiki. All the subjects were invited to participate in the interviews. Each of the interviews lasted ten to twenty minutes. The interviews provided an opportunity for the students to elaborate on their individual contributions and also specify any changes that they might have overlooked. Interviews were conducted using desktop video conferencing software.

Analysis of the data revealed the following:

- They focused on meaning rather than form. When form was central to a revision, it was nearly always accompanied by some additional contribution to the content rather than an isolated incidence of error correction.

- Although the students were capable of achieving a level of grammatical accuracy in their more formal writing, they seemed to consider a web-based collaborative activity to be less form demanding.
• They focused more on revising the font and style rather than grammatical inaccuracies. According to them, these inaccuracies did not hinder them in understanding the meaning of the sentences in question and hence they did not bother to correct these errors.

A study was conducted to find out the possibility of using Wiki to communicate and generate course-specific content, and to explore whether such an approach using Wiki would improve the academic writing skills of learners and engage them more critically in learning (Wheeler and Wheeler, 2009). The subjects of the study were 35 education students who had used Wikis as an integral part of their studies for one complete term of 10 weekly teaching sessions within their initial teacher training programme. During training they were asked to report on their experiences periodically through their respective online discussion groups. Data captured from student discussion boards and post-module email questionnaires were used to find out student perceptions about the usefulness of Wikis as a support to their academic studies. The data indicated that most students showed improvement at their skill level in writing directly to the publicly viewable Wiki space, in sharp contrast to the more informal content they posted on the discussion boards. The scope of collaborative writing was limited due to students’ reluctance to edit each other’s’ work, but students appreciated the shared environment as a means of discussing their work and the content of the course. Students reported that their academic writing skills had improved through their formal participation in the Wiki.

Student perceptions regarding the use of Wikis in online instruction and potential uses for wikis in the K-12 classroom as perceived by respondents have been explored (Deters et al., 2010). Participants in the study were students who had enrolled in one of the three graduate level courses for teachers: Leadership and Communication Skills in Education, Instructional Response to Diversity in the Elementary School and The Teaching of Social Studies in the Elementary Grades. The participants were asked to work together in small groups to brainstorm information and build shared knowledge on the topic assigned. They had to use Wiki as a platform for this collaborative task. The Wiki provided a place to store, organize and display the evolving content as the students worked together to post, revise, edit and respond. Guidelines were provided on the types of content to be included in the Wiki and students were given a rubric to
score the projects. The content that had to be posted in the Wiki included description of the topic, teaching activities and bibliography of resources. The criteria that were included in the rubric were organization, attractiveness, accuracy (facts, mechanics, and HTML code), and individual overall contribution to the Wiki. The instructors also provided links to multiple tutorials for developing the Wiki that were specific to the platforms used. Tutorials included audio, video, and text support for individuals interested in building Wikis.

Data was collected using surveys and written reflections. The survey questionnaire contained nine Likert-type questions, two true/false questions and three open-ended questions. The survey questions elicited the participants’ perception of their comfort with Wikis and the effectiveness of Wikis as an instructional tool. Participants also answered three open-ended questions that allowed them to elaborate on their perception of the effectiveness of Wikis and how they could be used in elementary and university settings. Finally, participants were asked to reflect upon the perceived potential of Wikis for K-12 classroom instruction and whether they would employ Wikis in their own classrooms. They were also asked to reflect upon the potential barriers to using Wiki if they decided not to use them in their classrooms. A triangulation method was adopted by the researchers in which three data sets were analysed and the results across data sets were compared. The three data sets were quantitative data captured from the survey responses to the Likert and true/false questions, qualitative data from the three open-ended survey questions, and additional qualitative data from the reflections. The data were coded using the process described by Creswell (2002).

Analysis of the survey questions revealed that a majority of the students:

- Considered Wiki as a useful tool for teaching and learning;
- Felt Wikis facilitated group learning and fostered experiential learning;
- Felt that Wikis could provide a useful learning tool for technology education students;
- Viewed Wikis as being useful in online environments; and
- Felt that Wikis were an effective tool for collaborative problem solving.
However, time constraints, technical difficulties, or limitations of the particular Wiki site used were indicated by the respondents as some of the drawbacks.

