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Using Higher- Order Cognitive Processes to Develop the Students' Reading and Writing Skills and Modify their Beliefs about the English Language at Birzeit University

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Abstract

The current research aimed at investigating the effect of using four higher-order cognitive processes, inference, analysis, prediction, and reflection, on developing English 102 students' reading and writing as integrated skills. It also explored the effect of these processes on modifying students' beliefs about learning English as a Foreign Language (EFL) at Birzeit University through conducting an instructional program on an experimental group (N.22) in the first semester, 2012. With reference to literature and previous related studies, the higher order-cognitive processes and reading and writing skills were selected to be the bases of the instructional program. Beliefs about Language Learning Inventory and a pre-post test were administered to the participants before and after teaching the program. Quantitative and qualitative analyses were used to investigate the students' development in reading and writing and modifications in beliefs about language learning. A satisfaction scale was administered to the participants, an interview was conducted with a focus group of five students, and artifacts were analyzed to get detailed qualitative data about the effect of the program on their language skills, beliefs, and degree of satisfaction. The Statistical Package for the Social Sciences (SPSS) was employed to analyze quantitative data. The results revealed that there were statistically significant differences at 0.05 level between the participants' pre and post test mean scores in favor of the post test, and there were significant modifications in students' beliefs about learning a foreign language, which could be attributed to the instructional program. Besides, students expressed satisfaction of the whole program. The researcher came to the conclusion that using higher-order cognitive processes had a positive effect on developing students' reading and writing skills and on modifying their preconceived beliefs about language learning.

Key words: Higher-order cognitive processes: analysis, inference, prediction, and reflection; beliefs about language learning.

Lovingly dedicated

to

- the soul of my father, who was my model teacher, the source of empowerment in my life, and the one who nurtured in me the love for learning.
- the soul of my mother, who was the main source of inspiration, believing in Abraham Lincoln's statement that "All that I am or will ever aspire to be…I owe to my mother".
- the soul of my sister, Manar, for being my guiding force, for her strong faith in me, and for her ongoing inspiration and push to achieve what I like to do.
- my only brother, Butros, for his ongoing love and care.
- my youngest sister, Gadeer, for her great guidance, support, sacrifices and encouragement to fulfill my dream

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List of Abbreviations

Birzeit University	BZU
English Communication Course 102	ENGC 102
Beliefs about Language Learning Inventory	BALLI
English Language Learners	ELLs
EFL	English as a foreign language
Higher-order cognitive processes	HOCPs
Teaching English as a Foreign Language	TEFL

Chapter One

Background and Problem

Chapter One

Background and Problem

1.1. Introduction

Constructivist theorists believe that people learn best when they actively construct their understanding. Constructivism stresses the fact that readers have to reflect upon themselves and their abilities and deploy all available means to construct comprehension (Chouaf, 2009).

Learners seek to understand the instructions provided by tutors, parents, or teachers, and then internalize the information to use it to guide or regulate their performance (Vygotsky, 1978). In fact, constructivists consensually hold that knowledge is not mechanically acquired, but actively constructed within the constraints and offerings of the learning environment, was commonly regarded as a shift in paradigm in educational psychology. Liu and Matthews (2005) reported that the mechanistic positivist accounts of learners "as recipients of hard-wired knowledge were supplanted by accounts of learners as situated, active knowledge constructors" (p.387).

Current educators emphasize the notion of cognitive processes in this era of technological development. The development of higher- order cognitive skills is to facilitate the transition of students' knowledge and skills into responsible actions, regardless of their particular future role in the society (Miri, David and Uri, 2007). In our increasingly complex and specialized society, it is becoming even more imperative that individuals are capable of thinking divergently and creatively (Tedjaatmadjal, 2009). The cognitive viewpoint sees learning as an active process in which learners, rather than simply receiving knowledge, seek new information to solve problems and recognize what the learners already know to achieve new

insight. Researchers have integrated different concepts and processes in language classrooms that proved to develop language skills. Prediction, analysis, inference, question generating, summarizing, reflection, and visualization such as graphic organizers and directed reading-thinking activity are examples. Educators such as (Lerch, Bilics and Colley, 2006) see that learning takes place in an environment of thinking, reflecting, and of connecting the old to the new. It is believed that developing students' ability to reflect on their learning process can help them progress in learning. Higher-order thinking skills promote higher-order learning skills, which in turn "enable students to reach higher levels of language proficiency (Liaw, 2007, p.46).

Nowadays, educators are interested in conducting research that takes into consideration the students' learning and understanding, instructional practices, beliefs and cognitions about the teaching/learning process. Teachers cannot teach a language in a vacuum (Allwright, 2001); they need learners who are active participants and ready not only to receive information but to take advantage of it, apply and transfer it to real-life situations.

According to the California Adult Literacy Professional Development Project (CALPRO, 2007), many adult learners enrolled in Adult Basic Education (ABE) classes have poor functional literacy comprehension. Adult learners may be able to perform daily comprehension tasks, such as locating a piece of information in a simple text, but be unable to integrate or synthesize information from longer or more complicated texts.

Many English language departments have become concerned about students' reading and writing skills. Whatever anyone reads, he has to achieve a level of understanding; otherwise, reading is an aimless activity. Failing to read and comprehend what is read in early learning stages leads to educational problems in the learner's life. Reading comprehension texts are "the base of the whole learning

process, and are important vessels that may train learners to practice all levels of cognitive skills" (Seif, 2012, p. 2).

Comprehension takes the learner to a new level of active understanding and insight. It enhances language and vocabulary knowledge. Good learners use a variety of comprehension strategies simultaneously; they interpret, integrate, critique, infer, analyze, connect and evaluate ideas in texts. Inferential comprehension is demonstrated by the students when they use the ideas and information explicitly stated in the selection, their intuition, and their personal experience as a basis for conjectures and hypotheses. Research demonstrated that students negotiate multiple meanings not only in their heads but in the minds of others. When comprehending, learners strive to process text beyond word-level to get to the big picture. When the comprehension is successful, learners are left with a sense of satisfaction with having understood the meaning of a text (The NSW Department of Education and Training, 2010).

In the Palestinian context, the low level of students' comprehension of English language is noticed as a result of the political, economic, social and societal circumstances directly affecting the teaching-learning process (Sorour, 2009). Many complaints are being raised by college professors of the difficulty undergraduate students find when reading and answering English based textbooks' questions (Abu Humos, 2012).

Due to the deficiency of entry-level students and the importance of possessing thinking skills, and with the help of research studies conducted over time, many educational institutions have added critical thinking components into their courses. Colleges and universities have also started initiating courses in which a critical thinking aspect exists (Rfnar, 2006).

Not only has research been conducted on the issue of cognitive processes focusing on enhancing the students' level of thinking, but it has also begun to

examine the relationships between cognitive processes and language skills, mainly reading and writing as cognitive and social processes. Some of the studies were conducted by Whalley et.al (2006) in Australia; Liaw (2007) in Taiwan; Anthony (2007) in USA; Peña & Cañón (2008) in Colombia, Veeravagu, Muthusam, Marimuthu and Michael (2010) in Malaysia; Gómez (2010) in Colombia; Crews (2010) in Virginia; Broek and Espin (2009) in Netherlands; Abu Nejmeh (2011) & Abu Humos (2012)in Palestine.

For example, a research was conducted on the tenth grade students aiming at improving their reading comprehension through the use of three higher-order thinking strategies: inferring, questioning, and summarizing. The findings of the study showed significant differences in favor of the experimental groups taught using the (HOTS) strategies (Abu Nejmeh, 2011).

Another study revealed that the students going through the critical thinking English conversation class attained significantly better critical thinking skills in terms of length, focus, content, organization, style, and overall sections. They also attained a greater level of satisfaction with their class in terms of the instructional objectives, instructional material/method, teacher's qualities, class climate/ environment, assessment, and overall satisfaction (Wang.2009).

Veeravagu, Muthusam, Marimuthu and Michael (2010) investigated the relationship between the level of thinking processes in comprehension questions and the students` performance. The findings indicated that the level of questions designed according to Bloom's Taxonomy influenced students' performance in answering comprehension questions .The study concluded that there was a relationship between the level of thinking processes needed and the students' ability to answer these questions correctly.

Throughout the last decade, research has shown interest in literacy, considering writing and reading as separate but interdependent and interrelated

acts. Literacy has been used interchangeably in literature with reading and writing. Reading and writing can be seen as an important context for cognitive changes, and in the building and transmission of knowledge. However, reading and writing cannot be considered as only a natural context in children's development. They are "cultural products that are learned not only through interacting with others, but also through formal teaching and learning processes" (Peña and Canon, 2008, p.11).

As far as learners' beliefs about language learning are concerned, they are necessary for the teaching/learning processes. Some factors shape the learners' thinking and beliefs formation, including experience, culture, context and numerous personal factors (Abid, 2012). Various beliefs might have been held from a variety of resources, for instance personal beliefs about self in relation to others and images that affect practice, previous learning experiences and learning skills and styles, beliefs about the nature of teaching as perceived by students, the teaching methods, and the role of the teachers. An unsuccessful learning experience could easily lead a student to the conclusion that "special abilities are required to learn a foreign language and that s/he does not possess these necessary abilities" (Buyukyazi, 2010, p.170).

Some of the studies looked at possible relationships between beliefs and learners' use of strategies such as motivational paradigms; readiness for autonomy; approaches to language learning; attitudes towards language learning, learning materials, learning tasks, teachers, teaching, L2 culture, and use of L1 and L2 (Gabillon, 2005). Some of these studies are: Horwitz(1988) in USA; Bernat (2004); Bernat; Gvozdenko (2005); Bernat (2006) in Australia ; Zare-ee (2010) & Rad (2010) in Iran; Rieger (2009) in Hungary; Nikitina; Furuoka (2006) in Malaysia; Huang(2006) in China; Chang and Shen (2010); Shen (2006) in Taiwan; Atlan (2006) in Turkey; Diab(2006) in Lebanon, Jafari &Shokrpour (2012), and Agudo (2014) in Spain.

Elaine Horwitz operationalized the concept of beliefs (Crhová and Gaona, 2014); she was the pioneer who developed the beliefs About Language Learning Inventory (BALLI) and the first to conduct a systematic research into the nature of language learning beliefs (Nikitina,2006).Horwitz(1988) asserted that investigating learners' beliefs has relevance to the understanding of their expectations of, commitment to, success in, and satisfaction with language classes.

Rad (2010) conducted a study on EFL Iranian students to investigate if there was any gap between students learning process and their beliefs. The findings of the study showed that the students' general beliefs about learning English as a foreign language according to English language aptitude was slightly neutral; beliefs about difficulty of English language learning and communication strategy were slightly strong ,and beliefs about motivation and nature of English language aspect were very strong.

In order to develop plans, a study by Jafari & Shokrpour (2012) aimed at investigating Iranian ESP students' beliefs towards English language learning and examining whether or not gender affects students' belief about language learning. The belief of motivation and expectations got the highest scores and the beliefs of the nature of language and of foreign language aptitude got the lowest scores. Findings also showed that female learners were more likely in agreement about certain approaches that were important in language learning in comparison with male participants. Accordingly, a number of pedagogical implications, especially helping students to increase students' level of motivation in English language classrooms could be provided which might prove useful for language instructors.

Being unable to employ the higher- order cognitive processes (HOCPs) leads to the inability to read critically or respond in writing to a variety of functions. This, accordingly, leads to negative beliefs about language learning. Using an intervention technique to overcome learners' counterproductive beliefs about

foreign language learning, knowledge of learner beliefs must be understood first. Javadi, Jahandar and Khodabandehlou (2012, p. 163) argued that for most of the learners and teachers, the importance of the relationship between EFL learners' beliefs and their different skills of foreign language abilities is not revealed. They are not also aware of the fact that beliefs play an important role in learning experience and achievement.

The rationale behind the current study arises from a variety of reasons gleaned from the results of a previous pilot study, students' poor performance in English placement test, the researcher's observations, and students' complaints and anecdotal notes.

1.2. Background of the Study

Grounded on the students' needs to modify their beliefs and accompanied with detailed specifications of language learning, a pilot study was conducted by the researcher and other colleagues in the Department of Languages and Translation at Birzeit University (BZU).The study aimed at analyzing the objectives and tests of all 'English communication courses' at the university. It elucidated that the objectives of the language skills and tests designed for assessing students' achievement in 'ENGC 102' included only a few questions based on higher- order cognitive level (See Appendix B). The findings of the English communication 'ENGC 102' final exam showed that *only 7%* of the questions tackle higher- order cognitive processes as shown in (Table1) below:

Table (1)
Specification chart for ENGC 102 pilot study

Language Skills	Class Time%	Knowledge/ Comprehension 40%	Application 33%	Higher Thinking: Analysis, synthesis, evaluation 27%	Total (60 items)
Reading& Vocabulary	63%	15	6	3	24
Writing	25%	13	5	2	20
Listening &Speaking	12%	10	4	2	16
Total	100%	38%	15%	7%	60

The poor performance in the English placement test students take before studying at BZU revealed the deficiency of their performance. According to the coordinator of the test, about only 40 percent requires analysis and inferences, whereas about sixty percent of this test requires responding to questions about factual and informational knowledge and conceptual understanding. Table (2) shows the Placement test cut off scores according to which students are placed in the four English-level courses.

Table (2)
Placement test cut off scores in all English courses

English Communication Course	Cut off Scores(out of 100)
ENGC 101(D)	0—37
ENGC 102(C)	38—55
ENGC 141(B)	56—79
ENGC 231(A)	80—100

The majority of high school graduates who join BZU lack the necessary skills in English to pursue tertiary education and cope with textbooks, lectures and academic journals in English, and in spite of the best efforts, many remain unable to access important information in their fields (Department of Languages and

Translation/ Project Booklet, 2006). Out of this study, the researcher could conclude that:

- Students cannot easily comprehend what they read, and most of them cannot go beyond the literal meaning of any text;
- They tend to memorize information such as vocabulary items and comprehension questions to retrieve them on the test, rather than apply higher order-cognitive skills;
- They cannot think critically about what they learn since they lack higher-level cognitive abilities;
- They perform poorly on various assessments.

Moreover, through reflection and observation, the researcher discovered that students are not equipped with sufficient reading strategies, and traditional classroom instruction does not effectively enhance the students' thinking skills. In a workshop held in December, 2011 at the Department of Languages and Translation about testing, Jeanne Kattan, a testing professional, expressed her concern about the current conditions at schools. She said that teachers are still following the traditional teaching methods which require students to memorize ideas rather than think critically, as they usually do in the General Secondary School Examinations, which is the teacher's fault, not the students.

Abu Zaid (2011) found that freshmen low achievers, 'ENGC 102', and high achievers, 'ENGC 231', at BZU resorted to memory strategies when learning English as a foreign language, which "was in line with the accusation that the Palestinian educational system encourages memorization as a major learning tool" (p.32). Abu Zeid also asserted that first-year students are used to the style of lecturing and memorization as the easiest and most effective ways to pass exams and get high marks.

Besides, surveying students' assignments and worksheets, and listening to complaints and anecdotes was another motive for conducting the current study. Students demonstrated demotivation and expressed negative beliefs concerning learning English as a foreign language as a result of their previous learning experiences. They also explained the difficulties they encounter when approaching a reading text or learning new vocabulary items. Hence, there is a great need to improve the situation of English teaching/ learning at BZU in such a way that will contribute to quality teaching/learning of English in particular.

Based on the previous discussion, the researcher believes that since many teachers only utilize the lower levels of cognitive skills in their instruction, a paradigm shift in the way teachers prepare and deliver their lessons must be modified, if not completely changed. Therefore, she seeks to adopt the independent variable, higher-order cognitive processes, to explore their effect on developing the students' reading and writing skills and modifying their beliefs about language learning. The components of the theoretical framework were derived from a variety of sources, including the 'Constructivism Theory' as the foundational theory for the instructional strategies and 'Barrett Taxonomy of Cognitive and Affective Dimensions of Reading Comprehension'. To the researcher's knowledge, this study has never been conducted in the Palestinian context.

Taking into consideration that 'ENGC102' is an introductory low-intermediate course, the researcher believes that exploring all HOCPs is very difficult with the poor linguistic level of the participants. Therefore, the scope of this research focuses only on the simplest processes: analysis, inference, prediction, and reflection, hoping to modify participants' beliefs about language learning. The researcher sees that if we want to help students "unlock the power of experiencing success in reading and writing, then higher order thinking is the key" (Anthony, 2007, p.7). If we, as educators in the L2 field, pretend to intervene in the

process and modify students' beliefs, we, in the first place, have to believe and know they can be altered (Crhová & Gaona, 2014, p.19).

1.3. Statement of the Problem

Taking the previous results into account, the spotlight of this thesis falls on very important concepts: higher-order cognitive processes and their effect on developing reading and writing skills and modifying learners' beliefs about learning a foreign language .

1.4. Research Questions

To achieve the purpose of the study, the following main question was addressed: What is the effect of using higher- order cognitive processes (HOCPs) on developing 'ENGC102' students' integrative reading and writing at BZU?

The following sub questions should also be answered.

1. What is the existing situation of 'ENGC 102' students' HOCPs?
2. What HOCPs are appropriate for 'ENGC102' students at BZU?
3. What reading and writing skills are appropriate for 'ENGC102' students at BZU?
4. What are the characteristics of a program employed to develop 'ENGC 102' reading and writing skills?
5. What beliefs do 'ENGC 102' students hold about EFL learning?
6. What is the effect of using HOCPs on modifying 'ENGC102' students' beliefs about language learning at BZU?
7. What is the degree of 'ENGC 102' students' satisfaction with the effectiveness of the program based on HOCPs?

1.5. Objectives

The present study attempted to achieve the following objectives:

1-Identifying the effect of using the four HOCPs on developing 'ENGC 102' students' reading and writing as integrated skills;

2-Identifying the effect of using the four HOCPs on modifying 'ENGC 102' students' beliefs about learning English;

3-Identifying students' beliefs about language learning;

4-Designing a program based on the four higher-order cognitive processes.

1.6. Variables

Independent variable: Higher- order cognitive processes: analysis, inference, prediction, and reflection.

Dependent Variables: Development of reading and writing skills as well as modification of the beliefs of students in the experimental group.

1.7. Significance

The current study highlights the significant role of the higher-order cognitive processes and their effectiveness in developing 'ENGC 102' students' reading and writing skills and modifying their beliefs about language learning at BZU, an area in which there is a shortage of research. In addition, limited literature is available regarding assessing the effectiveness of the higher- order cognitive processes in reading and writing and their impact on modifying the students' beliefs.

This study also contributes to the educational research knowledge in two key areas related to the above issue. It examines the effectiveness of specific strategies that integrate reading and writing for improving students' skills, and offers a theoretical basis for the application of these strategies in a program designed to help teachers implement those strategies effectively.

This study could contribute to literature by encouraging teachers to move beyond the prepared instructional material. The scientific community may view this research as an important context to show researchers as well as classroom

teachers the data needed to change classroom teaching away from "teaching from a purchased self proclaimed, fix all program to an instructional strategy evoking what educators already know coupled with what materials they already have" (Anthony, 2007, p.70).

Therefore, this study is expected to be important for the following personnel:

- Students in English departments, who can take advantage of the cognitive processes to change their beliefs about language learning, which will accordingly be reflected on their motivation and development of their linguistic abilities.
- EFL teachers, who can reflect their interest in developing the students' higher- order cognitive skills on developing their students' performance.
- Curriculum and language material designers, who can take into account the students' beliefs when designing curriculum and educational activities and strategies that enable teachers to modify students' negative beliefs.

1.8. Delimitations

This study is limited to:

- First year university students placed in 'ENGC 102' in the Department of Languages and Translation at Birzeit University, Palestine .
- Implementing the proposed program in the first semester 2012/ 2013 during a limited duration of eight weeks (thirty- hours).
- The targeted higher-order cognitive processes : analysis, inference, prediction, and reflection

1.9. Definition of terms

The following concepts will be dealt with in the thesis:

Higher-order cognitive processes (HOCPs):

Cognitive Psychologists define HOCPs as the ones that make use of the outputs from basic cognitive processes, such as perception, attention, memory, and concept formation and representation. Included in HOCPs are thinking, reasoning, decision making, problem solving, and other related complex processes. In each of these tasks, the information that has been previously received, processed, and stored by basic cognitive processes gets used, combined, reformatted, or manipulated by higher-order cognitive processes (Galotti, 2011).

For the purpose of the current study, higher- order cognitive processes refer to the conscious knowledge or information processes under the control of the learner and organized in an ascending level of complexity utilized for the purpose of carrying out a variety of learning activities .Such processes are analysis, inference, prediction, and reflection.

Language Learning Beliefs:

Horwitz (1987) defines beliefs about language learning as preconceptions about the nature of the language learning task and as "opinions on a variety of issues and controversies related to language learning" (Horwitz, 1987, p.120).

Beliefs have also been defined as 'implicit theories' or 'self-constructed representational systems. Understanding learner beliefs is essential because successful learners develop insightful beliefs about language learning processes, their own abilities, and the use of effective learning strategies, which have a facilitative effect on learning (Zare-ee, 2010).

While there are different understandings of learner beliefs, research studies do not really give a clear definition of learner beliefs of language learning. They

generally seek to identify learners' preconceived notions about what is involved in learning a foreign language in order to predict expectational conflicts that may contribute to students' frustration, anxiety, lack of motivation, and in some cases ending foreign language study, and to help to facilitate the language learning and teaching process (Huang, 2006, p.63).

For the purpose of the current research, the researcher integrated these definitions and considered beliefs as students' correct or incorrect opinions, feelings, and judgments about the language being learnt, about themselves as language learners, and about the teaching/ learning process. In other words, it refers to students' feelings about what they learn as foreign students and how it helps them to achieve better proficiency in (English) language learning.

English Communication 102 'ENGC 102' at Birzeit University:

ENGC 102 is a course that consolidates the skills taught in ENGC 101 and geared towards achieving the specific objectives of 101 but in a higher level that caters for the needs of the students who are directly placed into ENGC 102. In other words, it reinforces the four language skills in an integrated approach. It also aims to provide students with a strong basic foundation in pre-academic English to better enable them function within the university requirement. The overall goal of the course is to enable the students to communicate with some ease in English in a variety of authentic situations.

ENGC 102 is offered for students who score 38-55 on the university placement test. It meets for 4 class hours weekly and 1 hour for the clinic. Students who pass 102 will be transferred to ENGC 141.

1.10. Organization of the thesis

The organization of the rest of the thesis is described below:

Chapter two: discusses the higher- order cognitive processes, definition, importance, theoretical background and literature review about the cognitive processes in relation to language skills. It also presents a closer look at reading and writing as integrated skills and strategies for integrating them in language classrooms, in addition to literature review. Finally, it discusses language learning beliefs, definition and theoretical background, and explores their usefulness in improving language learning.

Chapter Three: reports the methodology used in the research: research design, questions of the study, instruments of the study, and the participants and learning context. It also presents the instructional program prepared by the researcher for teaching reading and writing. Finally, it explains and analyzes data collection procedures and instruments.

Chapter Four: presents the data analysis and interpretation of the results. Quantitative data obtained from pre/post test are presented, analyses from the BALLI scale are quantitatively calculated, and the analysis results of data collected through the satisfaction survey and interviews are analyzed, and the overall results and major findings are interpreted and discussed.

Chapter Five: Includes the conclusion and summarizes the issues addressed in the study, draws pedagogical implications and provides some recommendations for further study.

Chapter Two

Theoretical Background and Previous Studies

Chapter Two

Theoretical Background and Previous Studies

In this chapter, the researcher attempts to investigate pertinent literature and previous studies. First, the chapter discusses the concept of higher- order cognitive processes (HOCPs), including their definition, origin, importance, theoretical perspective and their relation to language skills. Secondly, it tackles reading and writing as cognitive processes, the rationale behind considering them as integrated skills. Thirdly, it discusses language learning beliefs, their importance, literature and previous studies pertaining to language learning beliefs.

2.1. Higher-Order Cognitive Processes

There is a big number of terms and definitions of higher- order thinking processes. Each of them emphasizes a different aspect in literature. Indicating the different terminology is deemed necessary in this context.

Zwiers (2007) maintained that for cognitive psychologists, these cognitive processes are often called higher- order thinking skills in related literature to include skills such as comparing, identifying cause and effect, persuading, analyzing, evaluating, synthesizing, empathizing, and interpreting in some form.

Some researchers used the expression *higher- order cognitive processes*, while others coined *higher -order thinking levels*, or *critical thinking (*Vygotsky, 1987). For Mohnot (2006), critical thinking is often used as an alternative term for higher-order cognition, and it actually fell under the aegis of the term higher- order thinking.

In general, critical thinking has been variably defined over the past 80 years. Georgia State University's QEP (2011) cited the following definitions and characteristics of critical thinking used in the literature (p.8):

- "active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends" (Dewey, 1933, p. 118).
- "reasonable, reflective thinking that is focused on deciding what to believe or do" (Ennis, 1987, p.10),
- "that mode of thinking, about any subject, content, or problem, in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it" (Paul and Elder, 2007, p. 2)
- "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual methodological, criteriological, or contextual consideration upon which that judgment is based" (Facione, 2006, p. 21).
- "is analytical and strategic, linking knowledge bases to practice strategies" (Price, 2004, p. 47).

Wang (2009) stated that critical thinking is the application of cognitive skills or strategies to increase the positive outcome. Through purposeful reasoning, and goal-directed thinking, students can use these cognitive skills and strategies to solve problems, formulate inferences, calculate likelihood, and make decisions.

According to the article *Higher-order thinking* (Wikipedia, 2015), higher-order thinking is thinking on a higher level than memorizing facts or telling something back to someone exactly the way that it was told to you. The underlying idea is that some types of learning require more cognitive processing than others. Higher -order thinking involves the learning of complex judgmental skills such as critical thinking and problem solving, and is more difficult to learn or teach but also more valuable because such skills are more likely to be useable in everyday

situations. The simplest thinking skills are learning facts and recall, while higher - order skills include critical thinking, analysis and problem solving.

Rfaner (2006) explained the origin of the thinking skills reporting that critical thinking has been a subject for researchers from a variety of disciplines for more than twenty years. Rfaner added that the intellectual roots of critical thinking are as ancient as its etymology, traceable, ultimately, to the teaching practice and vision of Socrates 2,500 years ago who discovered by a method of probing questioning that people could not rationally justify their confident claims to knowledge. "This historical trip began with Socrates and Plato, continued with Descartes and was a topic in essays by Montesquieu and John Locke (p.22).

Hofreiter (2005) also mentioned that the concept of thinking skills is not new. It was first introduced by Greek philosophers and has been used from the times of the Greek Empire until today, gaining importance during its long travel throughout history. In addition, teaching to improve thinking is rooted in Greek philosophy and was championed by Dewey in the post-World-War-I in the United States, modified by Bloom in the 1950s and became popular in the 1990s.

An exploration of conceptions of higher- order learning in the literature revealed that most researchers agreed that higher-order mental processes extended learning beyond memorization and recall (considered lower- order cognition) and encompassed the following skills: reasoning, analysis, reflection, explanation, inference, interpretation, application, problem-solving, creation or synthesis and evaluation (Mohnot, 2006).

Therefore, all these terms are used interchangeably throughout this study, unless explained differently.

2.1.1. Theoretical Perspective of Higher- Order Cognitive Processes and Their Relation to Language Skills

The path from the study of the cognitive processes involved in comprehension to the application of that knowledge to practice is not necessarily a direct path. According to Broek and Espin (2009), To translate basic research into practice, it is necessary to conduct applied research in which the implementations suggested by the findings in basic research are experimentally (p.21).

The importance of and attention to higher- order cognitive skills, or critical thinking, as an important outcome of post secondary education have implications in regard to how the teaching and learning process is conceptualized. Emphasizing the development of critical thinking skills has positive implications for the immediate learning environment as well. University of Maryland University College (2006) assured that colleges that impart a sense of the student as a participant in a community of scholars which encourage analysis, discussion, and reflection ultimately create environments which encourage high order- cognitive processes, including the ability to think critically.

Researchers believe that language classes can enrich students with the materials that play a vital role in enhancing thinking. Because teaching higher-level cognitive processes requires comprehension, inference, and decision making, the reading classroom is the logical place to begin. Vygotsky (1962) pointed out the powerful link between language and thought and argued that our thinking processes require language to articulate them. Higher- order thinking strategies "(HOTS) can facilitate reading comprehension that can contribute to (HOTS) growth" (Abu Nejmeh, 2011, p.26). Besides, reading is thinking cued by written language. Teachers cannot think for students, cannot directly show them the complex operations they need to put in place, but they can teach in a way that gives

students an idea about what effective readers do and supports them in using some strategies. Effective readers think within the text, beyond the text, and about the text (Fountas and Pinnell, 2005).

