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Composing and Revising at the Computer: A Case
study of three Jordanian Graduate Students

presented by

Faisal Mahmoud Khwaileh

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Education

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COMPOSING AND REVISING AT THE COMPUTER: A CASE STUDY OF

THREE JORDANIAN GRADUATE STUDENTS

By

Faisal Mahmoud Khwaileh

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Teacher Education

1998

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ABSTRACT

COMPOSING AND REVISING AT THE COMPUTER: A CASE STUDY OF

THREE JORDANIAN GRADUATE STUDENTS

By

Faisal Mahmoud Khwaileh

Jordanian student writers have problems and difficulties when they write in a second language for academic purposes. Moreover, the study tried to tackle the concern about whether those students ---during the several years in their graduate programs--- had acquired the necessary skills of writing and revising to produce academic written products that meet standards of scholarship or not. Moreover, this study explored whether or not those students had learned how to use the computer as a word processor professionally before their graduation. The main aim of the study was to describe the composing and revising behaviors and strategies of Jordanian graduate students when they composed and revised on the computer.

The data collected to answer the study's question consisted of videotaping, observation, interviews, and reviewing of the composing and revising sessions. The three graduate students were asked to compose and revise an argumentative essay by using the computer as a tool for composing and revising on two different sessions. The essay produced by the students were read and evaluated by two outside readers for judging whether the revisions made by the students improved the holistic quality of the essay or not.

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The major findings of the study showed that the three students did not produce a well coherent and organized essays that meet the academic standards of written English. Furthermore, the students did not use the computer as a word processor professionally in a way that helped them to make significant changes in order to improve their essay.

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To my fath

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Specially dedicated to

the memory of my mother,

who did not live to see, but is always with me.

To my father, the best man and friend in the world I ever had.

And to my beloved wife, for all what you did.

ACKNOWLEDGMENT

I am most grateful to Dr. Cheryl Rosaen, my dissertation director and academic advisor, for her generous assistance, patience, help, prompt response, and encouragement throughout my doctoral program and this work. Your intellectual comments and thoughtful guidance were invaluable. I would like also to extend my sincere gratitude to the members of my doctoral guidance committee: Dr. Charlene Polio, Dr. Diane Holt-Reynolds, and Dr. Steven Weiland for their help, support, and advice.

I also offer my thanks to the three students who participated in the study for their cooperation and time.

I would like also to thank my brothers, sisters, and father for their prayers and wishing me luck during the time while I was working on this dissertation.

Hussam, Mohammad, and Danah, my children, thank you very much for your understanding and all of what you tried to do to help me finish this work. I deprived you from you leisure time, but you were great.

My last words go to my beloved wife. Without you, this long mission would not have been accomplished. You were always there to support, encourage, share duties, and provide all of what you could to help me finish. Thank you.

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Chapter One

Introduction

Background of the Problem

Among approximately twenty state and private universities in Jordan, the

University of Jordan is the only one that offers Ph. D. degrees and that is only in a few

subjects. This implies that the graduate programs at the Jordanian universities do not

meet the needs of all Jordanian students. Thus, many of the graduate students, particularly

at the doctoral level, go abroad and mainly to the United States to pursue their graduate

training (Ashour, 1994). Those Jordanian graduate students who go to the United States

to continue their higher education face many troubles and difficulties such as writing

academic papers in English as a second language (ESL)[1]. Pearson (1981) stated that many

researchers and instructors indicate that ESL students still have problems and difficulties

when they write in English, and especially when they are asked to revise their written

texts. Pearson indicated that most of those who teach university ESL students are

frustrated when trying to help those students use the skills they have learned. Pearson

pointed out that the instructors who teach ESL report that ESL students need to use

sentences to build well-organized paragraphs and they need to know how to revise and

correct their own written work. Given the fact that most university ESL students spend no

more than a few terms in intensive English classes, the task of helping those students in

these necessary areas seems overwhelming.

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hard to solve, it is also associated with another problem that is how to write by the use of the computer. The use of the computer is not that easy because mastery requires time, practice and advanced skills. Taking into consideration that most, if not all, Jordanian students who come to the United States are computer illiterate, the problem becomes twofold: First, the students have to be able to write and revise academic papers in ESL and these papers have to be acceptable to their instructors and professors with regard to the standards of English academic writing. Second, these students have to deal with a new high-tech machine (the computer as a word processor) and use it successfully as a tool for writing and revising.

These two issues are crucial for all ESL graduate students in general and Arab students in particular. Therefore, careful consideration of the problems should be tackled seriously in order not to create more problems for those students while they are students in the U. S. or after they go back to their home countries. That is to say, if the students do not solve their academic problems of writing and revising, they will inevitably face troubles and difficulties that may affect their academic progress and success that could ultimately lead to academic failure. Consequently, academic failure will affect those students in many regards: socially, emotionally, economically, and psychologically.

For example, in an age of computer development and information technology, computer illiteracy may deprive Jordanian students ---at least for some time--- from being active students in their educational institutions. Therefore, many advantages and privileges that cannot be achieved unless the students are familiar with and know how to

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[1] See Appendix G: Glossary

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use the computer become unattainable for them. Consequently, those students may feel

that they are inferior because of their inability to use the computer as a word processor in

comparison with the majority of the computer users on the campus. So, the inability to

use the computer in general, and as a word processor in particular combined with the

inability to meet the standards of academic writing may affect the students' achievement

and progress as successful graduate students. In the long run, those students who are

expected to be leaders in their fields of specialization when they return back to their home

country may develop negative attitudes toward the uses of computers in all fields of

knowledge. Also, by ignoring the many uses and advantages of the computer (word

processing, networking, instructional software, world wide web, e-mail, etc.), those

students may automatically distance themselves from the rapid developments and

knowledge that the computer provides for all fields of technology, science, agriculture,

arts, literature, social sciences and so on.

More specifically, what makes these issues cumbersome is that the majority of

Jordanian graduate students are granted scholarships from their country and they are

expected to go back to their home country upon the completion of the requirements of

their programs. Therefore, if they graduate from the U. S. universities without learning

the skills and standards of academic and scholarly writing, they will likely find very few

opportunities for getting help and guidance to learn such skills and standards in their

home country. In other words, if those students want to succeed in both being graduate

students and as professionals after graduation and want to publish their academic

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writing and be able to write scholarly papers while being graduate students in the U. S.

Furthermore, a goal that the Jordanian government has for sending graduate

students to the developed countries like the U. S. is to enable those students to learn and

transfer knowledge and modern technology to their country. To do so, those students

should be academically successful as well as being critically aware of the knowledge and

technology they learn, acquire, and use. Therefore, if those students miss these

opportunities while they are in U. S., they may inevitably deprive themselves, their

students, and their country from the advantages and benefits of such knowledge and

developed technology. One high-tech tool that this study will address and that graduate

students have to know how to use successfully is the computer as a word processor. If

university faculties ignore these two issues (the students' inability to write academic

papers that meet the standards of English academic writing and the inability to use the

computer as a tool for writing and revising), they run the risk of participating directly in

creating ill prepared scholars of the future in the developing countries.

As for the issue of computer illiteracy, it is worth mentioning that computer

illiteracy might be a wide spread phenomenon in most of the third word countries

(Hawkridge, Jaworski, & McMahon, 1990). For example, one of the main reasons that

most of the Jordanian graduate students are considered computer illiterate when they

come to the U. S. is because computers are not widely introduced in Jordan, neither at the

secondary schools nor the university level. However, in the present decade, the British

government and the Jordanian Ministry of Education have provided some computers to a

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limited number of secondary schools throughout the country (Hawkridge et al., 1990).

Nevertheless, the majority of students at secondary schools and universities still lack the

knowledge and experience to work with computers (Khasawneh, 1989).

Literature indicates that while many American students in the United States have

some kind of experience with the computer at home, most of them use the computer

during the elementary, junior and high school (Cochran-Smith, 1991). As for the tertiary

level, most students, if not all, use the computer as a word processor to type their papers

and assignments proficiently to a certain extent. Consequently, there is a tremendous

amount of literature talking about various related issues, implications, and uses of the

computer across the different grade levels of school and at the tertiary stage. Many of

these studies have been conducted on the uses of the computer as a tool for writing and

revising. On the other hand, the lack of computer uses in a developing country like Jordan

has resulted in a lack of studies related to the uses of computers as means of learning and

communication, as well as tools for writing and revising.

Purpose of the Study

The main purpose of this study was to describe the composing and revising

behaviors and strategies of Jordanian graduate students when they composed and revised

on the computer. Most of the studies conducted on the uses of computers as tools for

writing and revising were concerned with the final products produced by the students

when they compose or revise by the use of the computer and to compare these results

with the same or other students' writings produced by the use of pen and paper. However,

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computer with other written discourse products written by pen and paper.

Another purpose of the study was to find answers to some questions concerning

the types of revisions that the students made while they revised their written texts in

English as a second language. That is to say, it investigated whether the students focused

on surface or meaning level revisions. By doing so, the study sought to find out how

often the students revised, and where these revisions occurred through the composing and

revising processes. By identifying the types, frequency and occurrence of revisions, the

study investigated the reasons behind these revisions; and whether the students could

justify the changes they made in their written texts or not.

Many researchers, scholars, and teachers assume that revision improves the

quality of writing (Al-Semari, 1993; Bridwell, 1980; Daiute, 1983; Faigley & Witte,

1981; Hall, 1990; Monahan, 1984; Murray, 1978; Owston, Murphy, & Wideman, 1992;

Raimes, 1985; Sommers, 1980; Zamel, 1983). However, there are still some controversial

issues around the role of the computer in revising. Therefore, it was one of the purposes

of this study to find out whether the computer as a word processor had any role in

facilitating the revisions that were made by the Jordanian graduate students in order to

improve the quality of their written products.

This study is expected to strengthen the knowledge base by describing the

difficulties and problems that the students encountered when they composed and revised

on the computer from two perspectives: the students', and the researcher's. Specifically,

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the study identified the problems and difficulties that Jordanian graduate students encountered when they revised: Did they have the same problems and difficulties that other ESL students did as described in the literature? Alternatively, did they have their own unique problems and difficulties? What caused problems that occurred during revision at the computer? How did those students perceive such problems and difficulties? In addition, what efforts did they make to overcome such difficulties and obstacles?

Finally, one of the purposes of the study was to gain insights into how those students perceived the composing and revising processes in general, and composing and revising by the use of the computer in particular. In other words, it was anticipated that this study would contribute to the literature of revision on the computer by finding out how Jordanian graduate students who come from a completely different background (with regard to language, styles of writing, and lack of knowledge about the word processors) understand what is involved in the composing and revising processes. Also, the study explained whether or not those students had the ability and consciousness to implement certain revision strategies and skills when they used the computer as a tool for composing and revising in English as a second language.

Definition of Terms

Comprehensive, explicit and detailed definitions of revision are rare in the revision literature (Fitzgerald, 1987). For the sake of capturing all of the revising behaviors in this study, revision was considered to be the making of changes at any point in the writing process which included the phases of composing, revising and editing

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(Fitzgerald & Stamm, 1990; Flower & Hayes, 1981; Sommers, 1980). It should be understood that changes can be of different types and that the main difference between these types to be investigated was whether they enhanced or affected the meaning of the written text or not (Faigley & Witte, 1981).

All of the abbreviations like ESL, EFL, L1, etc. are defined in the glossary (see Appendix G: Glossary).

Statement of the Problem

Jordanian student writers have problems and difficulties when they write in a second language for academic purposes. Some of these difficulties are due to the first language interference (Bataineh, 1993; Zreg, 1983), the nature of the second language (Bataineh, 1993), and to other factors which include the standards of English academic writing. Jordanian graduate students who choose to continue their graduate studies in the developed countries and in the United States are considered a part of this group of student writers. So, it is believed that such students face many problems and difficulties when they write and revise as well as when they use the computer as a word processor, at least during their first few semesters. Although literature indicates that there are some studies conducted on ESL writers from different nationalities and backgrounds across the various school and university levels, until now, no study has been conducted on Arab graduate students using the computer as a tool for writing and revising. Because there are no studies conducted on this population, no one knows for sure what happens to those students during the several years of their graduate work. By pursuing the research questions of this study, we will find out more about how Jordanian graduate students

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These are the major concerns that the researcher was interested in knowing about and that the study addressed and explored. It is important here to mention that this study is not about novice graduate students having troubles and difficulties in learning how to write and revise by the use of the computer. Instead, it studied advanced graduate students who were in their programs for two years or more and who had experiences in writing and revising by the use of the computer for most, if not all, of their studies pursued as graduate students in the U. S. And since many researchers of writing indicate that revision is the most important part of the writing process, the study paid close attention to that process.

Significance of the Study

The significance of this study comes from the several contributions it would make. For example, the study intended to address issues that are important but still neglected in current research about the composing and revising behaviors of Arab/Jordanian graduate students by the use of the computer as a word processor. More

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specifically, as a result of my recent comprehensive review of the current research,[2] I

found that Jordanian and/or Arab graduate students have never been targeted as the

population or the sole sample of any study that investigates the subjects' behaviors while

composing or revising on the computer neither in English as a second language nor in

their native language, Arabic. Thus, this study was expected to add new insights to the

current body of literature about composing and revising on the computer.

This study tackled a new sample and population. Therefore, this study is a pioneer

in this regard, since it is the first one to investigate the composing and revising processes

of this select group of students and to fill this gap in the literature about composing and

revising. Another aspect that this study will contribute is the investigation of the use of

the computer, a relatively new tool of writing by students who are not accustomed to or

familiar with using such a tool during their past educational experiences. By doing so, the

study would reveal whether those students became accustomed to this new tool and were

able to take advantage of its functions in composing and revising whether they used it

before or not.

It is anticipated that studying Arab students will expand and increase the

knowledge of ESL teachers ---who usually teach writing along with other language

courses--- about such groups of students. So, by identifying the composing and revising

behaviors of the students, how they revise, the most common changes they become

interested in and the difficulties they face, it was expected that the results of this study

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[2] *TESOL Quarterly (Teachers of English to Speakers of Other Languages), ELT (English Language Teaching), Journal of Second Language Writing, CALICO Journal, Computers and Compositions, Journal of Advanced Writing, Research in the Teaching of English, College Composition and Communication),*

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would help ESL teachers understand more about them as learners. Also, it will help those teachers to anticipate and be prepared for difficulties that those students may have while in a writing or revising class. For example, simple recognition of certain basic features of written Arabic can assist the ESL teacher in addressing the problems that Arab students face when they write (Thompson-Panos & Thomas -Ruzic, 1983). Moreover, academic professors can learn more about their students in terms of how they think, write and revise. That is to say, that both professors and language teachers will be better prepared to help such students to be better writers when they learn about Arab students' use of different organizational styles of writing, or how they try to adapt themselves to the academic standards of English writing. So, the study was expected to enhance the language teachers' and academic professors' understanding about whether the students in the study have learned and acquired the skills of revising to produce academic written products that are required in the U. S. universities or not. The study also showed how those students perceived their own writing and revising in general and on the computer in particular.

Another potential contribution of the study is that it will help the Jordanian educational institutions and universities and the Jordanian government, who usually sponsor the majority of graduate students who come to study in the U. S., to think about the problems and obstacles that those students face. They can then anticipate the academic difficulties that the students may encounter and try to offer some solutions for these problems and difficulties before those students arrive in the U. S. By doing so, these

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institutions can try to help those students avoid such problems and the possible academic failure that could lead to other problems and consequences.