An empirical study was conducted on how sixteen graduate students who enrolled themselves in a 10-week course of an online Masters program interacted in Wiki (Huang, 2010). The course focused on topics related to eLearning design. The course requirements included designing an e-learning design project and demonstrating the understanding of reading topics like multimedia learning theories, cognitive load design framework and practical e-learning design strategies by completing weekly reading synthesis in small groups. The students were asked to compose a comprehensive Wiki document with a predetermined word limit on the topic given by the instructor.

For this study, data was collected through a qualitative question and a quantitative questionnaire that were administered to the participants soon after their completion of reading synthesis activity. The qualitative question was a reflective type question in which the participants were asked to recall and describe activities they had initiated in the wiki during the reading synthesis activity. A coding system was devised based on previous studies of Sajjapanroj et al. (2008), Shih et al. (2008), Trentin (2009), and Yan, (2008). Nine categories were identified: planning for team meeting, task delegation for team members, interacting with peers, interacting with instructors, searching and reading information related to the topic to complete given assignments, learning to modify Wiki pages, contributing one’s own points in the wiki, reviewing other’s contribution, and others.

Analysis of the data revealed the following:

- Most interactions between learners related to task delegation occurred during the initial weeks of the course.
- Learners rarely interacted with the instructor.
- Learners also invested a lot of effort gathering information by finishing reading assignments as well as searching for information extensively on the Internet.
• Writing and reviewing were done consistently in the first 6 weeks of the synthesis activities.

• Activities related to learning how to use the Wiki platform happened only during the first reading synthesis activity, after which they became familiar.

• Learners participated in relatively fewer activities specific to individual and team time management than other activities categorized.

• With regard to the “Other” category, the participants reported numerous spontaneous reflective activities as part of the synthesis process.

The quantitative questionnaire was a 7-point, 24-item Likert scale questionnaire that intended to investigate the levels of interactions realized in the online program. The responses were analysed using repeated measures ANOVA which revealed that learner–learner interaction level was higher than that of learner–instructor interaction. It was concluded that educators should remove all communication modalities external to the Wiki environments to provide authentic Wiki collaboration experiences for learners.

A research study focused on the use of Wikis in university education and examined the student perspectives related to this use (Karasavvidis, 2010). Thirty-eight students participated in a study aimed at examining students’ difficulties in Wiki implementation in an undergraduate course on learning with information and communication technologies (ICT). The students were near novices in blended learning as they had followed only two blended learning courses in the past. They reported that they were very familiar with social software, especially social networking sites such as MySpace, Facebook, and Hi-5. They were all familiar with Wikis, Wikipedia, for the most part, but had never contributed to Wikis or participated in Wiki-based practices. The course constituted an introduction to learning with ICT and had two main objectives. First, it aimed to introduce learning theories and show their impact on the design of educational software. Second, it aimed to render students capable of designing and implementing a learning unit using educational software. The course involved two mandatory assignments, one of which
was a Wiki task. Student perceptions of the Wiki were collected as qualitative data through an interview. After the completion of the course, 15 students randomly chosen were interviewed. The interviews were semi-structured, lasted approximately 25–40 minutes each, and were tape-recorded for subsequent analysis. The interview questions focused on aspects of the Wiki which hindered student learning and caused inconvenience. Several themes related to what students disliked about the Wiki emerged from this first round of coding. This procedure was iterated; common themes were identified and grouped into broader categories reflecting aspects of the Wiki that hindered student learning. Atlas.Ti was the software used for the coding of the interview data.

Based on qualitative data, seven major types of problems that the students experienced with the Wiki task were identified. They were:

1. The students found the Wiki to be very demanding, both in terms of time and effort.

2. The students were very critical of the nature of the task used. They considered that creating five Wiki pages on certain concepts and contributing to five pages created by others was not an easy task.

3. The students complained that some of them involved in plagiarism. In the interviews, they stressed that copying and pasting information from other sources – at times even without attribution – was a common practice.

4. The students reported that the Wiki afforded limited communication opportunities.

5. Some of the students stated that while it was understood that the Wiki was meant to promote shared meaning-making, which presupposes collaboration, certain Wiki pages reflected a fierce competition among students rather than collaboration.

6. The students expressed their concern about the interpretations of concepts they had drafted in their Wiki pages.
7. The students reported that they were hesitant to edit the texts created by fellow students.

It was concluded that the difficulties experienced while doing the Wiki assignment were due to the students’ lack of knowledge and skills in handling the Wiki assignment, as they had been accustomed to traditional practices.