Successful reading comprehension depends on the reader's ability to construct a coherent mental representation of the text. Such a representation is constructed from pieces of information that are presented in the text, as well as from background knowledge. Broek and Espin (2009) stated that what holds these individual pieces of information together is what he called the semantic 'glue' provided by causal, referential, and other relations (p. 15). The construction of such a representation relies on the intricate interplay of cognitive activities, some of which are automatic and occur outside the reader's awareness, others of which are strategic and initiated by the reader.

According to the Ministry of Education (2003), teachers promote higher-order thinking by ensuring that students have certain knowledge and skills. For example, prior knowledge of a given subject, understanding of the text's meaning, problem-solving skills, analyzing information (the ability to explain, compare, and infer), synthesizing information (the ability to relate, predict, draw conclusions), evaluating information (the ability to make choices, verify evidence, and assess value).

Liaw (2007) believed that language development and thinking are closely related and the teaching of higher-order thinking skills should be an integral part of an L2 curriculum. For that purpose, a study was designed to examine the feasibility of promoting critical thinking skills in an EFL classroom in Taiwan. Based on the positive effects reported in related literature, content-based language teaching was adopted as the instructional approach for the study.

In spite of the fact that language classrooms are perfect places to teach higher -order thinking, the following educators stress the fact that students should be aware of the strategies used to achieve that purpose:

Ku (2009) maintained that the ability to think critically will not develop unless one has a strong intention and initiative to engage in the processes connected to it. Simply put, besides the ability to engage in cognitive skills, a critical thinker must also have a strong intention to recognize the importance of good thinking and have the initiative to seek better judgment (p.71).

Fahim, Bagherkazemi and Alemi (2010) is in agreement with Ku's (2009) statement that before trying to enhance critical thinking in learners, they must be made aware of its significance in order for the effort to yield the most satisfactory results.

Abu Nejmeh (2011) also emphasized naming the strategy when teaching it. However, Bird, 1989 as cited in Olson, Larsen, Bolton,and Verhelst (2007) was concerned about the ability of university and community college students to think critically; he remarked that in the area of critical thinking and comprehension, there exists no single approach to student mastery.

Block and Pressley's (2002**)** research included numerous studies that demonstrated the efficacy of cognitive strategy use in reading. In their analysis over 20 years of research on comprehension instruction, they noted widespread agreement among scholars that students should be taught cognitive and metacognitive processes and that, regardless of the program used, instruction should include modeling, scaffolding, guided practice, and independent use of strategies, so that students develop the ability to select and implement appropriate strategies independently and to monitor and regulate their use.

Meltzer and Hamann (2005) presented a research emphasizing that reading comprehension can be greatly improved through regular use of certain strategies before, during, and after reading. Many other explicit teacher and student use of strategies that support the activation of prior knowledge, questioning, clarifying, visualizing, predicting, and summarizing in context also lead to improved reading comprehension and content-area reading skills. In addition, the application of higher-order thinking skills, such as questioning and analytical graphic organizers, to the process of reading improves reading comprehension.

Giesen (2001) studied the strategy of making predictions to promote and enhance students' reading comprehension. He recommended providing explicit instruction about how, when, and why the strategy can be used. For instance, modeling by using a think-aloud, allowing for practice, and having students articulate their use of the strategy; asking probing questions, before reading; using story maps for fiction, and using lists of main ideas so students can fill in supporting details for nonfiction. In this activity, students begin to pose questions about a text and make predictions about it before they read. In this way, students become authors of the text and may come to understand the kinds of expectations that a reader has of a writer, which can be helpful for them in their own writing.

Hofreiter (2005) carried out a study on 16 students in an undergraduate forest-issues course at the University of Florida to measure critical thinking skills and dispositions as described by a Delphi study of experts conducted by Facione (1998) .Delphi identified six skills to encourage critical thinking: Interpretation, analysis , evaluation, inference, explanation, self-regulation and seven dispositional elements: Inquisitiveness, truth-seeking ,critical thinking, self-confidence, open-mindedness, systematicity ,analyticity , and cognitive maturity. A pre/post test was administered along with an essay- based skill assessment. The results showed that students did not improve ($p<.05$) in critical thinking

disposition, which was not surprising given the entrenched nature of dispositions and the limits of a semester-long course. However, students were improved in analysis, self-regulation and evaluation. This asserted that those results indicated that a 15-week course might improve critical thinking when undergraduate students are taught these skills explicitly in a disciplinary context, and if given more time, a change might be detectable. Literature does suggest that cognitive maturity is linked to developmental growth and that students may naturally improve in this disposition as a result of attending college.

Wang (2009) investigated whether the incorporation of critical thinking skills into the English conversation class in the experimental group could bring more positive effects on the students' learning outcome and satisfaction than those of the control group. Sixty-five students were selected as the experimental group and the control group. Critical thinking instruction was manipulated in conversation class of the experimental group for ten weeks. Results revealed that the students going through the critical thinking English conversation class attained significantly better critical thinking skills in terms of length, focus, content, organization, style, and overall sections. They also attained a greater level of satisfaction with their class in terms of the instructional objectives, instructional material/method, teacher's qualities, class climate/environment, assessment, and overall satisfaction.

Abu Nejmeh (2011) conducted a research on the tenth grade students aiming at improving students' reading comprehension through the use of three higher-order thinking strategies (HOTS): inferring, questioning, and summarizing. The findings of the study indicated significant differences in favor of the experimental groups taught using the (HOTS) strategies and significant differences in the reading achievement test scores attributed to sex but no significant differences attributed to the interaction of sex with strategy.

Abu Eid (2005) investigated the frequent question types asked by teachers and their effectiveness and impact on students' logical thinking process by being able to comprehend, apply, analyze, synthesize, and evaluate. The study was conducted on 30 EFL teachers in Al-Awqaf department and public schools at the district of Jerusalem. It revealed that teachers evaluate their students according to the content of the text, and the total number of questions of all types used by teachers were (458) questions. The percentage of high level questions as based on Bloom's Taxonomy was *only* 19% .Accordingly, she recommended organizing training programs for teachers to increase their proficiency in using higher-order questioning techniques and create activities that focus on developing students' critical skills

Oslon and Land (2007) clarified the Pathway intensive professional development program of using a cognitive strategies approach to reinforce the reading/writing over an eight-year period (1996-2004). The study sought to determine to what extent providing ELLs in secondary school with declarative, procedural, and conditional knowledge of and practice with cognitive strategies would improve their reading and writing ability as based on commonly used measures. A quasi experimental research design involving both quantitative and qualitative measures was employed. A project-designed pre-post-timed analytical direct writing assessment calling for literary interpretation in a well-structured essay was designed. In addition, standardized measures of students' reading and total language abilities, scores on high-stakes, on-demand direct writing assessments, and English placement rates at the local community college were collected. Results showed that Pathway students not only grew more from pre- to post-test, but also wrote better essays on the post-test and received higher scores than their counterparts in the control classes.

Anthony (2007) investigated the effects of using Bloom's Taxonomy as an oral questioning scaffold to improve writing in response to reading and reading comprehension .Three research instruments were implemented: the writing rubric, the researcher-created test of reading comprehension and Degrees of Reading Power (DRP), and a standardized test of reading comprehension. Results showed that students demonstrated higher-level thinking in their written response to higher-level oral inquiry from the teacher. Anthony argued that through exposure to a hierarchy scaffold of critical thinking questions, some students have learned how to think more critically and independently in class. She also believed that using higher- order questions enabled students to organize and rehearse thoughts better. Results of this study showed educators how using a scaffold of oral inquiry produces readers who independently think critically, display higher order thinking in writing and have improved reading comprehension.

Anthony (2007) presented an experimental study by Davey and McBride (1986) who investigated the effects of student generated questioning on reading comprehension. The study was a posttest only design with multiple 14 groups. The sixth grade participants were randomly divided into six groups, one control and five experimental groups with question training, question generation practice, inference question practice, and literal question practice. The studies revealed that after several training and practice sessions, not only were there positive effects from the question generation group on their generation of questions, accuracy of comprehension and accuracy between predicted versus actual performance, but the study also statistically showed that students who create their own questions about specific text better comprehend the text. Davey and McBride recommended that students be trained to use this questioning technique to ensure their understanding of literal and inferential meaning in text.

Mohnot (2006) reviewed relevant literature and studies by several researchers (Brophy and Evertson, 1976; Redfield & Rousseau, 1981; Berliner, 1984, and Takona, 1999) and found an increase in student achievement when students were asked to move beyond recall of facts and use higher-order cognitive skills such as application, analysis, synthesis and evaluation. They also found that higher- order questioning facilitated learning over lower- order questioning.

Veeravagu, Muthusamy, Marimuthu and Michael (2010) carried out a correlational study by investigating the relationship between the students' performance and the level of thinking processes of Bloom's Taxonomy in answering a reading comprehension paper. Findings indicated that the level of questions influenced the students' performance in answering comprehension questions .That is, students' performance varied according to the levels of thinking processes, and students performed better in questions with low level thinking process (knowledge, comprehension and application) compared to high order questions. Therefore, the researcher concluded that there was a relationship between the level of thinking processes needed and the students' ability to answer questions correctly.

Writing was also developed through using higher-order cognitive processes. Cognitive visualizations, such as concept maps, can be used as part of learning activities and as a form of scaffolding. They can trigger reflection by making conceptual understanding visible at different stages of the learning process (Villalon and Calvo , 2011).

Atlan (2006) emphasized the connection between critical thinking skills and writing. He reported that research conducted by the National Assessment of Educational Progress (NAEP) emphasized the link between effective writing and critical thinking skills. Research also showed that writing enhances learning. Another report from The Indiana Department of Education was cited by Atlan. It

stated that the primary goal of curriculum planners is to help students develop the ability to make well-informed, well-reasoned decisions and to act responsibly. Responsible decision- making requires practicing the skills of acquiring, evaluating and using information for the purpose of identifying courses of action and predicting their possible consequences. Lessons that emphasize writing can contribute significantly to achievement of this goal (p.1).

Rfaner (2006) investigated the implementation of critical thinking goals in an English 101 course through written assignments. The study sought to explore the components of critical thinking in terms of students' written performance (questioning information, examining underlying issues, ideas or assumptions, and establishing connection between events and reasons). Results showed that students mainly suffered from common problems such as "no relation between events", "no reason for events" and "no support". As clarified, the reason for these problems could be linked to their lack of effective writing skill, which might have hindered them while trying to express their ideas clearly. Although the instructor provided constant feedback on the assignments and during the tutorials, it was observed that similar problems recurred in the following drafts and assignments. A more intense program aiming to link the use of critical thinking components and students' general writing skills was recommended. In general, the results showed the possibility to use the higher thinking abilities in a language course if these skills were well-planted in the curriculum (Refnar, 2006).

To wrap up, the aforementioned literature and previous studies show that language classes can enrich students with the materials that play a vital role in enhancing thinking. They have provided valuable information regarding the usefulness of implementing a variety of higher- order cognitive processes and strategies to develop language skills. Therefore, the researcher found that incorporating the independent variable, higher-order cognitive processes

represented in analysis, inference, prediction, and reflection, in language classrooms is a necessity to develop students' language skills. However, it is recommended that teachers must be well equipped with the various approaches and methods to create critical thinkers. Besides, to explore the effectiveness of various approaches and techniques in developing university students' reading and writing skills and modifying their beliefs about learning a foreign language, further empirical research and studies are required, which is the ultimate objective of the study.

2.2. Reading and Writing as Integrated Skills

Researchers (Langer and Flihan, 2000; Dabour , 2001; Dabbour,2009 ; Wyk 2001; Taglieber 2003; Gocsik ,2007; Heaney ,2006 ; Paul & Elder ,2006 ;Olson &Land, 2007; Harmer, 2007; Loranc-Paszylk, 2009; Plakans, 2009; Abu Rass, 2011**;** Tuan, 2012;Gao,2013, and Badr, 2013) have increasingly noted the connections between reading and writing, identifying them as essentially similar processes of meaning construction .

In the article *Integrating Reading and Writing,* Gocsik (2007) explained that reading and writing became curricularly linked at the turn of the 19th century when Harvard and other universities decided that reading literature was essential to learning to write. Before, students did not typically write analyses of what they read, but instead wrote themes on a variety of prescribed topics such as Vanity, Democracy, and Ethics. The reasons behind integrating both skills were clarified by educators who were in favor of the integration .They claimed that reading inspires students introducing them to great ideas and improving their ability to think critically and analytically. Moreover, reading centers class discussion, giving students something to talk about beyond their own personal experiences. In addition, reading provides students with something to write about. Gocsik gave an

example that at eighteen, students often lack the experience to come up with sophisticated subjects for their essays, but texts provide these ideas. Finally, reading illustrates models of truly excellent writing, thereby offering students instruction in voice organization, syntax, and language.

Writing and reading have long been considered to be related activities and incorporating reading and writing is a common intellectual practice in many parts of the world (Dabour, 2001). Dabour claimed that reading has a clear impact on writing, and similarly, writing strategies such as summarizing and outlining, might also enhance comprehension.

Olson and Land (2007) explored the relationship between reading and writing from different points of views such as the nature of both skills, how children acquire them and how they use signs and symbols, instruction and the role of the learner in both skills. They claimed that the structures and strategies that writers and readers use to organize, remember, and present their ideas are generally the same in writing and reading.

Loranc-Paszylk (2009) argued that integrating reading and writing activities is beneficial to the learner with respect to both content learning and language learning processes. Processing information and constructing new texts based on prior reading helps students develop overall target language competence, develops reading and writing skills and discourse skills, and expands their vocabulary.

Langer and Flihan (2000) also commented on the interrelationship between reading and writing .They mentioned that because writing and reading involve the development of meaning, both are conceptualized as composing activities in the sense that both involve planning, generating and revising meaning, which occur recursively throughout the meaning-building process as a person's text world or envisionment grows. From this perspective, some scholars speak of the writer as a reader and the reader as a writer.

Yet, Taglieber (2003) maintained that more recently, researchers have also become interested in the reading-writing connection as a means to develop students' critical thinking skills. Along these lines there has been a strong effort towards developing effective techniques and model lessons to foster critical reading and higher level thinking skills.

Wyk (2001) is in concord with the viewpoint that writing and reading can influence and support the development of reading, writing, and thinking. For example, reading and writing depend on the comprehension of vocabulary items either to understand or compose any piece of writing. In his article entitled *A university bridging course focusing on academic reading and writing skills,* Wyk emphasized that as academic writing requires analysis, synthesis, and interpretation of information from many different sources, this process of reading-for-writing has to be taught explicitly. Students read extensively and then respond to their reading in writing and also write expository essays based on academic readings. She recommended making academic texts accessible in terms of logic of an argument as well as the linguistic features of the text. In a course developed for this purpose, Wyk concluded that the reading and writing processes act as scaffolding for each other in the acquisition process, as the ability to produce a written text in an academic setting is dependent on an initial reading task (Wyk, 2001).

Giesen (2001) maintained that since reading and writing are so closely linked, they mutually reinforce each other and, therefore, promote learning when they are integrated in classroom activities. Giesen reported that integrated reading and writing activities help students cope in university courses and in an academic setting; students' success is dependent on their ability to interact with a text. Activities such as summarizing can prepare students for academic tasks in which they will be asked to extract and work with ideas and information from readings.

Al-Omrani (2014) asserted that not only does connecting reading and writing in second language instruction enhance L2 writing ability, but it also develops learning generally and L2 reading skills especially in the academic settings. However, Al-Omrani argued that the division between teaching reading and writing in the EFL classroom, which entails a considerable lack of emphasis on the reading-writing connection, is a major cause of the weakness in the students' writing ability (p.104). In brief, "any significant deficiency in reading entails a parallel deficiency in writing. Any significant deficiency in writing entails a parallel deficiency in reading" (Paul and Elder, 2006, p.2). Therefore, EFL writing teachers are encouraged to increase their students' awareness of the importance of reading for accomplishing writing tasks. They also should teach their students that better writing is preceded by good deal of reading and that reading is the basis for writing. They should also realize that one of the best ways to improve writing is to improve reading, and vice versa. (Al-Omrani, 2014).

After studying the research related to reading-writing connection, Tuan (2012) found that in order to exploit reading in writing classes, teachers have to follow two steps. They have to let students know how their writing pieces are evaluated, and then guide them to read like writer to "acquire writers' ideas and crafts so that they can improve their writing proficiency and get higher writing scores (p.490).

As far as the thinking processes are concerned, Loranc-Paszylk (2009) asserted that researchers consider the effects of reading and writing on thinking and that different types of writing tasks shape thinking and learning. Loranc-Paszylk suggested that reading and writing in combination are more likely to prompt critical thinking than when reading is separated from writing or when reading is combined with knowledge activation or answering questions .Thus, it is

recommended that selecting information in the writing process helps students develop critical thinking skills.

Giesen (2001) developed a project in the context of the Intensive English Program (IEP) of the American University of Sharjah. The objectives of the course aimed at increasing the English proficiency of those students who did not attain the minimum TOEFL score required for matriculation and providing students with skills they need for academic work. He taught an integrated reading and writing course because he felt that the two skills complement each other and are best taught and learned together. He used a variety of activities that allow students to work both individually and in groups of all sizes, creating opportunities for them to learn from each other and move them away from black-and-white thinking, hoping to cultivate critical thinking as the foundation of his project. The study confirmed that through writing, students were able to practice skills related to reading such as summarizing, which is required in university where students are asked to summarize information in their own words from other sources as well as from their own experience. In his integrated course, students were given opportunities to practice those skills by having them incorporate material from their summaries to write essays and longer papers about themes, ideas, or events that relate to their readings.

Heaney (2006) pointed out that critical thinking skills become first internalized through reading, and are later reflected in writing. This connection sheds light on the difficulties with academic writing which requires analysis of the problem and developing argumentation. If the habit of reading was not formed prior to entering a college program, writing presents a tremendous challenge.

Nagappan (2001) also identified the interrelationship between thinking and the two skills. He presented a number of definitions for *literacy* which is taught in

school .These included the ability to read and write, the capacity to employ language as a tool for thinking and communicating, and a way of thinking, acting, speaking defined in terms of differential power relationships and structures within society. So, thinking underlies language skills taught, both implicitly and explicitly. In this sense, meaning springs from the interaction between the reader, the writer, and the text in a give-and-take relationship in which they are affected by each other. Here many elements such as the reader's prior knowledge, experience, feelings and the context in which the reading takes place determine what a text communicates to a reader (Giesen, 2001).

Paying attention to the individual differences concerning all the previously mentioned elements, it can be seen that readers and writers' interactions with a text and the meanings they construct are characterized as personal and unique. Chouaf (2009) supported this fact stating that readers of all ages and abilities react to what they read, but their responses differ following the material's difficulty and their personality traits. Chouaf maintained that every reader makes one or more of the following reading responses (p.41):

- Initial understanding: the initial response a reader makes is getting the gist or the overall theme of the passage.
- Developing interpretation: the text processor starts to study the author's ideas, infer meaning, draw conclusions and interpret information in his own way.
- Responding personally: the reader responds emotionally to text by relating what has been read out it by stating if he finds the text interesting, boring, unrealistic, etc.
- Responding critically: at this stage, the reader can judge and criticize the ideas of a selection after reflecting upon them in a neutral objective way.

This implies the text processor has a certain level of professional ability in appreciating literary elements such as imagery, sarcasm and symbolism.

Taking into consideration the effects of reading on writing, there are a number of studies that fail to show an apparent correlation between reading and writing abilities. Tuan (2012) cited a research by Battle (1986) who concluded that freshmen did not appear to absorb reading skills as a function of learning to write; Morrow (1997) who claimed that several compositions themselves have not been "without ambivalence toward the importance of reading in improving student writing" (p.490).

Some differences have also been pointed between the two macro skills. They have traditionally been thought of as distinctly separate processes, as flip sides of a coin, with reading regarded as receptive and writing as productive (Olson &Land, 2007).Another distinction was presented by Gocsik (2007) saying that proponents of the integration between reading and writing argue that writing, rather than reading, can be used to improve the learning process. It was believed that writing is unique to learning because it originates a verbal construct that is graphically recorded, whereas reading involves communication that is graphically recorded, while the ideas do not originate with the learner. Gocsik illustrated that when writing, students must both originate and record their thinking; they must attend simultaneously to process and product. In addition, writing must be concise and carefully structured; it must provide a context for an audience that is not part of the environment but that exists apart from the writer. In sum, writing forces students to become more careful and more engaged participants in the learning process (Gocsik, 2007).

As far as the researcher of the current study is concerned, she emphasizes the strong relationship between reading and writing .She believes that without the benefit of reading, students cannot become effective writers; they need to see and

experience how the written language works. She wraps up what has been said about the integration between both skills by quoting a final note made by Giesen's (2001) verification to this mutual relation, believing that "while reading gives students exposure to vocabulary, sentence structure, and rhetorical structures of English writing, writing activities give students practice in using them. Students can use readings as a model for their writing, or they can write about readings (p.6).

Therefore, being strongly connected and interrelated, all through this research reading and writing will be dealt with as integrated and similar macro language skills that involve the application of the same processes.

2.2.1. Strategies for Integrating Reading and Writing

One way teachers can help students perform higher-level operations is by teaching them cognitive strategies (Oslon and Land, 2007). Plakan (2009) reported a study conducted with 34 engineering students enrolled in an ESL class to study strategy use in thematically linked reading-writing test tasks. The focus included writing strategies that involved the use of the reading text, which might be considered mining, such as borrowing words/phrases, recalling content from reading, and/or accepting/ rejecting viewpoints from reading. This analysis of strategies led him to conclude that reading and writing were bi-directionally linked in the integrated task.

Plakan's (2009) study focused on patterns sought to discover the reading strategies related to stages of completing the tasks and the relationship that existed between strategies and writers' resulting performances. Based on the verbal protocols of the L2 writers, results revealed five categories of reading strategies used in L2 integrated tasks : (a) goal-setting for reading the source texts (Checking the task to integrate source, checking the task for appropriate citation), (b)

cognitive processing (Slowing reading rate, breaking lexical item into parts/using phonological cues, rereading phrases/sentences, rereading passage), (c) global strategies (Skimming for gist, asking questions, identifying/ summarizing main ideas ,responding to text with personal experience/opinions) , (d) metacognitive strategies (Recognizing lack of comprehension, confirming understanding) , and (e) mining the source texts for use in writing (Scanning text for ideas to use in writing, rereading for use in writing, rereading to check for plagiarism) (p. 258).

Duarte (2008) presented many reading strategies that appear to be very important according to a multitude of researchers. These have been broken down into five key strategies: Using background knowledge, predicting, self-monitoring and self-correcting, identifying main ideas and summarizing, and making inferences and questioning

Oslon and Land (2007) recommended carefully designed studies of the efficacy of cognitive strategies approaches, particularly with secondary urban ELLs. A review of about 50 studies in which students ranging from third grade through college were taught cognitive strategies showed that successful teachers of such strategies frequently used instructional procedures called scaffold, which are forms of support provided by the teacher ,or another student, to help students bridge the gap between the current abilities and the intended goal.

For Olson, Larsen, Bolton and Verhelst (2007) the following appeared to be the most effective teaching strategies that improved students' reading comprehension and critical thinking skills (p.11):

• visualizing or making a movie in one's mind,
• teaching background vocabulary,
• using graphic organizers (story maps, in particular),
• using Literature Circles,
• questioning when reading,

• making connections with the characters,

• retelling, and

• teaching inferring.

Facilitating the process of comprehending a reading text before writing requires teachers to scaffold and help students by providing cognitively challenging assignments to use higher- order thinking abilities rather than the low-level memorization and application skills. This could be attained by employing the following cognition strategies:

- Prediction: It is another technique to foretell the content of any reading text through generating questions. Like many other comprehension skills, prediction requires prior knowledge about the content and about the structure of what is being read (Cemink's Voices, 2012) and helps students hypothesize what will occur in the text. In order to do this successfully, students must activate relevant background knowledge that they already possess regarding the topic (Cooper, McWilliams, Boschken and Pistochini, 2011). By applying this strategy students are given the opportunity to integrate what they know while they read and are also faced with new information that may conflict with their own assumptions which, in turn, may encourage critical thinking skills (Durate, 2008; Cemink's Voices, 2012).

An important aspect in the prediction process is comparing the prediction to the outcome in the actual text. Without this aspect of the prediction process, it becomes meaningless to improving the student's comprehension (McKown and Barnett, 2007). The students then have a purpose for reading: to confirm or disprove their prediction for the text (Cooper, Williams, Boschken and Pistochini, 2011). The strategy of making predictions was promoted by Blevins, 1990 (Olson, Larsen, Bolton, Verhelst , 2007) to enhance students' reading comprehension. He

recommended providing explicit instruction about how, when, and why the strategy can be used, modeling by using a think-aloud, allowing for practice, and having students articulate their use of the strategy, asking probing questions, before reading, using story maps for fiction, and using lists of main ideas so students can fill in supporting details for nonfiction.

- Generating questions about the text: Asking questions is a strategy that even older students find quite tedious, which refers to the fact that students are accustomed to being asked by their teachers (Duarte, 2008). Questioning has been used in various forms and for various reasons, including activating prior knowledge, summarizing information, monitoring performance, directing attention, and promoting active processing of text (Broek and Espin,2009, p.19). This can be achieved through searching the text, activating existing knowledge, and combining information, which in turn help students integrate segments and thereby comprehend what they read. Readers rely on schema, or prior knowledge and experience, to understand a text. Giesen (2001) claimed that students can be introduced to vocabulary and ideas found in a text and can raise questions or make predictions about what they will read, or they can preview the text in some way.

  McKown and Barnett (2007) advise teachers to ask students questions during and after reading a passage, and students are asked to return to the text to find the answers to questions. Teachers model and the students practice to discriminate between questions that are literal, inferred, or based on the reader's prior knowledge, and in turn evaluate them.
- Inferences: It is one of the skills used to comprehend both spoken and written texts. Readers actively search for inference when engaging with a text by making reasonable predictions, by drawing on background knowledge or personal experience and by making judgments (Literacy

Secretariat, 2012). Possessing knowledge of the semantics and syntax of the language being learnt is a requirement to draw inferences between events represented. To make inferences between various parts of a text, a number of skills are needed: decoding the written language and attaching written words to meaningful concepts, knowledge of the semantics and syntax of the language, and background knowledge of the events represented in the text. The purpose is "to demonstrate the complex nature of determining whether inference-making leads to comprehension or is the result of comprehension" (Broek and Espin, 2009, p.17).

According to Olson, Larsen, Bolton and Verhelst (2007), students practiced making inferences by performing certain tasks. For example, identifying cause and effect relationships, theme categories, predictions, as well as fact and opinion; identifying the main idea of each story; recalling details; working with new vocabulary; summarizing and paraphrasing; responding to critical thinking exercises; raising questions, and making personal responses to learn about heroes (p.18).

- Coherence : Good writing is usually characterized by certain grammatical and lexical features involving syntactic structure, reference, substitution, conjunction, synonymy, all of which " may exert a great influence on a reader's understanding of a text" (Ye, 2013, p.1). Given the complexity of the linguistic system involved, it is essential for students to have a strong command of language and an understanding of text dynamics if they seek to become strong writers. Based on that, coherence involves identifying meaningful connections between the various pieces of information in a text, which is central to the comprehension of text (Broek and Espin, 2009). To construct a coherent representation, the reader must interpret the various pieces of information in the text and identify meaningful connections

between these elements and his/her background knowledge. Broek and Espin explained that the reader uses the representation in performing tasks such as retelling, identifying the theme, applying the knowledge presented in the text, evaluating and aesthetically appreciating the text (p.3).

To conclude this section, reading and writing are interrelated skills. Reading, defined as getting meaning encoded by the writer from the text, is an interactive skill in which the reader interacts with the text and employs his experience and previous knowledge to get meaning (Abu Nejmeh, 2011).In this sense, reading is not learnt in isolation, but it is pre-requisite to writing. The way people read and comprehend a written text determines how they respond in writing. For example, if they receive an email or a message via mobile, they read to absorb the surface literal meaning or the hidden meaning, and therefore, will respond accordingly, either literally or critically. Here, critical reading is defined as a means of judging an article's worth -its accuracy, fairness, relevance and significance (Tedjaatmadja, 2009) .This particular ability is essential for writers to further develop their ideas into their writing. Thus, students are encouraged to keep an open mind, to look at a reading text from a wider perspective and to raise questions about the reading.

Out of her teaching experience, the researcher of the current study came to the conclusion that the reading strategies employed by readers depend on the purpose of the task. For example, reading for a test requires bottom-up, detailed, intensive reading in contrast with reading an announcement or a newspaper. Therefore, the strategies involved in the writing task depend mostly on emerging the reading text depending on the purpose of writing. For instance, answering questions about vocabulary from a dictionary entry requires selecting words or phrases, while writing an argumentative essay requires deep analysis and persuasive techniques based on the reading task.