Finally, since this study described the composing and revising behaviors of those students when they revised on the computer, it did not make comparisons between their written texts on and off the computer. Therefore, it is expected that this study will increase our understanding about how those students perceived their writing processes and their revising behaviors. And since the study showed how Jordanian graduate students employ certain skills and strategies to deal with the computer's functions in order to facilitate their work, this would increase our understanding and knowledge about how they, and possibly similar other groups, think about and accomplish revision. That can enable us to think about possible ways of helping them succeed in their academic lives.

Questions of the Study

To accomplish the above purposes, the following research questions were posed to guide the study:

1. How do Jordanian graduate students compose and revise their written texts by the use of the computer?

2. What types of revisions do Jordanian graduate students make when they compose and revise on the computer using English as a second language?

3. Why do the students make revisions? What reasons do the students give for such revisions?

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4.   What difficulties do the students encounter while writing and revising on the computer? What are the reasons for these difficulties?

5.   Do the revisions made by the students improve the "holistic" quality of the essays? Is there any role for the computer in facilitating these revisions?

These questions were designed to shape the whole picture of the composing and revising process of the Jordanian graduate students as they composed and revised on the computer. While the first question was concerned with the process of revising on the computer throughout observing the students' behaviors, the second one helped identify the types of revisions that were made by the students and this created a view of their specific revision behaviors and how they perceived them. By expanding our knowledge about the *how* and *what* the students did when they revised (questions one and two), question three completed another part of the picture by showing the reasons that those students had for what they had done. This particular question revealed whether those students had logical justifications for their revisions or not.

Again, the first three questions (the *how*, *what* and *why*) paved the way to question four which intended to find out the difficulties that the students encountered while composing and revising. Not only did this question provide us with information about the difficulties that the students had while revising, but it furnished the justifications for these difficulties from two perspectives, the researcher's and the subjects' point of view. Finally, since the main aim of revision is to improve the quality of writing, question five addressed this issue by investigating whether the revisions that the subjects made had any effect on the quality of the written texts they produced or not,

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The remaining chapters are organized as follows. Chapter Two presents a review of the literature that pertains to this study. Chapter Three describes the methodology used to collect and analyze data. Chapters Four, Five, and Six present cases of three Jordanian graduate students' composing and revising processes and discuss the holistic quality of the essays they produced. Finally, Chapter Seven discusses conclusions and implications of the study.

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Chapter Two

Review of the Related Literature

The purpose of this chapter is to provide a review of the literature relevant to the problems and issues introduced within the first chapter. The review is divided into two major types of studies. The first part discusses the major studies that investigate the writers' behaviors while writing and revising by the use of pen and paper. The purpose of this part is to provide the historical background and theoretical framework regarding how writing and revising processes were envisioned by researchers during the 1980s and 1990s. Studies that have been conducted on Arab students are discussed first because they share a similar population with this present study. Arab students are unique with regard to the language they speak. Then, several studies that were conducted on ESL[1] student writers from different nationalities and backgrounds are presented. Again, these studies share with this present one another specific feature, that is the subjects wrote in English as a foreign or a second language.

The second part of literature review deals with the main studies conducted on the writing and revising processes executed on word processors as the tools for revising. Although computers as word processors as well as software programs have been developed and improved tremendously since the 1980s, studies conducted during that period are still cited. The reason for citing these studies is because of their importance as pioneer ones in the literature about writing and revising and because they raised issues for future research. However, the most recent studies have been introduced first in both

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sections in order to make sense of the present trends in teaching writing and revising on and off the computer, and to see the chronological development of such studies.

Composing and Revising off the Computer

Revision and Arab Student Writers

Al-Sindy (1994) conducted a study that aimed at investigating the syntactic errors, pertinent to interlingual/intralingual interference, committed by Saudi freshman students majoring in English. The purpose of the study was to find out whether or not Arab English as a Foreign Language (EFL)[2] learners use their native-language (Arabic) structures in their English writing. Another purpose of the study was also to find out which interference occurs most frequently — interlingual or intralingual — and what the specific grammatical types are in which deviations occurred.

To conduct the study, 40 compositions written by Saudi students of English were used for obtaining the data. Contrastive and error analyses were employed to analyze the erroneous sentences and phrases extracted from students' compositions. The errors that the subjects made in their compositions were identified, classified, and explained in terms of interlingual and intralingual interference.

The findings of the study indicated that Arabic structure interference played a major role in the target language (English) writing. Errors pertinent to native language (Arabic) interference occurred more frequently than intralingual errors. The study revealed that errors were greatest in number in certain grammatical types: tenses and

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Although this study was conducted recently, its topic is relatively not new. Literature indicates that there are many studies that proved that there is a relation transfer between one's first language (L1) (see Appendix G: Glossary) and second language (L2) on the various levels of language and pedagogy (Brooks, 1985; Cummins, 1980; Edelsky, 1982; Gaskill, 1986; Hall, 1990; Lay, 1983; Silva, 1993). However, in relation to the notion of transfer, two questions arise: why do second or foreign language learners transfer some of their native language forms or behaviors to the target language? In addition, how do learners do that? In other words, what is the rationale behind the notion of transfer? Unfortunately, this study does not answer these two questions. And because of this, we get a limited view of writing by just saying that transfer occurs but we do not know why.

Another study that went further than Al Sindy's study in terms of the languages used, the methodology, and purposes was conducted by Al-Semari (1993). He investigated the revising behaviors of eight advanced Saudi students composing in Arabic and English. The subjects were required to write and think aloud as they composed and revised two argumentative essays. One was composed in Arabic and the other in English. They took two sixty-minute sessions to write and revise each essay on two different days. To record the subjects' revising behaviors while composing, the researcher videotaped and observed the subjects in both sessions. At the end of the study, Arabic and English revisions were analyzed according to type, purpose, and phase, based on the videotapes of the writing sessions, participants' drafts, and think-aloud protocols.

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The findings indicated that similarities in revising strategies in both the Arabic

and English writing tasks were many and striking. It was found that the subjects made the

same revision types and revised for the same purposes. As for when revisions were made,

the study concluded that in both Arabic and English the majority of revisions occurred as

the students were producing drafts rather than when they were reading them and that

subjects were substantially more likely to make expansion changes than deletion changes.

As for the types of revisions made by the students, the study concluded that the

overwhelming majority of changes were microstructure reorganization or expansion than

meaning-preserving reorganization or expansion changes. That is to say, the students

were much more likely to make changes that did not change the meaning of the text.

Quality ratings of the subjects' first and final drafts in Arabic and English provided

additional data for this study. Analysis of the data indicated that the revisions

significantly improved the quality of writing in both the Arabic and English writing tasks.

Although the findings of the study indicated that similarities in revising strategies

in both the Arabic and English writing tasks were many and striking, a number of

noticeable differences between the students' Arabic and English revising behaviors also

existed. While formal changes, grammatical and mechanical changes were much more

numerous and frequent in English than in Arabic, revision purposes, reorganization, and

deletion changes appeared more frequently in Arabic than in English.

Moreover, the study indicated that advanced ESL learners use more or less one

pattern of revising strategies in L1 and L2. It also concluded that although the participants

displayed several features of advanced L1 and L2 revisers, Arabic and ESL composition

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teachers should stress the importance of more extensive revising of the organization, expansion and coherence aspects of writing even when dealing with advanced writers.

The method that Al-Semari had used (the think aloud protocol) might have affected the process and finally the results of his study, since this protocol is not used in the Arab world and students are even not used to it in the U. S. With several informal discussions I have had with many graduate Arab and Jordanian students about whether they would mind to using the think aloud protocol when writing, none of them preferred the idea. Moreover, two Jordanian students mentioned that if the think aloud protocol were imposed on them they would automatically withdraw from the study. This informal finding agrees with Zamel's (1983) findings about the think aloud protocol. Zamel mentioned that she did not use this technique in her present study because there were doubts about the extent to which verbalizing aloud while writing reflects the real composing situation. Faigley & Witte (1981) also indicated that verbal protocols require students to do two things at once: they must write and they must attempt to verbalize what they are thinking as they pause. They concluded that think aloud protocols interfere with the normal composing process and interrupt the writers' trains of thought who do the two tasks at the same time. This protocol might be helpful for students who are trained to use it (Faigley & Witte, 1981), but since the subjects in this study had never used it before, as the researcher indicated, except for watching a videotape about a student thinking aloud to solve a math problem, the study may not have documented a natural writing process.

Nevertheless, Al-Semari's (1993) study relates to the present study. Each study

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documented the revising strategies that the students made, the types of revisions they committed, the occurrence of these revisions and the reasons for such revisions. However, one interesting question might arise: what findings would Al-Semari's study conclude if the students used the computer rather than the pen and paper as tools for writing and composing.

Liebman (1992) surveyed Japanese and Arab students studying in the U. S. to find out about the rhetorical instruction they received in their native countries. She also tried to find out how those students approach their audiences, their perception of the purposes of writing, the types of writing tasks with which they feel comfortable, the composing processes they have been encouraged to develop, and the role that writing plays in their education. Eighty nine students (35 Japanese speakers and 54 Arabic speakers) who were enrolled in writing classes in a Southern urban university either in an Intensive English Program or in freshman composition participated in the study. A questionnaire which consisted of 20 questions (open-ended, Likert scale questions, and ranking questions) was developed to identify and rank techniques used to teach writing at home or criteria used to evaluate writing.

The findings of the survey suggested several general similarities between the two groups: First, both groups indicated a heavy emphasis on grammar, whether during instruction or during evaluation. The students said that it was assumed that once they were past elementary school, they could write, and so the emphasis was on grammar. Second, there was a heavy emphasis on organization in both language groups. However, the students mentioned that the American pattern of writing was emphasized rather than

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the patterns of organization in these two languages. While some of the Arab students (17%) reported that Arabic writing was more indirect than American writing, Japanese students (20 %) claimed that they learned different patterns of organization in Japan. Third, both groups of students indicated that the methods of instruction used in their native countries tended to differ from what they had experienced in the U. S. in terms of the kind of help the students received during the different stages of writing, invention strategies and discovery of meaning. When it comes to revising, the students indicated that there was less instruction. Although some students from both groups said that they revised their ideas or their organization, the majority of them indicated that revising for them was "correcting" and the focus of this correction task was the sentence-level errors. Fourth, although the questionnaire covered many aspects of the writing processes and asked the students to answer open-ended questions about their writing experiences in their native countries, many other features were also missing. The study found out that almost half of the students in both groups did not address any audiences in their writing except for the teacher and that they had very limited opportunities to write outside the school, not even letters.

Besides the similarities between the two groups' background experiences in regard to writing, there were also contrasts between them. However, the study did not relate these contrasts to English writing. Therefore, the study did not reveal much about how the differences between Japanese and Arabic can be related to English. Another important aspect that the study failed to investigate was the students' attitudes toward writing. It is believed that when students have positive or negative attitudes toward a school subject or their teachers, these attitudes will affect the decisions they make

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concerning this school subject or their teachers. And since the study did not reveal what the students think about writing and about their attitudes toward writing in their countries, there is no opportunity for us to know whether what the students said about their writing experiences had been affected by their attitudes or not. In fact, the researcher made it clear that "there is often a huge gap between what teachers do and what students say teachers do, as well as between what students say they have done and what they've actually done" (Leibman, 1992: 156).

Another caution is that the 54 Arab students who participated in this study came from nine different Arab countries. Every country has its own educational system and perspectives toward teaching and learning other languages. So when putting this diverse group of students in one group, differences between these individuals may not be observed. Furthermore, it is known that in the Arab world, the colloquial oral language differs from the written one in terms of vocabulary, structure, and organization. In a sense, there are as many as 22 major colloquial Arabic languages, apart from the several and different dialects used in each country. Moreover, the Arabic written system includes two main categories of the language, the Classical Arabic and the Modern Arabic, and since the written system of the language is strongly affected by its oral or colloquial system, and every country of the Arab world has its own ways of teaching writing, it is very difficult to believe that writing experiences of those students reflect a coherent picture of how writing in the native language (Arabic) is taught in these countries. However, Liebman's study investigated important issues to be considered by the present study such as the connections to be made between the past experiences of writing in the

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A case study conducted by El-Shafie (1991) examined every piece of writing that six twelfth-grade Arab students of English as a foreign language wrote over the span of a year. The purpose of the study was to describe how those students revise their compositions. The study used a multiple embedded case study design. The subjects of the study consisted of six female volunteers with intermediate language proficiency from a single classroom taught by one experienced EFL teacher who utilized a writing process approach, including student-teacher conferences and peer group discussion and writing techniques. The data included interviews with students and the teacher, analysis of teacher observations and notes about writing inside and outside the classroom, and analysis of all written products (multiple drafts of ten composition topics) generated over the span of a year. The data were analyzed for syntactic revisions, according to Bridwell's revision taxonomy (1980), and for semantic revision, according to Faigley & Witte's revision taxonomy (1981). Ten final compositions in a variety of modes were assessed holistically using the Test of English as a Foreign Language (TOEFL) scoring procedures.

The results of the study showed that each student made recognizable and consistent progress in the quantity and quality of writing over the span of a year. In a writing process classroom, Arab secondary students improved the quality of their writing from first to last draft of each assignment and from one composition to another. It was found that the writing process classroom facilitated the development of both good and

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poor writers, despite wide variation in the amount of revision from student to student and one topic to another. Furthermore, the researcher found that the types of revision operations used by all students were similar. The subjects substituted, added, and deleted far more often than they expanded, reduced, and moved their texts. Syntactic revision was more frequent at the word, surface, and phrase levels than at the clause, sentence, and multi-sentence levels. All students revised extensively to find words to convey meaning. Most students focused on formal and meaning-preserving revisions more than other types of semantic changes. Students changed from revising linearly in first drafts or early assignments to revising recursively in final drafts of later assignments. However, variation of syntactic or semantic revisions did not correspond to improvement in writing quality.

It is one of the purposes of this present study to investigate the types, frequencies, and strategies of revision that the students make while revising; however, differences in methodology, population, and the tools do exist between the two studies. One must not take for granted the results of a study that takes place over a long time period. For example, there is no guarantee that the improvement in the students' writing might be traced to the writing process alone. The effects of maturation and history have their roles, too. So, uncontrolled variables (such as maturation and history) may interfere and affect the results of the study. That is to say, the one whole year that the experiment took may have helped the subjects to develop and improve their writing with or without the experiment, so there is no clear evidence that the improvement in the students' writing is due only to the effect of instruction.

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Kamel (1989) asked 44 EFL/ESL[3] Arab writers to compose an argumentative essay in Arabic, compose another argumentative essay in English, and take the Michigan Placement Test. Native speakers of both languages analyzed these essays. She found that the participants produced more units, more audience adaptation units, more claims, more data, and more warrants in their native language than in the target language. The results of the study indicated that the ESL group outperformed the EFL group when composing and revising in the target language. The most important result in the study was that the ESL writers' behaviors show that evidence for transfer from L1 to L2[4] at the stylistic, organizational or persuasive level was not supported. The findings of the this study suggest that the positive relationships between specific aspects of the ESL participants' experiences (e.g. years of writing in the target language, maximum exposure to the target language and intensive training in the target language) and the learners' performances in the target language are very important factors because of their strong effect on the writing as well as the revision processes. The researcher interpreted this relationship to show that the ability in second language writing is attributable to a combination of exposure, experience, and linguistic proficiency in the target language rather than to rhetoric transfer.