A research study was conducted at the University of Johannesburg to find out the feasibility of using Wiki as an alternative means to deliver course content and stimulate interaction (Laughton, 2010). The participants for the study were students who had enrolled for an online course ‘Information Management 2B’ that was conducted using traditional LMS Blackboard. A Wiki, Infoman 2b, was created at Wet Paint in which the students were instructed to participate in a discussion on a topic which changed every fortnight. However, the traditional LMS Blackboard was used within the department to assist in administration, communication and content delivery.

A survey questionnaire was used to collect quantitative data on the following:

- the feasibility of using Wiki as LCMS;
- effectiveness of Wiki as an e-learning tool; and
- assess Wiki in comparison with Blackboard.

Analysis of the data revealed that the Infoman 2b Wiki did not have the range of utilities and features that of the blackboard had, but “there were however other components that can be incorporated into Wiki to improve functionality” (Laughton, 2010). The contribution of Wiki towards understanding the course material was similar to that of Blackboard. It was concluded that the limitation of Wiki as perceived by the students might be due to reasons such as (1) the Wiki was used only for a particular role in the course, i.e. to participate in a discussion; and (2) students were new to using Wiki but they were already familiar with using Blackboard.

A wiki-based online course, called ePublic Affairs, intended for MPA, MPP, and PhD students was offered exclusively on Wikispaces, a free and advertisement-free Wiki
platform (Hu and Johnston, 2012). This course incorporated a number of additional social media tools such as Blogs, FaceBook, Google+, Twitter, virtual worlds (Second Life), check-in technologies (Foursquare), and instant messengers (Yahoo) in addition to traditional online teaching and communication tools such as videos and class e-mails.

The case study intended to evaluate the feasibility and the extent to which the Wiki-based learning environment might encourage student participation, enhance student learning, and foster collaboration among students. Data was collected from three sources:

1. Information about the number of times the students visited the course Wiki and the number of times they edited the Wiki page;

2. Students’ reflections on the course content throughout the semester- the students were asked to write feedback and comments on the class in a Wiki page; and

3. The formal class evaluation conducted by the School of Public Affairs at Arizona State University at the end of the fall semester.

Analysis of the number of times the students visited the course Wiki showed that each student visited the module 27 times on an average over the 2-week active period of the module. Similarly, the students had edited the course Wiki 432 times for various purposes, including co-creating course content in the book chapter review section, developing their personal Wiki page, working together on the class project, and providing feedback on improving their own work. It was found that, on average, each student edited the Wiki pages about 25 times. Three students edited the Wiki pages over 40 times. Except for one student who edited the Wiki page only three times, most of the students actively edited Wiki pages to co-create course content. It was evident that the course had been developed and evolved with students’ contributions and participation. The flexibility and simplicity of Wiki as a learning platform contributed to enhancing student learning and increasing the diversity of perspectives while maintaining quality. At the end of the course, students grasped concepts and theories in using information technology for public services. Furthermore, in working on the Wiki class projects, students developed a sense of responsibility, participated in
collaborative work, and recognized the unique value of collaboration. It was concluded that Wiki could be used for delivering any type of course.

From the above research studies on using Wiki for education it is evident that the Web 2.0 tool, Wiki, has been used as an exclusive instructional setting (LMS) or integrated with another instructional tool.

3.5 Relevance of Selected Studies to the Present Research

For the present study, the researcher conducted a training programme on reading and writing using Wiki as an LMS. In this context it is worthwhile to mention that the studies of Teles (2002) and Kufi and Ozgur (2009) showed that the perception of students about learning in an online environment was positive and that they considered its use for education beneficial.

For the present study, the training programme had been planned in a fully online mode. Wiki was chosen as a course environment so that instructional materials could be delivered in various forms and formats in an organized fashion, individual and group tasks for practice could be assigned, interaction and communication at different levels could be facilitated, assessments could be conducted, and reflections and feedback could be elicited. Even the studies conducted by Teles (2002), elementary education professors at Large Southeastern College of education, Laughton (2010), Hu and Johnston (2012) showed that the tools that allow instructors to design and deliver content, assign tasks and tests and facilitate interaction and collaboration were mostly preferred by the online instructors. Further, research studies by Huang (2010), Mak and Conam (2008), Arnold et al. (2009), Kessler (2009), Bischof, et al. (2006) and Chou and Chen (2008) also supported the role of Wiki in stimulating interaction and collaboration.