As far as the application of certain cognitive instructional programs is concerned, it has a direct influence on the learners' language skills. Shang (2010) clarified that research findings demonstrate a contribution made to students' strategic awareness and the importance of explicitly teaching students multiple reading comprehension strategies. Informed instruction in the classroom could enhance both awareness and comprehension skills. To train students to use and transfer reading strategies to new tasks, Shang reported that a number of studies have suggested that reading strategy training needs to be conducted in conjunction with the regular course of instruction over an extended period of time .

As perceived by different educators, the definition of cognitive strategy instruction or program is stated below:

Abu Shamla (2010) defined the program as a group of well planned techniques, procedures, and activities used to increase and activate students' prior knowledge to develop reading comprehension skills (p.8).

Elkahlout (2012) viewed it as a plan which includes a group of activities, procedures and educational materials aimed to develop language skills depending on techniques and activities to achieve that aim according to a time table (p.8).

English (2011) defined it as either cognitive strategies to help learners identify, change and manipulate the language, or as learning strategies, consisting of learning behaviors, problem solving and study skills that can facilitate more efficient and effective learning, and help facilitate comprehension**.**

Examples of the effect of implementing various instructional programs on developing students' language skills, mainly reading and writing are clarified below:

Olson and Land (2007) implemented a study using the Pathway Project of cognitive strategies approach to reading and writing instruction in nine middle schools and four high schools over an eight-year period (1996-2004). The Pathway

Project was designed to stimulate the higher- order cognitive behaviors of expert readers and extended beyond declarative and procedural knowledge into conditional knowledge. The main research question was: To what extent will providing English language learners in secondary school with declarative, procedural, and conditional knowledge of and practice with cognitive strategies improve their reading and writing ability, as measured by a holistically scored, timed writing assessment, language arts GPA, performance on the reading and total language portions of standardized tests, and performance on statewide high-stakes, on-demand reading and writing assessments? The idea underlying the project was treating ELLs from the early grades as if they were college bound, by receiving perfect curriculum and explicit strategies instruction. They believed that if there are consistent, coherent and progressively rigorous expectations among the teachers from grades 6 through 12, students will attain the necessary literacy skills to succeed in college, and their college-acceptance rates will be substantially improved (p.275).

Ninety-four teachers and approximately 2000 students per year participated in the treatment. Quantitative data included a project-designed, and a pre-/post-timed analytical writing assessment. A guided reading through a short story was conducted, stopping at key points in the text to describe a specific cognitive strategy, model what goes on in the mind of a reader, and enable students to practice strategy use. The study revealed that students receiving cognitive strategies instruction significantly out-gained peers on holistically scored assessments of academic writing for seven consecutive years, performed significantly better than control-group students on GPA, standardized tests, and high-stakes writing assessments. Pathway students not only grew more from pre- to post-test, but also wrote better essays on the post-test and received higher scores than their counterparts in the control classes.

Gao (2013**)** analyzed the relevant studies (by Graham and Herbert, 2011; Zhou and Siriyothin, 2008; Yamada, 2002; Emam, 2011) on the effect of summary writing on reading focusing on the role of mediation in EFL classroom. The analysis was based on the tenets of mediation theory in language learning derived from Vygotsky's socio cultural theory, which originally proposed that children's high-order thinking develops through mediating agents that interact with the environment. Some types of mediators are material objects such as textbooks, symbolic tools (e.g., language), human beings (e.g., teachers or peers) and organized activities (e.g., classroom tasks).Much focus was placed on reading and writing as integrated skills .Analysis showed that writing about material read improved students' comprehension, reading with summary writing or journal writing could be a good way for EFL learners to improve their reading ability, providing tasks with greater degree of inference helped the students to generate and summarize information more independently out of the source, and using mediating tasks such as discussion-task, personalizing and clustering-task improved reading comprehension. Gao revealed that "reading materials can be regarded as the language mediators, and summary writing as a task mediator that helps language learners achieve self-regulation (comprehension) through symbolic tools" (p.46).

Marzban and Adibi (2014) implemented a research to investigate the effectiveness of instructing different writing genre at the paragraph level in improving the reading comprehension ability of the Iranian intermediate EFL learners. Two groups of homogenized intermediate participants were selected; students in the experimental group were trained to write paragraphs, while those in the control group were taught traditionally. Reading and writing were taught as integrated skills after exercising the treatment. An independent sample t-test was run and illustrated that the treatment had significant difference and the students

who were taught reading strategies accompanied by paragraph writing structure rules outperformed the control group which just received common reading strategies.

Shang (2010) attempted to assess the effect of using various reading strategies instruction on the development of students' reading performance. Fifty-three freshmen (17 males and 36 females) majoring in English from Shou University participated in the study during the Fall 2006 semester, with class meeting two hours a week . Eight sets of reading strategies were selected in this study (rehearsal, elaboration, organization, planning, monitoring, regulating , linguistic, semantic). A paired-sample *t*-test was carried out to compare students' performance in the reading comprehension tests taken before and after the strategy instruction. The results showed that no significant relationship was observed between strategy use and reading achievement, which presented problematic findings when taken with the previous studies. Accordingly, the researcher decided to conduct interviews to explore the in-depth information available about strategy use conditions. The interviews revealed that reading the heading or the first sentence of the passage assisted comprehension. Besides, being taught to use the strategy, helping students find the main idea more quickly and effectively, and using multiple reading strategies were other reasons that helped enhance reading comprehension (p.32).

Abu Armana (2011) examined the impact of a remedial program on English writing skills of the seventh grade low achievers at UNRWA Schools in Rafah through answering the main research question "*What is the impact of the remedial program on English writing skills of the seventh grade low achievers at UNRWA schools in Rafah?"* The experimental approach was employed and the sample of the study consisted of (127) seventh grade low students from UNRWA preparatory boys and girls' schools. Participants were distributed into four groups: two

experimental groups, i.e. a male and a female group and two control groups in the second term of the scholastic year (2009-2010) .The remedial program, which consisted of 5 units and covered over 12 forty-five minute sessions, was taught to the experimental groups, while the ordinary teaching periods and textbook were used with the control ones. A pre/post writing test was administered and the findings indicated that there were statistical significant differences among the experimental and the control group at (0.05) level .This showed that the remedial program had a great impact on improving the writing skills of the students of the seventh grade low achievers.

Akkakoson (2011) used the quasi-experimental approach to investigate the efficacy of strategy-based instruction on the L2 and L1 reading proficiency and reading strategy use of Thai university students. One hundred and sixty-four tertiary students of scientific and technological domains participated in the study, which was carried out in the second term of the Thai academic year 2008. A strategy- training program was employed on the experimental group (n.82), whereas the control group (n.82) was taught using traditional method. A Thai standardized test of English reading comprehension and a strategy use questionnaire were administered to all subjects as pre-post measures. An interview was conducted with three students from each group during the course; assignments and portfolio entries giving their retrospective accounts of strategy use for 11 weeks were collected and analyzed. Quantitative and qualitative procedures were adopted and the results showed a significantly higher gain in English and Thai reading abilities in favor of the experimental group. It also showed a significant correlation between strategy use and English reading proficiency as well as between English and Thai reading proficiency. It proved that EFL learners with higher reading proficiency were more efficient at manipulating strategies than those with lower reading proficiency.

To conclude, this section has discussed the findings of studies related to integrating reading and writing skills and presented some pedagogical implications and suggestions for teachers to follow certain strategies. Some findings and benefits for developing reading and writing using strategy-based instructional programs have also been demonstrated. It is hoped that this section will offer some practical guidance for teaching reading and writing as integrated skills to improve students' language proficiency.

2.3. Beliefs about Language Learning

Analyses of learners' beliefs are worthy of note for their effect on learners' thinking, expectations, and actions in the language-learning context. In addition, on a pedagogical level, fundamental arguments raised by previous researchers argued that understanding of learners' beliefs can enhance the language learning process (Bernat, 2006).

Learning Beliefs have been acknowledged as being notoriously difficult to define, and being labeled as a messy construct [that] travels in disguise and often under alias (Pajares, 1992, p.2, cited in Khonamri and Salimi, 2010). While there are different understandings of learner beliefs, research studies do not really give a clear definition of learners' beliefs of language. Studies generally seek to identify learners' preconceived notions about what is involved in learning a foreign language in order to predict expectational conflicts that may contribute to students' frustration, anxiety, lack of motivation, and in some cases ending foreign language study, and to help to facilitate the language learning and teaching process (Huang, 2006).

Even in studying learners' beliefs about language learning, the pioneer researcher Elaine Horwitz did not give an operational definition of beliefs. She only referred to beliefs using terms such as *preconceptions* (1985), *preconceived*

ideas (1987), and *preconceived notions* (1988) without giving specific descriptions about the construct (Vibulphol,2004). She also used the term *opinion* to refer to beliefs (Horwitz, 1987).

A commonly used definition by Richardson (1996, p.103, cited in Niktina & Furuoka, 2006; Huang, 2006), Beliefs are psychologically held understandings, premises, or propositions about the world that are felt to be true .

Rad (2010) suggested an academic definition saying that "Beliefs" refers to learners' viewpoint, judgment or opinion about the influence of their learning in their future success. In other words, it refers to students' feelings about what they learn as foreign students and how it helps them to achieve better proficiency in English

Beliefs are indirectly noticed as feelings, opinions, or viewpoints that learners hold about themselves as language learners, about their capacities and attitudes towards learning a foreign language, and about the teaching /learning processes and approaches. Being investigated, beliefs could have negative or positive effects when approaching or learning a foreign language. These dimensions go in agreement with those stated by Nasr (2009).Nasr clarified that beliefs could refer to learners' knowledge about themselves and their personal characteristics as language learners, their knowledge about the nature of certain language learning tasks, the best ways to approach language learning task, and about the process of language learning and teaching in general.

Rantala (2002);Oz (2005) and Wenden (1991;1999) referred to meta cognitive knowledge as coined by Flavell (1976: 232 & 1979, p. 907, 1987), as a broader concept including "beliefs, insights, and concepts" that students "have acquired about language and the language learning process" (Wenden 1991, p.34). Flavel was the first to introduce the concept of metacognitive knowledge into cognitive psychology and defined the concept as knowledge about interacting

factors that affect the course and outcome of cognitive processes (Oz,2005), or one's knowledge concerning one's own cognitive processes, enterprises and products or anything related to them"(Rantala ,2002) .

In this sense, metacognitive knowledge refers to acquired knowledge that can be used to control cognitive processes. In addition, it indicates an awareness of one's own thought processes and plays a central role in that it does not only explain the learning process, but it directly relates to language learning and teaching as well (Oz, 2005). Oz maintained that metacognitive knowledge is considered a prerequisite for the self-regulation of language learning: it informs planning decisions taken at the outset of learning and the monitoring processes that regulate the completion of a learning task as it shapes learners' beliefs about and attitudes toward learning which in turn affect their behaviors.

Hamzaoui- Elachachi (2010) cited Anderson's 2002 statement that when learners reflect upon their learning strategies they become better prepared to make conscious decisions about what they can do to improve their learning (p.5). For example, it is necessary to enhance learning the writing skill and improve students' performance in order to reinforce their metacognitive knowledge. This knowledge, in return, is used by the individuals to guide their cognitive activities (i.e., engage in or abandon a particular cognitive activity). Flavell proposed three categories of metacognitive knowledge as shown by (Gallibon,2005,p.235;Hamzaoui-Elachachi, 2010, p.5; Abid, 2012, p.48; Oz, 2005, p. 148):

- Person knowledge: It refers to one's awareness of his or her particular thinking and learning processes (Oz, 2005), or the learner's beliefs and views on how learning takes place, or factors that enhance or inhibit it and on himself as a language learner (Hamzaoui- Elachachi , 2010). It also refers to person variables or individual's beliefs about himself and other people. For example, one can have ideas about his / her weaknesses and

strengths in terms of learning a foreign language (Abid, 2012), or believe that s/he can learn better by memorizing vocabulary items, or his/her friend can learn languages better because s/he has a better memory (Gallibon, 2005).

- Strategic knowledge (Hamzaoui- Elachachi, 2010), or strategy variables: These involve selection of appropriate cognitive processes to fulfill a task (e.g. whether the task requires summarizing, analyzing, expressing personal opinion, etc., or whether the individual needs to ask for further clarification. (Abid, 2012; Gallibon, 2005).
- Task knowledge: It refers to the learners' understanding of how a certain task should be completed, the reason for doing the task, and the resources required for its completion (Hamzaoui -Elachachi, 2010). It means that one is cognizant of the character of a specific task, how to best manage it, and the likelihood of one's success (Oz, 2005).In other words, task variables are the individual's knowledge about a given task (e.g. whether the task is interesting, familiar, and whether it is within the capabilities of the individual to accomplish (Abid, 2012; Gallibon, 2005).

2.3.1. Theoretical Perspective and Effect of Beliefs on Language Learning

A number of studies have been conducted to investigate the effect of learners' beliefs on learning a foreign or second language. In some studies, the relationships between learners' beliefs about language learning and factors that can affect language learning success such as learners' choice of language learning strategies, motivation, autonomy, and anxiety were investigated and found (Vibulphol, 2004). Prior exposure to language learning situations along with

cultural backgrounds can influence learners' beliefs about language learning (Horwitz ,1987).

Atlan (2006) raised questions to explore the role students' beliefs play in the learning process, student achievement, motivation and success. He wanted to find the reasons why students approach a specific language task differently and what accounts for the individual differences observed among learners with similar language proficiency (p.45). Atlan asserted that a reasonable answer might be found in learner perception and believed that learners bring certain widespread beliefs with them into the foreign language classroom. It was recommended that teachers should spend some time helping learners get rid of these misconceptions in order to be more effective language learners.

Beliefs are very important in the teaching /learning process since they are considered as indicators of the positive or negative ideas and attitudes instructors and learners bring with them to English language classrooms. Bernat and Gvozdenko (2005) reported that in the classroom context, the perceptions, beliefs, attitudes, and metacognitive knowledge that students bring with them to the learning situation have been recognized as a significant contributory factor in the learning process and ultimate success.

Learners' beliefs could be positive or negative and are influenced by previous experiences and attitudes towards the learners themselves, their abilities and accomplishment, the teaching methodologies they experienced at school, or their beliefs about some teachers' ability or inability to teach a foreign language.

Bernat and Gvozdenko (2005) maintained that "beliefs- or personal "myths" (p.1) about learning do not differ from the majority of myths about the human race, nor do they differ from those of the majority of psychologists and educators. They stated that Bruner, Piaget, Rogers, Socrates, and Kelly held certain myths about learning, and the controversy about the relative merits of their myths had hidden

the more interesting congruence that each student constructs a viable myth of their own.

Literature on learners' beliefs indicates that they are aware of their attitudes and beliefs about themselves and their learning abilities, skills, aptitudes, goals and needs. Learners' beliefs shape attitudes that consequently affect motivation, which, in turn, directs behaviors, and naturally determine outcomes (Öz', 2005, p.155).

Vibulphol (2004) asserted that some beliefs about language learning have been found to correlate with English proficiency. Those findings suggested that second language teachers, with an understanding of learners' beliefs about language learning, could help enhance learners' success in language learning in two ways: by promoting their students' beliefs that are facilitative to language learning and by refining those that are debilitative. The researcher believed that in order to develop plans to overcome learners' counterproductive beliefs about foreign and second language learning, knowledge of learner beliefs must be understood first. This might help teachers design language classes and curricular activities that accommodate learners' beliefs, hoping to refine beliefs that can potentially cause negative effects on learners' success in language learning.

The relationship between beliefs and the use of language learning strategies is one of the crucial topics of studies on beliefs about language learning. A number of studies have been conducted in the past two decades in both ESL and EFL contexts and yielded consistent findings that there are relationships between beliefs about language learning and learners' use of language learning strategies.

Several beliefs were found to associate with the use of language learning strategies such as self efficacy, beliefs about the nature and value of language learning, a belief about the importance of guessing, and a belief about joy in speaking English (Vibulphol, 2004).

Many studies employed the instrument 'Beliefs About Language Learning Inventory (BALLI)' which was designed ,coined and implemented by Elaine Horwitz in the 1980s to assess instructors and students' beliefs about learning a new language (Huang, 2006). Horwitz conducted the study in 1987 in ESL classrooms at the University of Texas at Austin which involved 32 ESL students from different backgrounds. She found that students come to ESL classroom with preconceived beliefs about language learning, among which some are consistent with instructional activities, while some are not .She also pointed out that the knowledge of student beliefs does not only help students to clear up some misconceptions about language learning, but also helps with teacher intervention.

Beliefs about language learning held by Russian university language students were investigated by Nikitina and Furuoka (2006). They employed factor analysis to ascertain whether Horwitz's (1988) choice of themes could be backed by inferential statistical analysis. Beliefs Inventory about Language Learning (BALLI), 1988) was distributed to the students in English with its structure carefully retained and no major changes were made to the design of the original BALLI since the purpose of the study was to assess the reliability of the instrument. Only minor and most necessary modifications were made, in order to ensure that the instrument reflected the study's context with a focus on Russian language students at Malaysian university study. The results gave support to the applicability of BALLI as a research tool for assessing learners' beliefs and evaluating a unique environment of the language classroom.

Previous research about ESL students and beliefs about Language Learning Inventory (BALLI) proved that there are specific features about students' beliefs for ESL learners which are: i) English language aptitude; ii) the difficulty of language learning; iii) the nature of language learning; iv) learning and communication strategies; and, v) motivation and expectations (Rad, 2010) . Rad

utilized the BALLI test among EFL Iranian students of Kerman Azad University to find out if there was any gap between students learning process and their beliefs. In order to establish a comparison between the survey finding and U.S or UK university research, individual demographic factors (age, gender, and field of study) were also examined to analyze the affective factors and their degree of influence on students' beliefs. The findings of the study provided adequate information about students of Kerman Azad University and showed that the students' general beliefs about learning English as a foreign language according to English language aptitude were slightly neutral, regarding difficulty of English language and learning and communication strategy were slightly strong and for motivation and nature of English language aspect were strongly in agreement. This study also found that gender influenced students' belief about learning language.

Nikitina and Furuoka (2006) proved that BALLI could be employed to assess learners' beliefs about different target languages not only English. These examples were cited: Horwitz (1988) conducted research among students of Spanish, French and German at the University of Texas at Austin. Kuntz (1996b) included learners of Arabic and Swahili in her studies. Smith (1989) and Tumposky (1991) investigated beliefs of Russian language learners. Kern (1995) used Horwitz's model to assess beliefs of students learning French. Bacon and Finneman (1990) surveyed beliefs of Spanish language students. Mori (1999) concentrated on learners of Japanese. Yang (1992) explored beliefs about language learning among English language students at six Taiwanese universities.

Oz (2007) attempted to study the beliefs of 470 Turkish EFL learners in secondary education about learning English as a foreign language (EFL), how their belief systems were organized and whether there were significant differences in belief systems among learner groups according to variables such as social and school contexts, gender, age and grade level. Horwitz's (1987) BALLI was

employed. The study revealed that Turkish EFL learners have a broad range of conceptions both similar to and different from those reported in the current literature and that learners' metacognitive knowledge or beliefs about language learning have variability in terms of social and educational contexts, age, gender, and stages of language learning. It was suggested that curriculum designers, decision-makers and language instructors attend to the accumulation of metacognitive knowledge or learner beliefs.

Trinder (2013) explored first and fourth year business students' beliefs about effective language learning and the effect of students' conceptions of learning on their use of learning strategies, and then juxtaposed with their evaluation of the reality of the business English classes. Results suggested that beliefs and behavior patterns were fairly consistent and specific to business students. Some perceptions seemed to be so well-entrenched and unlikely to change even when confronted with an unsympathetic learning environment, and that it takes more drastic interventions such as an extended stay abroad to refashion deep-seated conceptions of learning. The study also found differences between more and less successful students indicating that successful students not only draw on beneficial beliefs, but are also better at adjusting their expectations and at deploying autonomous learning strategies.

Altan's(2006) preliminary inquiry into the belief systems of foreign language- major university learners employed BALLI to investigate the impact of beliefs on learning strategies and language achievement. A total of 248 foreign language major university students at five universities in Turkey were enrolled in teacher education programs and were all trained to become the teachers of the language they learned. The findings indicated that students hold a range of beliefs e.g., "some people are born with a special ability to learn a foreign language" or "it is easier for children than adults to learn a foreign language" with varying degrees

of validity (p.51). According to Atlan, in some cases the term *myth* might be a more accurate characterization. The study also confirmed that pre service teachers arrive at the task of language learning with definite preconceived notions of how to go about it. The researcher suggested that foreign language teacher educators and teacher trainers should take these beliefs into account if they expect their students to be open to particular teaching methods and to receive the maximum benefit from them. Knowledge of learner beliefs about language learning should also increase teacher educators' understanding of how the future teaching of these people would be.

Suwanarak (2012) sought to understand the perceptions about English language learning of 220 Thai graduate students studying for Masters degrees at a public university in Thailand and find how they could help students learn English more efficiently. The study came as a result of a survey of client satisfaction administered by the university in 2010, which revealed that the majority of student graduates lacked English language proficiency even though they had passed the compulsory English courses which were a requirement for completion of their degrees.

Data were collected through closed and open-ended questionnaires. The students were asked about their beliefs, strategies and achievements as English language learners. Language learning achievement was simply determined on the basis of the students' self-ratings as derived from their personal judgment and the grades given by their English teachers. Thirty-five students were selected for interviews to explore their personal views in more depth. The results revealed various beliefs about English language learning as well as similarities and differences in the students' use of strategies which were all relevant to their learning achievement.

A surprising result showed that a large number of the students saw themselves as unsuccessful English language learners, whereas only a small percentage of the students, with greater use of learning strategies, rated themselves as high achievers. Significant correlations between students' beliefs about English language learning and their use of learning strategies indicated that the beliefs to some extent are related to strategy use. The researcher concluded that students acquire a better understanding of how to learn when language content is integrated with strategies for learning. In this case, teaching and learning materials will be more retrievable, memorable and comprehensible for learners. The findings of the study were considered to be a valuable resource to consider appropriate ways of using students' perceptions to improve English teaching and learning practice. The study showed that lower achieving students do not use fewer learning strategies than their counterparts. Rather, they tend to use learning strategies inefficiently – without taking into consideration their own learning style references (Suwanarak, 2012).

Abu Zeid (2011) investigated the use of language learning mental strategies among 109 Birzeit University freshman students learning English as a foreign language using Oxford's taxonomy for mental strategies (1990). The study traced that the overall strategy use by the whole sample (1.8) was found to be located in the low range of strategy use that fall between (1.0-2.4) as identified by Oxford (1990).

The study recommended that the students' beliefs about learning a foreign language need to be challenged. Students should be motivated to learn a foreign language by convincing them that learning a foreign language is fun. This could be accomplished by using a variety of instructional approaches other than memorization and reciting separate language chunks.

On the other hand, Abu Zeid cited studies from China (Wen & Johnson, 1997) and Taiwan (Huang, 1997; Yang, 1999) that examined the relationship between beliefs and strategy use by using the results from the BALLI and the Strategy Inventory for Language Learning (SILL).The studies were conducted in EFL contexts and revealed that there is a connection between learner beliefs and their use of language learning strategies.

Javadi , Jahandar and Khodabandehlou (2012) claimed that although to date there have been several studies to explore the relationship between EFL learners' beliefs and their strategy use, no researches have been studying the correlation between EFL learners' beliefs and their writing ability except theirs, which opened a new field to investigate the topic. Fifty female and 30 male students (since the number of female students is naturally more than the males in Iranian contexts), whose ages ranged from 18-24, were homogeneously selected based on the Oxford Placement Test score among upper-intermediate participants in some English language institutes in Iran. Participants completed Horwitz's BALLI (1987) and were then sorted out in control group with negative beliefs and experimental group with positive beliefs. A free composition as post writing ability test was administered at the end of the semester. Qualitative analysis was employed to summarize the students' responses to their beliefs and quantitative data analysis was used to calculate the composition scores of the students. The findings revealed a significant relationship between Iranian EFL learners' beliefs about foreign language learning and their writing ability. Participants who have more positive and realistic beliefs about foreign language learning made excellent to very good scores in their writing ability test, and the students who have negative and unrealistic beliefs about foreign language learning mostly made fair to poor in their writing ability test; however, there was no significant effect of gender differences'

learning beliefs on their writing ability (Javadi ; Jahandar and Khodabandehlou, 2012).

In brief, it can be concluded that the BALLI seems to have proven its utility and effectiveness in investigating students' beliefs about language learning, and that beliefs have a significant impact on learning strategies and language learning. Researchers have revealed that such beliefs are especially pertinent in the language classrooms where learners hold certain beliefs, but educators can bring about change.

A worthwhile remark is to be incorporated in this context. Based on the previous discussion of the whole chapter, the researcher of the current study has become more convinced that employing new teaching strategies in language classrooms could have a positive influence on students' language skills as well as their beliefs about language learning. Therefore, she hopes that using the higher-order cognitive processes, as the independent variable, might have a significant impact on developing students' reading and writing as integrated skills and modifying their preconceived beliefs about language learning, which are the two dependent variables of the current study. Although the researcher supports (Oz's, 2005) statement that changing beliefs is "a delicate process in which teachers challenge student beliefs through exposure, classification, and new experiences with the goal of replacing mistaken and non-functional beliefs with more accurate and effective ones" (p.155), the case is worth trying.

Chapter Three

Research Methodology

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Research Methodology

This chapter presents the methodological aspect of the current research. It describes the research approach, design, variables, participants, procedures, and settings of the study. It clarifies the procedures followed for data collection and analysis. Moreover, it includes a description of the proposed program employed to develop 'ENGC102' reading and writing using four higher-order cognitive processes, its aims and objectives, material , and instructional procedures.

3.1. Research Approach

This study investigates how incorporating the higher- order cognitive processes into a language curriculum of a freshman 'ENGC 102' course within a university setting can develop students' reading and writing as integrated skills and modify their beliefs about language learning. Thus, it is essential to explicitly teach and train students on implementing higher- order cognitive components and offer them opportunities to practice them in English language classrooms.

Conducting the present study passed through four phases. In an attempt to be abreast with the recent results of research regarding this topic and to help design the study, reviewing and exploring the research available was the first phase. Formulating the study design, including study instruments and selecting the population and sample of study was the second phase. Preparing the frame of the instructional program, designing and piloting the instruments and test was the third phase, followed by analyzing data qualitatively and quantitatively, which was the last phase.

The limited amount of research which has been carried out to identify and relate the higher- order cognitive processes with the reading and writing skills and

beliefs about language learning, and the scarcity of research on this topic in the Palestinian context encouraged the researcher to conduct the study in order to provide valuable data for determining the effectiveness of that connection in light of the research questions. Findings of the study would have implications for teaching as well as for learning English by the Palestinians.

3.2. Research Design

The current study adopted a nominated exploratory group using the pre/post design and employed both quantitative and qualitative research methods. The researcher adapted the approach calling for developing students' integrated reading and writing through teaching strategies across the curriculum. Therefore, she relied on incorporating the four higher- order cognitive processes with the instruction of English following the curriculum taught originally to first year students at Birzeit University with a little elaboration and edition of some activities that lend themselves to higher- order cognitive processes. Gómez (2010) explained the possibility of such integration as mentioned by Marzano (1985), and pointed out the importance of considering a unified whole material which can encompass not only critical thinking skills, but also learning-to-learn and traditional curriculum content.

3.2.1. Research Variables

3.2.1.1 The Independent variable:

Using the four higher- order cognitive processes: analysis, inference, prediction, and reflection

3.2.1.2. The dependent variable:

Developing 'ENGC 102' students' reading and writing as integrated skills as well as modifying their beliefs about language learning.

3.3. Participants

A convenient sample of twenty-five pre-intermediate students (18 females and 7 males) was placed in 'ENGC102' by the registrar office. Students' ages ranged from 18 to 20 years old and came from various faculties. As suggested by Cohen, Manion and Morrison (2007), four initial considerations were taken into account before commencing: informed consent, access and acceptance, anonymity, and confidentiality. Accordingly, the students voluntarily participated and provided verbal and written consent for the study. However, only twenty-two students took the test, two students did not show up on either the pre or post test, and one student dropped the course directly after BALLI because of schedule changes or personal reasons, and so the researcher discarded them invalid , resulting in a sample of 22 students of the original sample of twenty-five. According to Cohen, Manion and Morrison, research ethics imply that participants should not be coerced into administering research instruments, and they have the right to withdraw from the research at any stage.

On the other hand, a group 16 jury members, consisting of English, TEFL, and pedagogy specialists, participated in the study. Interview was conducted with five instructors to explore their views about the cognitive processes and reading and writing skills. Those five instructors, in addition to four others, selected and validated the checklists comprising the reading and writing skills and higher-order cognitive processes appropriate for 'ENGC 102'; two instructors translated the BALLI and Satisfaction scale, and the rest validated the pre/post reading and writing test, the BALLI, and Satisfaction questionnaire, and interview questions.