Although the study mentioned that the participants produced more units, more audience adaptation units, more claims, more data, and more warrants in their native language than in the target language, and that the ESL group outperformed the EFL group when composing and revising in the target language, it did not mention whether these

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There is an unsupported claim in this study for transfer from L1 to L2 at the stylistic, organizational or persuasive levels. Because this finding contradicts other studies' findings (Brooks, 1985; Cummins, 1980; Edelsky, 1982; Gaskill, 1986; Hall, 1990; Lay, 1983; Silva, 1989), a question which the study does not answer might arise: since transfer did not occur form L1 to L2, why did not it occur from L2 to L1, either? With a close look at the study I found that particular characteristics that the subjects did not transfer from L1 to L2 did not exhibit in the native language, either. One possible interpretation is that the students did not master these characteristics in their native language, and so, it was natural not to see them transferred to L2 because they did not originally exist in L1.

The other claim that Kamel made, and that I indirectly wanted to test in my study, is that the learner's writing experiences represented by the number of years, maximum exposure to the target language, intensive training and the learners' performances in the target language are very important factors because of their strong effect on the writing as well as the revising processes. Would Jordanian students, after several years of exposure to academic reading and writing in the target language, be able to write and revise on the computer successfully as they are required to? This is one of the issues that the present study addressed.

Mahmoud (1982) examined the cohesive and coherence strategies used in compositions written in English by Egyptian college students majoring in English and by

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native speakers of English (NES)[5]. She noted that several of the English compositions written by the Egyptian students exhibit a low level of connectedness and manifest problems in topical development. Such compositions were also marked by the absence of formal closure and by inappropriate conjunctions. In addition, they were not as functionally successive as the NES's compositions. Mahmoud concluded that ESL students showed different behaviors and writing strategies from those of the NES. Also, she found that the effect of transfer form L1 to L2 was not observed due to the different nature of the writing processes in Arabic and English. While Kamel (1989) arrived at the same results, Al-Semari (1993) discovered different findings. Literature indicates that in many fields of the behavioral and social sciences, studies might come up with different or even contradictory results. This situation also exists in the literature about writing, revision, and the computer. Of course, there are many factors that lead to this diversity and contradiction like how the sample was selected, the methodology used in study, the measures of analysis implemented, ways of interpreting the data, and the inability to control some variables. However, in this section of the review I intended to discuss a wide range of studies conducted in the field that show different perspectives on the topic of this study.

This section introduced several studies that had been conducted on Arab students while writing and revising in English as second or foreign language. Writing in general, and revising in particular were the focus of these studies. Nevertheless, these studies arrived at different and even contradictory results. For instance, while some studies found

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similarities in composing between the native language or interference from the native language to the target one (Al-Semari, 1993; Al-Sindy, 1994), others did not find any evidence to support this claim (Mahmoud, 1982; Kamel, 1989). Moreover, some studies reported improvement in the quality of the written texts (Al-Semari, 1993; El-Shafie, 1991), others (Kamel, 1989; Mahmoud, 1982) did not find that the students improved their writing quality. However, we should not assume that the findings of these studies should be the same because they are different in many regards. Also, time was another factor. Almost all of the studies required the students to write one or two compositions in one or two sessions, while El-Shafie (1991) studied the students' writing over a period of one year. Another factor that might have brought differences between the studies is the level of education and writing experiences between the students who participated in these studies. While some researchers (Al-Sindy, 1994; Kamel, 1989; Liebman, 1992; Mahmoud, 1982) studied college students, Al-Semari (1993) and El-Shafie (1991) studied graduate students and twelfth graders. Although the present study has several aspects in common with these studies, still, one aspect of this study is distinguished, that is the tool of writing is different. This study is expected to add a new dimension to the literature about Arab students writing in English as a second language.

Revision and ESL Student Writers

Revision is considered by many researchers as an important component of the writing process that improves the students' writing (Al-Semari, 1993; Boiarsky, 1984; Della-Piana, 1978; Faigley & Witte, 1981; Fitzgerald, 1987; Murray, 1978; Sommers, 1980; Taylor, 1981). However, ESL student writers are often considered to have

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difficulties with academic writing in English and to be slow to take advantage of revision (Mohan & Lo, 1985; Yin, 1995). Yin (1995) designed a study to test the difference that revision strategy instruction would make on ESL college students' ability to improve their writing quality in English as a second language. The ESL college students from three sections of an ESL composition course were grouped into an experimental and control group.

Students in the experimental group, apart from taking the composition course that was required for both groups, attended a workshop to receive instruction in global, local and generic revising strategies. Students in the control group, while taking the required composition course, attended a different workshop in which they were engaged in the same revising tasks for the same amount of time as their counterparts in the experimental group, but received no explicit instruction in revising strategies. Both groups of students were asked to write an essay and then to revise it. Moreover, the students were asked to revise someone else's essay to see whether the revision abilities apply to other students' written work or not. The findings indicated that there were significant differences at .05 confidence level for the revision of one's own essay as well as for the revision of someone else's essay. The study confirmed the importance of revising strategies in improving students' writing quality. However, the study also indicated that it is insufficient to boost ESL college students' writing ability by simply giving them opportunities to revise and providing them with feedback in the form of comments on their essays. Instead, explicit instruction in revising strategies should be given.

The findings of this study were supported by several researchers (Raimes, 1985;

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Silva, 1993) who suggested that ESL students need "more of everything" (Raimes, 1985). In addition, Silva (1993) suggested that because ESL writers have special needs that in most cases are different form those of L1 writers, it might be better to serve those students by giving them special courses in writing and revising. This study connects to Yin's (1995) study in that it explored whether Jordanian graduate students need help in learning the skills of English academic writing and formal instruction in how to use the computer as a tool for composing and revising.

Lee (1993) designed a study to investigate revision breakdowns in academic writing of five Chinese graduate-level ESL students regularly enrolled at a university in Boston, Massachusetts. The study pursued three questions: 1) What problems can the student writers detect in their texts? 2) How can they diagnose the problems? 3) What strategies do they use to fix the problems? To answer these questions, the subjects were asked to choose a writing assignment for one of their academic courses, and revise it as many times as they wanted. When they met with the researcher, they had to do the last revision while the researcher observed. Then the researcher examined all their drafts and asked them questions about their revisions.

There were six main findings. 1) The subjects had difficulty writing in English because they had very limited English language ability, especially in language use and vocabulary. Within language use errors, they had the most limited ability to deal with complex sentences. 2) The subjects had a limited ability to detect errors in the text. Only one student detected all types. 3) They had a limited ability to diagnose errors in text. They all relied only on their intuition to diagnose errors. Most of what they diagnosed

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students had trouble in using a variety of strategies to fix errors in text. Sometimes, their

revising even created additional errors. 5) Generally, organization, language use, and

vocabulary were the types of errors they detected, diagnosed, and fixed least effectively.

6) Finally, the study suggested two sources of the above problems and provided

suggestions for these problems. One source involved these ESL learners' educational and

cultural background, and the other one involved their English and writing proficiency.

Although this study revealed very important information about difficulties that

ESL writers encounter in terms of the inability to deal with complex sentences and the

inability to detect, diagnose and correct errors, other important information is still

missing. For example, the study did not say anything about the past revising experiences

of these subjects. Flower, Hayes, Carey, Schriver, & Stratman (1986) indicated that

teachers think the practice of multiple drafts is the key to good writing. This assumption

leads us to the following question: why were those Chinese graduate students unable to

revise successfully their written assignments? The answer to this question may imply that

revision is not just a skill that the students should **know**. Instead, it requires the

knowledge (what revision is and how it works) and the **ability to demonstrate** this type

of knowledge. This might be the possible reason that the students could not achieve their

task successfully rather than their language ability was limited. The current study

explores whether Jordanian students both know and can use revision strategies.

Krapel (1990) designed a study to investigate the transfer of writing and revising

strategies of different languages to the target language. She intended to study the effect of the rhetoric and strategies of different first languages on English. The subjects (Chinese, Arab, and Spanish students) composed in both languages, their native languages and English. The findings of the study showed that although L2 composing processes differed from all L1 processes in fluency, L2 composing processes reflected L1 composing processes of the different languages in different circumstances. Also, the study showed that the rhetoric of L1 native languages in this study (rhetoric analysis addressed strategies of introduction, orientation to topic, statement and placement of topic) had a strong effect on L2 writers' behaviors in regard to the strategies of elaboration (type and frequency), and strategies of conclusion (type and length). It would be interesting to see how effective the rhetoric of the different languages was in affecting the rhetoric of L2. Kaplan (1966) suggested that Anglo-European expository essays follow a linear development. In contrast, paragraph development in Semitic languages (like Arabic) is based on a series of parallel coordinate clauses. Essays written in Oriental languages use an indirect approach and come to the point only at the end, while in Romance languages and Russian, essays are permitted a degree of digressiveness and extraneous material that would seem excessive to a writer of English. The present study considers whether and how Jordanian students' writing experiences in Arabic influence their academic writing in English.

Using a case study design, Hall (1990) examined the revising behaviors of four ESL students in controlled L1 and L2 writing tasks. His subjects were advanced learners of English with different first languages. Each subject wrote two argumentative essays in

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his/her native language and two in English. Hall analyzed the revisions that the subjects made in their drafts. He found that the subjects used one system or strategy of revision that is used across the two languages. According to Hall, this system seemed to be shaped initially by the first language and consequently transferred to the second. The behaviors of the subjects indicated that L1 and L2 knowledge and experiences interact in the revising process of advanced ESL students. However, the study showed that there were some differences between the subjects' first and second language behaviors.

The study provided worthy answers to many questions concerning the revision processes of ESL writers; however, it did not provide evidence as to whether the single system of revision across languages is bi-directional and interactive or not. Moreover, the study revealed valuable information about the writers' behaviors when they revised their texts at the different stages, levels, types, and purposes; nevertheless, it did not provide enough explanations for some of these categories. For example, the study did not explain why the subjects did not revise on the clause, sentence, or paragraph levels. Moreover, the study did take into account how the subjects justified, for example, the most dominant level of revision, "words."

The present study will take into account some of the factors that Hall's (1990) did not consider. For example, some studies indicate that students write better and more when they are familiar with the topic they write about or when they select their own topics. Another concern is whether the writers write for real audience or not. That is to say whether they write for the sake of the instructor, to fulfill a course requirement, or whether they write to communicate a message with other people outside the circle of

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research. Not being aware of these factors or not taking them into account when designing a study may affect the findings and result of the study. Therefore, the present study was designed with these concerns in mind in order to eliminate as much effect as possible of these factors.

Gaskill's (1986) case study on revising in Spanish and English compared L1 and L2 revising strategies of four undergraduate ESL students, each of whom wrote one argumentative essay in English and another in Spanish. Based on the study, Gaskill concluded that the revision skills and behaviors while revising in English were similar to those in Spanish. He found that an advanced ESL writer is capable of using a single system of revision across languages, and that this system is initially shaped in L1 and subsequently transferred to the L2. He also found similarities in the students' behaviors while revising in both L1 and L2 with regard to the linguistic and discourse features of both languages. Although Gaskill's study suggests that the first language revising behaviors transfer to the second language, his classification scheme does not include purposes of revision. Hence, his study does not make it clear if the students' revision in Spanish and English were motivated by similar reasons or not. Although this present study does not compare the revising strategies of the writers composing in both languages, as Gaskill did, it does investigate how the writers justify or explain their purposes for the revisions.

While research conducted on native speakers of English investigated the differences in the students' experiences and abilities to revise, ESL researchers followed the same steps of this research by studying the various strategies and behaviors of

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experienced and inexperienced nonnative speakers of English writers. Raimes (1985) mentioned that research conducted on ESL writers has pointed out similarities in the behaviors of experienced L1 and L2 writers. This study indicates that experienced L1 and L2 writers consider purpose and audience, consult their own background knowledge, let their ideas incubate, and plan carefully before they start the actual writing. As they write, they read back over what they have written to keep in touch with their "conceptual blueprint" which helps them plan what to write next. Furthermore, those experienced writers do not follow a neat sequence of planning, organizing, writing and revising their texts. On the other hand, she found that the unskilled students' behaviors were different when they composed in English. Raimes reported that those unskilled ESL writers took less time to plan (their plans were usually less flexible than the experienced writers' plans), re-scanned large segments of their work less often than skilled writers did, and when they did re-scan, it was usually more for the purpose of correcting surface-level errors than for assessing the fit between their plans and the product. As for revision, she found that unskilled ESL writers did not revise efficiently, and when they did revise, their revising was mostly editing. They focused on form rather than content, and they were more concerned with accuracy and local concerns rather than the content and ideas that their texts included. Furthermore, Raimes concluded that unskilled ESL writers were also found not to consider the reader as an important character when revising. So, as Murray mentioned before, once they put ideas on the page, they seldom rework them and that "the first draft becomes the final."

Raimes's (1985) study is considered one of the most important studies that deal

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with unskilled ESL writers, however, the "thinking aloud protocol" research method that she used in her study raises major concerns. As I indicated earlier in this chapter, there are some doubts and reservations about whether composing aloud reflects the natural composing process or the writer or not (Zamel, 1983). The other concern is that the thinking aloud protocol interferes with the natural composing process because it requires the writer to do two things at the same time: to transcribe what he/she is processing in his/her mind, and to verbalize these internal processes while thinking and writing (Faigley & Witte, 1981). Those researchers concluded that this task is not an easy one and that it interferes with the normal composing processes by interrupting the trains of thought of some writers who have to do two tasks at the same time. Moreover, these studies indicated that the "thinking aloud protocol" makes the writers change their focus of attention from writing and revising to another additional task that is thinking aloud. Nevertheless, Raimes's (1985) study could be considered a guide to this present one in terms of investigating the writers' behaviors and how they revise in spite of the differences between the levels of the subjects in both studies and how writers' thinking about revision was documented.

Edelsky (1982) studied the writings of 26 Spanish-English bilingual students over a period of one school year. During the study period, every subject wrote four pieces. She found evidence that knowledge of L1 writing "forms the basis of new hypotheses rather than interferes with writing in another language" (p. 227). Edelsky's study suggests that L1 composing behaviors transfer to and even assist L2 composing. She implied that fundamental L1 composing skills and strategies such as knowledge of spelling and

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manipulation of style were applied to L2 composing. Although this study is cited by many researchers as a good example of the transfer of the composing behaviors from the first language to the target one, its findings could not be taken for granted. That is because the researcher identified the subjects in the study as bilingual students, which means that those students have mastery of the two languages at the same level or almost the same. Research in language acquisition indicates that there are differences in fluency and accuracy when one masters one language as a mother tongue and then learns another one as a second language. Edelsky did not mention whether some or all of those students learned English or Spanish first or at the same time, or whether one of these languages was more dominant than the other.