The researcher had chosen PB Wiki in order to use Wiki as an LMS for her study considering its easy usability, cost efficiency and its potential to solve the pedagogical needs and this idea was supported by Carson et al. (2012). The participants of their study regarded that PB Wiki was easy to use and required no serious training, available for free and met the requirements of descriptive, procedural, conditional and reflective learning. Wang and Beasely (2008) had also used PB wiki for conducting a
course in telecommunication and confirmed the benefits of using PB Wiki for education.

In the present study, Dick and Carey Model that was adapted by Schneiderheinze (2005) was used for designing e-learning. In this regard Soto (2013) had authenticated the use of Dick and Carey model for designing and developing virtual world instruction and also adapting the existing instructional design models for new learning environments. Baig (n.d) had also regarded Dick and Carey model as an appropriate model for designing an entire course.

Selection of instructional materials is one of the important steps prescribed in DC Model. Wilhelm and Wilde (2005) had explored the possibility of saving potential cost and time in material production by using the learning object assembly process method while developing instructional materials. Studies by Ballantyne and Knowles (2007) and Sakurai and Donelson (2011) also showed the effectiveness of using learning objects. Relevant learning objects available in the Internet were used as instructional materials in the present study. The objective was to expose learners to the instructional materials of subject experts and use the learning objects freely available over the Internet as supplementary materials.

In the present study, explicit strategy instruction for training in reading was given to encourage students to apply specific strategies which would help them to improve their TOEFL reading score. A review of selected studies on reading also showed the positive effect of reading strategy use on student reading achievement and the importance of teaching the use of reading strategies. Kolic-Vehovee, et al. (2011) and Madhumathi and Ghosh (2012), have shown the relationship between reading strategy use and reading achievement. Other research studies: Hutabarat and Arifin (2012), Diaz and Laguado (2013) on teaching skimming strategy; Ellis and Graves (1990) and Lee and Con (2003) on the impact of teaching paraphrasing; Johns and Mayes (1990), Karbalaei and Rajashree (2010), Hamman (1995), Hess (2004) and Singhal (2001) on teaching summarizing strategy; Kojima and Narita (2014), Ynen (2009), Shokoohi and Askari (2010) and Kiani (2011) on the effectiveness of teaching word guessing strategy; and Cain et al. (2001) and Azizmohammadi (2013) on the effect of teaching on making inferences have shown that teaching of these strategies had a positive impact on students’ reading achievement. Studies by Gena and Rayan (1985), Chung
(2000), Ying (2006) and Khatib and Safari (2011) have shown the importance of teaching the use of reading strategies.


Similarly, research studies of Robinson (1986), Scanelta (1982), Bruno (1983), Honeycutt (2002), Ho (2006), Cavkaytar and Yasar (2008), Scanelita (1982), Somers (1980), Zamel (1983), Sasaki (2000), Baroudy (2008) and Derimel (2001) have proved the success of adopting a process-based approach individually and with groups to teach different genres of writing. Further, the studies of Mak and Coniam (2008), Arnold et al. (2009) and Bischof et al. (2006) have proved that collaborative writing tasks resulted in improved writing. The present study also adopted explicit teaching of a process-based approach to enable learners to write well-organized, error-free essays. Collaborative writing tasks were also given to achieve the objective.

With regard to the use of technology for teaching reading comprehension strategies and writing process, Alipanahi (2005) and Lai (2009) have used Internet tools for teaching reading comprehension and Singleton-Jackson and Collela (2012) have used technology for teaching writing. In the present study, Web2.0 tool, Wiki, was used for providing training in reading and writing skills.

In short, the review of various research studies has relevance to the choice made by the researcher with regard to selection of instructional platform, design of instructional materials for training participants in reading and writing, and training them in using appropriate strategies.

3.6 Implications of the Selected Studies to the Present Research

The review of the selected studies has thrown light on and provided insights in planning, developing and conducting training in reading and writing skills in the web based platform Wiki. Considering the pertinent points suggested by the selected studies relating to providing instruction with the help of advanced technological tools, the present study was designed with the following aspects:
(i) Provision for using Wiki as a Learning Management System (LMS)

The purpose was:

- to offer training in reading and writing in a virtual environment;
- to facilitate language learning beyond the classroom; and
- to encourage participants to learn at their own pace, collaborate with their peers and be actively involved in learning.