3.4. Research Procedures

In order to examine learner beliefs, most research studies employ some kind of data collection instrument such as the normative approach, which is

characterized by the use of Likert-scale questionnaires to which learners indicate their degree of agreement or disagreement with several statements. (Agudo, 2014). Others adopt the metacognitive approach, which focuses on investigating the relation between beliefs and learning strategies and autonomous behavior (Shabara, 2014) and depends on gathering information through interviews where learners self-report their beliefs. However, the choice of research methodology in learner beliefs studies will mainly depend on the investigator's purpose and questions of enquiry, as well as the adopted view of the nature and function of learner beliefs (Agudo, 2014).

Because of the unobservable characteristics of beliefs about language learning, and being convinced that the questionnaire is not adequate to provide substantial data on individual beliefs, reactions and satisfaction after the proposed program, and for the purpose of getting a deeper understanding and eliciting data for analysis, the current study integrated quantitative and qualitative research methods. In data collection, the process of triangulation, or involving more than one data source and more than one method, enhances validity in research.

Gabillon (2005) stated that in her work Dufva's (2003, p.132) referred to the research methodologies used about beliefs from a cognivist perspective with criticism. In Dufva's opinion, those studies employed surveys, questionnaires and quantitative means of data analysis and they aimed at explanation and generalization disregarding what each belief represents to each individual. Benson and Lor ,1999 were also in the same vein and stated that questionnaire data give only a 'snapshot' of learner beliefs and this would not be sufficient to understand the complexity of learners' beliefs" (Gabillon, 2005, 245) .Using questionnaires or inventories seems to be the most widely spread method of studying beliefs, but besides it, other methods have also been used, including interviews, learner diaries, case studies, classroom observation, informal discussions and stimulated recalls,

discourse analysis and others. A very popular combination proved to be administering a questionnaire and conducting an interview afterwards (Stefanova & Shenkova, 2010).

The current study aimed at making a change in the value of the independent variable, using higher-order cognitive processes, to observe the effect of that change on the dependent variables (Cohen, Manion and Morrison, 2000, p. 211) i.e. scores in the pre/post English reading and writing comprehension test and the results of the pre- and post BALLI. Therefore, the mixed -research approach (Alsamadani,2009) incorporating quantitative method from the BALLI inventory, tests, and satisfaction scale to gather and analyze information quantitatively, and qualitative method from verbal reports through semi-structured interviews about students' reflections and satisfaction to gather information from a sample of a population and analyze it qualitatively. **To be more specific, the following procedures were followed in the current study:**

- Investigating instructors' opinions about the higher-order cognitive processes and reading and writing strategies appropriate for 'ENGC 102' at Birzeit University;
- Reviewing literature and previous research concerning developing reading and writing using higher- order cognitive processes;
- Reviewing literature and previous research regarding modifying learners' beliefs about language learning;
- Adopting the Horwitz's Beliefs about Language Learning Inventory (BALLI);
- Constructing the pre/post test based on previous literature and instructors' recommendations and ensuring its validity and reliability;

- Designing an instructional program based on the four higher-order cognitive processes: analysis, inference, prediction, and reflection;
- Adapting and administering a Satisfaction scale;
- Assigning the exploratory group randomly by the registrar office at Birzeit University;
- Administering the BALLI and pre test;
- Implementing the instructional program on the exploratory group;
- Administering the post test and BALLI;
- Administering the Satisfaction survey;
- Conducting a semi-structured interview with a focus group of five students;
- Analyzing the data quantitatively and qualitatively;
- Interpreting the results;
- Offering recommendations and suggestions.

3.4.1. Duration of the Experiment

The experiment lasted for eight weeks with four –hour session a week. It started from September 2012 till November, 2012.Therefore, the program took 30 hours in addition to one fifty-minute clinic class a week, where students were taught by a teacher assistant who helped in reinforcing the reading and writing skills.

3.4.2. Settings

The core of this research was conducted in 'ENGC 102' exploratory section in The Department of Languages and Translation at Birzeit University, Palestine.

3.4.3. The process of student placement in English courses

All incoming freshman students in this university are required to take the English placement test (based on the Michigan English Language Assessment

Battery (MELAB) at the beginning of the academic year to demonstrate students' general level of English. Based on the specified cut off scores, students are placed into one of the four English communication levels (See Table 2, p.9).

3.4.4. Rationale behind selecting English 102

As an introductory course, 'ENGC102' was selected for its importance in developing students' language skills and cognitive processes as primary issues before being indulged in a higher level course. Having this goal in mind, the researcher aimed at modifying students' negative beliefs about English language learning since "English has become the medium of all relevant social interactions and the ability to use English effectively is considered an absolute essential for honorable existence" (Quotation from a retired Army Colonel, now working as a text publisher as cited in (Piller & Skillings, 2005).

3.5. Analysis and discussion of instruments prior to the program

The following study instruments were employed to answer the main questions of the study prior to the beginning of the research.

3.5.1. Checklist of the higher-order cognitive processes

An informal interview was conducted with five instructors in the Department of Languages and Translation to investigate their views about the cognitive processes they find essential for 'ENGC 102' (See some of the questions in Appendix C). Based on that, a checklist comprising seventeen higher-order cognitive processes was prepared by the researcher to determine the most appropriate ones for 'ENGC 102'.It was gleaned from the researcher's experience in the field of EFL and discussions with some English language specialists, the pilot study, and previous literature (Kispal, 2008; Abu al.Shar, 2008; Anthony, 2007; Batang, 2010 ; Chouaf, 2009; Crew, 2010; De Jager, Jansen & Reezigt, 2005; Duc, 2008), and the objectives of ENGC 102. It was distributed to nine

referees or jury specialists in TEFL and English language in the Department of Languages and Translation, who were available during the summer course.

To control the checklist, the jury members were asked to indicate with Yes or No which processes should/should not be taught to 'ENGC102' students and recommend the four most important higher-order cognitive ones (Appendix D).

3.5.2. Validity of the higher -order cognitive processes checklist

The jury members called for training students to employ most of the processes in 'ENGC 102' classrooms starting with the lower ones. Counting was used to calculate the type of processes necessary as recommended by the panel. Seven instructors selected the following: Listing, analysis, inference, reflection, prediction, explanation, illustration, making connections, correcting and assessing tasks, summarizing, generating questions, contrasting, synthesizing paragraphs, and evaluation. Analysis, inference, prediction, and reflection were the four selected processes to be the focus of the study.

However, because of students' low proficiency level, few instructors expressed their doubt of the students' ability of performing the processes of interpretation, visualization, and criticism and recommended omitting them. So, the researcher followed the jury's recommendation and did not include them in the program. Abu Shamla (2009) argued that since skills do not stand alone but interact with each other, overlap, and are recursive, a combination of skills can be effective for readers in order to come to a fuller understanding of the text.

3.5.3 Checklist of the reading and writing skills

The checklist was prepared by the researcher to determine the most appropriate reading and writing skills necessary for 'ENGC 102'. It is worth noting that the reading and writing are dealt with as one integrated skill all through

the study, and so they were included in one checklist. The list was gleaned from the researcher's experience in the field of EFL, discussions with some English language specialists, previous literature, and the objectives of 'ENGC 102'. It was composed of thirty-three skills and distributed to nine English language specialists in the Department of Languages and Translation, who were available during the summer course .To control the checklist, the jury members were asked to suggest with Yes or No which skills should/ should not be taught to 'ENGC102' students. They were also asked to rate or recommend the ten most important skills (Appendix E).

3.5.4. Validity of the reading/writing skills checklist

The jury members unanimously approved of all the skills and recommended teaching most of them in 'ENGC 102' classrooms since they are prerequisite to higher-level English courses at Birzeit University. They pointed to the fact that some are simple and should be necessary part of any language lesson. Counting was used to calculate the type of skills necessary as recommended by the panel. They all recommended the ten skills they found necessary for 'ENGC 102' and other future English courses. These are: Identifying main idea or specific information and details, predicting the text to identify basic information (e.g. identifying referents, predicting the function of a term or statement in the text), distinguishing between main ideas and supporting ones or facts and opinion, guessing word meaning from the context by using structural analysis as prefixes, suffixes, roots to understand meaning, categorizing the logical and cohesive order of ideas in the text (e.g. Figuring out the sequence -- tell the order of events), transferring information from text to chart, diagram or table or vice versa, speculating the author's purpose (i.e. Making inferences about what the reading text or the writer means), reflecting on the text to draw conclusions, recommend a solution, propose a new title for the text), recognizing unstated assumptions (i.e.

developing ideas or images based on what is read in the text but not stated), and reflecting by developing cohesive paragraphs on personal experiences or answering a given question or prompt by applying writing mechanics.

The referees had some reservation about the following skills, and so, the researcher excluded them from the program:

- Identify "theme" -- see the "big picture" moral or abstract idea
- Visualize or make a movie in one's mind,
- Identify tone/mood -- sense how the author was feeling and how he wanted the reader to feel while reading
- Judge things /ideas logically
- Paraphrase and include references to: the topic, the author's main idea, the most critical detail(s), and any key terms that give the argument its unique quality

3.5.5. Determining the processes and strategies to be included in the program

Both the recommended higher-order cognitive processes and reading and writing skills check lists were applied before constructing the pre/post test for the purpose of including them in the test.

3.6. Horwitz's (1987) Beliefs about Language Learning Inventory (BALLI)

3.6.1. Description of the Belief Inventory

To determine the level of the treatment group's beliefs about language learning, Horwitz's beliefs about language learning BALLI (1987) was adapted. Permission was granted from Dr. Elaine Horwitz for using, modifying or making necessary changes. "BALLI was developed to assess student opinions on a variety

of issues and controversies related to language learning" (Horwitz, 1987, p.120; Horwitz, 2013). BALLI has been used to be cross-culturally valid (Niktina and Furoka, 2006), and a reliable research tool by many researchers: Bernat (2004); Zare-ee (2010); Bernat and Gvozdenko (2005); Bernat (2006) in Australia; Rad (2010) in Iran; Rieger (2009) in Hungary; Nikitina and Furuoka (2006) in Malaysia; Matsuur, Chiba and Hilderbrandt (2001) in Japan; Huang (2006) in China; Chang and Shen (2010); Shen (2006) in Taiwan; Atlan (2006) in Turkey; (Horwitz,1988 in USA); Diab (2006) in Lebanon, Fujiwara (2011) in Thailand; Abedini, Rahimi and Zare-ee (2011) and Saeb and Zamani (2013) in Iran; Agudo(2014) in Spain, and Shabara (2014) in Egypt.

BALLI (1987) consists of 34-items related to the following five areas: i) foreign language aptitude (items 1,2,6,10,11,16,19,30,33) ; ii) the difficulty of language learning (items 3,4,15,25, 34); iii) the nature of language learning (8,12, 17,23,27,28); iv) learning and communication strategies (items 7,9,13, 14,18, 21,22,26); and v) motivation and expectations (items 5,20,24,29,31,32) (Horwitz. 1987; Bernat, Carete and Hall, 2009; Abedini, Rahimi and Zare-ee , 2011) and Saeb and Zamani, 2013). Participants were required to rate their agreement to each statement on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).The statements either express a positive/ favorable or a negative/ unfavorable attitude towards the object of interest. Although the Likert-scale was originally developed to measure attitudes, "its scope has been extended to wider cognitive and affective variables, including beliefs" (Bernat, 2006, p.208). Bernat argued that in spite of the fact that the BALLI is a widely used and recognized questionnaire in research on learner beliefs, it contains a prescriptive set of statements to which respondents express their degree of agreement.

3.6.2. BALLI Validity

The original version of the BALLI has been extensively used over the past twenty years, thus gaining validity through repeated administration (Rieger, 2009). It is also written in simple language so that it can be used with English learners from a number of first language backgrounds (Horwitz, 2013). However, in the current study, BALLI was distributed randomly to ten 102 students in order to check its comprehensibility and face validity before making any changes. Students were asked to write notes about any new or foreign words that impede comprehending the items. They were also encouraged to inquire about any question they did not understand and found out that three students asked about almost all the questions, the thing that the current researcher expected. As a result, the the English version was translated into Arabic to encourage students to respond accurately and avoid any inconvenience; some modifications that suit the Palestinian context were made, since beliefs are proved to be context-bound (Shabara,2014).(See The final version in Appendix F).

In addition, after answering BALLI, and in response to the teacher's question about whether they had similar beliefs and opinions about the questions raised in the questionnaire, almost all students answered that the questionnaire dealt with issues that concern them ; some expressed dislike to learning English; four said they have never liked English; two mentioned their hatred to their English teachers during secondary school; one said that "our teacher not teach us English in school, but everything in Arabic and he used to read the text and translate every word in Arabic". Another said, "ya miss this is one time I talk English" but the researcher did not clearly get the message and asked the student to clarify, he insisted to say in Arabic that "This is the first time I try to speak English".

However, since the instrument was translated into Arabic, its face and construct validity had to be ensured. For that purpose, the BALLI was submitted to

a panel of seven specialists in the field of education and translation .They were also asked if they had similar beliefs as presented in BALLI; one teacher commented that "I was interested in reading the survey and even I tried to respond to the questions because I felt that it was really directed to every one of us and this is what we felt while learning English". The specialists expressed satisfaction with the validity of the questionnaire and the intelligibility of items and approved their consistency of meaning between the English and Arabic translation.

In conclusion, the validity trials received from specialists and students revealed that the Arabic translated version of the BALLI functioned well and the beliefs presented in the inventory were consistent with beliefs about language learning of Palestinian EFL learners.

3.6.3.Reliability of the survey

Reliability indicates the degree to which there is consistency of scores students receive on alternate forms of the same test (Mackey and Gass, 2005: 364).Reliability is often measured by a reliability coefficient ranging from 0, which indicates no reliability, to 1, which indicates a strong reliability. BALLI has been employed in many studies (as mentioned previously) and has proven its Cronbach alpha reliability coefficient (0.79) while the acceptable value of Cronbach alpha is at least 0.70., "and the results endorse the application of BALLI as a research tool for assessing learners' beliefs and evaluating a unique environment of the language classroom (Hu, 2010,p.19).Accordingly, the researcher adopted it as a valid and reliable instrument for gauging students' beliefs about foreign language learning. Nevertheless, the reliability for some translated versions of BALLI was found to be .66 (Saeb and Zamani, 2013), 0.68 (Abedini, Rahimi and Zare-ee (2011), 0.60, and 0.61 (Yang 1992, cited in Hu, 2010, p.24) and .601 which was considered suitable for study since it was over 0.5 (Hu, 2010, p.25).

3.6.4. Administering the Instruments on the sample of the study

Students in the experimental group went through the assessment instruments twice, prior to and after the instructional program to testify its effect on modifying students' erroneous beliefs. The BALLI survey was administered in a class session during the second week of the first semester 2012/2013. Before answering the survey, the purpose of the research was re-explained briefly and students were assured of the confidentiality of personal information including names when analyzing the results. The average time to complete the survey was 15-20 minutes.

3.7. The Reading /Writing Pre /Post Test

3.7.1. Purpose of the Test

To determine the exploratory group's level in reading and writing before implementing the instructional program, the scores of the Placement Test were recorded to ensure equivalence (Appendix G).The reading and writing pretest aimed at assessing students' level in the four higher-order cognitive processes, analysis, inference, prediction, and reflection, before implementing the program. The post-test was administered to explore students' ability in using these processes, so that any improvement in students' reading/writing skills may be attributed to the instructional program.

3.7.2. Test Construction

The test was constructed in the light of the following procedures:

- Reviewing literature and previous studies regarding the effect of using higher- order cognitive processes on developing reading and writing.
- Identifying the objectives of the test.
- Identifying the higher- order cognitive processes suggested by the researcher and approved by the jury members.

- Identifying the reading and writing skills suggested by the researcher and approved by the jury members.
- Preparing the test specification to reflect the general objectives of the program as well as the objectives of the test. It was taken into consideration that the test items for each sub skill also matched the general objectives of the program.

3.7.3. Test Description

Reviewed and modified by specialists in TEFL and English language**,** the final version of reading/writing test consisted of 17 multiple choice items, one concept mapping, and two writing questions. The test included a variety of questions on factual and inferential questions such as identifying the main idea and specific details , making inferences, guessing meaning from context, making connections to create understanding, using graphic organizers to comprehend a text , identifying unstated assumptions, comparing and contrasting, summarizing, and figuring out the sequence and organizing ideas logically to write paragraphs. Answering most of the questions involved the skill of critical and higher thinking processes. Fahim, Bagherkazemi and Alemi (2010) mentioned that meanings of the vocabulary items and cohesive links are heavily contingent upon the context in which they occur and working them out is a cognitively demanding task. Besides, "critical thinking seems to be even more significant for answering reading comprehension questions, especially those related to main ideas" (p. 835).

3.7.4.Test Validity

Validity is defined as a quality of a measurement indicating the degree to which the measure reflects the underlying construct, that is, whether it measures what it purports to measure (Wicktionary: A wiki-based open content dictionary).

According to Wolming and Wilkstrom (2010), it is the degree to which the evaluations or judgments made by the teachers about students based on the quality of evidence gathered can be trusted.

To address and ascertain the content and face validity and internal consistency of the test concerning the clarity of the test instructions and wording, relevance to the objectives of the study, length and the suitability of the allotted time, it was reviewed by eight members of Palestinian and international referees, jury members, specialized in the field of English, education, didactic (pedagogy), and measurement and evaluation.

Based on recommendations and suggestions made by the referees, few adaptations and minor modifications were processed and led to deleting a few questions and replacing them with others. Some recommendations were concerned with typos in both the reading passage and test items. As for the new wording, some words were replaced or accompanied by synonyms and a glossary was provided; one of the test questions required factual knowledge about psychology, and the jury members said that since students are not psychology majors "this item may not be sensible at all and perhaps not even meaningful", and so it was deleted. (See the final version of the test in Appendix H).

3.7.5. Piloting the Test

Matters were arranged with a colleague, who was teaching the only 'ENGC 102' section during the summer course 2012, to pilot the test on his students. Upon agreement, a pilot test was administered to 22 students for the purpose of establishing its reliability, checking its appropriateness to 'ENGC 102', and determining the time needed to answer the test items. However, to get feedback from those students who were interested, the researcher asked them to comment on the test. Most said that the passage was interesting but needed much concentration;

three preferred the writing component since they like writing; some said that the distractors were so close that anyone could be the right answer. Based on the feedback from the panelists and students, the researcher provided the English and Arabic meaning in the glossary in the final version.

3.7.6.Test Reliability

Reliability of the test was (0.78) as determined through Alpha Cronbach as shown in Table (3) below:

Table (3)
The Reliability Coefficient of the Test

Reading and Writing Test	Number of items	Alpha Cronbach
The test as a whole	20	0.78

Analysis of the statistical reliability coefficient of the tests proved that it was reliable to be used in this study. Accordingly, the final pre reading/writing test was administered to the group on September 12th, 2012 in a regular classroom session one day before starting the instructional program. However, the posttest was administered on December 5th, 2012 the next day after the end of the program**.**

3.7.7.Duration of the Test

During piloting the test, the researcher calculated the time needed for answering the questions, about 60 minutes, according to the following equation:

$$\frac{\text{Time taken by the first student (50 minutes) + time of the last student (70)}}{2}$$

3.7.8.Test Instructions

To avoid any ambiguity and to help students understand what is required in each question, the test directions were stated plainly with the score on each item as shown below:

- Read the passage carefully before you answer any question.
- Read each question and the options carefully, and then choose the letter that **best** gives the correct answer.
- For open-ended questions, you will be graded on grammar and mechanics: capitalization, spelling, punctuation marks, and handwriting, so make sure that your handwriting is clear and readable.
- Make notes or marks on the test to help you summarize the content without re-reading.
- To help you answer the questions, you can request any clarification or ask the testing supervisor about any question before the test.
- **Do not open the test paper or write anything until you are told.**

3.7.9.Scoring

The test was calculated out of 50 distributed as follows:

Thirty-four scores on the 17 multiple choice items, 6 on the concept mapping item, and 10 on the writing component.

3.8. **Writing Rubric** (Appendix I)

3.8.1. Purpose of the rubric

The writing analytical scoring rubric was employed prior to the program to assess students' level in the writing component, and was used after the program to investigate its effect on students' writing skill**.** Analytical rubric is preferred to

holistic rubric since it gives a detailed description about students' writing performance (Badr, 2014, p. 142).

3.8.2. Description of the paragraph rubric

A paragraph scoring rubric was adopted by the researcher from The Web Portal for Educators (www.teach-nology.com) to mark students' skill in writing a paragraph (questions 19 and 20) .Scores were based on criteria consisting of existence of main idea (topic sentence), supporting sentences, elaborating sentences, legibility, and mechanics and grammar. The five criteria were calculated to accumulate the final score. However, these criteria had been converted for analysis by the researcher using Likert-scale as represented by Idrus (2012.p.5): '1' indicated poorly written paragraphs, '2' weak paragraphs, '3' average ones, '4' for good paragraphs, and '5' for excellent paragraphs. Likert- scales were employed because each criterion was of equal value" (Appendix I).

3.8.3.Rubric Validity

The paragraph rubric was validated by the coordinators and instructors of English in the Department of Languages and Translation. Besides, it has been utilized for more than three years in marking the writing components in English communication courses, thus being reliable and valid.

3.8.4.Inter rater reliability

To ensure a high degree of objectivity, questions nineteen and twenty were marked by the researcher and another rater, who was one of the jury members who got a clear idea about the content of the test and had previous knowledge and practice with the rubrics. The tests were scored separately and if the two scores for a given writing sample were separated by one point, the average of the two scores was assigned to that writing sample. If the two scores were separated by more than

one point, the writing sample was read by a third reader who assigned the final scale score **(**Kozlow and Bellamy, 2004**)**.An inter rater correlation coefficients of 0.90 was established, which was considered statistically significant.

On the other hand, intra-reliability of the writing component was assessed. The researcher randomly scored ten papers twice, once directly after the test and again ten days later. Cronbach Alpha was calculated and the intra-rater reliability was considered high (0.95).

3.9. The Instructional Program Based on Higher-Order Cognitive Processes

The program was designed to develop students' reading and writing through using four higher-order cognitive processes: analysis, inference, prediction, and reflection. The content and activities of the program were geared toward achieving the following aims.

3.9.1. Aims of the program

The program had the following major aims:

- Improving 'ENGC 102' students' reading and writing through using higher-order cognitive processes.
- Modifying students' beliefs about language learning.

3.9.2. Target Intended Learning Outcomes of the Program

The outcomes of the program aimed at attaining the aims of the research through developing sub skills using a variety of strategies. From the theoretical background and relative studies**,** the program geared towards considering reading and writing as interrelated processes for the deep understanding of any text. **So, *by the end of the eight-week program, students should be able to:***

1-Analyze the reading text which involves:

a-Identifying direct ideas from the reading text;

b-Identifying main idea or specific information and details;

c-Recognizing unstated assumptions;

d-Guessing word meaning from the context;

e-Using structural analysis as prefixes, suffixes, roots to understand meaning;

f- Distinguishing between main ideas and supporting ones;

g- Transferring information from text to chart, diagram or table;

h-Locating synonyms of words in the text;

i- Clarifying similarities and differences in words or ideas;

j- Examining mechanics: punctuation, spelling…

2-Make inference which involves:

a-Identifying referents;

b-Distinguishing fact from opinion;

c-Speculating the author's purpose;

d-Recommending a solution;

e- Inferring the main points to write summary;

f- Making connections and creating understanding as they go further;

g- Making inferences (about what the reading text means) and developing ideas or images based on what is read in the text but not stated;

h- Making decisions based on given data;

i-Drawing conclusions from premises or evidence;

j-Suggesting the logical order of ideas in the text;

3-Predict an idea or a conclusion which involves:

a- Predicting the text to identify basic information: e.g Figuring out the sequence-tell the order of events; number each event in its correct chronological relationship to the others;

b-Anticipating questions, ideas or events;

c- Speculating the writer's aim or intent;

d- Predicting the function of a term or sentence in the text;

d-Reflect on given knowledge which involves

a-Evaluating ideas expressed in a text;

b-Drawing conclusions from the text;

c- Proposing new titles for the text;

d-Reflecting by developing a cohesive paragraphs on a given question or prompt by applying cohesive devices and mechanics: punctuation, spelling…

e- Reflecting personal experiences through writing a paragraph;

f- Recommending a solution;

g- Assessing the effectiveness of a program or method.

3.9.3. Constructing the program

Taking the previous objectives into consideration, the researcher designed the program with reference to the following:

- Reviewing literature on the issue of using higher -order cognitive processes in language classrooms;
- Reviewing the objectives of the 'ENGC 102' since students are supposed to take the same mid- term and final examinations as the rest of students enrolled in the same course;
- Consulting Palestinian and International experts in the field of TEFL and English language regarding the material, objectives, and appropriateness of activities to the level of 'ENGC 102';
- Assessing the validity of the program to guarantee its suitability to the sample group and its effect in achieving the desired outcomes.

3.9.4. Program Validity

To guarantee the suitability of the program to the sample group, it was presented to six specialists in didactic and methodology who asserted its validity. The following are some of their comments:

- The program with its current activities, strategies and design reflect its objectives.
- The program is really directed to the 'ENGC102' students served at Birzeit University.
- Since students are so weak at language skills, this program is hoped to enhance their interest or motivation and improve their language skills.
- Very well-constructed, good choice of themes and topics which will be easy to implement; and, definitely, it will make a difference and help the enhancement of students' reading and writing skills.

3.9.5.Content of the program

The program comprises three units from Philpot & Curnick : New Headway Academic Skills –Level three, and parts of the writing book by Oshima, A. and Hogue A. (2007). *Introduction to Academic Writing* (3rd ed.), Peaeron Longman . These books were required for all 'ENGC102' sections since unified mid-term and final exams should be administered to all students, including the participants of this study. The three units incorporate reading passages on Education and Learning, Innovations in Health and Medicine, and Urban Planning. In addition, other reading texts and activities that lend themselves to higher- order cognitive processes were incorporated to achieve the aims of the program. These included "Rain Forest", "The Gift of the Magi", one of the greatest works by O. Henry, and "The Diamond Necklace" by Guy De Maupassant.

Mentioning the term ‘academic skills’ does not only imply being able to master the basic functions in the foreign language such as agreeing ,disagreeing, accepting or refusing an invitation, etc., but it also “demands a higher level of cognition such as comparison and contrast, inferencing, analysis, synthesis, application and evaluation” (Batang, 2010, p.3).

3.9.6.Instruction

The four higher -order cognitive processes were taught by following a variety of teaching and learning strategies selected from McKown and Barnett (2007); Olson and Larsen (2007); Al-Khateeb and Idrees (2010); Galotti (2011); 123HelpMe.com(2011) ; Kanaana, (PowerPoint, 2012); https:// www. edu. gov. on.ca /eng/ studentsuccess/ thinkliteracy/files/ThinkLitCoop.pdf. Some strategies are:

Predicting;

Making inference;

Using graphic organizers such as Venn diagram, KWL Charts;

Questioning strategies;

Summarizing**;**

Organizing jumbled sentences and paragraphs logically;

Writing narrative paragraphs;

Writing journals to reflect opinions.

Various instructional aides and tools were utilized such as the board, handouts, PowerPoint presentations, and websites.

3.9.7. Piloting the Program

Unit one “Education in UK” was piloted on one of the researcher’s sections consisting of twenty-five ‘ENGC102’ students before the study. In her tentative program, the researcher assigned two classes, 80 minutes each to teach the reading

comprehension with emphasis on analysis, inference, prediction, and reflection .To her surprise, during teaching the experimental unit she discovered that students were much involved and needed more time to work, and so she modified the time and added another class .This helped in estimating the time required for other strategies and activities. Being objective in her evaluation, she observed the following:

- Most of the students were motivated to work in groups or pairs.
- They were enthusiastically working to predict ideas, analyze content, fill in the handouts such as Venn diagram, KWL charts, and inferences.
- They frankly expressed their likeness and interest to learn such strategies, which "can help we in other subject", one student said.
- Experimenting the program revealed the types of activities students preferred and were interested in, which encouraged the researcher to incorporate non-academic readings in her program.

Being enthusiastic does not mean that students answered questions correctly or wrote accurately.They made mistakes in writing, did not provide detailed answers, could not express their opinion or induce author's intent or purpose. However, the researcher did not interfere because she was interested in getting them to work and produce something. She even asked them to evaluate the experience and write their journal reflections in Arabic. The researcher justified that their lack of vocabulary and skill was an obstacle. She believed that although the writing assignments and topics were interesting, her students might not perform well, which could be an obstacle towards achieving the goals of the study.

3.9.8. Program Implementation

The researcher was granted permission from the Chairperson of the Department of Languages and Translation and the Dean of Arts to conduct the

study on the 'ENGC102' experimental group in the first semester 2012/2013. Being an instructor at the same University, besides presenting a letter from Ain Shams University to facilitate her task was of great advantage (Appendix J). On the other hand, students' agreement in participating in the program was achieved by obtaining the consent forms before the study began (Appendix K).