Also, the students who participated in the study were in the first, second and third grade. This means that the subjects' limited knowledge about language in general and their experiences in writing in particular may not be a strong indicator to make such kind of comparisons. Nevertheless, Edelsky reported that the subjects found it easy to use fundamental L1 composing skills and strategies (such as the knowledge of spelling) and apply them to L2 composing. However; this behavior may not hold true if the subjects were Arabs, Chinese, or Japanese or any other students who use a language which has a completely different system of writing in terms of the shapes of letters and the direction of writing when compared with the Roman letters used in English. This indicates that the similarities between the sounds, shapes of the letters and the direction of writing used in both Spanish and English are the same. This, might be a great help for the writers of one language when learning another, especially in spelling and at the first three elementary

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Chelala (1981) was the first to examine the transfer effect of L1 while composing in L2. She studied two Spanish-speaking subjects as they composed two Spanish and two English texts. While observing the subjects, she noticed that certain comparable L1 and L2 strategies had a salutary effect on her writers' texts. Among the behaviors that Chelala was able to identify were the students' use of the first language for prewriting and switching back and forth between first and second language, taking notes, using cohesive devices, and revising to match a text with a particular meaning. However, we might get different results if we look at this study from a different perspective. It is true that the two subjects speak Spanish as a first language, but it might not be the same thing when it comes to writing. The study did not indicate whether the two subjects had learned to write in English after they mastered the skill of writing in Spanish. So, the results might have been different if the subjects had mastered the writing skill in their mother tongue language first and then moved to the second language. Also, there is the possibility that those two women had learned the strategies of writing and revising of the two languages at the same time. If this was the case, it would be natural for them to implement and use the same strategies of both languages and to go back and forth between their first and second languages. Finally, a question might arise about the experiences of two women, that is whether the researcher would get the same results if these two women were not professional writers?

In conclusion, the previous studies revealed valuable information about the

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composing and revising processes of nonnative speakers of English when composing in English as a second language and their native languages. Some of these studies arrived at similar findings, for example, that nonnative speakers of English have one system that controls their revising and composing process and that this system is formed in the first language and affects the composing and revising processes in the second language (Gaskill, 1986; Hall, 1990). In addition to the similarities between these studies, differences between them existed on the level of the design of the study, level of the participants, duration of the experiment, type of the writing task, the purposes of the study, etc. However, these studies could be related, to some extent, to the present study in some regards. The major connection is that some of the questions that these studies addressed are similar to the present study's questions. The findings of these studies were compared to the findings of this study. This design of the present study took advantage of what these studies had revealed, and tried to avoid and eliminate as much as possible the drawbacks or limitations of these studies.

Composing and Revising on the Computer

Many studies have been conducted on the various uses, effects, benefits, and students' attitudes toward computers as word processors for writing and revising; however, the population of these studies were mainly writers who were native speakers of English (NES). Relatively few of these studies targeted ESL writers as the major population at both levels of the university (the graduate and the undergraduate levels). This section will present what literature has revealed about the writing and revising processes and behaviors of both NES and ESL writers on the computer as a word

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processor. The relationship and connections between these studies and this present study will be established to indicate the need and importance of this study as well as to shed light on what we know and what we still need to know about this field.

During the decade of 1980s, there was a move toward using computers in writing classrooms at all levels. The relationship between the uses of the computer as a word processor and the various aspects and strategies of writing and revising have been studied. However many of these studies reported ambiguous, inconsistent and contradictory results (Collier & Werier, 1994). This means that researchers, in many cases, have come to completely different conclusions concerning the number of revisions made by writers using word processing, the role of the word processor in improving the quality of texts produced as a result of revisions made by the writers on the word processor, the quantity of texts produced with word processors, the kinds of revisions made by the word processor, the student's attitudes toward composing and revising on the computer, and so on. While the reviews of their effectiveness are mixed, computers continue to play a larger role in the teaching of composition as time goes on, possibly because today, and in the foreseeable future, computers are expected to be the way we write at work and at home.

ESL Writers and the Computer

Ghaleb (1993) examined the writing of nonnative English students in two freshman university writing classes, one traditional class and one class that made use of networked computers which allowed for synchronous written conversations. The study included measures of the quantity of writing from six class sessions; the counting of the

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number of subject-verb agreement errors, run-on sentences, and fragments in two versions of the final term paper as well as a consideration of the approximate amount of time devoted to grammar instruction and error correction; and, holistic ratings of the first and final versions of the term paper.

The goal of the study was to determine the potential of a computer-mediated communication network in an English as a Second Language (ESL) process writing class. The methodology was descriptive with findings based on analyses of the researcher's field notes, on the activities and discourse of both classrooms, on the printouts of all the computer lab sessions, and on the first and final draft of the final term papers for both classes.

The study revealed that the results of using a computer-mediated communication network in a university ESL process writing class equaled, and in some instances surpassed, those of the traditional grammar-based approach to teaching writing. The quantity written in the networked class far exceeded that of the traditional class, and the percentage of errors in the computer-mediated communication class dropped more than that of the traditional class. Although the holistic scores rated the traditional class an average 0.6 points (out of a maximum of six) higher grade than the computer class, this difference was attributed to the considerable amount of time devoted by the instructor in the traditional class to teaching grammar and correcting errors in the essays. In light of these results, computer-mediated communication, with the process approach to teaching writing, can provide a positive writing environment for ESL students, and as such could be an alternative to the laborious and time-consuming method of the traditional approach

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to teaching writing. One might wonder what might have happened if the students in the computer-mediated communication class also received the same amount of time devoted to grammar and other instruction on how to revise? It was not the purpose of this present study to make comparisons between two groups of students composing in two different environments. Rather, I assumed that getting in-depth insights about the composing and revising processes may help researchers and educators understand those students better and then suggest suitable ways to help those students become successful writers. This was one of the indirect purposes of this present study.

In most, if not all, of the studies that investigated the effects of word processors on students' writing and revising, the subjects were familiar with the machine they were using. While some of those students were professionals in using the machine, others were not. However, none of the mentioned studies had tried to investigate the issue with students who had no experience with this machine. Kamisli's (1993) study was a pioneer in this regard. His study described how five ESL Turkish students adapted to the computer as a word processor, and to a new way of teaching/learning writing ---the process oriented approach— while pursuing their quest for learning a new language, English, in a non-traditional classroom setting. This new writing instruction involved using free writing on the computer, having peer conferences and teacher/student conferences, as well as writing collaboratively.

The subjects of the study were five low-intermediate level Turkish ESL students, who had neither prior exposure to computer word processing application nor any typing skills. The students met three to four hours a week during a semester of 13 weeks. An

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ESL instructor, who was experienced in the process-oriented approach of writing and who was also experienced in using the word processor for teaching writing, provided instruction during the study. The data collection procedures of the study were pre-research writing samples, interviews, recorded documentation (audiotaping, videotaping and still photography), keyboard skill progress reports, participants' diaries, word-processed drafts, teaching materials, and observation.

The researcher found that the students were more at ease with the word processing approach to writing than they had been with the structured pen and paper approach they had been exposed to in Turkey, their native country. In a less structured teaching/learning writing environment, the new pattern of interaction—peer collaboration—emerged which further contributed to developing the students' writing skills. This collaboration consisted of discussion about operating the technology and appropriate ways to write in English. The study concluded that the students became more facile in using the word processing system by first learning keyboarding skills, which enabled them the freedom to explore writing as a process. Even though this was an accomplishment, however, the students did not seem to reach the final stage of the writing process—editing.

The interesting thing about this study is that it deals with ESL students learning how to write and revise on the computer without any previous knowledge about this machine. The adaptation story of those students to the new situation which they were not familiar with in their native country is engaging. The connection between Kamisli's (1993) study and this present one is that the Jordanian students who participated in this study experienced very similar circumstances. When they came to the U. S., not only

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were they unable to use the computer as a word processor but also they were unfamiliar with typing on any typical typewriter. Therefore, this present study can be seen as a sequel of Kamisli's (1993) study since it investigated the Jordanian graduate students' use of the word processor after they had become used to using it. We do not know what would happen with those Turkish students after three or four years of the experiment. Would the study, if replicated two or three years later arrive at the same findings? Perhaps the students liked the computer because it was a new machine for them and they were fascinated with it, but after a while they could change their minds about it. Answers to such questions are hard to find unless the study is replicated with the same subjects.

Regarding Kamisli's finding that the students could not reach the final editing stage of the writing process, one might assume that because of the students' inability to master all the computer's functions, they were prevented from using the editing skills provided by the computer to facilitate the students' work. However, one cannot be sure whether the students' inability was caused by the students' ignorance about the computer's editing functions or the students' ignorance about the new conventions of the new system of writing they were learning. That issue was tackled in the present study in order to see whether Jordanian graduate students were able to employ such functions when revising their work or not.

Yu (1990) conducted a study to investigate the relative effects of using computers and writing by hand on secondary students' quality and quantity of writing, and on their attitudes toward writing. The subjects were 40 eighth-grade students in an Anglo-Chinese school in Hong Kong, with some experience in writing brief compositions. The study

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lasted 5 months, including a typing training session, a word-processing session, and all writing sessions. In each 80-minute writing lesson, the researcher spent 30 minutes discussing how to write an essay. A guided writing sheet was handed out, and students were divided into two groups with separate supervision, one in the computer lab and one in the regular classroom. Two external readers rated the essays for quality. While the students' attitudes were assessed by a questionnaire, the writing quantity was measured by the number of words written in each essay.

The results of the study showed that students using computers wrote better and longer essays. All subjects in both groups showed significant changes in attitude, but neither group felt writing in English was easy or enjoyable. Several studies have investigated the final products executed with the use of pen and paper as well as with the computer. Findings of these studies showed the pros and cons of each means; however, very few of these studies tried to show the attitudes of students toward writing on computers. The reason why this finding is so important is because students' attitudes toward writing may affect the way they perceived it, the final products they produced, and the way in which they saw themselves as writers. So, this finding is seen as a common base between the two studies, Yu's (1990) study and the present one, that both of them share the assumption that students' attitudes toward writing should be investigated. However, while in Yu's study the students showed significant changes in attitude, neither group felt that writing in English was easy or enjoyable, the present study investigated this issue with Jordanian graduate students who lived in a completely different context where English was only used in the classroom. Whether this variable has

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any effect on the students' attitudes or not is a question that needs to be answered.

To sum up, research on ESL writers using the computer as word processor to compose in English as a second language is rare when compared with similar research conducted on native speakers of English. Therefore when conducting a study that investigates the composing or revising behaviors of some ESL writers, no matter what their level is, certain issues should be taken into consideration in case they might affect the findings of the such studies. For example, one should be careful about accepting or rejecting the findings of the previous studies, like Kamisli's (1993) study. Kamisli concluded that the students did not reach the final stage of writing, that is editing, without introducing the complete background about the past experiences of those five writers in their native language. Therefore, it is important to include the past experience in all aspects of writing since writers spend years to develop certain composing or revising skills rather than learning them within a semester or two. Moreover, how the subjects were selected, and what kinds of word processing and writing instruction the subjects were provided, and what kinds of data the researchers gathered and how they used it are very important factors that may affect the findings of such studies. Such questions should be taken into account when looking at studies that deal with composing or revising on the word processor.

NES Writers and the Computer

With the current proliferation of personal computers allowing for a larger segment of the population available for study, more conclusive data as to the computer's effectiveness should soon be forthcoming. However, whether revision is done with

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computers or with pen and paper, it should go beyond correction and the emphasis should be on the whole text rather than its parts. When this happens, students discover the power of writing as a means of shaping ideas and clarifying meanings rather than as a way of correcting errors or fulfilling a class requirement. The two views of seeing revision as error correction, or emphasizing the whole text rather than its parts, are discussed below.

Olson (1994) examined and compared children's approaches to writing and revision as they wrote compositions with computers and with pencils. Using a case-study approach and videotaped observations, the writing processes and products of seven first grade children were examined. The data also included the frequency, level, and pattern of revision; the frequency of rereading during composition; and the quality of composition, level of spelling, use of writing conventions (spacing, capitalization, punctuation), and length of the final written products. Rate of transcription, duration of writing, and time spent on task were also analyzed. Classroom observations and student and teacher interviews provided a broader context for interpreting the study findings.

The study found that an increase in revision at the computer was observed at the surface level only. Content revision remained rare across writing conditions. Children reread from their texts more often during composition at the computer, leading to further revision. In general, texts produced with computers and pencils were similar in quality, accuracy, and length. However, few children produced longer texts when writing with a particular tool. The study found that children invested more time at the computer to achieve comparable results. This latter finding was tied to computer-related factors including slower transcription and the higher number of re-readings and text alterations.

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The findings suggest that increases in revision in the early stages of computer use are a function of an initial learning period.

Moreover, the study revealed that children responded differently to the computer, based upon their preferences and abilities. All seven children expressed positive attitudes toward the use of the computer and most reported that computers made writing and revision easier. Within the classroom, the computer shifted the practice of writing from an individual to a collaborative activity.

Owston et al. (1992) conducted a study that examined how writing with word processing influenced both the composition process and the quality of work produced by eighth grade students engaged in one type of writing task. Four classes of eighth-grade students (n =111 students) participated in the study. The students were considered very familiar with computers and word processors and they had been using word processing regularly for their writing activities for several terms.

Students in the experimental group were assigned a topic that was introduced for class discussion first and then for group prewriting activities. After that, students were asked to work individually on a draft composition on the assigned topic. All students' writing was done on the computer and their draft papers were reviewed by two peers first and then by the teacher in a student-teacher conference. Students in the control group were in a class where writing assignments were integrated with other subjects like science. Students in this class were given some freedom to select their own topic based on their own interests and knowledge. All students were asked to write two papers; one was written by the use of the word processor and the other by hand.

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The researchers found that the papers written by eighth graders on the computer were rated significantly higher than those written by hand. The evaluators did not know in which manner the papers had originally been written, but they consistently judged the computer written papers superior on all scales of judgment. The results of the study also indicated that students continuously revised and edited their work at all stages of the writing process, with most of the revision done in the initial drafting session, making the traditional distinction between draft and final versions of a piece less meaningful. However, there were no significant differences between the lengths of the computer-written and handwritten final papers. Perhaps, as Tone & Winchester (1988) have argued, computers offer real facilitation of revision "to writers who know how to compose on one." This study investigated whether, when adults are familiar with the computer and know how to use it, they revise more and at all stages of the writing processes.

Petkosh (1990) conducted another case study of the revising behaviors of three undergraduate writers assisted by the word processor. The writers were enrolled between five to seven semesters in a required technical writing course. The qualitative inquiry followed these students through three writing assignments, analyzing their logs, drafts, and interview transcripts. Faigley and Witte's (1981) "Taxonomy of Revision" was used to analyze the changes between drafts. All students used the word processor in composing and revising their assignments. In this study an instructor taught the class and modeled writing behaviors with a computer. When computers were not available, students relied on their pen-and-paper methods with ease. All three writers said that they preferred to compose on the word processor rather than writing with pen and paper. Studying their

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The major findings were: 1) the writers made more surface changes than meaning changes; 2) they made more changes during their first sessions than in later sessions; 3) additions and substitutions were their most common operations; 4) the overall length of their text was not related to their number of changes; 5) time saved by their uses of the computer was not reinvested into the writing process; and 6) students tended not to use revision criteria. As for the process of teaching revision with the word processor, Petkosh concluded that the modeling of revision behaviors can be facilitated by large-screen revising activities, and that the use of detailed revision checklist encouraged revision. Moreover, he emphasized that the incremental word processing training can increase revision.

The findings of this study are consistent with many of the findings of other studies discussed in this literature review; however, no attempt was made in these studies to discover the reasons behind the students' inability to revise for meaning rather than surface level. Knowing the reasons for such behaviors is essential for more understanding of the revising process rather than being satisfied with the final conclusions about the products. Such attempts may also shed light on why students did not use the time saved by the computer to be invested in writing and revising. An in-depth study of the students' educational background may help us understand why the students did not use any revision criteria, whether they lack the knowledge about revision and how it works, or even if they lack the ability to translate or perform such knowledge to the written texts.

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The present study took these issues into account.