Further, the preference of conference system, an LMS by majority of online educators who participated in the study conducted by Teles (2002), the easy usability and cost effectiveness of PB Wiki as reflected by the participants in the study conducted by Carson et al. and use of Wiki as LCMS or platform by Laughton (2010), Chou and Chen (2008), Wang and Beasely (2009) prompted the researcher to use Wiki as an LMS for offering training in reading and writing to TOEFL aspirants. A Wiki workspace at PB works was created to facilitate teaching and learning in a web environment. Features of Wiki like creating pages, creating hypertexts, adding links, uploading files and arranging them as required by users were adequately used in the present study to enable meaningful construction of learning materials and easy conduct of learning activities through interaction and collaboration.

(ii) Creation of Pages: Exclusive pages were created:

- To present the course goals and schedule in order to give an overview to the learners about the training;
- To deliver lessons in reading and writing for each week and enable the learners to access easily the lessons given for respective weeks;
- To provide space for interaction with the instructor and fellow learners so that the learners could seek clarification with the instructor or fellow learners, clarify the doubts raised by fellow learners and give feedback about the weekly lessons and the course;
- To give space for collaborating with fellow learners to plan the execution of group activities;
• To provide a consolidated list of activities to be completed during the course of training;

• To provide feedback on student performance; and

• To make announcements and give reminders

(iii) Inclusion of Hypertexts and Arrangement of Links: This enabled neat and structured presentation of resources during instruction and to enable easy navigation of specific details

(iv) Adding Links and uploading files: The purpose was to provide as resources for learning and questionnaires for testing and to integrate learning objects like YouTube videos, Slideshare presentations, images and audio files for learning

It was felt, as Wilhelm and Wilde (2005) mentioned, that reliable specific contents could be used to save material production, time and cost. Moreover, the effectiveness of learning objects in teaching and its reusability as shown by Ballntyne and Knowles (2007) and Sakurai and Donelson (2011) encouraged the researcher to use the learning objects freely available over the Internet.

(v) Use of Dick and Carey Model:

As mentioned earlier, an adapted version of Dick and Carey Model created by Schneiderheinze (2005) was used since it included aspects of interaction such as learner-content, learner-learner and learner-instructor in addition to the ten-step process specified by Dick and Carey. The researcher created a Wiki at PB Works where the learners could access learning materials, interact with the content, instructor and fellow learners all of which helped them to gain knowledge, construct meaning and receive rich learning experiences. The studies of Soto (2013) and Chen (2007) also had authenticated the modification of the prevailing instructional design model.

(vi) Use of strategies

Reading strategies, namely, skimming, scanning, guessing the meaning using contextual clues, making inferences, recognizing rhetorical structures, cohesive devices as clue words, summarizing and paraphrasing were taught to answer the TOEFL reading comprehension questions. Similarly, writing strategies like
brainstorming, outlining, organizing, drafting and revising were taught to help them write TOEFL essays. The studies related to reading and writing instruction that have been reviewed show that skilled readers and writers use these strategies and instruction in these strategies to less skilled readers and writers would enable them to improve their performance.

(vii) Provision of Explicit Instruction

Explicit instruction in reading comprehension strategies and process-based writing was adopted in the present study to teach reading and writing, and studies by McNamara et al. (2007), Alington (2001), Ravari (2014), Kolic-Vehovec et al. (2011), Dreyer and Nel (2003), Ho (2006) and Cavkaytar and Yasar (2008) have stressed the beneficial effects of explicit instruction on English language learners. In the present study, first a particular strategy chosen was defined. Second, the occasion and purpose of using the strategy were described. Third, application of the strategy was modeled and the process of application was explained by the instructor. Fourth, the learners were encouraged to apply the strategy. Fifth, feedback on the learner’s application of the strategy was provided. Finally, the learners were encouraged to maintain continuity in using the strategy.

3.7 Conclusion

Thus it must be stated that the selected studies have provided plenty of inputs to the researcher in the present study for using the Web 2.0 tool, Wiki, for providing rigorous training in reading and writing skills to TOEFL aspirants. The next chapter will discuss elaborately the learning materials used for TOEFL training.