Before commencing, the researcher took advantage of the four steps suggested by Yang (1992, p.8) with changes that suit the objectives of the research. These general steps are summarized as follows:

A-Diagnosis: This step aimed at developing students' awareness toward the higher- order cognitive processes. Upon the start of the instructional program, the researcher saw that enhancing students' self confidence and reducing the feeling of frustration when learning English were crucial factors. For that purpose, she distributed the course outline and clarified the whole program objectives. In addition, she provided reasons for the inclusion of its components, starting with raising students' awareness of reading and writing strategies and higher-order cognitive processes, developing students' experiences of those processes through detailed procedures, and evaluating the outcomes of instruction.

To ignite students' involvement in this program, the researcher adapted Widdowson's (1978) recommendation that "the acquisition of abilities requires the learner to assume a more active and responsible role involving an awareness of his own learning processes and of the relevance of particular exercises to their development" (p. 109).

The researcher also pointed out to students that becoming a critical and creative thinker is a cumulative process. If they can make the effort to establish good habits of good thinking skills early in their college experience, they are likely to evolve into natural habits that can be applied almost automatically to improve

the quality of their academic performance in all courses (Higher Level Thinking-*www.tnstate.edu/.../IM2-c.)*

B. Preparation: In this phase the researcher clarified the concept and importance of the cognitive processes and explained the strategies and procedures concerning their beliefs about language learning. Besides, depending on the points that needed to be focused on as shown by the results of the previous phase, the objectives as well as the instructional material were identified and prepared. The contents of the suggested program were based on the textbook taught to 'ENGC 102' with extra material and activities that help develop reading and writing skills.

Before the start of the program, a group of specialists in teaching methodology were consulted for feedback and recommendations. Two criteria were considered when designing the program: its suitability to the level of current 'ENGC102' students and its effectiveness in approaching the goals of the study. This philosophy was recommended by researchers (Chamot, 1998; Chamot and Kupper, 1989; Oxford, 1993; Zhang, 1993 cited in Shang, 2010) who maintained that informed instruction in the classroom could enhance both awareness and comprehension skills.

To train students to use and transfer cognitive processes and reading/writing strategies to new tasks, a number of studies have suggested that professors should allow students to develop thinking skills through the use of the content rather than by pushing through the content (Ewing, 2006) .Besides, reading strategy training needs to be conducted in conjunction with the regular course of instruction over an extended period of time, and teachers rather than researchers should be the deliverers of learning strategy instruction to equip readers with necessary reading skills (Shang ,2010).

C. Instruction: This phase comprised providing direct and explicit instruction on the cognitive processes and reading and writing as integrated skills. This was

implemented through explanation, modeling, practice, and evaluation. Besides, providing different practice opportunities with various learning tasks, techniques and activities was a necessity. Basically, the researcher had to resort to the original material of the textbook as the achievement of the experimental group should be made clear to university administration.

D. Evaluation: It aimed at helping both researcher and students reflect and evaluate the level of learning and achievement. This was carried out through artifacts: quizzes, worksheets, and by conducting satisfaction scale and interviews to explore students' satisfaction. The post test was also administered to check whether or not the students in the exploratory group achieved more progress after the program. Material prepared by the researcher included student's book, teacher's guide which included the objectives of lessons and approaches of attaining them, supplementary questions, exercises, activities, worksheets, and quizzes (See the full version of the Program in Appendix N).

3.9.9. Rationale for applying the program by the researcher

In order to control the elements of the research and the instructional variables, and to insure internal validity (Anthony, 2007)**,** the researcher decided to teach the experimental group, rather than assign the task to another instructor. Being determined to do that stemmed from the fact that the researcher has been working as an instructor of English in the Department of Languages and Translation at Birzeit University for more than nine years; therefore, she is well aware of the courses taught, course goals and requirements, assessment methods, and student profile .

3.9.10. Instruments and Procedures of Assessment

For assessing the development of students' reading and writing skills and modification of beliefs (if any) upon the completion of the proposed program, the following instruments were employed:

1-A Post reading /writing test

2-BALLI

3-A Satisfaction Scale

4-Semi-structured interviews (with a focus voluntary group)

5- Formative assessment: Quizzes and worksheets

3.10. Satisfaction Scale

3.10.1. Purpose of the satisfaction scale

This scale was used to reveal the satisfaction levels of students and the effect of the instructional program on developing their language skills and modifying their beliefs about language learning.

3.10.2. Source of the scale

Revising literature, it was impossible to find a satisfaction questionnaire analyzed in terms of reliability and validity issues to be adapted for the current study. Therefore, granted permission from its author, the researcher adapted a survey conducted by Strachota (2006) to measure student satisfaction in online courses. Some changes were made, including translation into Arabic, to suit the purpose of the current study.

3.10.3. Description of the scale

The scale is composed of twenty statements, divided into four sections with five items on each section: Learner-content interaction, learner-instructor

interaction, learner-learner interaction, and general satisfaction. Participants were asked to give a score for each instruction method on a four-item type scale between (*1*- Strongly disagree, 2-disagree, 3-agree, 4-*strongly* agree).The statements mainly dealt with the effect of the newly introduced processes and strategies on students' learning and academic achievement, in their life and on the physical and emotional comfort of the learning environment (Appendix L).

3.10.4. Scale Validity

To assess the validity of the satisfaction survey, it was presented to seven specialists in the field of English and translation to test its comprehensibility, wording, and suitability to the current research. Two questions were removed based on the experience of experts in the field. They expressed satisfaction of the content validity of the questionnaire and the intelligibility of items and approved their consistency of meaning and wording between the English and Arabic translation.

3.11. Interviews

3.11.1. Purpose of the interviews

The interviews took place at the end of the program to study students' dis/ satisfaction of the program application in greater depth. That is, to reinforce the data collected from the satisfaction scale and to obtain more detailed qualitative and descriptive data in the participants' own words about their opinions, feelings and recommendations about the implemented program, so that the researcher could develop insights on how the participants viewed their development in language skills. The interview is a flexible tool for data collection, enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard. "The order of the interview may be controlled whilst still giving space for spontaneity and the

interviewer can press not only for complete answers but also for responses about complex and deep issues" (Cohen, Manion and Morrison, 2007, p. 349) .

3.11.2. Description of the interview

The pre-structured interview consisted of six questions, based on the objectives of the study, that tackled the students' satisfaction of the instructional program, the new teaching methods and strategies, and the aspects they believe might have (not) helped develop their language skills. Students were asked to reflect opinions and explain whether or not being trained on using such activities could motivate them to learn a foreign language. However, the researcher had to translate the questions to get clear and accurate answers and asked students to write down their answers. (See the interview questions in Appendix L).

The interviews were recorded for transcription and analysis; in addition, the researcher took extensive notes as a contingency plan to support the recorded data. Data were transcribed directly after the interview to clarify matters while the information is fresh. The researcher organized the data and provided detailed interpretation. University of Texas at Austin (UT) (2010) suggested that one can either conduct an analysis in which the goal is to identify themes or conduct an analysis in which the goal is to provide an interpretation of the data by telling or retelling a story. "Neither way is "right. The process you follow to get to the end depends on your goal" (p.28).

Only five students agreed to attend a one-hour interview one week after administering the satisfaction survey. A limitation could be considered here, teacher-union strikes, make-up classes and mid-semester time constraints were obstacles that restricted the interview in one hour. Luckily, the sample consisted of four motivated and satisfied students and one demotivated or dissatisfied which assured objectivity. They were informed that there were no correct or wrong

answers and that their responses should reflect their beliefs and feelings but not what they expect might please or satisfy the researcher.

3.11.3. Piloting the interview

Before starting, the interview questions were checked and assessed for their reliability and validity by the same instructors who assessed the satisfaction questionnaire. The questions were then conducted on five of the twenty-five students who were selected for the pilot unit "Education in UK." The interview procedures and questions conducted on the pilot sample proved satisfactory, and therefore were employed in the study. A problem of much importance arose; all students understood the interview questions but three were able to respond clearly in English; two preferred to express themselves in Arabic, which was accepted for the purpose of enriching the research. Based on that, Arabic was an alternative in the actual interview.

Chapter Four

Findings and Discussion

Chapter Four

Findings and Discussion

The current study attempted to investigate the effect of an instructional program based on higher- order cognitive processes on developing students' reading and writing skills and modifying their beliefs about language learning. In this chapter, crucial ideas, themes and findings that emerged from the research questions and interviews are discussed. Tables and figures are also utilized to illustrate and present data with analysis and interpretation, and conclusions are presented according to the research questions.

4.1. Results of the study

Results of the study are reported through answering the research questions.

4.1.1. Research Main Question:

What is the effect of using higher-order cognitive processes (HOCPs) on developing 'ENGC102' students' integrative reading and writing at Birzeit University?

To respond to this question, the researcher had to answer the first sub question:

"What is the existing situation of 'ENGC 102' students' higher-order cognitive processes?" to determine the existing level of the participants before investigating the effect of the program. So, the mean scores of the experimental group before and after the implementation of the instructional program were compared. Paired sample T-test was used to determine if there was a significant difference between the mean scores of the pre and post reading and writing test as a whole (Table 4).

Table (4)

t-test for the participants' mean scores on the pre and post administration of the overall reading and writing test

	Variable 1/Post test	Variable 2/ Pretest
Mean	58.81	37.23
Variance	116.536796	61.90
Observations	22	22
Hypothesized Mean Difference	0	
Df	21	
t Stat	14.97	
P(T<=t) one-tail	0.0000000000006	
t Critical one-tail	1.72	
P(T<=t) two-tail	1.11114E-12	
t Critical two-tail	2.08	

Table (4) above shows that the participants' mean scores in the post-test (58.8) is higher than their mean scores in the pre-test (37.2). The T-test results illustrate that since the t-test is less than 0.05, then there is a significant difference between the mean scores of the pre and post test of the experimental group in favor of the post-test.

However, to quantify the strength and extent of the difference between the pre and post administration of the test, the researcher used Cohen's d, Eta squared "η2". According to Cohen (1988, p.157), the Eta -Squared Equation is calculated by using the t-test value and the degrees of freedom: $\eta 2 = t2 / t2+df$, and the effect size is determined by three levels: small if it between (0.01 and 0.06), medium if it is (more than 0.06), and large if it is (more than 0.14). Accordingly, table (5) illustrates that the calculated effect size (0.91) is large, which indicates that the program was effective in developing students' reading and writing skills.

Table (5)

The calculated effect size of the instructional program

Participants	N	Mean	Std. Deviation	t-value	Sig.Value	Size Effect **(η 2)**
				14.97		**0.91**
Experimental group pretest-total	22	37.23	10.8		0.05	
Experimental group posttest-total	22	58.81	10.8			

(The total grade is out of 100)

The following figure shows the differences between the mean scores of the experimental group on the pre and post application of the reading and writing test as a whole.

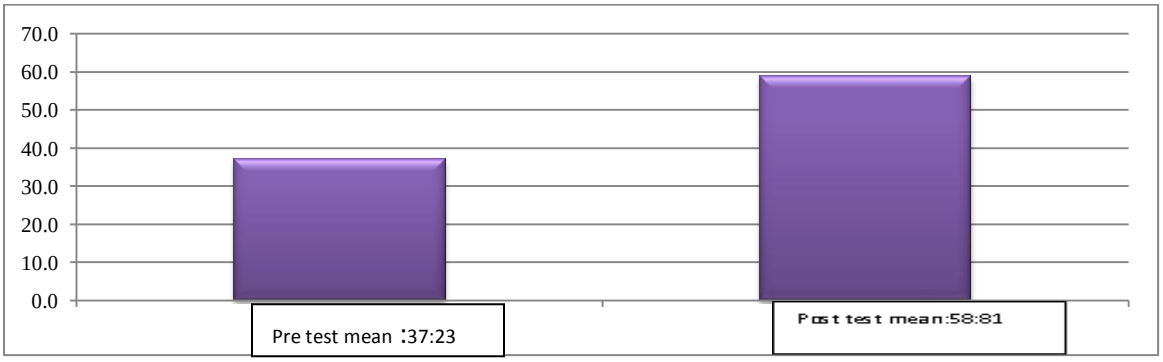


Figure (1): The differences between the mean scores of the Experimental group participants on the pre and post application of the reading and writing test as a whole

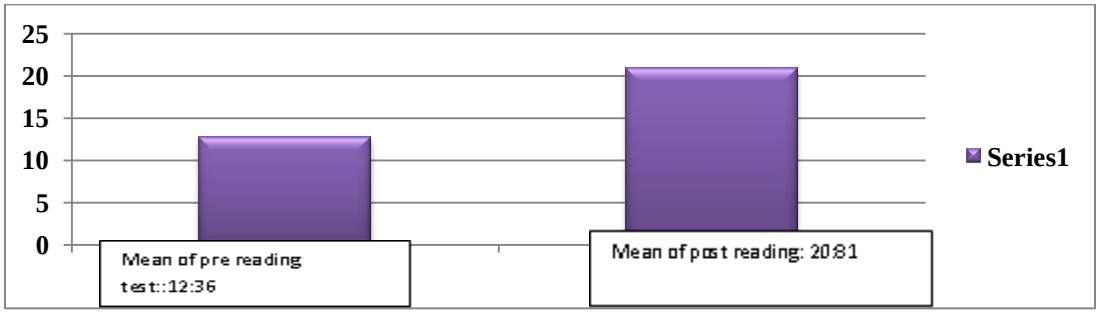
In order to determine if there is a significant difference between the students' pre and post application of the reading test as a whole, the researcher compared the mean scores of the reading section before and after implementing the program. T-test for dependent groups was used for that purpose as shown in table (6) below:

Table (6)

T-test for the mean scores of the pre and post administration of the participants on the reading skills test section as a whole

	Mean	N	Std.Deviation	P(T<=t) one-tail	Significance 0.05
Pre-reading test	12.63	22	2.98	0.0000003	Significant
Post reading test	20.81	22	4.22		

Analysis of table (6) shows that the mean scores of the participants' reading test after the implementation of the program (20.81) is higher than the mean scores of the reading test prior to the program (12.63).It is also observed that the obtained probability value (0.0003) is less than the significance level (0.05), which ensures that there is a significant difference between the two applications of the reading test in favor of the post test. The figure below shows the difference between the mean scores of the two applications of the reading test.



Figure(2):The mean scores of the participants' pre and post reading test as a whole.

Furthermore, to investigate if there is a difference between the participants' mean scores of the writing section prior to and after the implementation of the program, the researcher compared the mean scores of the two tests. Table (7) below shows that the mean scores of the participants in the post writing test section

(8.52, out of 10) after conducting the program was higher than the mean scores of the writing test section before conducting the program (5.98).T-test for paired groups was used to determine if the difference was significant at 0.05.

Table (7)

The mean scores of the participants' pre and post writing test section as a whole

	Mean	N	Std.Deviation	P(T<=t) one-tail	Significance 0.05
Pre-writing test Post writing test	5.98 8.52	22 22	2.57 1.99	0.00000368	Significant

The results of the previous table verified that the obtained probability value (0.00000368) is less than 0.05, which verifies the significant difference between the two applications of the writing test section in favor of the post test administration. The following figure demonstrates the difference.

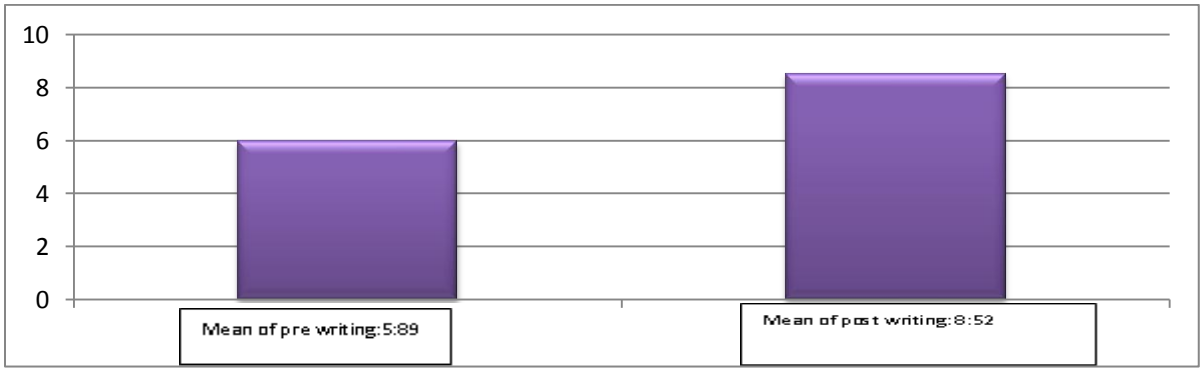


Figure (3): The mean scores of the participants in the pre and post measurement of the writing test section

4.2. The Research Sub Questions

4.2.1. Question One

What is the existing situation of 'ENGC 102' students' higher-order cognitive processes?

The answer to this question was integrated as an essential part of the main question of the research.

4.2.2. Question Two

What higher-order cognitive processes are appropriate for ENGC102 students at Birzeit University?

Qualitative analysis was employed using the following methods:

- An informal interview was conducted with five instructors of English in the Department of Languages and Translation besides an open discussion with the coordinator of English Communication courses and a testing professional. The aim was to investigate their perception about 'ENGC 102' students' level of higher-order cognitive processes required for those students since the researcher believes that higher- order cognitive instruction is stimulated by the assumption that it could improve students' reading and writing and modify their beliefs about learning a foreign language.
- A checklist consisting of seventeen higher-order cognitive processes was prepared by the researcher. It was distributed to the accessible faculty members (N= 9) who were teaching during the summer course (July, 2012) in the Department of Languages and Translation to indicate which processes should/should not be taught to 'ENGC102' students and to rate the four most important ones to be the core of the study. The checklist was applied before constructing the pre/post-test to reinforce the information received through the interviews and to select the most important and necessary processes 'ENGC 102' students should utilize.

Most of the answers in the interview and open discussion centered on the point that employing critical thinking skills is vital for all university students in all academic subjects. They saw that teachers should not follow school-based methods that require memorization. All interviewees call for training students on both lower and higher-order cognitive processes starting from knowledge and comprehension,

prediction, inference, analysis, interpretation, and ending with reflection and evaluation. However, the following complaints were raised:

- Freshman students who join universities are not equipped with strategies that encourage them to go beyond the literal level of comprehension. This is due to the traditional teaching methods followed at school and to the types of questions followed in the General Secondary Exam (Tawjihi). This usually requires memorizing information rather than thinking critically or creatively about issues.
- Teachers themselves are not well-trained, and in turn, not qualified to teach students to utilize higher- order thinking skills.

The detailed information is presented in the following section with excerpts from teachers' answers with anonymous names for the privacy of data.

Interview Question one:

From your experiences at Birzeit University, what cognitive processes should university students, mainly in 'ENGC 102', be equipped with?

Instructor A believed that university students should be trained and encouraged to employ critical thinking skills, such as analysis, synthesis, prediction, inference, and hypothesizing, not only in English language classes but in all subjects. He claimed that this approach to thinking enabled students to interact dynamically with the material, and by doing so, "students will have the chance to learn rather than to be taught".

Instructor B saw that the most important cognitive processes university students should utilize is perception. That includes ways of focusing attention, gathering information, and using the information to perceive, analyze, and infer ideas, judgment ,and reflection, i.e. the learners' ability to organize their experiences and make decisions.

Instructor C said that university students should possess all the processes according to the course objectives. When he was asked to determine, the following examples were provided:

- Conceptual: e.g. prediction, inference, and modeling.
- Analytic: planning and causation
- Social: team work and group dynamics

In Instructor D's point of view, students are so weak because they were not trained to apply higher-order cognitive processes at school; she maintained that students like to depend on their teachers for everything. "We have to provide them with the skills necessary at the university such as analyzing information, guessing and inferring the meaning of unfamiliar words, and analyzing the text to find the main idea and supporting sentences".

Instructor E complained that 'ENGC102' students are very weak ,which inhibits applying higher- order thinking and they just depend on memorization, he said. "We try to train students to answer open-ended questions that require analyzing, synthesizing or summarizing ideas before being promoted to ENGC 141.In spite of that, they copy and paste answers directly from the passage".

Based on the open discussions with the coordinators of the English Communication courses, the head coordinator of Quality English Language Teaching Program (QELTP), and other instructors at Birzeit University, it was revealed that traditionally teachers were concerned with helping students acquire new vocabulary items and answer the comprehension questions of the passages. No special attention was given to critical thinking or cognitive processes. Students were considered excellent if they answered the book questions and exercises. They were also evaluated on whether or not they were able to memorize the given text.

However, currently, due to the advance in technology and the demand for highly qualified employees and efficacy of job market, teachers have changed their

priorities. It has become a trend in all faculties at Birzeit University that students should be equipped with the higher- order thinking skills that enable students to handle potential cases, analyze and evaluate situations, and logically solve problems. Thus, instructors have high aspirations and gear towards teaching at higher cognitive levels, providing students with a variety of techniques, e.g. responding to open-ended and critical thinking questions, distinguishing fact from opinion, and debating over controversial issues. This definitely, has a great influence on increasing the number of test items that require higher cognition as compared to those that require memorization or comprehension level. Also, blended courses were incorporated to enhance students' language skills.

Yaqoob (2007) explained that the 21st century education prepares people who bring harmony between knowledge and creativity by being flexible, multi-skilled and multi-tasked, dynamic, efficient, problem solvers, and creative explorers of resources. Yaqoob called for achieving the aims and objectives by focusing on developing creative thinking and other higher-order thinking skills of young learners, so that they can contribute positively and productively in shaping a secure future for mankind.

For other faculty members, the issue of teaching on higher cognition is a dilemma. During a conference held at Birzeit University for tackling the issue of activating blended learning courses and incorporating critical thinking, teachers were criticized for following traditional methods reduced to asking low-level cognition questions, basically testing remembering level rather than focusing on the upper level such as analyzing, making inferences, or evaluating levels (Ibn Rushd 4th Symposium October, 2011).

In a workshop entitled Improving Quality teaching and exchanging Experiences (October 29th, 2012) held in the Department of Languages and Translation/ Birzeit University, other colleagues were so frank and expressed that

this shortcoming was the result of the lack of experience and training to plan and teach at the upper level of thinking. In their opinion, such practice requires creative teachers. According to researchers, "Four barriers often impede the integration of critical thinking in education: (1) lack of training, (2) lack of information, (3) preconceptions, and (4) time" (Snyder and Snyder, 2008).

Interview Question Two:

Do you think that using higher-order cognitive processes can play an important role in developing 'ENGC102' students' reading and writing skills? Explain.

In responding to this question, the instructors mentioned the following:

Instructor A preferred the "Analyzing skill" and said that when put into action by the students, it would help them improve their reading and writing skills. He clarified that students' approach to reading would improve and, in turn, their writing skill would also improve as a result.

Instructor B emphasized that "HOTS definitely play a significant role in developing the learner's language skills". In a reading activity, for example, learners can build background about texts they read and set purposes for reading, and then they check their understanding of texts by paraphrasing, inferring, predicting, and confirming. Finally, the learners try to develop more thoughtful, critical and reflective interpretation of the texts they are reading. However, when it comes to the writing skill, "HOTS would take learners from the knowledge-telling stage to knowledge-crafting step", he said.

Instructor C confirmed that the cognitive processes would enable students to learn in different ways rather than in a certain formulaic manner. The processes would help learners acquire strategies that can help improve the thinking ability, which might help in writing analytically.

Instructors D & E had a common belief that cognitive processes meant to encourage dependence on oneself both in comprehending any reading text and in responding in writing to any function. They encourage critical thinking in 'ENGC102' students by training them to answer open-ended questions that involve stating the opinion and agreeing or disagreeing with the writer, in addition to providing logical reasons.

Interview Question Three:

Do you think that using higher- order cognitive processes can play an important role in modifying 'ENGC102' students' negative beliefs about learning a foreign language? i.e. Does changing the teaching strategies have an effect on modifying or changing students' beliefs? Explain.

Instructor A: "I think, yes because students' beliefs will be changed according to the change in the reading and writing strategies".

Instructor B: "I believe that intertwining the learners' social and pedagogical needs would lead to more effective learning". He insisted that EFL teachers need to shift from teacher-centered to learner-centered approach, which necessarily incorporates the learner's learning needs with their abilities. He believed that these methods also get the learners involved in the learning process that meets their actual and real needs. "However, once our learners are trained on bottom-up and top-down processes in L2 learning, they will positively approach the different tasks prescribed by the target language skills".

Instructor C: "Yes, this will boost the students' motivation, which will affect their learning capacity and might lead to changing their attitudes towards learning in general and EFL in particular".

Instructor D &E: Both responded positively to the question. They encourage students to like English as a foreign language by implementing various strategies, such as cooperative learning and pair work.

Interview Question Four:

What activities can be implemented to develop students' reading and writing skills and modify their beliefs about foreign language learning? What processes or strategies do you personally follow in 'ENGC 102'?

A unanimous comprehensive remark was documented by all the instructors. As far as the cognitive processes are concerned, they teach freshman students high-level or critical thinking questions, for example, open-ended questions like "what do you think—"How is --- related to your culture? Do you agree with—?" However, because of students' low- proficiency English level, they can only answer the book questions that require direct answers and cannot give logical and well-developed responses. Their answers could be expressed in Yes, No, or not more than one sentence, they remarked. Students even copy the answers without understanding the idea itself. Even in mid-terms and finals, they cannot answer the open-ended questions that require opinion, reflect or elaborate on the information. In such a case, they resort to copying the whole paragraph, including irrelevant answers.

Taking advantage of the presence of Dr. Jeanne Kattan, a testing professional, during a workshop on testing, the researcher inquired about techniques to develop students' higher-order cognitive processes. She made several recommendations for changing the type of test questions and argued that taking the current students' level of English into consideration is necessary. She saw that instructors should focus on the importance of open-ended questions as necessary components of tests aiming at expressing students' opinions and relating the text to their real-life situations. "We should not only rely on factual questions available in the test, but we should ask about critical thinking questions," she remarked. Responding to this point, the following were some remarks by the professional (Jeanne Kattan, November, 24th, 2012):

Asking True/False and multiple-choice questions that consist of three distracters is better than those involving writing in that they require reading intensively, analyzing the text, predicting the main idea and making inferences. Doing this is beneficial for students to select answers based on analysis and reasoning. However, if the test aims at measuring students' progress in the writing skill, writing is inevitable.

Furthermore, prior to the Mid-Term exams of ENGC courses, the Department committee members held a meeting to discuss the students' language level and to evaluate their work and progress .There was a consensus that reading is critical and key to improving all English courses, and that it is not getting the emphasis and the significance that it deserves. It was also noted that poor writing skills are so intricately tied to reading and that students are unable to write well as a result of their weakness in reading.

The question was "how should we get our students motivated to read and learn English"? Though staff acknowledged the need for improving courses, there was a strong conviction that a big part of the problem lies in the students' performance. Since most of them come from a very weak English background and somehow can't get too excited about studying English, their performance reflects that reluctance and inability to study and do well in these courses (D C Meeting No. 8 – Feb 23rd, 2012).

On the other hand, the instructors clarified that identifying cause and effect, comparing and contrasting ideas, and making inferences are the cognitive processes most commonly practiced by 'ENGC102' students. These are constantly emerged in language classes by the teachers as being part of the objectives of the assigned units. However, teachers motivate students to answer questions that involve high thinking levels, but, unfortunately, students cannot respond .To be more specific, teachers do not only rely on yes/no answers, but students should be

asked open- ended questions to defend and justify their answers by explaining, presenting facts, comparing and contrasting, identifying cause/ effect ideas, and applying and transferring the material to their own situations.

To summarize, the researcher concluded that instructors at Birzeit University share similar concerns and are aware of the importance of higher-order cognitive processes at a university level. However, they try to develop these processes but do not find prompt responses or progress. As an instructor in the same Department, the researcher emphasized that students lacked the higher- order thinking skills and complained that they could not analyze information, or even defend points of views. For her, teaching 'ENGC102' students is a tiring job, and she has to work hard with the struggling learners to equip them with the skills and processes that university students should master.

The researcher also believed that learning any new method or technique is a slow and gradual process, believing that the scenario could change some day. Professors need to model and scaffold higher levels of cognition in their classrooms, move away from testing students' memorization of knowledge, and start following authentic assessment, which aims at assessing higher cognitive levels. This can be achieved by writing test items with less remembering level and more analyzing, evaluating, and reflecting level items.

4.2.3. Research Question Three

What reading and writing skills are appropriate for ENGC102 students at Birzeit University?

Answering this question required three steps:

- Reviewing literature regarding reading and writing skills necessary for "ENGC 102" students.
- Consulting the instructors in the Department of Languages and Translation / BZU regarding the required skills for 'ENG102'.

- Designing a checklist consisting of 33 reading and writing skills.
- Distributing the checklist to a sample of nine respondents who were asked to indicate which skills should/should not be taught to 'ENGC102' students and to rate the ten most important ones.