Hawisher (1987) explored the effects of word processing on the revision strategies of twenty above-average college freshmen enrolled in a required writing course. The purpose of the study was to discover not only whether students revise more extensively and more successfully with the computer than with pen and typewriter, but also to explore the kinds of revisions students make with and without word processing. One of the major strengths of this study was that it examined the revising processes of the same students on and off the computer.

Twenty students were randomly divided into two groups of ten that alternately wrote a series of nine essays on and off the computer during a semester. Students submitted notations of revision plans and four first-drafts as well as four final drafts that were analyzed in two episodes for changes made during revision. For each of the twenty students, there were two essays written with word processing and two essays written with pen and typewriter. In addition to undergoing text analysis, the essays were judged by trained readers using an analytical scale. In this way, the quality of the essays could be related to the number and kinds of revisions.

Results of the analysis of 4,048 between-draft revisions of eighty essays suggest that writing on a computer does not lead to increased revision—at least not for these academically advanced students. There was no positive relationship between extensive revision and the quality ratings of the essays. Moreover, the students did not make different kinds of revisions with a computer than with pen and typewriter. In addition, the study pointed out that manipulating text for the sake of revision has little value for

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students or their writing. Hawisher found that revision patterns often varied for each student for each individual essay regardless of the writing tool. In sum, the findings of this study did not support the claim that a computer is a more effective revising tool than pen and typewriter if one measures the effectiveness by the frequency of revision and by the quality ratings assigned to the final drafts. At the same time, the results do not suggest that word-processing is a less effective tool than conventional methods for writing and revising. In other words, more revision did not create a superior essay; nor, on the other hand, was infrequent revision more effective.

Hawisher's (1987) study concluded two plain facts about computers and revision: first, computers do not do revision, writers do; and second, computers do have functions that help in writing and revising. Basically, writers who use the computer as a tool for writing and revising should benefit from these functions to improve their writing. So, even when a study reports that the students who used the computer did not do better or they did less or worse than those who used the pen and paper, one cannot necessarily conclude that the computer has a negative effect. As many of the studies discussed in this chapters found, the major factor that determines the success or failure of composing and revising on the computer is determined by the many characteristics of the writer rather than the machine as a tool. Therefore, this present study investigated not only what the writers did on the computer but also their reasons and justification for changes they make. Thereafter, thinking about computers as tools for facilitating rather than doing the job of revision, we can look again at Hawisher's findings and ask: what prevented the students from taking advantage of the computer's function to improve their writing? This does not

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mean that the computer does not have drawbacks and limitations; in fact, it does have many. However, being aware of these drawbacks and limitations facilitates the work with it.

Ehrlich (1985) explored the effects of the computer as a word processor upon the composing process of student writers enrolled in a composition course at Kirkwood Community College. A case study methodology was selected to observe the use of this technology in an instructional setting to answer several questions. First, is there a change in students' attitude in regard to writing? Second, are there changes in the amount and types of revisions that occur because students are using the word processor? Third, how can the word processor best be used for the teaching of writing?

Students' attitudes were observed through the use of students' journals, writing profiles, attitude surveys, and direct observation. Students who used the word processor showed a definite improvement in their attitudes toward writing and became more confident writers because of the ease of editing.

Six essays were analyzed according to a matrix that tabulated the operations of addition, deletion, substitution, and reordering. These operations were divided into domains of punctuation, word, phrase/clause, sentence, and meaning chunk. Whereas most students who revised handwritten copies tended to make surface level revisions, the students who used the word processor expanded their operations to revise more holistically, reordering as well as adding, substituting, and deleting.

The study indicated that the group of students who continued to use the word processor after they had revised the required three assignments wrote longer essays,

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revised more frequently, and exhibited a more positive attitude towards writing. Their additional experience allowed them to compose with the word processor without an interruption in the flow of their thoughts while they were writing.

Moreover, the researcher found that the majority of the students working with the word processor began to see writing as a recursive process rather than a step-by-step procedure involving discrete stages. Hence, she concluded that the word processor might best be used for teaching the recursive process, helping the students to concentrate their attention upon revising rather than recopying.

Seeing writing as a recursive process rather than discrete stages allows the writer who composes on the computer many advantages over the one who composes by pen and paper. Writers can go forward and backward, as much as they want, right from the title of the essay until the last word and insert words, sentences, paragraphs, and even pages without the fear of damaging the original. The same thing can be done with deletion. Also, writers can, with a push of a button, substitute a word with another one, or a sentence or even a paragraph in the whole essay no matter how many times this word is repeated. Another feature of seeing writing as a recursive process is that writers can have control over the text by moving small or big parts of it to any other place in the same or other texts. This process of organization helps them to rearrange small or big parts of the text as many times as they want, and they can even cancel the whole operation by one click or push. In addition, writers can run all of the functions provided by the computer (such as the spelling checker, thesaurus, grammar checker, hyphenation) to check anything they want in the text. What is interesting here is that all of these functions could

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be executed by the use of the computer and without making the essay messy; a feature that may discourage some writers to continue working.

All of these features mentioned above have the potential to encourage writers to work with the process of writing as a recursive activity instead of seeing it as a linear process. Nevertheless, these claims do not mean that the computer does not have features that could discourage the writers to see writing as a recursive process. For example, the inability to access the whole text on the screen prevents some writers from seeing the text as whole. Also, the size of the screen may play a major role in allowing the writer to see a small or a large part of the text.

Harris (1985) conducted a study in which she investigated the effects of word processing on writing. In doing so, she attempted to discover whether the use of word processing increases the number of revisions ---significant modifications in content and organization--- that a student makes in his or her text. In other words, Harris wanted to know whether the use of word processing program encourages students to make revisions that could be considered changes in macrostructure according to the taxonomy used by Faigley & Witte (1981). The subjects who voluntarily participated in the study were selected from two classes --an honors freshman English course and an advanced composition course. In selecting these six subjects, two qualifications were considered: the ability to type and experience with computers. However, computer experiences of the subjects varied widely, as did their writing skills and academic backgrounds.

Each of the six subjects wrote four papers, expository writing assignments that were part of the regular course requirements. The subjects produced first drafts on their

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own using any method they chose. These rough drafts were subjected to peer editing and the instructor's comments. The subjects were then asked to revise their papers --- the last two papers were revised by the use of the computer. Students were asked to produce as many rough drafts as they chose in arriving at a finished product.

Harris observed the subjects' behaviors while they were revising. In addition, the students commented on their revising sessions in special journals. Also, the researcher taped interviews with each of the six subjects in order to assess their experiences with writing and word processing and assess their attitudes toward themselves as writers and their perceptions of their writing processes. Toward the end of the study, the researcher conducted final interviews with the subjects to discover whether these attitudes and perceptions had changed or not.

The major findings of the study revealed many results that did not support the many advantages of the word processors that have been claimed by many other researchers. First, contrary to the students' own expectations and the claims made by other researchers, the subjects made fewer revisions when they used word processing than when they did not; a result that had been concluded by Hawisher (1987). Almost all of the students made microstructure revisions on all four papers; however, only four of the six made changes in macrostructure when they used the word processor. However, the students appreciated the accessibility of the clean copy provided by the computer to work on. Second, there was no evidence that the students are more likely to take risks when they use word processing. The researcher mentioned that, in theory, most of the subjects agreed that they felt free to take risks, but in practice, they failed to do so. Third, as for

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the impact of word processing on recursiveness, the study indicated that depending on the type of the computer and the particular word processing program used, a writer may or may not be able to read easily what has been written. In this particular study and because of the relative inaccessibility of their texts on the screen, revising was hindered because it was difficult for them to go forward and backward to scan the text for the sake of revision. Fourth, in spite of the students' inability to use the computer for revision and the fact that they got little help to do their revision when they used it, all the students who participated in the study except one, enjoyed using the computers and planned to use them for future writing tasks. Moreover, the subjects mentioned that writing with the aid of word processing was easier, faster, and neater.

However, Harris (1985) admitted that a number of uncontrolled factors affected the findings of the study. First, she only analyzed the changes that occurred between the two drafts submitted to her and on which she made her comments and corrections. Second, the subjects had different writing skills, composing styles, and computer experiences --- all of which could account for differences in their revisions. Third, peer editing and the written responses by the researcher affected the type and amount of revising that shaped the final drafts. Fourth, the students' improvement in their writing skills may reflect the course progress rather than the effect of the experiment. Besides all of these uncontrolled variables that affected the findings of the study, one can see that the time when this study was executed is relatively old. Computer hardware, monitors, and software programs have been developed and changed tremendously since 1985. As a result, the findings might not be the same if this study were repeated again under the

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In conclusion, the above studies show that research on word processing and writing by native speakers of English has covered a wide range of issues across these two fields, that is, writing and word processing. And because of the differences among these studies regarding purposes of these studies, levels and backgrounds of subjects who participated in these studies, different methods of collecting and analyzing the data, etc., the findings of these studies were also varied and in some cases were conflicting (Hawisher, 1988). For example, Olson (1994) found that the students increased their revision on the surface level only and that revision depended on their preferences and abilities. Owston et al. (1992) who studied another group of a similar age of the students, found different results in that the students revised at all levels and stages. She also found that the students who composed on the computer achieved higher ratings on their writing quality in comparison with those who composed by pen and paper. On the college level, Hawisher (1987) found that above average college freshman students did not increase their revision when they used the computers, and that there was no relation between the revisions they made and the quality ratings of their text. Furthermore, she found that there were no differences in terms of the quality of writing between the group of students who used the computer and those who used the pen and paper. Hawisher (1987) concluded that the computer was not a more effective tool for writing than the traditional pen and paper. A few years later, Petkosh (1990) conducted a similar study and arrived at very similar results. He found that the undergraduate students who participated in his study revised more on the surface level, made more changes in the first draft, worked on

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substitutions and additions more than other types of revision. He also found that the length of the texts was not related to the number of revisions and that time saved by using the computer was not used in revising.

Conclusion

This literature review has shown that during the 1980s and 1990s a new shift in the teaching of writing has emerged, that is the use of the computer as a word in the writing classes. Most of the studies conducted within the last fifteen years or more have tried to prove whether the computer as a word processor can help the students in the writing class or not. Therefore, the majority of the studies conducted during the 1980s and the beginning of the 1990s tried to compare the two methods of writing: the traditional one by the use of pen and paper, and new one, by the use of the computer as a word processor. Of course, advocates of each method in both camps argued for the advantages of one method over the other. Therefore, most of the studies conducted during that period compared and contrasted the two methods of teaching writing, almost in all aspects of writing but with a clear focus on revision. Consequently, reviewers of literature on writing and word processing indicated that the findings of these studies were varied and contradicting (Cochran-Smith, 1991; Hawisher, 1987; Nydahl, 1991; Silva, 1993; Susser, 1994).

Although the studies covered a wide range of students at the different levels of education, the focus was on students at the elementary and secondary school levels. Graduate students were hardly studied, and in particular, ESL graduate students were not mentioned in the literature until the beginning of the 1990s. Therefore, this literature

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review came to establish the base of what is known and what is not about these two fields: revision and word processing. Although the above studies covered a wide range of aspects related to these two fields, there are other questions, problems, and issues have not been addressed by research, yet. For example, Arab graduate students who comprise a large number of students in the U. S. are rarely studied. So, how those students compose and revise their written text is not known, simply because very few studies have tried to investigate this issue. Another issue is the use of the word processor by this group of students. Although the literature informs us about other graduate students from other nationalities, we still need to know many answers for many other questions that this study addresses.

Therefore, further research is needed to address the various concerns and issues related to Arab graduate students writing in English as a second language. By doing so, we will come to a better understanding of how those students compose and revise on the computer and how they perceive such processes. Moreover, we will identify and later suggest solutions to the difficulties and problems that those students encounter in order to help them become better writers.

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Chapter Three

Methodology and Procedures

The Subjects

This study documented the composing and revising behaviors of three typical Jordanian graduate students composing and revising on the computer. The study was basically designed to create detailed portraits of the students' use of the computer as a tool for composing and revising. Along with creating these detailed portraits, the study also compared and contrasted the writers' behaviors and appraised the quality of their written products.

This study used the qualitative method approach in which it looked holistically at the writing and revising processes through careful observation, videotaping, follow-up viewing sessions, and interviews. Through both the viewing sessions and the interviews, the writers' perspectives were considered. Furthermore, outsiders' perspectives through holistic scoring were also taken into account when discussing the quality of the written texts.

These three students were selected because they have been in the U. S. for some time (2 - 4 ? years) during which they had been exposed to the English writing standards. Students who had newly come to the U. S. were avoided because they have neither the exposure to the language nor the experience in using the computer as a tool for composing and revising. As stated in Chapter One, the study wanted to tackle the concern about whether those students, during the several years in their graduate programs, have

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acquired the necessary skills of writing and revising to produce scholarly academic written products or not.

Three Jordanian graduate male students, Jaber, Mazen, and Hilal, studying at a major Midwestern state university during the fall of 1997 participated in the study (pseudonyms were used to refer to the subjects to protect their identities). These three students were considered typical Jordanian graduate students because they had been selected by their sponsors in Jordan according to certain criteria. These criteria included their academic qualifications, educational experiences, potential willingness, and abilities for pursuing higher education, personal characteristics, and the age of the student.

Moreover, these three students were also considered typical graduate students because they met certain requirements determined by their university. For example, the three students were required to enroll in the English Language Center (ELC) affiliated with their university in order to improve their language skills. Therefore, the three of them took several courses in general ESL, and English for Academic Purposes (EAP) writing classes at the ELC for a period of two to three semesters. The three students passed the exams set by the ELC. Thereafter, their conditional admission to the university was waived and they were considered able to take academic courses.

Furthermore, the three subjects finished all of the academic course-work requirements and reached the last stages of their degree requirements. Jaber and Hilal had passed their comprehensive examinations and they were developing their dissertation proposals during the time of the data collection. Mazen was in the third year of his program, and he was expected to finish his course-work requirements and take the

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comprehensive exam the following year. Moreover, those subjects felt they were in a good position in their programs because their General Point Averages (GPA) were satisfactory. They indicated that they had written more than one term-paper in English for every course they had taken and that they had achieved good scores on those papers.

All three subjects had received their Baccalaureate and Masters' degrees from Jordanian universities in which Arabic and English were the languages of instruction. The subjects indicated that in both working toward degrees, writing was a requirement for passing some courses. That is to say, the subjects were required to write term papers, reports, and projects in both languages depending on the language of instruction used in the required courses.

Jaber and Hilal emphasized that they did not have any experience with word processing while they were in Jordan; however, they indicated that as a result of their experience in the U. S., they had enough experiences in using the computer as a word processor to perform all of their written assignments. In fact, these two subjects owned their personal computers which they used for writing their assignments on a regular basis. On the other hand, Mazen mentioned that he had more limited experience with the computer as a word processor when he was in Jordan. He mentioned that he used the computer when he typed his Masters' degree in electrical engineering using the English language.

Although the selection of this group of students was restricted by the availability of Jordanian graduate students at one university, several factors were taken into account when the study was designed. First, the three subjects shared very similar educational,

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social, and economical background. All of them lived in the same area of the country, studied in the same school system, and had very similar social and economical status. That is to say, the three subjects had very similar characteristics until the end of the secondary school. However, the researchers acknowledges the fact that there were individual differences in their academic abilities since Mazen was accepted in the college of engineering, Jaber went to the college of science, and that Hilal was admitted to the college of physical education. In Jordan, students do not decide the college they want to study in, rather than, their scores in the twelfth-grade play the major role in determining the college they are allowed to study in. For example, Jaber and Hilal could not go to the college of engineering because their scores were not high enough. This indicates that although the subjects had similar schooling background, they had different educational experiences at the university level.