Counting was used to select the most required skills. All instructors at the Department unanimously agreed on general and specific skills suitable for the 'ENGC102' students they serve at Birzeit University as necessary for comprehending any reading text. Accordingly, Table (8) specifies the skills recommended by the jury members to be the focus of the study.

Table (8)
Reading and writing skills recommended by the jury members

Number of skills	Reading and Writing skills	Number of instructors who selected the item
1-	Identifying main idea or specific information and details	9
2-	Predicting the text to identify basic information(e.g identifying referents, predicting the function of a term or statement in the text;	9
3-	Distinguishing between main ideas and supporting ones or facts and opinion	9
4-	Guessing word meaning from the context, using structural analysis as prefixes, suffixes, roots to understand meaning;	9
5-	Categorizing the logical and cohesive order of ideas in the text :(e.g Figuring out the sequence -- tell the order of events;	8
6-	Transferring information from text to chart, diagram or table or vice versa;	7
7-	Speculating the author's purpose; (i.e. Making inferences about what the reading text or the writer means)	7
8-	Reflecting on the text to draw conclusions, recommend a solution, propose a new title for the a text	9
9-	Recognizing unstated assumptions (i.e. developing ideas or images based on what is read in the text but not stated	7
10-	Reflecting by developing cohesive paragraphs personal experiences or answering a given question or prompt (by applying writing mechanics	8

4.2.4. Research Question Four

What are the characteristics of a program based on higher-order cognitive processes to develop 'ENGC 102' reading and writing language skills?

The researcher designed a program to develop students' reading and writing through using four higher-order cognitive processes: analysis, inference, prediction, and reflection. The content and activities of the program were geared toward achieving the following aims:

- Improving 'ENGC 102' students' reading and writing through using higher- order cognitive processes.
- Modifying students' beliefs about language learning.

However, the characteristics of the program have been thoroughly discussed in chapter three.

4.2.5. Research Question Five

What beliefs do 'ENGC 102' students at Birzeit University hold about EFL learning?

The results of the BALLI descriptive analysis about students' beliefs before implementing the program were reported in accordance with the five themes, respectively: foreign language aptitude, the difficulty of language learning, the nature of language learning, learning and communication strategies, and motivation and expectations. According to Horwitz (1987), the BALLI was not designed to yield a composite score of all the items in the questionnaire together, so frequency in terms of percentages of the results of each item of the BALLI had to be calculated. Accordingly, the results of the BALLI before and after the instructional program are presented in the same tables (11, 12, 13, 14, 15) below. However, only the results of BALLI before the program will be the focus of this

question, and the modification in beliefs (if any) after the program will be discussed in research question six.

For the purpose of the current study, only the beliefs that received fifty percent or more on the level of "agree" or "disagree" are used to represent beliefs about language learning of the 'ENGC102' students at Birzeit University. According to Rad (2010), the following table (9) shows the levels of students' beliefs:

Table (9)

The Scope of students' beliefs as a EFL learners

Score Range	Level of beliefs
1.00-1.99	Weak
2.00-2.99	Neutral
3.00-3.99	Strong
4.00-5.00	Very strong

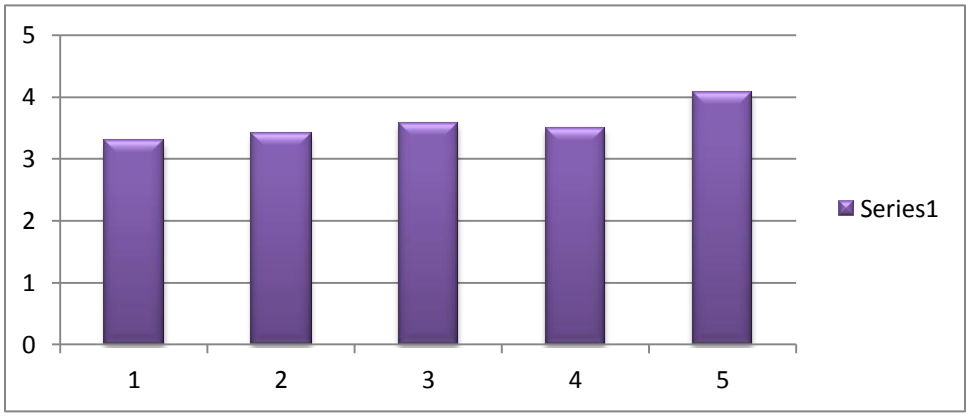
On the other hand, the researcher of the present study preferred to include the descriptive statistics of each category of BALLI as additional calculations (Table10). Based on that, the study indicated that participants held various strong or very strong beliefs as being detrimental for their own language learning.

Table (10)

Descriptive statistics of the five categories of BALLI before the implementation of the program

Area	N.	Mean	Standard deviation
Foreign language aptitude	22	3.29	0.97
Difficulty of language learning	22	3.41	1.01
Nature of Language Learning	22	3.57	1.11
Learning and communication strategies	22	3.49	1.19
Motivation & expectations	22	4.07	0.53

It is clear that among the five themes of BALLI, the beliefs of Motivation and expectations (*M* = 4.07, *SD* = 0.53), were the highest, then the Nature of language learning (*M* = 3.57, *SD* =1.11).Learning and communication strategies came next (*M* 3.49, *SD* =1.19), followed by difficulty of language learning (*M*= 3.41, *SD* = 1.01), ending with foreign language aptitude which obtained the lowest mean (*M* = 3.29 , *SD* 0.97). Simply, the results indicated that participants generally believe that the category of motivation and expectations is the strongest factor influencing the success in English language learning, whereas they carry lowest degree on foreign language aptitude, which means that this factor has a less important role on their learning in both administration of BALLI. Figure (4) illustrates the difference.



Figure(4)Means for the five items of students' beliefs in learning English as a foreign language prior to the program

4.2.5.1. Foreign Language Aptitude

The first items included in *Foreign Language Aptitude* address the issue of individual potential for achievement in language learning. These items are related to foreign language aptitude and beliefs about the characteristics of successful and unsuccessful learners. Frequencies of responses to these items are represented in *A*= collapsed scores for Strongly Agree and Agree, *N* = Neutral and *D* = collapsed

scores for Disagree and Strongly Disagree as shown in Table (11) below. As displayed, several statements generated very high levels of agreement (`strongly agree´ and `agree´).

Table (11)
Frequencies of the first category: Foreign Language Aptitude

Item	Foreign Language Aptitude	**D**	**N**	**A**	**No Answer**	**Mean**	**SD**
Q1	It is easier for children than adults to learn a foreign language. BEFORE	4.5	4.5 --	90.9		4.27	.767
	AFTER	9.1	4.5	86.4		4.18	1.180
Q2	Some people have a special ability for learning foreign languages. BEFORE	---	18.2	81.8		4.23	.75
	AFTER		9.1	91		4.36	.66
Q6	People from my country are good at learning foreign languages. BEFORE:	13.6	36.4	50		3.45	.86
	AFTER:	9.1	18.2	72.8		3.90	.92
Q10	It is easier for someone who already speaks a foreign language to learn another one. BEFORE:	45.4	22.7	31.8		2.82	1.22
	AFTER:	13.6	50	36.4		3.23	.69
Q11	People who are good at math or science are not good at learning foreign languages. BEFORE:	77.3	22.7	--		1.77	.81
	AFTER:	77.3	18.2	4.5		1.73	1.08
Q16	I have a special ability for learning foreign languages BEFORE	22.7	36.4	40.9		3.18	.96

	AFTER	31.8	45.5	22.7		2.86	.83
Q19	Women are better than men at learning languages. BEFORE	36.6	59.1	4.5		2.50	1.01
	AFTER:	45.5	45.5	9		2.41	1.098
Q30	People who speak more than one language are very intelligent. BEFORE:	9	31.8	50		3.86	1.25
	AFTER:	18.2	36.4	45.4		3.32	1.13
Q33	Everyone can learn to speak a foreign language. BEFORE:	22.7	22.7	54.5		3.55	1.10
	AFTER:	9	4.5	86.4		4.00	.98

The table above shows that most of the participants (90.9%) agreed, or strongly agreed that it is easier for children than adults to learn a foreign language and endorsed the concept of foreign language aptitude or the necessity of having special abilities for learning foreign languages since item 2 scored (81.8%) of respondents believing that it requires special abilities to learn English.

However, in item 16 only 40.9% agreed that *they have these special abilities*. Concerning item 6, whether language learning aptitude is culture specific, half of the participants felt that *people from their country (Palestine) are good at learning English*. However, in spite of the fact that most participants believed that foreign language aptitude is an important factor in learning English, 54.5% believed that *everyone can learn to speak English (item 33).*Based on that, 77.3% of the respondents disagreed with item (11) that *people who are good at mathematics or science are not good at learning a foreign language,* being

convinced that intelligence is pre requisite to language learning , which supports item (30) ,*people who speak more than one language are very intelligent,* which half of the respondents agreed with, whereas 31.8 remained neutral.

Similar to Bernat's (2006) study, the majority of respondents do not make a distinction between an aptitude for the sciences versus an aptitude for the humanities-type subjects- a distinction put forward by Gardner (1983) in his Multiple Intelligence theory distinguishing linguistic intelligence from logical/mathematical intelligence.

Besides, only 4.5% agreed, 59.1% were neutral, and 36.6% disagreed that learning English as a foreign language is influenced by the learner's gender, and women are not necessarily better than men at learning foreign languages although most of the participants were females (item19). These responses are in agreement with what Horwitz (1988) found that the participants had fairly negative assessment of their own language learning abilities and they did not see themselves as "gifted learners, but that an average ability is adequate to the task of language learning" (p.287).

4.2.5.2. Difficulty of Foreign Language Learning

BALLI items 3, 4, 15, 25, and 34 tackle the general difficulty of learning a foreign language. Table (12) presents the responses to the items of this category. As shown, the mean scores range between 2.91 and 4.09.

Table (12)

Frequencies of the second category: Difficulty of Foreign Language

Item	Difficulty of Foreign Language Learning	**D**	**N**	**A**	**No Answer**	**Mean**	**SD**
Q3	Some languages are easier to learn than other Before	9.1	22.7	68.2		3.86	.94
	After	13.6	22.7	63.7		3.55	1.22
Q4	English is: a very difficult language b-a difficult language c-a language of medium difficulty d-an easy language e- a very easy language Before	63.6	27.3	4.5	4.5	3.27	.83
	After	18.1	77.3	4.5		2.82	.59
Q15	If someone spent one hour a day learning a language, how long would it take them to speak the language very well a-less than a year b-1-2 years c-3-5 years d-5-10 year e-you can't learn a language vey well Before	a.36.4 b.45.5 c.13.6 d.- e-4.5				4.09	.97
	After	a.54.5 b31.8 c.13.6				4.41	.73
Q 25	It is easier to speak than understand a foreign language Before	40.9	36.4	13.6	9.1	2.91	1.31
	After	40.9	18.2	40.9		2.91	1.19
Q 34	It is easier to read and write English than to speak and understand it. Before	36.3	40.9	22.7		2.91	1.02
	After	31.8	45.5	22.7		2.95	.84

Note: Q.4: A = A very difficult or difficult language, N = Language of medium difficulty, D = A very easy or easy language (Adopted from Abid,2012).

As noticed, more than 68% of the respondents believed that *some languages are easier to learn than others* (item 3). As for item 4, responses were conflicting. Surprisingly, very few participants (4.5%) considered English to be very difficult to learn, while 63.6 reported that it is easier to learn than other languages, compared with 27.3% who considered English of medium difficulty.

Related to item 15, *the time required for language learning*, the responses were controversial. Students were optimistic since 36.4% believed that learning English would take less than one year, and 45.5% believed it might require one to two years, In contrast, 4.5% of the participants believed that spending one hour per day would not be enough to speak the language perfectly. This result was in accordance with Horwitz's (1988) study which found that one third of the participants believed they could learn the language within two years, which came different from most of their instructors' beliefs.

As for item *(*25), *it is easier to speak than listen to understand a foreign language,* 40.9 % of the participants disagreed, 36.4% took neutral position, whereas only 13.6% believed that it is speaking which is easier for them than listening for comprehension. This result can be justified in the Palestinian context, where students are used to listening to their teachers more than practicing the speaking skill, which has traditionally been neglected at schools. Participants' responses to item 34 , *it is easier to read and write English than to speak and understand it,* were almost similar; 22.7% agreed, 40.9% indicated neutral, and 36.3% disagreed. This could also be attributable to the traditional methods that outweighed the skills of reading and writing over listening and speaking.

4.2.5.3. The Nature of Language Learning

The third category, Nature of Language Learning, investigates issues related to the nature of language learning process. BALLI items 8, 12, 17, 23, 27, and 28 are illustrated in Table (13).

Table (13)

Frequencies of the third category: The Nature of Language Learning

Item		D	N	A	No Answer	Mean	SD
Q8	It is not necessary to know about English – speaking cultures in order to speak English Before	72.8	9.1	18.2		2.27	1.24
	After	86.4	13.6			1.77	.69
Q12	It is best to learn English in an English – speaking country Before	22.7	4.5	72.7		3.72	1.32
	After	18.1	22.7	59.1		3.68	1.21
Q17	The most important part of learning a foreign language is learning vocabulary words Before	-	9.1	90.9		4.55	.67
	After		18.2	81.8		4.23	.75
Q23	The most important part of learning a foreign language is learning the grammar Before	18.2	4.5	77.3		3.8	1.23
	After	13.6	9.1	77.3		3.82	1.18
Q27	Learning a foreign language is different from learning other academic subjects Before	27.2	9.1	63.6		3.41	1.098
	After	9.1	40.9	50.0		3.55	.86
Q28	The most important part of learning English is learning how to translate from Arabic, my native language. Before	18.1	13.6	68.2		3.68	1.13
	After	18.2	22.7	59.1		3.55	.96

Starting with Items 8 and 12, which tackle the role of culture in language learning, 72.8% of the subjects believed that it is necessary to know the culture of English in order to be able to speak it, and 18.2% indicated it is not necessary. Similarly, 72.7% of respondents agreed with item 12, it is best to learn English in English – speaking country, believing in the importance of being immersed in the context of the language, culture, and people.

What is attracting attention is item 28, *the most important part of learning English is learning how to translate from Arabic*, my native language. It is noticed that 68.2% of the participants agreed with the statement, whereas only 18.1% registered disagreement. The researcher revealed that this is considered a mistaken belief which could be attributed to the traditional teaching methods such as the grammar-translation method and Audio-lingual approach favoring translation from the native language, repetition, drilling, and memorization.

4.2.5.4. Learning and Communication Strategies

The items of this category concern the language learning strategies (items 18, 26) and communication strategies (7, 9, 13, 14, 21, 22) that can be used by language learners, which are "probably the most directly related to a student's actual language learning practice"(Bernat, 2006, p.9). Participants' responses to the items are presented in Table (14).

Table(14)

Frequencies of the fourth category: Learning and Communication Strategies

Item		**D**	**N**	**A**	**No Answer**	**Mean**	**SD**
Q7	It is important to speak English with an excellent pronunciation. Before	9	9.1	81.8		4.23	1.11
	After	9	13.6	77.3		4.23	1.15
Q9	You should not say anything in English until you can say it correctly Before	59.1	22.7	13.6	4.5	2.50	1.44
	After	81.8	13.6	4.5		1.91	.81
Q13	I enjoy practicing English with the Americans or foreigners I meet. Before	9.1	22.7	63.6	4.5	4.05	1.09
	After	9.1	9.1	81.1		3.95	.84
Q14	It is O.K. to guess if you do not know a word in English. Before	4.5	9.1	86.4		4.23	.81
	After			100		4.68	.48
Q18	It is important to repeat and practice a lot. Before	13.6	9.1	77.3		4.05	1.17
	After	9.1	4.5	86.3		4.32	.95
Q21	I feel timid (shy) speaking English with other people. Before	72.8	29.1	13.6	4.5	2.14	1.46
	After	77.3	4.5	18.2		2.09	1.06
Q22	If beginning students are permitted (allowed) to make errors(mistakes) in English without corrections, it will be difficult for them to speak correctly (to correct errors) later on Before	36.4	13.6	50		3.05	1.33
	After	59.1	4.5	36.6		2.73	1.39

Q26	It is important to practice with cassettes, tapes or CD ROMs. Before	13.6	22.7	63.6		2.32	1.09
	After	27.3	18.2	54.5		3.32	1.21

Again, this category reflected erroneous beliefs in learning strategies due to traditional teaching methods (items 7, 18, 26). Most of the participants (81.8 %) believed that *it is important to speak English with an excellent pronunciation in comparison with only* 9% who disagreed. Also, 77.3% agreed that practice is important for language learners and 63.6% reported that could be done with cassettes, tapes and CD Roms.

On the other hand, some moderately positive remarks were revealed regarding communication strategies. For example, 86.4% encouraged the act of guessing, and 59.1% disagreed with the item *you should not say anything in English until you can say it correctly.* Regarding confidence in speaking English, 72.8% did not see themselves *timid speaking English with other people,* which might explain the reason for taking risks and *enjoying practicing English with the Americans or foreigners they meet,* as 63.7% of the participants reported, in contrast to those who either confessed that they did not enjoy practicing English with English speakers (9.1%) or those who neither agreed nor disagreed (22.7%).

4.2.5.5: Motivation and Expectations

The BALLI items of this category (items 5, 20, 24, 29, 31 and 32) concern the learners' motivation and the opportunities they are provided with as a result of learning a foreign language. The participants' responses to this category are reflected in Table (15) below:

Table(15)

Frequencies of the last category: Motivation and Expectations

Item		D	N	A	No Answer	Mean	SD
Q5	I believe that I will learn to speak English very well. Before	---	13.6	86.4		4.00	.53
	After	9.1	13.6	77.3		3.91	.87
Q20	People in my country feel that it is important to speak English. Before	9.1	31.8	54.6	4.5	3.77	1.02
	After	13.6	13.6	72.7		3.68	.84
Q24	I would like to learn English so that I can get to know the native speakers (or Americans) better. Before	27.3	18.2	50	4.5	3.55	1.22
	After	18.1	22.7	59.1		3.36	.90
Q29	If I learn English very well, I will have better opportunities for a good job. Before	9	-	86.3	4.5	4.50	1.10
	After	4.5		95.5		4.64	.90
Q31	I want to learn how to speak English well. (If I get to speak this language very well, I will have many opportunities to use it .) Before	--	--	100		4.77	.43
	After			100		4.77	.43
Q32	I would like to have English- speaking (or American) friends. Before		36.4	63.7		3.82	.73
	After	13.6	22.7	63.6		3.59	1.26

Obviously, the vast majority of the participants expressed agreement to all BALLI statements in this category, which reflected their strong desire to learn English and become good language speakers. Specifically, all participants unanimously agreed (100%) with the statement, *I want to learn how to speak*

English well , for mainly instrumental reasons as having more opportunities for better jobs (95.5%),or integrative motivation as having English- speaking friends (63.6), and getting to know native speakers (50%). Surprisingly, 86.4% expressed optimism in their capacities in learning to speak English very well (item 5), which actually contradicted their responses regarding foreign language aptitude (item (16), *I have a special ability for learning foreign languages,* where only 40.9% of the participants confirmed agreement.

As far as item (20) is concerned, *people in my country feel that it is important to speak English*, there were various results. Only 54.6 % of the participants viewed that English is an important language for the Palestinians, 9.1% disagreed, while 31.8% did not express any opinion although all students are well aware of the value of English as an international language, besides being the main foreign language in Palestine and the medium of instruction in most of the courses at Birzeit University as well.

4.2.6. Research Question Six

What is the effect of using higher-order cognitive processes on modifying 'ENGC102' students' beliefs about language learning at Birzeit University?

As clarified in question five, the results of the BALLI items after the implementation of the instructional program are also previously displayed in Tables (11, 12, 13, 14, 15). Descriptive data collected from the BALLI completed by all subjects after implementing the program were analyzed. Table (16) below displays the descriptive analysis of the themes of the BALLI after implementing the program.

Table (16)

Descriptive analysis of the five themes of BALLI after the implementation of the program

Area	N	Mean	Std.D.
Foreign language aptitude	22	3.33	0.95
Difficulty of language learning	22	3.33	0.92
Nature of Language Learning	22	3.43	0.94
Learning and communication strategies	22	3.40	0.99
Motivation & expectations	22	3.99	0.87

As noticed, the table above displays the mean scores starting with the lowest mean (3.33) obtained from the first two categories of BALLI, foreign language aptitude, and difficulty of language learning, and ending with the highest mean score of motivation and expectations.

In general, responses to the BALLI showed some trends in the beliefs about language learning of the 'ENGC 102' participants of the present study. However, some responses to BALLI after the program showed similar levels of agreement, neutral, or disagreement from more than half of the participants. This ensures that beliefs about language are formed gradually over time in both formal and informal learning contexts (Horwitz, 1987), and they have become part of students' mentality since school time. Figure (5) shows the difference between the five categories of BALLI after implementing the program.

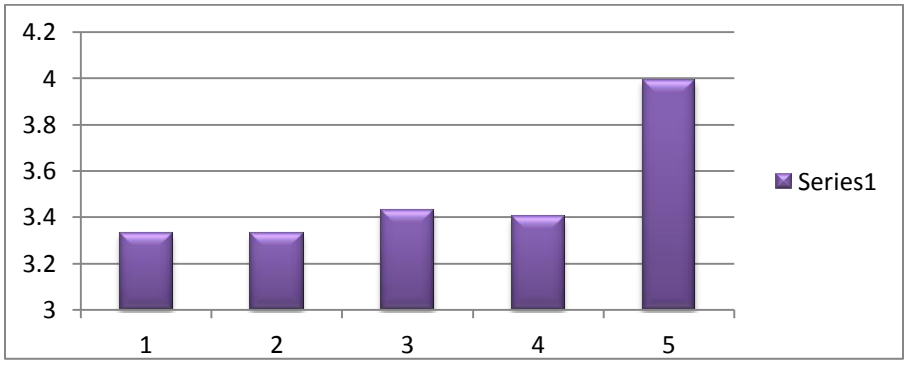


Figure (5): Means of the five items of students' beliefs in learning English as a foreign Language after the Program

Comparison between the results of the survey, given before and after the program, indicated that there were some modifications in some of the previously held beliefs, which could be due to participating in the instructional program. Figure (6) shows the differences in the mean scores of BALLI responses before and after the program.

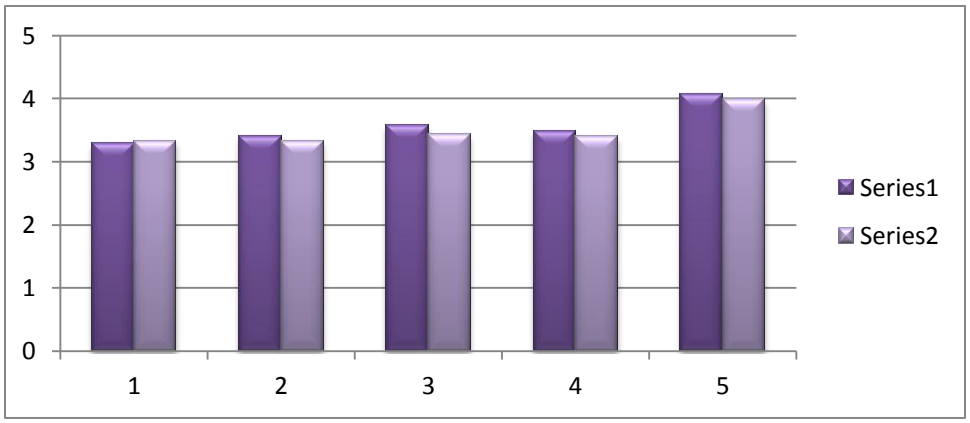


Figure (6): Differences between the mean scores of the participants' responses to BALLI before and after the program

In general, the 'ENGC 102' students in this study reported having many positive beliefs about English language learning after the program. In order to find out which items showed modifications in students' beliefs, only the statements which showed either a considerable higher of lower difference in percentage will be reported.

Starting with the first BALLI category, foreign language aptitude, students reported a higher percentage of agreement in some items. In item(2), *some people have a special ability for learning foreign languages*, the percentage of agreement rose from 81.8% to 91%; In item (6), *people from my country are good at learning foreign languages*, there was an increase from 50% to 72,8%; the percentage of students' responses to statement (33) ,*everyone can learn to speak a foreign language*, rocketed from 54.5% to 86.4%, which indicates that a high percentage of students believed that foreign language aptitude exists and that almost everyone can learn to speak a foreign language. However, the percentage

of students' responses to item (16) dropped from 40.9% to 22.7%, showing that some agreed that they themselves possessed that ability, and being almost consistent in their beliefs that it is easier for children to learn. Responding to item (10), *it is easier for someone who already speaks a foreign language to learn another one,* there was a slight rise in the percentage of agreement (from 31.8 % to 36.8%) with an increase in the percentage of neutral answers from (22.7% to 50%) and reduction in the percentage of disagreement (from 45.4% to 13.6%), revealing a reasonable positive change in beliefs.

Concerning gender and language learning (statement 19), students became more convinced that women are not better than men at learning languages since their disagreement rose from 36.6% to 45.5%). The program could have helped them assess the differences between the gender wise issue and their own aptitudes and abilities for language learning.

As for modifications in the second category of BALLI, the difficulty of language learning, the results reported positive beliefs. As a response to item (15), *if someone spent one hour a day learning a language, how long would it take them to speak the language very well*?, students showed optimism and enthusiasm since 54.5% reported that it takes less than a year , whereas this option got only 36.4% of the answers prior to the program. Based on that, 77.3% of the participants started viewing English as a language of medium difficulty, which means it is possible for them to learn it. The response to whether it is easier to speak than understand a foreign language (item 25), the percentage showing disagreement remained consistent (40.9%), exactly the same percentage of students who tended to show more agreement in contrast with only 13.6% before the program. It seemed that the tasks and activities of the program that required interaction and participation had an effect on modifying students' beliefs about the speaking skill, which was traditionally emphasized through repetition and mimicking. These

results seem to support Hu's (2010) study in which he indicated that students nowadays may have more confidence in speaking (p.36).

As far as students' beliefs in the nature of language learning are concerned (the third category), responses revealed that a high percentage have almost consistent negative beliefs in both applications of BALLI. For example, most of them still believe that grammar and vocabulary are important components in English language learning (77% & 81.8%), which might refer to the traditional teaching methods such as the Audio lingual which focused on memorizing vocabulary items and drilling grammatical patterns as the bases for language learning. Holding the belief of the importance of vocabulary and grammar in learning English and the importance of being immersed in its culture influenced their contrasting responses to item (27), *learning a foreign language is different from learning other academic subjects*, obtaining lower percentage of agreement (63.6% to 50%) and higher percentage of neutral answers (40.9%).

However, 86.4% believed that it is necessary to know about English-speaking cultures in order to speak English (item 8) as compared to its percentage before the program (72.8%), while the percentage of believing that it is best to learn English in an English-speaking country (item 12) dropped from 72.7 to 59.1. This was positively interpreted by the researcher that as a result of participating in the program, students started having positive, optimistic, and enthusiastic attitudes towards the possibility of learning English in one's own country. In addition, the percentage of students who believed that the most important part of learning English is learning how to translate from Arabic, my native language (item 28) decreased from 68.2% to 59.1%, which was a positive modification towards departing the grammar-translation approach students were used to at schools.

Regarding the fourth category, learning and communication strategies, most of the items gained much positive change in students' beliefs after the program. For example, 81.8% disagreed with the item that you should not say anything in English until you can say it correctly (item 9), whereas the percentage was 59.1% before the program. Focusing on fluency rather than accuracy through constructing their reading and writing tasks might have positively influenced students' beliefs.

In addition, 81.8% started believing that they enjoy practicing English with the Americans or foreigners they meet, in contrast to 63.6% before the program. Most importantly, item 14 got the highest percentage (100% instead of 86.4%), unanimously being convinced that it is O.K. to guess if you do not know a word in English. The researcher explained that the modification in beliefs could be attributable to one of the components of the program, which focused on guessing and inferring meaning from context.

Item (22) also viewed a positive modification in students' beliefs following the program. About 60% of the participants disagreed with the statement that if beginning students are permitted to make errors in English without corrections, it will be difficult for them to speak correctly later on, as compared with the 36.4% disagreement before the implementation of the program. Item (26), *it is important to practice with cassettes, tapes or CD-ROMs*, gained 10% less agreement after the program, which was in contradiction with item (18), it is important to repeat and practice a lot, which gained almost more 10% agreement (77.3% to 86.4%).This is an indication that preconceived beliefs from previous experiences are still affecting English language learners.

All the items of the last category of BALLI, motivation and expectations, witnessed a high percentage of positive modification in students' beliefs. More than half of the participants reported that people feel that is important to learn

English, showed their intrinsic and instrumental motivation to have better work opportunity.

In his study about the beliefs of pre-service EFL teachers in Thailand, Vibulphol (2004) noticed that only few beliefs differed significantly after the participants had classroom experiences in their practice teaching. Those beliefs were distributed in the categories of foreign language aptitude, learning and communication strategies, and motivations and expectations. For example, the item "It is important to speak English with a correct pronunciation" obtained 100% agreement in the first survey, but the percentage of the participants who agreed with the statement dropped to 88.1 % in the second survey. In addition, the percentage of the participants who agreed with the statement "I want to be able to speak English well" dropped from 100% to 95.2%. Besides, 4.8% of the participants in the second survey responded to the statement on the "3" scale; they "neither agree nor disagree" with the statement.

4.2.7. Research Question Seven

What is the degree of 'ENGC 102' students' satisfaction of the effectiveness of the program based on higher-order cognitive processes?

To assess students' satisfaction of the instructional program, the researcher administered the satisfaction scale to the participants of the experimental group after the implementation of the program. The scale is composed of twenty statements, divided into four sections with five items on each section: Learner-content interaction, learner-instructor interaction, learner-learner interaction, and general satisfaction. Participants were asked to give a score for each instruction method on a four-item type scale between (1- Strongly disagree, 2-disagree, 3-agree, 4-*strongly* agree). The statements mainly dealt with the effect of the newly introduced processes and strategies on students' learning and cognitive and

academic achievement, and on the physical and emotional comfort of the learning environment.

First, descriptive analysis of the scale was done through calculating the mean score and standard deviation for each item in the scale separately. Second, the frequency and the percentages of students' responses were calculated. Mean score and percentage analyses for the scale, which is based on a 4-point Likert scale, were performed using the SPSS program.

Section A: Satisfaction regarding learner-content interaction

The first section of the scale explores students' satisfaction of the effect of learner-content interaction. In Table (17) below, students' mean scores and standard deviation obtained for each item in this section are displayed. As it is noticed the average mean is found to be 2.95 out of 4, which is moderately high.

Table (17)
Descriptive Statistics of Learner-content interaction

No.	Items	N	Mean	Std. Deviation
1	The program documents, handouts, lessons or notes used in this program facilitated my English language learning	22	3.09	.53
2	The assignments and/or projects in this program facilitated my English language learning	22	3.23	.53
3	The learning activities in the program which required the application of higher order thinking processes facilitated my language learning	22	2.68	.78
4	Preparation for quizzes and exams required for the program facilitated my language learning	22	2.95	.84
5	I feel the use of higher -order cognitive processes and critical thinking skills has helped improve my reading and writing skills	22	2.77	.69
	Valid N (list wise)	22		
	Average		**2.95**	**0.67**

In the first section of the scale, the highest mean score for an item, 3.23, was obtained for item 2, which indicated that students thought that the assignments and/or projects in the program facilitated their English language learning. Similarly, the mean score of item 1 (3.09) was a relatively very strong mean score, which illustrated that students believed that the program documents, handouts, lessons or notes used in this program facilitated their English language learning.

Besides, moderately high mean scores (almost 3) were found for item 4, being satisfied that the preparation for quizzes and exams required for the program facilitated their language learning. However, items three and five, *the learning activities in the program required the application of higher- order thinking processes which facilitated my language learning, and I feel the use of higher-order cognitive processes and critical thinking skills has helped improve my reading and writing skills, also* revealed moderately high mean scores (2.69 & 2.77) respectively. Table (18) below presents the frequency of students' responses to the first section of the Satisfaction scale.

Table (18)

Students' Responses to Section A : Learner-content interaction

	Learner-content interaction							
	(Strongly agree) 4		(Agree)3		(Disagree)2		(Strongly disagree)1	
Item	Frequency	Percent %	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	4	18.2	16	72.7	2	9.1		
2	6	27.3	15	68.2			1	4.5
3	4	18.2	7	31.8	11	50.0		
4	7	31.8	7	31.8	8	36.4		
5	3	13.6	11	50.0	8	36.4		
Mean		**21.82**		**50.9**		**32.98**		
S.D.		**7.47**		**19.39**		**17.16**		

Through analysis of the results in Table(18), it is observed that 20 (90.9%) students felt that the program documents, handouts, lessons or notes used in this program facilitated their English language learning (item 1). Similarly, 95.5 % showed strong satisfaction of item (2) reflecting that the assignments and projects in the program facilitated their English language learning, and only one of the students expressed strong dissatisfaction. Item (3) , *the learning activities in the program which required the application of higher order thinking processes facilitated my language learning,* revealed a contrasting result; while 50% of the participants were in disagreement, the other half agreed (31.8), and (18.2) strongly agreed. In both items (4&5) 36.4% (8 students) indicated that neither the preparation for quizzes and exams required for the program under study ,nor the use of higher -order cognitive processes and critical thinking skills helped improve their skills. This dissatisfaction could be attributed to their negative experiences and mistaken beliefs about language learning, which was characterized by memorization of vocabulary and grammatical patterns.

In general, it can be concluded that the majority of the students found the learner-content interaction a positive way to improve language skills. In other words, the percentage of satisfaction regarding this section outweighed those of dissatisfaction.

Section B: Learner-Instructor Interaction

The second section of the scale explores students' satisfaction of the interaction between the learner and instructor. In Table (19) below, students' mean scores and standard deviation obtained for each item in this section are displayed. As noticed, the average mean 3.08, out of four, can be interpreted as students' having highly positive satisfaction with the role of the instructor (researcher) and modes of interaction.

Table (19)

Descriptive Statistics of Learner-instructor interaction

No.	Items	N	Mean	Std. Deviation
6	All through the program, the teacher was an active member offering help and feedback	22	3.68	.48
7	I felt frustrated by the lack of feedback from my teacher	22	**1.59**	**.73**
8	I was able to get individualized attention from my teacher when needed	22	2.82	.85
9	All through the program the teacher functioned as a facilitator by continuously providing reading and writing activities.	22	3.41	.67
10	I received continuous feedback from my teacher	22	3.09	.68
	Average		**3.08**	0.49

Item 7 is originally negative, but when recoded it will be (2.41)

Descriptive analysis of the table above clarifies that item (6), *all through the program, the teacher was an active member offering help and feedback*, got the highest mean, followed by the ninth item, *all through the program the teacher functioned as a facilitator by continuously providing reading and writing activities* (3.41) , and then came the tenth statements, *I received continuous feedback from my teacher*, with a mean score of (3.09). *I was able to get individualized attention from my teacher when needed* (Item 8), obtained a mean of 2.82, which tells a moderately high mean. This response was supported by the *negatively formed statement (7), I felt frustrated by the lack of feedback from my teacher*, which got a mean of (1.59), which is also considered moderately high (equal to 2.41).The following table (20) shows the frequencies of students' responses to the second category of the scale.

Table (20)

Students' responses to Section B: Learner-instructor interaction

	Learner-Instructor Interaction							
	(Strongly agree) 4		(Agree)3		(Disagree)2		(Strongly disagree)1	
Item	Frequency	Percent %	Frequency	Percent	Frequency	Percent	Frequency	Percent
6	15	68.2	7	31.8				
7	1	4.5			10	45.5	11	50.0
8	4	18.2	12	54.5	4	18.2	2	9.1
9	11	50.0	9	40.9	2	9.1		
10	6	27.3	12	54.5	4	18.2		
Mean		33.64		45.42		45.5		29.55
S.D.		25.44		11.12		15.77		28.92

The analysis of the above table shows that all the students agreed or strongly agreed (with no disagreement) with statement (6), *all through the program, the teacher was an active member offering help and feedback,* believing that the role of teacher was not limited to lecturing.

Almost similarly, 21 students expressed strong disagreement (95.5%) with the seventh item, *I felt frustrated by the lack of feedback from my teacher*, being convinced that the teacher was continuously coaching and providing feedback. Actually, that supports statement (8) viewing that the teacher gives hand to individual students when needed which obtained 72.7% of students' answers. Besides, 90.9 %, comprising 20 students, either agreed or strongly agreed with item 9, *all through the program the teacher functioned as a facilitator by continuously providing reading and writing activities*. This is also in line with the 81.8% of students who believed that each participant received continuous feedback from the teacher (item 10).

In brief, the role of the teacher/ researcher was viewed as an active member providing continuous and constructive feedback for the class as a whole and for each individual as well. In addition, providing instructional material and activities facilitated the learning process, which positively affected students' satisfaction.

Section C: Learner-learner interaction

The third section of the scale explores whether or not the learner-learner interaction was effective in achieving students' satisfaction. In Table (21) below, students' mean scores and standard deviation obtained for each item in this section are presented and the average mean score obtained was found to be 3.17, which is very high.

Table (21)

Descriptive Statistics of learner-learner interaction

No.	Items	N	Mean	Std. Deviation
11	In this program, the delivered reading and writing material provided opportunity for developing critical thinking skills with other classmates	22	3.64	.73
12	This program encouraged me to work in groups to read and write a variety of tasks which developed my reading and writing.	22	3.45	.80
13	This course created a sense of cooperation and community among students	22	3.55	.74
14	In this class I was able to ask for clarification from fellow students when	22	3.00	.76
15	I received continuous feedback from colleagues in the class	22	2.23	.69
			3.17	**0.74**

Considering the table above shows that the first item (11) got the highest mean score (3.64) , feeling that students' critical thinking skills were developed by the reading and writing material the researcher provided through the program. The next high mean score belonged to item (13), expressing satisfaction of the cooperation and interaction the program created among students. Feeling that the program encouraged them to work in groups to read and write a variety of tasks

which developed their reading and writing (item 12) got a mean score of 3.45, followed by statement 14, that they were able to ask for clarification from fellow students which obtained a mean score of 3. However, it seems the participants were not well- satisfied with the feedback they received from colleagues in the class (item 15) which got the lowest mean score (2.23). In terms of the frequency of students' responses to the third section, learner-learner interaction, table 22) displays the details.

Table (22)

Students' responses to Section C: Learner-learner interaction

	Learner-learner interaction							
	(Strongly agree) 4		(Agree) 3		(Disagree) 2		(Strongly disagree) 1	
Item	Frequency	Percent %	Frequency	Percent	Frequency	Percent	Frequency	Percent
11	16	72.7	5	22.7	-	-	1	4.5
12	13	59.1	7	31.8	1	4.5	1	4.5
13	14	63.6	7	31.8	-	-	1	4.5
14	6	27.3	10	45.5	6	27.3		
15	1	4.5	5	22.7	14	63.6	2	9.1
Mean		**45.44**		**30.9**		**31.8**		**5.65**
S.D.		**28.57**		**9.34**		**29.8**		**2.3**

It is observed from the table that 21 students (95.4%) are strongly satisfied that the delivered reading and writing material provided opportunity for them to develop their critical thinking skills with other classmates, and that the program created a sense of cooperation and community among students (items11 & 13). However, only 27.2 % (6 students) expressed satisfaction of *receiving continuous feedback from colleagues in the class* (Item 15). This was in opposition with students' responses to item 13, which valued working cooperatively, creating a sense of community (95.4%). It was also in contradiction with item 12 which encouraged developing students' reading and writing skills (90.9%), and with item

14, where 16 students expressed satisfaction of being able to ask for clarification from fellow students (72.8 %). From her experience with the participants, the researcher inferred that to being embarrassed or shy to ask for help from students with higher language abilities, or to being sensitive in showing less ability than others, and most probably, to not accepting the fact that other peers could make good teachers for the weak students. Actually, this was clearly declared by the one pessimist participant who refused to work with peers in the groups and was neither satisfied with group work activities nor with the program and all university courses in general.

Section D: General Satisfaction

The fourth section of the scale explores students' general satisfaction of the program based on higher-order cognitive processes. Table (23) shows students' mean scores and standard deviation obtained for each item in this section. The obtained mean score is (2.87), which is relatively high.

Table (23)

Descriptive Statistics of students' general satisfaction of the program

No.	Items	N	Mean	Std. Deviation
16	I am very satisfied with this instructional program because I feel it improved my achievement in reading and writing tests	22	2.86	.71
17	If I had the opportunity, i would like to take another instructional program similar to this	22	2.64	.73
18	This program did not meet my learning needs .i.e. It did not improve my reading and writing skills	22	**1.68**	..89
19	I would recommend this program to others to help them develop their reading and writing skills and modify their mistaken beliefs about language learning.	22	3.18	.73
20	I learned much in this instructional program ,the thing that affected positively my beliefs about foreign language learning	22	3.36	.58
		22	**2.87**	**0.73**

Note: Item 18 is negatively stated, and the real mean score is (2.32 out of 4, SD 0.78), which is relatively high.

The analysis shows that the highest mean score (3.36) belonged to the last item of this section (item 20), expressing satisfaction of the effect of the program on students' learning, which was reflected positively upon modifying their beliefs about foreign language learning. Recommending the enrollment of other students in the program to help them develop their reading and writing skills and modify their mistaken beliefs about language learning got the second highest mean in this section (3.18).This was similarly revealed in students' responses to the interview questions. The rest of the items got almost similar strong satisfaction (more than 2.5). Students' responses to the last section of the questionnaire are illustrated in Table (24) below:

Table (24)

Frequencies of students' responses to section D: General Satisfaction

	General Satisfaction							
	(Strongly agree) 4		(Agree)3		(Disagree)2		(Strongly disagree)1	
Item	Frequency	Percent %	Frequency	Percent	Frequency	Percent	Frequency	Percent
16	3	13.6	14	63.6	4	18.2	1	4.5
17	2	9.1	11	50.0	8	36.4	1	4.5
18	2	9.1			9	40.9	11	50.0
19	7	31.8	13	59.1	1	4.5	1	4.5
20	9	40.9	12	54.5	1	4.5		
Mean		**20.9**		**56.8**		**20.9**		**15.875**
S.D.		**14.58**		**5.86**		**17.21**		**22.75**

A surprising observation in this section is the students' contrasting satisfaction levels. Whereas a high percentage of students expressed strong agreement and agreement (90.9%) in recommending this program to others to help them develop their reading and writing skills, and modify their mistaken beliefs about language learning (item 19), only 59.1% of them expressed satisfaction of item (17) *if I had the opportunity, I would like to take another instructional*

program similar to this. When the researcher asked for justification and clarification of the reasons behind their choice, most of the students complained about the heavy load of activities and tasks; they claimed that the program was so demanding that they were not able to carry out other academic tasks. However, "if the program was the only course, our option will be different", one student asserted the statement. This was the same complaint raised by the five interviewees.

In regard to beliefs, 21 students expressed strong satisfaction (95.4%) with the positive effect of the program on improving their language skills, which was positively reflected on modifying their beliefs about language learning, in contrast with only one student who expressed disagreement. Twenty students (90.9%) registered disagreement or strong disagreement with the negatively stated item, expressing strong satisfaction with the accomplishment of the aims of developing students' reading and writing skills.

To conclude, the items of the satisfaction scale showed that students were satisfied with the program and were well aware that the tasks and activities employed were effective in terms of cognitive and affective factors. That is, the program had a significant effect on developing their reading and writing language skills.

4.3. Interview

To assess students' satisfaction with the implemented program in depth, a semi-structured interview with a focus group of five students was carried out. Four interviewees were satisfied with the program and one was dissatisfied, although she expressed likeness of most of the activities but felt that her reading and writing skills did not develop as she expected. The interview questions were based on the objectives of the study and aimed to reinforce the data collected from the satisfaction scale and to obtain more detailed and qualitative information about students' dis / satisfaction of the implemented program, their opinions, feelings and

recommendations. The questions also aimed to give more space to students to practice the process of reflection on their learning experience since students' answers could be evidence that the new processes and skills have (not) helped them transform current beliefs in reflective processes. The interview data were analyzed and qualitatively interpreted as follows:

Question One

a -Mention the most important skills or higher-order cognitive processes you have learned during the period of implementing the program?

The five respondents unanimously answered that all the processes they learned were good. The researcher asked them to clarify and elaborate by providing examples. Their personal responses are shown below as categorized into main topics:

Topic one: Reading and writing skills

Respondent 1: The best student in English, the most hard- working and highly motivated student expressed his satisfaction and pleasure in learning some strategies that they have never experienced so far. He enjoyed using the worksheets to predict, make inferences, identify the main idea and supporting sentences, "although sometimes we mix between topic sentence and supporting sentences", he admitted. He also expressed the preference to the strategy of guessing meaning from context," which is new to us", he asserted. He continued that at school, they were forced to memorize complete lists of vocabulary items required in the General Secondary Examination (Tawjihi).He also expressed likeness to proposing a title, comparing and contrasting using Venn Diagram, distinguishing fact from opinion, transferring information from text to chart, diagram or table or vice versa, and categorizing the logical and cohesive order of ideas in the text.

However, he was frank and told the researcher that he did not enjoy the strategy of recognizing unstated assumptions (i.e. developing ideas or images

based on what is read in the text and the strategy of speculating the author's purpose. He found those strategies difficult and said "ya miss, we have to thank God that we understand what is in front of us, but we tried".

As far as writing is concerned, all respondents admitted that at school they did not write "composition", the term used at schools, and so they hated writing. Nevertheless, the first respondent was enthusiastic to say that he started to love writing, especially when working in pairs or groups using handouts and worksheets.

Respondent 2 proclaimed that he came to class with no information about all the strategies implemented; "I tried to work hardly in class and go to the home to study the same strategy in my lessons", he said. That is, he tried to apply the strategies he learned to understand other subject matters at the university. He preferred to guess the meaning of words, but sometimes "we not able to give right answers". He liked working in groups to predict the content, details, conclusion or the end of the story. However, he admitted that the course was very demanding and he felt that he spent most of the time just studying English during free hours at university, or doing assignments and writing reflection journals at home on the expense of other academic subjects.

Another two students expressed the satisfaction of the whole program, reading and writing strategies, skills, and higher-order cognitive processes. They preferred the process of making inferences, guessing meaning from context, analyzing the reading text or story, but did not like writing comparison/ contrast paragraphs and summarizing.

The fifth student did not show satisfaction but had a negative attitude toward the program and all activities.

Four respondents liked the strategy of organizing either sentences or paragraphs in a logical order and synthesizing narrative paragraphs using cohesive

devices. “Writing about our lives and experience was very interested” the fourth respondent’s statement. Also, all of them liked assessing each other’s work “because we learned from our friend some mistakes”, respondent three remarked. She meant that classmates identified some errors in their writing that they did not pay attention to.

Topic Two: Higher-order cognitive processes

When asked to indicate which process was of much importance and preference to them, all said “making inferences and prediction then came analysis”. They enjoyed reading the provided stories, predicting and analyzing the details and conclusion, and imagining themselves in the place of the hero. When the researcher asked them to give examples, the fifth student said that “If I were in Della’s place, I would not sell my hair”; the second respondent said that the hero of “The Necklace” did not tell the true to her friend[truth] .

Regarding reflection, the first respondent liked the process and said that every day he used to write in his diary about each strategy he learned; he also said that it was beneficial to “know what is good and strong or not”. i.e. to recognize the points of weaknesses or strengths of each new strategy or process. The second respondent said that when analyzing the stories he tried to apply the process of reflection by relating the text to people he knows and to associate feelings with experiences and characters that resemble them. The third respondent believed that using the higher-order cognitive processes to comprehend the additional material prepared by the researcher was more enjoyable than using them to comprehend the topics of the book. However, the others said that they tried to reflect on the reading text just because it was required in the program but never liked it.

b- Can you tell me how you came to learn these skills?

c- How do you believe your instructor helped you learn these skills?

The researcher found that the students responded similarly on the questions above, and so she incorporated the answers as follows:

All the four interviewees responded that they had learned the strategies and processes through the worksheets, charts, handouts, and activities the researcher employed in class. The first interviewee added that he also used the same charts and worksheets to study other subjects at university. He reminded the researcher of what she had told them about those processes and strategies during the awareness raising session. (The researcher motivated the students at the start of the program that all the strategies would be helpful when studying other subjects at university).

Question two

Suppose that you had a test now and your teacher provided you with a reading passage, what strategies would you follow in order to fully comprehend the text and be able to respond accurately to all types of questions? Please explain in detail.

In response to this question, the interviewees provided various answers; their answers will be presented below successively:

Respondent 1:“Analysis, inference, and reflection”. He claimed that in a test, students do not have enough time to predict and make inferences unless there is a question on those processes. In contrast, in class they can read the topic, for example, predict ideas, facts , and events and reread the text again to check whether their predictions are true or not. He would prefer to read the text, analyze it, infer the meaning of unfamiliar words, identify the main idea and other supporting details, answer specific questions and organize ideas logically, make connections, etc. “Analysis and inferences are also utilized to summarize the text and say our opinion, but why we need prediction”? He asked.

Respondent 2:“Analysis and inference”. He is in the same line with the first interviewee but did not focus on reflection. He said that “if we are not asked to reflect, so why lose [waste] our time!” he exclaimed.

Respondent 3: Depends on the questions of the text. Usually all the questions need analysis, “but your questions need reflection; so if you write the exam, I use all the strategies and processes you taught us; otherwise I read the question and answer on that” [accordingly].

Respondents 4 and 5: Those ladies wanted to satisfy the researcher and said “because we learned them with you, we have to apply them”. The researcher asked for a logical answer: Respondent 4 said that if the passage were long she would prefer to predict answers to the simple questions so as to save time for analyzing other difficult questions. Respondent 5, who was a little bit pessimistic, gave a similar answer.

The four participants also focused on the same strategies as the first respondent: inferring the meaning of new items, the main ideas, writer’s intent, similarities and differences between ideas.

Question three

Do you think that the strategies and processes you have learned this semester were beneficial and effective for you in other academic subjects as a university student? If yes, please clarify with examples.

Four answered positively, and one did not express satisfaction. Three respondents explained that they tried to predict, analyze and infer the answers to the assignments on different topics. When asked to give opinion or suggest a solution to any problem in their field of study, they had to apply the process of reflection by developing a critical opinion, evaluating an experiment, or commenting on a given question incorporating personal experiences.

The fourth respondent said that all the strategies and processes were beneficial. She gave an example how she used them to help her brother in the eleventh grade understand his English lesson. She said that before learning these strategies, she was not able to write complete sentences or composition, but now "I do comparison and summary", which meant she was able to summarize, and write comparison/contrast paragraphs.

The fifth respondent said, "I hope so, but I can't know now, I want to use them in English course next semester to success [pass the course]", she hoped.

(By the way, four students visited the researcher in her office at university the following semester and thanked her for the program and all the hand outs ; they told her that they were of great help to all of them in the second English course (ENGC 141) and other different specializations at the university. The researcher asked them about the fifth participant, and all answered that she would never change and behaved similarly in all courses).

Question Four

In general, what do you think about the benefits or effectiveness of the program? Consider how the program could be improved to help you prepare for other courses.

Respondents' answers are summarized below:

The first respondent asserted the effectiveness of the program and said "as I told you it was good to use the methods to understand all the details of any lesson in English or with other teachers". He also repeated what he previously said about the traditional methods at schools and how teachers asked them to memorize lessons and pieces of writing to be recalled in the test. He continued, "our teachers did not learn [teach] us how to predict or reflect, it is in this class we hear about these strategies". As for improving the program, the same respondent preferred to

apply all the new strategies to extracurricular material and “leave this boring book”.

The other interviewees had a similar opinion about the benefit of the program, but the fourth respondent said “miss, do not be angry, you give us much work and we no time to do and I asked my friend to do the assignment to me”; here the researcher interrupted her and said “did your friend do all the assignments to you while you were at home?” “No, ya miss”, the student said, “we do together in library”. She clarified that they had the problem with reflecting on the work, judging or evaluating a piece of information, or trying to draw conclusions.

By the way, the same dissatisfied student (No.5) felt that all courses at university were useless; she was an indoor student with no friends; she used to keep sitting alone during the break in spite of the fact that her classmates encouraged her to work with them. She had a negative attitude towards classmates, academic subjects, and the instructors, even the researcher; she sometimes refused to respond to the researcher’s questions or take part in classroom interaction. For that reason, the researcher insisted on interviewing her. The researcher concluded that she might be facing some problems as a first-year student and was not able to adapt to the situation in all lectures.

Question Five

Do you recommend teaching the same program for other students? If yes, what English communication level, do you believe, should be trained to use these skills, and why?

Four students agreed that it should be taught to all English communication courses at Birzeit University. Three students suggested starting using these strategies and processes at school “from 10th class to encourage the students in the high school to learn English”. Another interviewee said that “this the first time I love English and not afraid to speak or write”.

Question Six

Is there anything you would like to tell us about the program that we haven't discussed? Are there any suggestions, feedback, or comments?

The first respondent suggested that the entire program was good except reflection. He blamed school teachers who used to translate everything in Arabic and did not work hard to help students learn English well. He suggested that all the students should be enrolled in such a program not only their section. However, he insisted that the course was tiring to them and spent much time doing the assignments.

The second respondent expressed herself in Arabic saying that she would learn the other courses with the same teacher/ researcher because she liked the experience. She said, "I not able to speak and write but I like to be better in English". She added that her friend, who used to attend some of the researcher's lessons as a guest, liked the experience and asked for conducting similar training courses for university students.

The third respondent also commented on the heavy load of the program saying that "our friends not study as us but liked what we do".

The fourth respondent said that the strategies were difficult to implement, and she hated the program at the beginning, but she modified her opinion later when she got used to the new style of learning.

The fifth student nodded her shoulders with a smile that indicated the end of the interview without any comment on the last question.

At the end of the interview, the researcher expressed her gratitude for students' efforts, cooperation, and patience and wished they could use the strategies in other subjects as well.

4.3.1. Summary of the Interview

As shown from students' utterances and responses, the program seemed to have a significant effect on students' reactions, enthusiasm, motivation, and satisfaction. However, the researcher believed that students' satisfaction is not an indication of their success or development in their learning outcomes. For some students, the concept of satisfaction might refer to their preference and interest in the teaching material or activities, class setting, working cooperatively, and assessing each other's work. On the other hand, being satisfied for others refers to providing and achieving good quality learning (English language learning in this context). Therefore, satisfying people does not guarantee good quality learning.
Based on this personal view of the concept of satisfaction, referring to responses to the scale items, and without being biased, the researcher concluded that the program had positive effects on students' cognitive, reading and writing development as shown in their artifacts.

The researcher was very satisfied with the students' productive work during and at the end of the program. All the participants worked in groups of four and prepared a very short research on the main topics taught in the program according to their language competences and delivered group presentations. The researcher noticed that the program did not only develop students' reading and writing skills but also listening and speaking in addition to developing social and citizenship skills such as cooperation, taking turns, and respect. The researcher was pleased to have students learned the grammatical structures implicitly through learning the content.

On the other hand, the interview revealed negative opinions toward some processes and strategies. For example, students found difficulty in reflecting, drawing conclusions or recognizing unstated assumptions. The researcher attributed that to the traditional teaching methods that focused on lower-order

cognitive processes. The fifth respondent was a little bit pessimistic and expected that her language skills would be much better at the end of the program. She admitted that the program did not improve her reading and writing as she aspired; she said that "Ok, I answer the questions good but don't write good; my many mistakes and don't like to writing a paragraph", but I will take ENGC 141 course with you to prove [improve] myself", she hoped.

Another negative point was the students' confession of the exhausting and heavy load of the program. The researcher admitted that she did give them much work, which might have resulted in focusing on the program and ignoring other subjects, as students said. But again, the mere explanation to this attitude was due to the absence of such strategies and processes in the English curricula at schools.

To the researcher's surprise, the respondents' answers to the interview questions were much more elaborated and were able to analyze and reflect on their current situation in comparison with their level before the intervention. Furthermore, their thinking level has progressed and higher -cognitive order strategies were clear in their responses to the above-mentioned questions.

4.4. Analysis of Students' Artifacts

The researcher supports Moon's (2005) note that we cannot see that learning has occurred, but we can see only the results of learning which can be termed the representation of learning .Therefore, in order to shed more light on the qualitative wise analysis of the results of the present study, and to further clarify possible associations and consistency between students' responses to the interview questions and their language learning accomplishment, the researcher collected samples of representative artifacts from the same five students who were interviewed. The artifacts comprised a variety of journals, worksheets and handouts for practicing higher-order cognitive processes on a variety of factual and literary texts, reflecting on the strategies followed through the program, assessing

each others' work as well as writing narrative paragraphs. Five activities will be described in this context.

Starting with the story, *The Gifts*, students were able to apply the learned processes and make connections to gain a deep comprehension of the story and create understanding as they go further by:

- anticipating questions, ideas or events;
- speculating the writer's aim or intent;
- guessing word meaning from the context;
- analyzing the events;
- evaluating decisions;
- distinguishing between factual and inferential text;
- recognizing unstated assumptions;
- inferring the main points to write summary;
- making inferences;
- recommending a solution;

The following are some extracts from students' responses to the story questions: (See photos of their real responses in Appendix N):

Question: If you were in Della's place, how would you behave instead (similarly or differently)? Elaborate by providing details about possible actions before and after the couple's decision.

Participant 1:

Before: "I will sell my hair to bring a special gift on this special occasion, and my hair grows fast".

After: I will like his gifts and I will persuade him that my hair will grow again &become pretty as he love[s] my hair".