The three subjects had very similar language abilities since all of them were required to take the same level of language and the same courses, too. Nevertheless, they experienced different educational and writing experiences in their different graduate programs. Such similarities and differences enriched the design of the study because it investigated the composing and revising behaviors who shared similar past educational experiences but had different present educational and writing experiences.

The students were contacted and informed about the general background of the study, but they were not told about any specifics or details of the study so it would not affect their writing and revising behaviors. All of the students agreed voluntarily to participate in the study.

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The Writing Tasks

The three subjects were asked to compose and revise an argumentative essay on the computer. This written task was selected because it is believed that argumentative essays urge the writer to argue with or against the topic more than other types of writing. Liebman (1992) mentioned that "Arab students excel at argumentative discourse." The researcher assigned a topic that took into consideration the subjects' familiarity with the topic and writing abilities, and asked the subjects to compose and revise on the computer. Prior to its use with the research subjects, the topic was shown to two different groups for suggestions and comments. The first one was a group of ESL graduate students who were working in different departments as graduate research or teaching assistants. The second one was a group of professors who have taught international graduate students in their classes. Both groups read the assigned topic, made their comments and suggestions, and decided that it was appropriate for ESL graduate students to write about with regard to familiarity, difficulty, relevancy of the topic, and choice of essay form.

The topic was:

> Imagine that you heard that there is a hot debate between the university administrators about whether ESL graduate students should or should not be allowed to work as graduate (research or teaching) assistants at the university unless they fulfill certain requirements. These requirements include: taking two courses in teaching pedagogy or research requirements, taking at least one course in American cultures and education, passing a tailored exam in English language proficiency in the four language skills (speaking, listening, reading and writing), and passing a specialized exam in the field of specialization or work. Develop an argumentative essay to be published in a local newspaper showing that you agree or disagree with the idea that ESL graduate students should or should not be allowed to work as graduate assistants

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The rationale of choosing this topic was that the three subjects worked as graduate assistants as both research and/or teaching assistants. Therefore, it was assumed that they had enough background knowledge and experience about the work of graduate assistants and that would enable them to argue for or against the idea. Furthermore, the three subjects were required to take writing and general English language courses because their language abilities were not developed enough to enable them to start taking academic courses directly. The topic had the potential to arouse the subjects' interest to use their personal experiences to support their arguments regarding whether they agreed or disagreed with the suggestions made by the administrators. Moreover, it was assumed that the three subjects knew some information about the cultures of teaching and research within the American context after they had spent several years in the U. S. This would urge them to argue that they knew was enough or that they needed to know more and how. Another reason was that the audience for the subjects' essays was the local community in the area; therefore, the subjects knew to whom they were writing, and that some members of the audience might have an idea about the background of the issue and others may not. This meant they needed to consider their audience when writing. This situation would require the subjects to provide logical justifications and explanations for their arguments whether they argued for or against the four requirements mentioned in the assigned topic. The type of audience can make a big difference in the style of writing and content if it is assumed that the audience is just the local community such as students, staff, or even an instructor of a course.

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The subjects were urged to engage in any kind of prewriting activities or planning they wanted before they started the actual writing, whether on the computer or by pen and paper. Although many researchers have limited the amount of time given to subjects to finish the written tasks in order to control the time factor in such studies, this study did not consider time as a variable to be studied for two reasons. First, literature indicates that in many studies researchers recommended that students should be given enough time or the amount of time they ask for to finish their written tasks (Zamel, 1983). So, to eliminate the factor of pressure created because of time limits on the students to finish the written task, I asked the students to decide the amount of time needed to work on the task. Second, although the written assignments that graduate students write have a determined deadline, most of them work on these assignments for several days, weeks or even months rather than few hours in a lab environment. Therefore, the subjects were given the amount of time they felt they needed to finish both the first and final drafts.

Research Questions

The present study aimed at answering the following questions:

1. How do Jordanian graduate students compose and revise their written texts by the use of the computer?

2. What types of revisions do Jordanian graduate students make when they compose and revise on the computer using English as a second language?

3. Why are revisions made by the students? What justifications do the students make for such revisions?

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4.   What difficulties do the students encounter while composing and revising on the computer? What are the reasons for these difficulties?

5.   Do the revisions made by the students improve the "holistic" quality of the essays? Is there any role for the computer in facilitating these revisions?

Procedures and Data collection

The Context of the Study

Research indicates that studies that are conducted in naturalistic environments should be encouraged and emphasized (Silva, 1993). However, not all types of studies could be conducted under these naturalistic conditions. This present study was conducted in a special computer lab which only faculty, graduate students, and staff were allowed to use for their own research. Because the lab was devoted to research only rather than students' use, very few people came to lab while the data collection was in operation. Moreover, the study took place during the break between the fall and spring semesters, a time when most of the faculty and students were not on campus. For this reason, the lab was very quiet and it was almost empty during the day. This situation gave the three subjects a quiet environment to work on their essays. The subjects indicated that the location was very similar to the other places where they used to work in their departments. They were accustomed to using the university computer labs available throughout the university for more than two years.

The lab was equipped with two types of computers: The first type was a Pentium PC with 17" monitor using Windows 95 as an operating system. The other type was a Power Mac/800 computer with 17" monitor. The word processing software used in both

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computer systems was Microsoft Word. While the PC version of Microsoft Word was 6.0, the Mac's version was 6.0.1.

The computer lab technician connected the hard drive with the real-time videotaping device (RTVD) that in turn was hooked to a TV set. The TV was also connected to a VCR in order to record every stroke that took place by either the keyboard or the mouse. An 8mm camera was set up and hooked to the real time recording device in order to capture all of the facial and body movements of the subject. Therefore, the subject was able to see himself composing and revising on the upper corner of the monitor. Seeing oneself on the screen could be considered as a problem for the writer because he might keep looking at him/herself. Fortunately, when the three subjects were asked about this issue, they mentioned that this was true for the first few minutes, but when they engaged in the writing process, they never looked at themselves. They also mentioned that they were very relaxed and comfortable using the computer, the monitor, the computer desk, and the chair. In general, they stated that the whole room was very calm and encouraging for them to be deeply involved in the activity.

The setup and the connections between the computer, the RTVD, the VCR, the 8mm Camera and TV monitor were prepared before the subjects started working on their activities. A separate file for each writer was opened and saved on the hard drive to be used for composing and revising the essay. The page setup was done by the researcher in order to fit with the subject's image on the monitor. Also, a proper font (New Roman Times 18) was selected in order to make it easy for the reader to read from the TV monitor. Questions about the process and purpose of videotaping by the 8-mm camera

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and the RTVD were answered and explained to the subjects to clarify any misunderstanding. Although the purpose of the study was explained to the subjects when they declared their initial approval to participate in the study, other questions about how to proceed were answered before they started their assigned task.

Stages of Writing

One goal of the study was to describe the behaviors of the Jordanian graduate students while composing and revising on the computer. The procedures used to document the writing processes were divided into the following two major stages.

Stage One

This stage included two separate parts. During the first part of this stage, which took place in the computer lab, the three subjects were informed that the main purpose of study was to study their composing and revising behaviors when using the computer as a tool for composing and revising. The subjects were not told any details about what composing or revising behaviors should be observed in case that this would affect the results of the study. A handout sheet was distributed to the subjects in which it explained to the them that they were asked to write an argumentative essay on a specific topic (see page 69).

Both composing and revising were performed on the computer. The three subjects indicated that they were familiar with the hardware as well as the software and that they had no problems at all in working with the computer or the program. However, the researcher pointed out and reminded them that there are many editing functions available in the software to help them compose and revise their writing. Some of the functions that

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the researcher mentioned were: cut, paste, copy, do, undo, repeat, find, replace; formatting functions like character, paragraph, auto-format, style, and tabs; tools functions like spelling, grammar, thesaurus, hyphenation and so on. Before the subjects started the actual writing, they were encouraged to make any notes, outlines, plans, and whatever they thought would help them to do the assignment. The subjects were assured that there were no restrictions on their writing or revising behaviors that might limit or hinder their work. In addition, the subjects were encouraged to ask any questions related to the study, however, the researcher did not answer any question that might help them to actually revise or write more or better.

Because written products do not tell very much about the writers' behaviors when they compose and revise, a videotape camera was also set up to videotape those writers' physical behaviors. Moreover, because the real-time recording device allowed the subject to watch himself on the computer's screen, and consequently the subject's image was recorded on the video, it became easier for the researcher to watch on the TV both the actual process of composing and the image of the composer at the same time.

As soon as the subjects indicated that they were ready to start writing, the VCR, the TV set, the real-time recording device, and the video-camera were turned on and they were turned off when the writers indicated that they were finished. As indicated earlier, during this stage the subjects were given as much time as they needed to finish the plans, outlines, notes, and the composing and revising tasks. The subjects were encouraged to make these notes whether on paper or directly on the computer; therefore, they were provided with enough blank paper. After the subjects finished writing the first drafts, the

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written products were saved on a separate floppy disk and duplicated. The drafts were given specific codes and hard copies were printed out in order to be analyzed and evaluated.

The second part of the first stage took place after a few-hours break when the subjects were done with the writing task. In another place, selected by the subjects, the researcher and the subjects reviewed the whole videotape of the composing and revising process on a TV screen. The reviewing process started by explaining the purpose of the session to the writers in which they had to comment on their composing and revising processes by explaining the reasons why they made each change and the justifications they had for making such changes as well as how they made them. Because the process of writing involves many mental and internal thinking operations unknown for outside observers, the writers were asked to recall these operations by asking them to talk about what they were thinking about or doing while observing themselves on the TV monitor. The writers took control of the session by making comments on all of the observed changes and thinking processes whenever they felt that they were doing something or thinking about something while pausing. However, during many of the pauses that lasted more than five seconds the writers did not say anything, so the researcher urged the writers to talk about what they were thinking about by asking them questions like: What are you thinking about now? Are you still thinking about the same idea? Why are you still pausing? Do you have a problem here, what is it?

During the review process, the videotape was stopped by the writer whenever he wanted to comment on something, and as soon as he was done explaining or clarifying a

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point, he resumed playing the videotape. Throughout the whole session, the videotape was always stopped, played back and forward to cast a part of it in order to see what exactly the writer was doing during the composing or revising processes. The three writers liked and enjoyed the idea of having control over the review process because that gave them the impression of being in charge of what to say and when to say it at any point during the review process. There were no differences between the three writers in the way how they approached and tackled that review process.

While the three writers were talking about their revising and composing behaviors, they were also asked specific questions about what they were doing in order to have a better understanding of their composing and revising behaviors. A sample of the questions asked during both review sessions included: What change did you make here? Why did you do this change? What made you think that you need to make this change? Is there a rule you know that explains this change? If yes, what is it? If no, what is the base that you depended on to make the change? Do you remember if someone helped you or taught you this rule? What functions of the computer did you use to make the change?

It is worth mentioning that no preference to any language was imposed on the writers. In fact, they were asked to use any language they feel more comfortable with, while talking about their composing and revising behaviors. All of the questions about the composing and revising session were asked in English first and they were immediately translated and explained into Arabic to avoid any misunderstanding. Mazen and Hilal switched between the two languages (Arabic and English) in their responses and explanations. That is to say, they mainly used Arabic to explain what they were doing

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or thinking about, but they switched to English when they wanted to use expressions like "revision, editing, spelling, writing, introduction, conclusion, etc." On the other hand, Jaber preferred to use English most of the time while he was talking about his composing and revising processes. He indicated that "it is easier for me to use English when I talk about the writing process because the words I use do not give the same meaning if I use them in Arabic." The whole session was recorded and transcribed for further analysis. In transcription, the researcher used two fonts when quoting the subjects. The normal font was used to show that the subjects were speaking in English, and the italic font was used to show that they were using Arabic. The researcher translated all of the Arabic quotes.

Stage Two

This stage consisted of three parts. During the first part, each subject was asked to revise the draft that he had written in the first stage. The subjects were asked to make changes in the text in order to improve the quality of the essay and make it comprehensible to any reader of the community who might have the chance to read it in the local newspaper. The subjects were asked to execute all of their revisions on the computer, but they were allowed to use pen and paper if they wanted to do that. While they were revising on the computer, all of their revising behaviors were videotaped in the same method used during the first stage. As soon as the subjects indicated that they finished revising their final draft, the essays were coded, saved, and then printed out.

The second part of stage two started when the subjects and the researcher reviewed the videotaped session on a TV screen. The same procedures that were used in the review session during the first stage were also used in the same way during the review

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session of this stage. Similarly, the subjects were asked as many questions as possible about the changes they had made in the final draft until they decided that the draft was finished and became ready to be published in the newspaper. The sample of the questions that were asked during the review of the first session were also asked during this session. Such questions were asked to elicit as much information about the revising behaviors as possible in order to find out the purposes and reasons that those subjects made to make such changes in their drafts. This review session was also recorded and transcribed for further analysis. It is worth mentioning that the researcher was aware that by asking specific questions about the revising processes during the first review session, he might have affected the writers' awareness of some aspects of the revising process in the second session.

During the third part of this stage, the subjects were asked a set of specific in-depth questions about their past and present writing experiences on and off the computer (see Appendix A: Interview Questions). This set of questions was designed to elicit background information about how those subjects developed as writers and how they thought about and perceived writing and revising in the past and the present. The questions focused on several stages of the writers' lives, during the secondary school, the university level in Jordan, and during the graduate level in the U. S. In addition, the subjects were asked about their computer experiences and whether and how these experiences were used to facilitate the revising process. In doing so, the subjects were encouraged to talk about how familiar and comfortable they were when composing and revising on the computer. They were also urged to talk about the general and specific

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difficulties that they had encountered during the writing and revising processes on the computer as a word processor. The subjects were allowed to use either Arabic or English. Each interview was recorded, transcribed, and analyzed.

Several types of data were collected for the sake of answering the questions of the study. Field notes and videotapes of the writers' composing and revising behaviors provided a view of their actual behaviors. This documentation enabled quantification of behaviors (e.g., use of notes or outlines in planning, number and length of pauses) and analysis of types of changes in the texts (e.g., whether changes were made at the local or global level). Viewing sessions with the writers enabled the researcher to find out more about their thinking during the writing process. Interviews with the three writers provided background information about their experiences with learning to write prior to coming to the U.S. for their graduate study and their experiences throughout their graduate program. To appraise the quality of the written essays and make judgements about whether the computer facilitated improvements in the written texts, two outside readers were asked to use a six-point scale to judge the overall quality of the essays and discuss the extent to which the essays were improved during the writing process. The holistic scoring process is described in more detail below.

Data Analysis

The five questions that the study addressed required the collection of specific types of data and different methods of analysis. Since the first question of the study was concerned with the composing and revising behaviors of the subjects, the data collected to answer this question included the analysis of the videotapes made during both sessions.

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The subjects were observed closely to see what exactly they were doing while composing and revising. The researcher made notations regarding when and how the most apparent composing and revising behaviors that the study documented corresponded with the findings of other studies that investigated the composing and revising process on different writers (Bridwell, 1980; Hall, 1990; Monahan, 1984; Raimes, 1985; Sommers, 1980). Those researchers studied different composing and revising categories. Bridwell, (1980) studied several lexical categories that included surface level changes, lexical changes, changes at the level of phrase, clause, sentence, multi-sentence, and text levels. Hall (1990) studied the stages of revision (before and after revision), levels of revision (word, phrase, clause, sentence, paragraph, global, and surface), types of revision (addition, deletion, substitution, reordering, and consolidation), and purposes of revision ((informational, grammatical/mechanical, and cosmetic). Monahan (1984) studied what she called the points of revision (pre-writing stage, during the first draft, during the second draft, and after the second draft), levels of revision (surface, word, phrase, clause, sentence, paragraph, and discourse level), types of revision (addition, deletion, substitution, reordering, and embedding), purposes of revision (cosmetic, mechanical, transitional, informational, and stylistic). Raimes (1985) studied different composing and revising behaviors such as awareness of audience and purpose, time spent on composing, pre-writing, planning, rehearsing, writing, revising and editing. Sommers (1980) used the case study approach in which she studied the revision changes (deletion, substitution, addition, and reordering), and the levels of changes (word, phrase, sentence, and theme).

While the first question focused on the subjects' behaviors, the second one

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focused on the changes in the written texts that the subjects produced. Two graduate students in the Department of Teacher Education who were native speakers of English helped in the process of categorizing the changes and revisions that the three subjects made to their texts in both the first and second sessions. The researcher met with these two helpers and explained to them the purpose of the study and the kind of help expected from them. Faigley and Witte's (1981) taxonomy, that will be explained later, was reviewed and discussed with the two helpers. When both of them and the researcher determined what exactly was meant by every type of change (formal, meaning-preserving, microstructure, and macrostructure), the researcher demonstrated a sample of the three subjects' writing by reviewing small parts of the different videotapes. During the same meeting, the helpers and the researcher coded and categorized the changes separately. After the sample videotapes were presented, the three individuals discussed the way in which they perceived and categorized the changes according to the taxonomy. Among almost twenty examples of different types of revisions, the two helpers disagreed on two examples only. The disagreement was solved after further discussion and by referring back to the taxonomy for more clarification and precise definition of each type of revision. The researcher was pleased with the results that the two helpers arrived at by establishing a satisfied level of consistency in how they categorized the changes. After that, the researcher met with the two helpers separately in order to review the videotapes and categorize the changes made by the subjects. The changes that were made by the three subjects during the first session were reviewed and categorized first. Then, the helpers categorized the changes occurred during the second session. By doing so, the researcher, with the aid of the two helpers, was able to identify and categorize all of the

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changes and revisions that occurred in the written texts only, since these changes were

identified and categorized through the review processes of the videotapes. It is worth

mentioning that because the researcher was not a native speaker of English, the process of

categorizing the changes was very valuable for him in identifying these changes from

native speakers' of English point of view.

As indicated earlier, the data analysis was based on Faigley and Witte's (1981)

taxonomy (see Appendix B: Taxonomy of Revisions). This taxonomy is based on the

notion that distinctions should be made between revisions that affect or change the

meaning of the text and those that do not. The kind of revision that does not bring any

change or new information to the text is called a "surface change". Surface changes were

divided into two main categories, formal changes and meaning-preserving changes.

Formal changes included revisions on the level of spelling; tense, number and modality;

abbreviations; punctuation; and format. The second type of surface changes, which was

called meaning-preserving changes, included all of the changes that paraphrased the

concepts in the text but did not alter them. This category included all of the additions,

deletions, substitutions, permutations, distributions, and consolidations operations that

the writer made in the text.

The other type of revision changes that the taxonomy included is called text-base

changes or meaning changes. This type of change was also divided into two main

categories according to the importance and effect of the revision on the written text,

microstructure change and macrostructure change. A macrostructure change is a major

content or meaning change that significantly alters the summary or gist of a text.

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Microstructure changes, on the other hand, are meaning changes that do not affect the summary of a text. That is, they involve changes in details that would not be mentioned in a summary of a text. For both micro- and macrostructure changes, the same six operations (additions, deletions, substitutions, permutations, distributions, and consolidations) are identified under meaning-preserving changes. Faigley & Witte (1981) stated that while meaning-preserving changes preserve concepts, microstructure revisions involve changes in the concepts. By using this taxonomy, all types of revisions made by the subjects were coded and analyzed for types and frequency.

The data needed to answer the third question was mainly obtained from the subjects themselves. During the reviews of the composing and revising processes of the subjects' first and the second drafts, I asked them about the reason(s) for every change they made to the text. Sometimes the subjects were unable to provide reasons for all of the changes they made to their text. Nevertheless, what they said was taken into account seriously in the discussion because these were the reasons that **they thought** were important for making such revisions.

As stated earlier, Jordanian/Arab graduate students as well as many ESL writers encounter many difficulties and problems when they write and revise in English as a second language and especially when they write for academic purposes. Question four of this study aimed at exploring such difficulties and problems when those students wrote and revised on the computer as well as finding out the reasons for such problems and difficulties. The data needed to answer this question included two sources. First, the subjects were observed writing and revising on the computer. Second, the subjects were

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asked during the viewing session about the difficulties they faced during both writing sessions. During the interviews, the subjects were asked directly whether they had faced any problems in writing and revising or not. The researcher (who was a teacher and a supervisor of English for 10 years, a full-time lecturer at the university, and a graduate student) observed whether the students appeared to have troubles and difficulties in writing and revising or not. Throughout the examination of the notes that the researcher made about the composing and revising processes as well as the analysis of the videotapes, the researcher was able to make inferences about problems the students encountered.

What the subjects said about the problems they faced while writing and revising was compared and contrasted with the findings of other studies conducted in this regard. The past and present writing experiences of these subjects as writers composing and revising on the computer were taken into account when the data were analyzed.

Question five of the study investigated whether or not the revisions made by the three writers improved the holistic quality of the written texts. The data required to answer this question were obtained by evaluating the first and the finished final drafts that the subjects wrote during both sessions. Because this study was not interested in detecting the single errors that the subjects made in their essays or in comparing between the students' written products, the researcher used the holistic method of evaluation as a means for judging the overall quality of the essays.

Two native speakers of English were asked to be readers of the essays for the study. The first reader was a graduate student in the Department of Teacher Education

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with several years of experience in teaching ESL classes to nonnative speakers of English. The second reader was an assistant professor in the same department with experience in working with ESL graduate students through the academic courses he was teaching. These two readers were selected in order to provide different perspectives for the evaluation of the essay: the ESL perspective through the first reader, and the academic perspective through the second reader.

A scale was developed by a synthesis of six items based on several studies that studied the issue of evaluation of ESL writing (Brown, 1991; Faigley & Witte, 1981; Freedman & Calfee, 1983; Homburg, 1984; Kobayashi, 1992). The readers were provided with a six-point scale in order to judge the overall quality of the revised essays concerning coherence, content, organization, syntax, vocabulary, and mechanics, see (Appendix C: Evaluation Scale). Based on several studies in the field of evaluation of writing (Froese, 1989; Owston et al., 1992; Quellmaze, 1982), these characteristics were believed to be the most important elements that constitute a written essay of high quality. Furthermore, and because of the small number of the essays, the researcher and the two readers reviewed and discussed the items on the scale in detail in order to come to agreement about how to evaluate the essays and to decide what each point on the scale meant. The purpose of this was to establish consistency between the two readers when evaluating the essays.

The researcher informed the two readers about the purpose of the evaluation process and introduced to them the six-point scale that they were asked to use when evaluating the essay. The first item on the scale, coherence, was defined principally as an

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internal feature of the text, either in terms of the linking of sentences (cohesion) or as the relationship among propositions in the text (sticking to the point) (Johns, 1986). Yet, a new definition of coherence included a reader-based part and considered that a text cannot be separated from the reader and that coherence requires successful interaction between the reader and the discourse to be processed (Carrell, 1982).

The second item on the scale, content, was identified as whether or not the subjects were able to generate, demonstrate, and address very clear ideas in response to the assigned topic. To do so, the writers were supposed to address the assigned topic adequately (to consider every point required by the topic completely), accurately, thoroughly (to consider all points required by the assigned topic), and logically.

Organization, the third item of the scale, was defined as follows: a text could be considered organized if it included certain functions like a clear introduction, a body that includes generalizations and/or logical and chronological order of ideas, and a conclusion (Hunter & Carpenter, 1981).

The effective use of language demonstrated by a wide range of syntactic structures and standard usage was another item on the evaluation scale. Such attribute was judged so if the writer demonstrated several types of skills and abilities in correct use of the language. These skills and abilities were supposed to be represented by the awareness of one's own knowledge of English grammatical forms and rules in order to create effective complex constructions that convey the meanings that the writer intended to communicate.

Vocabulary, the fifth item on the evaluation scale, was identified as when the text

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exhibited a wide range of vocabulary related to the topic and very little violations in vocabulary usage that hinder the meaning the writer was trying to convey. Furthermore, this item included that the words that the writer used were supposed to be effective and demonstrated comprehensive knowledge of English vocabulary and idioms. Finally, mechanics of writing, the last item on the scale, looked at whether or not the text included correct usage of punctuation, paragraphing, and capitalization.

The rating sessions were organized by identifying and discussing the items of scale. Then, the evaluation scale (Appendix C: Evaluation Scale) was given to these two readers to be used for scoring the essay. After the two readers and the researcher agreed on the definitions of the items and what every one should include, they read and evaluated a sample essay that was written by another Jordanian graduate student. The holistic evaluation of the sample showed that there were no differences in their responses regarding the six points on the scale. Then, the two readers separately read, discussed, evaluated, and scored the essays in the presence of the researcher. These sessions were tape-recorded and transcribed. Nevertheless, the researcher acknowledges that there are no "absolute" evaluations, but the readers' evaluations did provide additional outside perspectives on the quality of the essays.

This study did not intend to compare two different written products composed on two different writing tools; rather, it aimed at investigating whether or not the revisions made by the same group of students composing on the same writing tool (the computer as a word processor) were facilitated by this device. So, to answer the second part of the fifth question, the researcher made a list of all of the revisions that the students made and

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identified which of the these revisions were performed by the use of the computer's functions. This was done by reviewing the videotapes that displayed the real time recording of the writing sessions, and then identifying which of these revisions had been done by the computer's functions. Moreover, the subjects were asked during the review of their composing and revising processes whether the computer helped them in making these revisions or not.

Liebman (1992) mentioned that the finished products or texts that writers produce "do not tell the whole story about the writer and about how that text came to be" (p.:143). Therefore, the findings were presented by introducing the three subjects individually in three chapters, with each chapter developing a case of one writer's experiences and perspective. Throughout the chapter, the case for each writer was developed by 1) discussing the past writing experiences at the school and university levels; 2) discussing the writing experiences in the U. S.; 3) and describing the actual composing and revising behaviors during the present study. The composing and revising behaviors, the prewriting activities that the writer either did or ignored were presented and discussed from the researcher's as well as the writer's points of view. In doing so, the five questions were discussed and answered in a way that presented a complete picture of each subject as a writer, including his past and present writing experiences. The holistic quality of the final essays was discussed at the end of each case. Following these complete descriptions, was a comparison and contrast of the three writers.

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Chapter Four

Case One: Jaber

This chapter presents the findings regarding how Jaber used the computer to compose and revise an argumentative essay. It discusses Jaber's lack of explicit instruction and experiences in writing, and illustrates how Jaber's writing skills were not developed enough to enable him to write an essay that fully meets scholarly standards of writing. It also details Jaber's undeveloped computer skills and shows that he did not use the computer as a tool to improve the quality of his essay. The chapter concludes with a discussion of how the two outside readers rated his essay.

Educational Background Experiences

Jaber is a graduate student pursuing his Ph. D. degree in science education at a major Midwestern state university. During the time of the study in January 1998, he had completed four and one half years in his program. Jaber, like the other two writers, is an Arab student from Jordan. The native language of the country is Arabic. English is taught in Jordan as a foreign language and as a major subject, it is taught for one forty-five-minute class per day for five days a week. While Arabic, the native language of the country, is taught from the first grade, English is taught from the fifth until the twelfth grade. Nevertheless, the importance of English in the schedule of the schools comes second, after Arabic.

As for the university level, the use of English is different according to the department, field of specialization, and in some cases to the professor who teaches that

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course. For example, all courses in the colleges of medicine, pharmacy, and engineering are taught in English. Similarly, the majority of the courses taught in the colleges of science (math, physics, biology, etc.) are taught in English. However, courses in other colleges and departments are taught in both languages according to the geographic location of graduation of the professor who teaches that course and the policy of the department. This means that if the professor is a graduate of an English-speaking country, he primarily uses English as the language of instruction, whereas, if he is a graduate of a non-English speaking country, he certainly uses Arabic. On both levels of education, the secondary school and the university, and where English is used as a means of instruction, writing is considered a major requirement. However, not all teachers, instructors, and professors give the same focus or weight to this skill of language.

Writing Experiences at the Secondary School

Lack of Formal Writing Instruction

The Ministry of Education in Jordan aims at enabling the students when they finish the twelfth grade to communicate in English with others with an acceptable degree of fluency and competency using the four language skills (speaking, reading, listening, and writing). However, Jaber expressed his concerns that the goals of the Ministry of Education in Jordan are too ambitious and that the students finish the twelfth grade without being able to write acceptable English.

When asked about his past writing experiences as a student of writing at the secondary school, Jaber indicated that there was no formal writing instruction during the secondary school years in both languages. He explained that the reason for this lack was

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that the teachers at the time when he was at the secondary school assumed that as long as students could speak that language and transcribe their thoughts on paper, they could automatically fulfill the writing assignments. Therefore, teachers used to assign two or three topics and then ask the students to write about one of them without teaching or helping them learn how to write. Jaber described the situation by saying, "...they [teachers] did not teach us how to write," and explained that they "ask you to write about one of these three topics and we write what we want." Moreover, he added that the teacher "asks you to write a composition without any guidelines ... or how to structure the composition." Therefore, students "...did not know how to organize ... just write one page." Although Jaber was talking about his writing experiences in English as a second language, he also indicated that "the same story was [true] in Arabic." That is, the students were not taught how to write in either language.

Despite the fact that students could learn from peers, family members, and relatives outside formal schooling, formal instruction in writing tends to give the learner more strategic knowledge of and control over language processes, and writing in particular. Moreover, literature indicates that while children acquire their oral native language naturally, they need to be formally instructed in order to learn how to write and read their own language (Bialystok, 1990).

Absence of Attention to Learning and Teaching Writing

In addition to the lack of instruction in teaching and learning at the secondary school, Jaber mentioned that neither the students nor the teachers paid attention to the role writing could play in learning. Instead of perceiving writing as a means of discovery

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and learning, it was perceived as a burden or duty that had to be done. When asked about what writing meant for him during the time when he was at school, Jaber answered, "... it was for me like ... just you have a duty, and you need to fulfill that duty."

One possible reason for not focusing on writing as a learning tool is that students at the secondary school are divided into two major streams. The first one is called the literary stream in which the students focus on languages and social sciences like history, geography, and the basics of science and math. Those students are not allowed to apply for the colleges of science, medicine, pharmacy, engineering, etc., when they want to go to college. The other stream is called the scientific stream in which students study in-depth subject matters like physics, math, and biology, in addition to the languages. By the end of the secondary school year, the twelfth grade students in the whole country take a centered exam administered by the Ministry of Education. Although all students are required to pass the English language exam, the weight specified to creating English language text in the scientific stream is far less than to the literary stream. Therefore, students in the scientific stream study to pass the exam rather than achieving a high score like students in the literary stream.