Instead: "the gift [is] not [in] on it [its] value[,] but it on what it [what it] mean[s] for the person I gift him a special picture to keep it as a sovinere [souvenir] ".

Participant 2:

Before: Because I loved her was believed [real love], I am [ready to] sacrifice for his[her] love, and I sell everything is expensive for me to pay[buy] him present".

After: "I said for [tell] him don't worry you are Beautiful [beautiful},and I don't angry…sacrifice for me".

Instead: "I give [give] for him flowers".

Participant 5 (The pessimist student):

Before experimentation: "Think for a bitter [better] way to give Jim a present, but not to cut my hair, the present does not all of love[???], I can make [buy] other gift[s]".

After experimentation: "I save my gift And say to Jim we must save your gift in future, you can buy a new watch and my hair well tall and then I can use the present".

Instead: "Didn't sell my hair, and make a simple present for a cheap price that I have 1.87 $ this will be best because Jim will be sad, for my gift if I buy my hiar [hair] to bay[buy] a gift.

Another example of students' use of higher-order cognitive processes was present in their responses to *Family Decisions*. Students were asked to read the following item and respond critically:

Chris wanted to go camping. His father promised Chris could go if he saved up the money. Chris worked hard on the paper route and saved the $75.00 it cost for the camp. But just before the camp was going to start, Chris's father changed his mind. Some of his friends had decided to travel to Toronto to see a hockey game, and Chris's father didn't have enough money. His father asked Chris to give him the money he had saved. Chris didn't want to give up going to camp, so Chris thought of refusing.

Question: Decide whether or not Chris should give the money to his father. Justify your answer.

Participant 1: "Yes". He was with the decision of giving him the money believing that "his father take car[e] of him for all last years, his father spent all his money on Chris, maybe his father was on economic crisis and he want the money to take some rest from his problems, Chris has his life time to go to the camp but his father will not have another chance to go with his friends, and this situation may be a lesson for Chris to take his father place for one time".

Participant 3: She answered positively and justified her answer saying that "The father has a responsibility for Chris's growth and welfare. If he decides that it is better for Chris not to go to the camp and to give Chris's father the…..".

Participant 4: Her answer was negative for the following reasons:

-"Because Chris worked hard to have the money.

-His father told him to get the money, that means he did not want to give him the money

-The father should spend money on his child

-The father didn't have the money, so he don't [did not] have to go to Canada".

Making inferences was another process that students enjoyed practicing. The following is one example:

Directions: Read each passage and then respond to the questions. Each question will ask you to make a logical inference based on textual details. Explain your answer by referencing the text.

Every day after work Paul took his muddy boots off on the steps of the front porch. Alice would have a fit if the boots made it so far as the welcome mat. He then took off his dusty overalls and threw them into a plastic garbage bag; Alice left a new garbage bag tied to the porch railing for him every morning. On his way in the house, he dropped the garbage bag off at the washing machine and went

straight up stairs to the shower as he was instructed. He would eat dinner with her after he was "presentable," as Alice had often said.

1. What type of job does Paul work?

Participants' answers varied: Farmer, digger, worker, cleaner or, janitor.

2-How do you know this?

All of them inferred the answer from the statement "Paul took his muddy boots off on the steps of the front porch."

3- Describe Alice

Students' answers were: Alice is a very clean person; very nervous; harsh; crazy, and tidy.

4-What in the text supports your description?

One said that "Paul took off his dusty overalls and threw them into a plastic garbage bag". Another said "because she wants him to enter the house without shoes". The third replied because "he dropped the garbage bag off at the washing machine and went straight up stairs to the shower as he was instructed".

The fourth activity to be described here is reflection. Reflecting on their practices of higher-order cognitive processes at the end of each process was another accomplishment of the program. Students were provided with reflective journal prompts to respond to and discuss their reflections during the last five minutes in class. The aim was to pinpoint the points of strengths and weaknesses and to assess the benefits of the taught processes. However, at the end of the program, students were also asked to reflect on their experiences, assess their level of development and evaluate the program as a whole. It is worth noting that some of the students asked to answer in Arabic so as to express themselves well. The journal prompts concentrated on the importance of the program, the activities they thought might help them in developing language skills, and the processes they thought would be beneficial to comprehend other subject matters at university. The

following are some extracts of the participants' responses to the reflection prompts regarding the usefulness of the program:

Participant 1: He explained that in the semester they learned a variety of strategies that were interesting and useful. This helped him personally to develop his reading, writing, and speaking skills. According to this participant, the strategies were good, but he liked inference "because it make me think and find the reason from the lesson". Also, he liked inferring meaning from context, analysis, and prediction. He confirmed that the strategies helped him in his physics course at university. He recommended teaching the processes not only to university students but to school students as well.

Participant 2: This participant liked all the lectures of the program because they were interesting. "To be frank", he said, "I faced many difficulties at the beginning, but later I felt interested, and I liked working in groups the best. I prefer prediction to check if I am right or wrong. Of course, all strategies were useful for all university students but we did not learn that at school, and that's why we do not like English", he justified.

Participant 3: According to this participant, "this program taught us many skills and I learned "some English". She maintained that the program was important for her because she learned some skills she had never heard before. However, "I am still suffering from the problem of writing paragraphs, and I do not like that", she continued. She thanked the researcher for conducting the program, and she said she would advise others to participate, "but not all processes, especially writing paragraphs".

Participant 4: She expressed her interest in the course. "What I liked best was the additional material and stories we used, which were more interesting than the textbook", she believed. She said that the use of various strategies created an interesting, motivating, and cooperative atmosphere. "The researcher allowed us to

express ourselves freely with no right or wrong answers; we reflect our answers". She also asserted the benefit of using the cognitive processes in the courses she was enrolled in.

Participant 5: "I have not felt any improvement". She insisted that some of the strategies were just a waste of time. "What bothered me in this course was that the teacher [researcher] did not focus on the textbook, rather she selected material that was not useful to us, such as stories". To the researcher's surprise, this participant thought learning is only accomplished through studying the content of the textbook and memorizing information to be retrieved on the test; otherwise it is a waste of time. The mere explanation is due to the traditional teaching methods that are still followed at schools, fossilized in students' mentality, and transferred to tertiary levels as well.

The fifth and last activity to be described here is the writing skill. To show the level of students' development in this skill, the researcher compared between paragraphs written during the first month and during the last week of the program. Analysis was based on the same rubric that was provided to the students and used to mark the pre/post-test (Table 25) (Refer to Appendix (N) for reflection journals and photos of students' artifacts).

Table (25)

Analysis of samples of five students' writing assignments

Participants	Assignment 1	Assignment 2
Participant 1: M.S.	2	3.5
Participant 2 :Hay..	2	3
Participant 3: Y.	3	4
Participant 4: Wi.	0	2.5
Participant 5: H.	2	4
Mean	1.8	3.
Std.Dev.	1.095445	0.65192

As shown in the table, there is a significant difference between the mean scores of the students' writing, which is consistent with their responses to the interview questions.

In brief, it is observed from the qualitative and quantitative data that the activities based on the higher-order cognitive processes (analysis, inference, prediction, and reflection provided by the researcher) revealed that the program was effective for most of the students in comprehending their textbook material and in helping them reflect and transfer the processes to further texts as well.

The processes were not only used in 'ENGC102' course but were also applied to other courses at university depending on students' field of study. Again the program revealed that some strategies were preferred to others. For participant (5) things were kept in a "black box". That is, she started the course with the same negative attitude towards the 'ENGC102', the researcher, her classmates, and even all courses she was enrolled in at the university.

As a matter of fact, the researcher was interested in her case and tried to help her individually, but she said "I do not need any help, I understand English". The researcher got to know from one of her classmates at school that she used to behave similarly. Moreover, she was planning to study at another university, but her parents obliged her to study at Birzeit University. The researcher came to the conclusion that her negative attitude played a significant role in affecting the results of the BALLI.

The researcher also concluded that the development of cognitive processes is possible in two conditions. First, the availability of a syllabus that allows the teacher to develop different types of cognitive processes in which students can use their background information, and work cooperatively. The second is the involvement of students in activities in which they can rethink their English

language learning, integrating efficiently their cognitive processes and the development of language skills.

4.4. Discussion of the Findings

The purpose of the current study is to investigate whether using higher-order cognitive processes, analysis, inference, prediction, and reflection, can develop 'ENGC 102' students' reading and writing skills and modify their beliefs about language learning at Birzeit University. This research utilized a variety of quantitative and qualitative sources to serve for triangulation of the data and to answer the main and sub-questions of the research.

To respond to the main research question, what is the effect of using higher-order cognitive processes (HOCPs) on developing 'ENGC102' students' integrative reading and writing at Birzeit University, it was necessary first to answer the fourth sub-question, what is the existing situation of 'ENGC 102' students' higher-order cognitive processes? For that purpose, descriptive analysis to calculate the mean and standard deviation was used for the pre and post tests separately. Paired sample t-test was employed to investigate the difference between the mean scores of the pre and post reading and writing test as a whole.

To answer the first two sub-questions, what higher-order cognitive processes are appropriate for 'ENGC102' students at Birzeit University? And what reading and writing skills are appropriate for 'ENGC102' students at Birzeit University?, literature and previous studies were reviewed; two separate lists were prepared and reviewed by a panel of instructors in the field of English and TEFL in order to select the appropriate processes and skills for 'ENGC102' at Birzeit University. The two lists were modified upon the panel's recommendations before being incorporated in the test and the instructional program.

For answering the third question, What are the characteristics of a program employed to develop 'ENGC 102' language skills?, again literature and previous studies were reviewed to be the bases of the program; aims, objectives, and assessment methods were identified. A panel of jury members assessed its validity on terms of appropriateness to 'ENGC 102'.Besides, the first unit was piloted on one section of 'ENGC 102' students before the real experiment to ensure its suitability to the students under study and help determine the time necessary for each skill.

To determine what beliefs 'ENGC 102' students hold about EFL learning (question five), Horwitz's (1987) Beliefs about Language Learning Inventory (BALLI) was adapted for being a valid and reliable instrument for gauging students' beliefs and opinions on a variety of issues and controversies related to language learning. Granted permission from Dr. Elaine Horwitz, BALLI was translated into Arabic, its validity and reliability were assessed by the jury members, and it was piloted on a group of students under similar conditions to check its comprehensibility. In order to determine if there was any difference or modification in students' beliefs before and after implementing the program, and to examine which beliefs showed significant changes, the frequency calculations of each item were obtained and explained.

To answer the last question, what is the degree of 'ENGC 102' students' satisfaction of the effectiveness of the program based on higher-order cognitive processes?, literature and previous studies were reviewed. A satisfaction scale was adapted to assess students' satisfaction of the instructional program. Also, semi-structured interviews were conducted with a sample of five voluntary students to gauge their dis/ satisfaction of the program application in greater depth. Artifacts were also qualitatively analyzed to investigate development in language skills.

In general, the quantitative analysis revealed that the program had a significant effect on improving students' reading and writing skills. The participants' performance in the post-test outperformed their performance in the pre-test in both reading and writing skills, which was attributable to the instructional program based on higher-order cognitive processes. The following paragraphs will present more specific details about the results:

As clarified through descriptive analysis (tables 4,6,7) ,the results of the main question showed that there were significant differences between the mean scores of the participants' pre and post reading and writing test as a whole in favor of the post-test .In addition, a significant difference was verified between the mean scores of the pre and post reading skills test as a whole in favor of the post-test , which confirmed the effectiveness of the program in developing students' reading skill.

Concerning the writing skill, the results also showed that there were significant differences between the students' mean scores of the pre and post test in favor of the post-test, which was a clear indication that the program was effective in developing students' writing skill.

However, the researcher inferred that developing students' performance in the reading and writing skills through the program was due to the following reasons:

1-Raising students' awareness of the importance of the program prior to its implementation was of great effect in focusing students' attention and developing high expectations.

2-The inclusion of reading and writing strategies that encouraged the participants to apply higher-order cognitive processes in English lessons added to the effectiveness of the program.

3-The inclusion of various factual and literary works, especially short stories, and linkage of activities to real-life situations motivated the participants to practice the processes, and, therefore, produced good results.

4-The integration of handouts, worksheets, and PowerPoint presentations and websites by the researcher added to the fulfillment of the objectives of the program and development of language skills.

5-The learner-learner interaction, peer assessment, and projects, activated cooperation, provision of help, and encouraged student participation and involvement in the activities.

6-Reflecting on their own practices and experiences and sharing their reflection with other participants developed their critical reading and thinking skills.

As far as students' writing was concerned, the researcher believed that writing about personal issues increased motivation, being provided with the rubric beforehand helped students focus more on their writing production, and assessing each others' work was effective in focusing on writing mechanics and grammar, as reflected in the interviews.

The findings of this research are in the same line with Badr (2013), Abu Nejmeh (2011), Fahim, Bagherkazemi and Alemi (2010), Abu Shamla (2010), Ibnian (2010), McKown , Duke and Pearson (2002) ,whose research results based on different processes and strategies showed improvement in language skills, specifically reading and writing as integrated skills.

In general, implementing a program based on higher-order cognitive processes was effective in developing students' reading and writing skills and modifying their beliefs about language learning. These findings are in harmony with Abu Nejmeh (2011) whose study indicated that the use of the (HOTs) strategies as a regular classroom strategy in teaching Tenth Grade students' reading

comprehension texts intensively had significant effects on the students' reading achievement.

The results of this research are also in consistent with the findings of the teacher researchers McKown and Barnett (2007) whose program improved the reading skill and reading comprehension by using higher-order thinking skills: predicting, making connections, visualizing, inferring, questioning, and summarizing. They introduced and modeled a graphic organizer that was used with each comprehension strategy, and after modeling and practicing each strategy in a whole class setting, the students practiced in small groups and independently. Also, the teacher researchers modeled the use of journaling to record the comprehension strategies that were used and how it helped give meaning to the text. Three different tools were used by the teacher researchers to assess the changes in their students' learning: A tool was used to measure the students' awareness of their strategic reading process, Early Literacy Test and Test Ready's Practice Reading Comprehension Test administered by each researcher in his class to determine student growth in reading comprehension.

The results also agree with those of Anthony's (2007) four-week study. The study investigated the effects of encouraging higher order thinking using Bloom's Taxonomy as an oral-questioning scaffold to improve writing in response to reading and reading comprehension. The study administered a pretest-posttest on a group consisting of 22 fifth-grade students from a suburban school randomly assigned to control and experimental groups. The results revealed that when teachers instruct students by using a higher -order questioning scaffold based on Bloom's taxonomy, writing significantly improved. As for reading comprehension, neither of the two administered tests showed a significant advantage for higher level questioning over lower level questioning on reading comprehension, although on the DRP standardized assessment, the treatment group showed a strong trend

toward greater achievement ($p = .06$). It was pointed by the researcher that while the p-value was close to the $p < 0.05$ level, oral inquiry using Bloom's taxonomy might improve the participants' reading comprehension although the improvement was not significant in scientific terms.

Furthermore, the results resemble those of a research conducted by Peña and Cañón (2008) on the sixth graders. Their study, which was based on reading strategies and Bloom's cognitive domain, aimed at developing cognitive processes explicitly through the reading of short stories.

Using triangulated data collected through teachers' journals, direct observation, and students' artifacts, the results showed evidence of the significant improvement students made in their English language learning skills and cognitive processes.

Regarding students' beliefs about learning a foreign language, the results showed the modification in most of the items in BALLI categories. However, other items did not show the clear modification in beliefs. These findings go with Trinder (2013) who suggested that beliefs and behavior patterns were fairly consistent and specific to his business students, and some perceptions seemed to be so well-entrenched and unlikely to change even when confronted with an unsympathetic learning environment, and that it takes more drastic interventions such as an extended stay abroad to refashion deep-seated conceptions of learning.

Furthermore, the current results proposed that the beliefs learners hold about EFL learning are largely stimulated by their past classroom learning experiences, which used to focus on traditional teaching methods which are still fossilized in students' beliefs. The results of the BALLI support the findings of Li (2010) who also detected conflicting beliefs among students and justified that to the fact that while the students hold some positive beliefs about language learning, their awareness about them was not strong enough. Besides, when students encounter

the real gap between their ideal EEL situation and the actual learning situations at university, they would abandon such belief.

The results also resemble those of Suwanarak (2012), Javadi , Jahandar & Khodabandehlou (2012) , Oz (2007) , Nikitina and Furuoka (2006), Rad (2010), and Atlan (2006) ,who came to the conclusion that "in some cases the term myth might be a more accurate characterization" (p.51) since students come to class with certain perceptions and leave without any change in beliefs. However, these researchers found that there is a significant relationship between EFL learners' beliefs about foreign language learning and their language learning. Therefore, it is concluded that curriculum designers, policy makers, and English language instructors should take learners' beliefs into consideration when using any strategy or approach.

On the other hand, the data obtained quantitatively from the satisfaction scale (and qualitatively from the interview with the focus group) supported the effectiveness of the program as shown in table (26) below.

Table(26)

Descriptive statistics of the satisfaction scale

Level of Satisfaction	Mean	Std.Deviation
Strongly disagree	13.61	18.08
Disagree	26.43	18.36
Agree	45.44	15.44
Strongly agree	30.45	21.68

Rating the mean scores and standard deviation of their satisfaction on a four-Likert scale as displayed in the previous table showed that students expressed satisfaction and strong satisfaction (45.44 and 30.45). Regarding learner-content interaction , most of the participants felt that program documents, handouts, lessons and assignments facilitated their English language learning; the learning

activities that required the application of higher order thinking processes facilitated their language learning; preparation for quizzes and exams required for the program facilitated also language learning; the use of higher-order cognitive processes and critical thinking skills helped improve their reading and writing skills.

As far as learner-Instructor Interaction is concerned, the largest number of students felt that all through the program, the teacher was an active member offering help and feedback; they did not feel frustrated as they got individualized attention from the researcher when needed. All through the program the teacher functioned as a facilitator by continuously providing reading and writing activities and necessary feedback.

Concerning learner-learner interaction, a high percentage was satisfied with peer interaction. They felt that the delivered reading and writing material provided opportunity for developing critical thinking skills with other classmates; the program encouraged them to work in groups to read and write a variety of tasks which developed their reading and writing skills; the program created a sense of cooperation and community among students; they were able to ask for clarification from fellow students when needed.

Regarding students' general satisfaction, most of the students were satisfied with the instructional program because it improved their achievement in reading and writing tests; the program fulfilled their learning needs by improving their reading and writing skills. Therefore, they would recommend the program to others to help them develop their reading and writing skills and modify their mistaken beliefs about language learning since they themselves learned much in this instructional program, the thing that affected positively their beliefs about foreign language learning.

Chapter Five

Conclusion

Chapter Five
Conclusion

This chapter presents summary of the findings, conclusions, pedagogical implications, suggestions, and recommendations for further studies.

5.1. Summary

The current study attempted to explore ways to optimize students' higher thinking and language skills. Literacy scholar Paulo Freire asserted that it is language that provides the tool for meaning construction and that language is a thinking process which allows students to learn and grow. In this research, the two language skills, reading and writing, were dealt with as integrated skills since they share similar components, and through this integration learners were actively engaged in constructing meaning. It was suggested by Vygostky's (1978) that what children do and say while reading and writing can provide evidence to their mental activity or higher order of cognitive processing.

In addition, this research also highlighted the significance of using higher-order cognitive processes, or critical thinking skills, in developing reading and writing. In spite of the fact that only a limited amount of research has been carried out to tackle the higher-order cognitive processes and strategies and their effect on language learning, available research emphasized their importance as shown below:

- The development of higher-order thinking skills, or higher- order cognitive skills by others, is prominent in order to facilitate the transition of students' knowledge and skills into responsible action, regardless of their particular future role in society ((Ben-Chaim, Ron & Zoller, 2000; Zoller, 1993, 1999, 2oo1,cited in Miri, David & Uri,2007, p.354).

- Higher- order thinking skills are a broad range of competencies needed to prepare children for an unpredictable future, in addition to basic skills, because individuals cannot store sufficient knowledge in their memories for future use. Information is expanding at such a rate that individuals require transferable skills to enable them to address different problems in different contexts at different times throughout their lives (Fisher, 2006).
- Countries across the world are recognizing that teaching critical thinking is a valuable skill for students to connect their learning to their world, because it helps to establish long-term memory of the concepts studied (Percoski, 2011).
- Higher-order cognitive processes which are a type of thinking process that students must develop to prepare them to confront the real world must go beyond simple learning of facts and content. "Knowledge obtained through higher-order thinking processes is more easily transferable, so that students with a deep conceptual understanding of an idea will be much more likely to be able to apply that knowledge to solve new problems" (Ramos, Dolipas & Villamor, 2013, p. 48).
- The lack of critical thinking skills affects not only students' success but also their post education life when they graduate and start working (Rfaner, 2006).

Recognizing the importance of higher-order cognitive processes in developing language skills, the researcher was determined to develop 'ENGC102' students' reading and writing skills through employing them in her language classrooms.

5.1.1. Statement of the Problem

Students' inability to read critically or respond in writing to a variety of functions leads to the negative beliefs about language learning. It is evident that a higher-order cognitive approach to teaching and learning has many potential benefits to the students. Bridging the gap between lower-level cognitive strategies and higher-level cognitive ones can be achieved by constantly keeping in mind the fact that learning is a process across a continuum (Percoski,2011).

Based on this view, the researcher attempted to achieve the aims of the study on 'ENGC 102' at Birzeit University by responding to the following main question:

What is the effect of using higher- order cognitive processes (HOCPs) on developing 'ENGC102' students' integrative reading and writing at Birzeit University?

To answer this question, the sub questions mentioned below were also answered:

1-What higher-order cognitive processes are appropriate for 'ENGC102' students at Birzeit University?

2- What reading and writing skills are appropriate for 'ENGC102' students at Birzeit University?

3- What are the characteristics of a program employed to develop 'ENGC 102' language skills?

4-What is the existing situation of 'ENGC 102' students' higher-order cognitive processes?

5-What beliefs do 'ENGC 102' students hold about EFL learning?

6 -What is the effect of using higher -order cognitive processes on modifying 'ENGC102' students' beliefs about language learning at Birzeit University?

7-What is the degree of 'ENGC 102' students' satisfaction of the effectiveness of the program based on higher-order cognitive processes?

5.1.2. Instruments of the research

1-A checklist of higher-order cognitive processes

2- A checklist of reading and writing strategies

3- Horwitz's (1987) Beliefs about Language Learning Inventory (BALLI)

4- A Reading /Writing skills Test

5- Writing Rubric

6-An Instructional Program

7- Satisfaction Scale

8- Interview

5.1.3. Participants of the study

The participants of the current study consisted of a convenient sample of twenty-two pre-intermediate students placed in one 'ENGC102' exploratory group by the registrar office .Students' ages ranged from 18 to 20 years old and came from various faculties.

5.1.4. Significance of the study

This study is expected to be of great importance for the following:

- Students in English departments, who can take advantage of the cognitive processes to change their beliefs about language learning, which will accordingly be reflected on their motivation and development of their linguistic abilities.
- EFL teachers, who can reflect their interest in developing the students' higher order cognitive skills on developing their students' performance.
- Curriculum and language material designers, who can take into account the students' beliefs when designing curriculum and educational activities and strategies that enable teachers to modify students' negative beliefs.

5.1.5. Procedures of the study

To accomplish the aims of the study, the following procedures were followed:

1-Selecting the higher-order cognitive processes and reading and writing skills to be the bases of the instructional program by conducting the following steps:

- Reviewing literature and previous related research concerning developing reading and writing and using higher- order cognitive processes.
- Investigating instructors' opinions about the higher-order cognitive processes and reading and writing skills appropriate for 'ENGC 102' at Birzeit University.
- Preparing two separate lists: one comprising higher-order cognitive processes and another consisting of reading and writing skills.
- Validating the two lists by a panel of jury members to be incorporated in the program.

2-Determining the 'ENGC102' students' level of cognitive processes and reading and writing skills through:

- Constructing the pre/post test based on previous literature and the jury's recommendations
- Administering the pre test to the exploratory group.
- Determining the students' level of reading and writing skills as revealed in the pre test.

3- Investigating 'ENGC 102' students' beliefs about learning a foreign language, and this was accomplished through:

- Reviewing literature and previous related research regarding modifying learners' beliefs about language learning.
- Adopting Horwitz's (1987) Beliefs about Language Learning Inventory (BALLI).

- Administering BALLI to the exploratory group prior to the implementation of the program

4-Designing an instructional program based on the four higher-order cognitive processes: analysis, inference, prediction, and reflection as recommended by the jury members. This went through the following steps:

- Identifying the aims and objectives of the program.
- Designing a complete package of content, activities, strategies and assessment techniques.

5-Assessing the effect of the program on developing students' reading and writing skills and modifying their beliefs through:

- Implementing the instructional program on the experimental group.
- Administering the post test and BALLI .
- Administering the Satisfaction scale.
- Conducting a semi-structured interview with a focus group of five students.
- Analyzing the data from the pre/post test, BALLI and Satisfaction scale quantitatively, and the data resulted from the interview qualitatively.
- Interpreting the results.

6- Displaying suggestions and recommendations.

5.2. Findings of the study

The following points summarize the findings of the current study:

1-Using higher-order cognitive processes, analysis, inference, prediction, and reflection, was effective in developing students' reading and writing skills.

2-Using higher-order cognitive processes seemed effective in modifying some of the 'ENGC102' students' preconceived beliefs about learning English.

3-Implementing an instructional program based on higher-order cognitive processes gained students' satisfaction.

5.3. Conclusions

Gleaned from the findings of the current study, the following might be concluded:

1-Using higher-order cognitive processes has an invaluable effect on developing 'ENGC 102' students' reading and writing skills at Birzeit University.

2- Using higher-order cognitive processes can be a straight forward technique towards developing students' thinking abilities and enhancing their critical reading.

3-Cooperating in groups to construct their writing tasks and assess their work can help students diagnose points of weaknesses, and can develop language sub skills and enhance learning the macro language skills.

4-Using higher-order cognitive processes cannot be well achieved without raising students' awareness to their importance to language skills.

5-The role of the teacher or researcher cannot be underestimated in being the mediator, modeling, supervising students and providing feedback and the necessary activities.

5.5. Pedagogical Implications

The findings revealed through the quantitative and qualitative analysis of the present study imply the following:

1- Raising students' awareness of the importance of their beliefs about learning a foreign is a preliminary step for enhancing learning English as a foreign language.
2- Designing a package of instructional activities, strategies and materials that are consistent with the aims of the program can promote students' learning and accomplish the desired objectives.
3- Implementing the intervention in a non- threatening and tense-reduced atmosphere is a prerequisite step to achieve the learning outcomes.

The researcher frankly admitted that the present study had great influence on her teaching philosophy. She had adopted the Chinese proverb "Don't give them the fish, teach them how to fish". This study supported and developed the researcher's philosophy in several ways:

1-It paved the way for providing students with general steps to be followed when handling any reading and writing text.

2-It provided students with higher- order cognitive processes and strategies required in technologically advanced societies.

3-It helped some 'ENGC 102' students to be open-minded, able to respond to questions based on higher- order thinking levels, analyze situations, and select the choices they find relevant for certain cases.

4-It created an important opportunity for students to develop their cognitive processes by working in a non-threatening atmosphere, cooperating in doing assignments, synthesizing, exchanging journals and evaluating each other's work.

Following teaching HOCPs in his chemistry classes, Percoski (2011) reported that he felt like he became an even stronger teacher than he was before, and he also planned to use this approach to further develop his curriculum and classroom activities. Furthermore, he planned to lend his experiences to others to help them develop their curricular materials. Perkoski asserted that he was confident in helping his students consider higher order questions, process difficult concepts and establish creative modes to assist their learning.

5.6. Recommendations

Upon the end of the present study, the following recommendations are deemed necessary:

1- Reading and writing should be taught as integrated rather than separate skills.

2- Teaching higher-order cognitive processes explicitly through modeling and various instructional activities is a necessity.
3- Raising students' consciousness and modifying their preconceived negative beliefs about language learning is vital.
4- Making conscientious changes in current teaching methodology to help students reach the aspired cognitive levels is an essential requirement.
5- Reflecting on one's teaching practices of the language skills and higher-order cognitive processes is recommended.
6- Providing a variety of reading tasks, based on developing thinking skills, is a must for language learners.

5.7. Suggestions for further studies

Based on the results of the current study, the following suggestions might be worth trying:

1- Replicating the study on a large sample that includes other English communication courses at Birzeit University.
2- Conducting a study that investigates the effect of using higher-order cognitive processes on developing students' listening and speaking skills.
3- Investigating the effect of further higher –order cognitive processes such as visualizing, synthesis, and evaluation on developing language skills.
4- Investigating the beliefs students hold about other academic courses at Birzeit University and their effect on learning those courses.
5- Prolonging the period of the study, for a whole semester, since measuring any modification or change in beliefs in a short period might not be precise enough, especially for undergraduate students.

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