Jaber was in the scientific stream. Therefore, he justified his disinterest in English and writing in particular by saying that he wanted to focus on the science courses. He commented on this situation by saying:

> Really, I did not pay more attention to focus about my writing in the secondary school because my goal was like to prepare myself to the final exam, the general exam in the twelfth grade, and because I like ... I was in the scientific stream ... so I needed to focus more about like ... that scientific courses. So, I didn't [pay]

more attention for the art courses ... in the high school, I did not pay more attention to writing."

Jaber also mentioned that his teachers at the secondary school did not pay close attention t their writing instruction. In one case, he reported that,

> The composition lesson for the teacher was like a fun and that he did not do anything ... ok! The teacher at the beginning of the class, ok ... he assigned three different topics and he asked the students to write like ... on one of these topics. After that, he might start grading another issue not related to the class, or read a newspaper or whatever.

Although it might be true that some teachers, in the twelfth grade, might not focus on one aspect of the language in order to enhance another, Jaber, however, claimed that even "in the eleventh grade, teachers did not pay attention to writing." Therefore, the lack of attention was not limited to one class during the secondary school education. As Jaber indicated, it happened in most grade levels.

It is worth mentioning that such feelings and opinions do not necessarily reflect the reality of teaching English and writing in Jordanian schools. Liebman (1992) indicated that when students talk about their past educational experiences there tends to be "a huge gap between what teachers do and what students say teachers do, as well as between what students say they've done and what they've actually done" (p. 156).

Lack of Feedback

An important element in the process of teaching and learning writing is providing the writers with appropriate feedback about what they write in both content and structure. Jaber indicated that not having enough and appropriate feedback from his teachers created some problems for him while he was at secondary school and at the university.

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He reported that neither the quality nor the quantity of feedback he received was worthy. For instance, he pointed out that the most common type of feedback that teachers provided was spelling. He explained that by saying: "and if you made any mistake in spelling, he [the teacher] corrected them [on] that mistake and that's it. But he did not give us feedback." In another place, he again emphasized the fact that the focus of feedback was about "spelling mistakes ... and the other issues about the ... topic is too length[y] or too short ... most of his feedback [was] about these issues." He also mentioned that even when they did provide feedback in addition to spelling, it was usually expressions like, "good or very bad writing ... excellent ... one word ... maximum three words together, and the score on the top of the paper."

Jaber indicated that teachers were concerned about the score that they used to assign to the topic rather than the feedback that they were supposed to provide for the students. He explained, "you get the bad grade, or good grade or whatever. No comments or feedback whatever." Moreover, he assured that those teachers were not providing any feedback at any stage of the writing process. He said that students "just know the title that we were going to write about, without any feedback about it, without any feedback, before, in the process, or after the process."

The claim made by Jaber that there was not enough or appropriate feedback made me ask him about the reason that prevented the students from asking the teacher for the type of feedback they wanted to have. He indicated that the only reason for not doing so was that, "we were afraid to ask the teacher about his feedback. We were afraid to ask him about the grades ... that's it. The teacher was a master or a person who has the full

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power and the students were powerless. So, what are we gonna do in this case?"

Lack of Awareness of What Writing and Revising Involve

Another shortcoming that Jaber experienced throughout his education in his country was related to the awareness of what writing and revising involved. During the interview, I asked Jaber about several concepts that are believed to be essential for understanding what writing and revising involve. He was asked to reflect on what these concepts meant for him when he was a student at the secondary school and at the university as well. The purpose of the questions was to reveal whether or not he was aware of what was required during writing and revising. Another purpose was to find out whether or not teachers introduced these concepts during high school. These concepts included prewriting activities (brainstorming, generating ideas, topic discussion, making outlines and plans), the writing process, organization, coherence, cohesion, revision, editing, proofreading, style, audience, and mechanics of writing. Jaber indicated that such concepts did not mean anything to him, simply because he never heard about them while he was in Jordan. He explained, "these things did not mean anything for me when I was at school." Therefore, his typical answer was, "It didn't mean anything for me at that time because I did not hear about it when I was at school in Jordan." The only concept that was familiar for him was the mechanics of writing where he recalled that "the teacher of English once mentioned it, but never I used it in writing."

Jaber indicated that his teachers never mentioned or discussed such concepts in the writing classes, except for the correction of grammar and spelling, the length of the paper and the legibility of handwriting. In another time during the interview, Jaber

indicated that "in the twelfth grade, the focus was mostly about different parts of the English language, but not about writing." Thus, instead of introducing these concepts for the students, Jaber assured that "the teacher used to ask us [the students] to memorize the composition in order to be familiar [with] how to write in English, and that was a bad strategy." Although little help was provided to the students, Jaber explained that those teachers expected the students "to write a well-organized topic or essay without any hints or guidelines how to write."

Lack of Experience in Writing

In addition to the problems of lack of formal writing instruction, absence of seriousness in learning and teaching writing, lack of feedback, and lack of awareness of what writing and revising involve, Jaber indicated that the students did not have enough experiences in writing in both first and second languages. During the interview, Jaber was asked about the amount of writing he was required to write per week and month during high school. He mentioned that the only type of writing that the students were required to write in both languages was the composition, and that they used to write one composition every month. Although the students were required to finish one composition by the end of the month, few of them did so because they had troubles and problems in doing so, especially in English. For instance, Jaber explained "so you need to write in English, ... as in my case ... and from other cases ... the students had hard time to write ... in English ... and you will end up just ... write maybe one paragraph or two lines, three lines, and that's it." Therefore, during his secondary school years, he indicated that he never "wrote more than one paragraph." This means that the students not only lacked the abilities and skills

to write, but also were not encouraged or motivated to write.

Writing Experiences at the University Level

Lack of Formal Instruction

It seemed that Jaber graduated from secondary school without mastering the basics of writing in both languages. Furthermore, his writing experiences in these two languages at the university level were not different from the secondary school in terms of the lack of formal instruction, attention to learning writing, and the lack of writing experiences. Jaber explained that the university professors assumed since those students passed the General Secondary Examination (GSE), which is administered by the Ministry of Education in Jordan at the end of the twelfth grade, and they reached the university level, they must have learned how to write for academic purposes. Theoretically, this assumption might be true; however, as the chapter will illustrate, Jaber's writing experiences showed that his writing skills and abilities in English were not developed enough to enable him to do so.

Although Jaber was studying chemistry, he needed to take some required courses. He explained,

> I took two courses ... like introductory courses in Arabic and literature and that in these courses they asked us to write a paper or long essay, and we need to refer back to the ... like ... for to the library and get references and documents and support your ideas and all of these issues. But never ever [did] we get a directions or strategy [for] how to write these issues. Just they ask us like ... write about specific topic.

Jaber indicated that writing was not taught at the university for all students, so he "did not take any course in writing at the university level." Nevertheless, he indicated that

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the professors at the university were, like the secondary school teachers, asking "us [the students] just to write, and never ever [did] they give us like more details like about ... I am going to focus about this ... if you have this, you have to do it by this way, if you have the other one you got the other way. It wasn't clear."

Jaber explained that his writing experiences in the two languages were almost alike in terms of the lack of instruction and difficulties of writing. However, he mentioned that writing in English was more difficult than in Arabic. He explained that "during that time, my English proficiency was in general wasn't good enough, so, most of the time I can read, I couldn't paraphrase what I ... what I was reading, so just put it as it was." This does not mean, by all means, that his writing in Arabic was better than English; on the contrary, his responses to questions about the writing strategies that he used when writing indicated that his writing in Arabic was not developed at all and that he was unable to explicitly discuss writing strategies. He explained that,

> Most of my writing at that time was like ... cut and paste by using the computer, but I use my handwriting like, this person said so and so, and that person said so and so. And that is to fulfill the requirements of the length of the essay. But nothing significant was taught to us about how to write in Arabic.

This indicated that Jaber was copying what other writers said about a certain topic rather than generating and developing his own ideas and then supporting them with some excerpts and citations.

Lack of Attention to Teaching Writing

As it was the case during the high school, Jaber indicated that writing at the university level did not mean anything for him except as "a duty to be done" rather than a

means of communication or a way of expressing his ideas and thoughts. However, he

mentioned that the reason for his attitude was his inability to write something good rather

than a real hatred for writing. He expressed that,

> Really I wasn't like ... pleased with my writing during that time
> because like ... just to fulfill the requirement of the duty and that's
> it, without [thinking about] what I am going to learn from this
> process. Why [do] I need to write this? Ok, because never ever
> [did] they ask us what do you want to write about?

These feelings indicate that the professors' wills and powers bounded Jaber's

eagerness for learning writing. He explained that those professors "just ask[ed] us, you

need to write about this. Whether you like it or not ... this is [a] difference nobody was ...

like ... pay[ing] attention or car[ing] about." Furthermore, he explained that few

professors returned the students' papers and that the students were afraid to ask about

them. He clarified this situation by saying, "never ever we got the papers back, ... just we

know our grade."

Lack of Writing Experiences

The students at the university were required to do more writing than they used to

do during secondary school and the types of writing included more than compositions.

Still, as Jaber indicated, this amount of writing was limited to lab reports and the other

types of writing were below the students' expectations. Although Jaber took two general

introductory English courses, which were required by all undergraduate students, he did

not learn enough from his writing experiences during these courses. He indicated that "in

the university level, in the undergraduate, I took two introductory English courses, but the

focus wasn't about writing. The focus was about the grammar issues, ok ... and reading

and not speaking, too. Just focus on like ... reading and grammar issues." Therefore, he assured that in general he "did not have experience in writing" in these courses.

In addition to the lack of enough writing experiences at the university level, the type of writing was primarily writing lab reports. He explained that "in the undergraduate level ... we were using English language ... but I mean, I don't mean English language like ... in general term[s], but I will say scientific English language." This means that although Jaber was required to write at least one lab report every week, he was aware that the skills or writing required for writing a lab report were completely different from the skills required for writing other types of writing like essays or term papers. He explained that he "used to write like ... one lab report every week ... one lab report at minimum. But the way which to write ... a scientific report is completely different than to write an essay."

Jaber had a masters' degree in education, in the field of curriculum and instruction. His major in the masters' degree was methods of teaching science; therefore, he was required to take nine credit hours from the chemistry department. Jaber's writing experiences at the graduate level in Jordan were slightly different from the writing experiences at the undergraduate level in terms of the length of the written assignments. Nevertheless, he emphasized that there was no help from those professors concerning the content or the development of the papers he used to write in both languages. Jaber indicated that,

> Mostly we did not have any Arabic [writing] ... what I am going to say ... as a separate [assignment] ... but we wrote papers for teacher education courses. And these papers as I said mostly [were]

focused about the length and to cover ... ok ... the topic without paying more attention to the structure of writing, to the sources of writing, to the cohesiveness, or all of these kinds of characteristics that you need to build a well-organized topic. So, I didn't like remember any of my teachers who taught me how to write, what I learn[ed] ... I learn[ed] that by myself. I did not have any course in writing at the graduate level.

The previous discussion shows that Jaber did not acquire adequate writing experiences at the secondary school and the university. As he indicated earlier, he finished secondary school without having any formal instruction in writing, and as the interview showed, he was not aware explicitly of what writing and revising involved, at that time. Moreover, his secondary school writing experiences were not enough to help him develop as a writer. Furthermore, his past writing experiences at both the undergraduate and the graduate levels were not better than his writing experiences during the secondary school. That is to say, he faced the same circumstances and conditions that he experienced at the secondary school. Such findings suggest that when Jaber came to the U. S. to pursue his higher education, his writing skills were not developed neither in his language nor in English as a second language.

Writing Experiences in the U. S.

Jaber's language skills and experiences were not developed enough to enable him to start his academic program directly when he came to the U. S. Because the score he achieved in the Test of English as a Foreign Language (TOEFL) was far below the standard score required for international students when they apply to most American colleges and universities, Jaber was required to take several language courses in the English Language Center (ELC) affiliated with the university where he was enrolled.

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Jaber was admitted to the Ph. D. program (Science Education) as soon as his language skills improved. Therefore, he came to the U. S. in order to study in the ELC first and after he passed the language requirements he could move to the academic program. However, because his sponsor did not pay tuition fees for English language courses unless he registered for academic courses along with them, Jaber was allowed to register for one academic course in order to waive the tuition fees.

The ELC assigned Jaber to the 300 level, so he was required to take some general language courses. Jaber explained that the ELC "ask[ed] me like to take the 300 level, and after that I moved to the 400 level and I did not take writing classes because I passed the final exam in the 300 level." However, he mentioned again that he did take one course in writing while he was at the ELC. Jaber's writing experiences in the U. S. were completely different from his past writing experiences in Jordan with regard to the formal writing instruction he received, the amount of writing required, what writing and revising involved, and the types of writing he was required to do.

Jaber mentioned that his understanding of what writing involved changed as soon as he started taking the writing classes at the ELC. He explained that when someone wants to write something:

> First of all ... you need to express your ideas, what is your ideas or outlines before you start writing? And after that if you have your ideas, how you are going to ... like reflect or represent your ideas. And after that how you are going to write your argument and support your argument. Finally, the conclusion from all of these issues. So, ... I have [a] clear vision how [I am] going to write but still I have difficulties in writing.

As for the amount of writing, Jaber indicated that every week he was asked to

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write something new and in several stages rather than finishing the whole assignment in one session as it was the case in Jordan. In one of the stories he narrated about his first experiences about writing, Jaber mentioned that the instructor told the class to develop an outline about a topic they selected to write about. Because Jaber was not used to making outlines before he started writing, he wrote the whole composition in one session. Later, the instructor told him that he needed to see the outline only and then he could develop the whole writing task. Jaber learned from that experience that "in order to write, first of all you need to express your ideas. Put it on paper, discuss it with your instructor and later on ... start to build your argument." Moreover, he emphasized the fact that,

> ... the focus on writing was much more than it was in my home country. This is in general, like you have a writing class every day for five days a week for four months a semester, ok! And, beside that you need to write in your academic courses. So, never ever [did] I end up a course without writing at minimum two or three papers plus finals, plus other requirements. But in my country it wasn't like [that] ... one of the significant requirements [was] to pass the course.

As for the types of writing he practiced in the ELC, Jaber indicated that there were "different kinds" and that these types of writing focused on "different cultural and social and political and religious topics." Nevertheless, Jaber was not pleased with this type of writing because he thought "it did not help me too much because the nature of the content was completely different." That is to say,

> the content of the writing class was different than the academic ... or any academic class. In the ELC, English Language Center, they asked us ... the instructor asked us to write about general issues, and maybe most of them were TAs [Teaching Assistants], maybe they weren't familiar with the academic ... with the academic style of writing or ... so, their requirements or expectations [were] just to write ... like simple sentence[s] ... move to complex sentences and

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write paragraph[s] and write a full topic without [fulfilling] the requirements of the ... academic writing. So, in this way, I guess this course didn't help me too much.

It should be noted again that Jaber's English language abilities were below the required level and that was the reason why he was required to enrolling some English language courses. However, his expectations were that he thought he could write academic papers that meet the standards of English academic writing without much attention to the language. Furthermore, he was expecting that the instructors at the ELC were to teach him how to write highly advanced writing related to his major and that was the reason why he said "I guess this course didn't help me too much." Jaber mentioned that after he convinced his academic advisor that this course was useless and that he did not get much help from it, his advisor helped him to pass the course even after he failed in the final writing exam.

After being exposed to the standards of English academic writing for almost four and half years, Jaber started to be aware of some of the elements of writing and what writing involves. For example, he started to understand that there are differences between the styles of writing in the two languages. Jaber explained,

> I get confuse[d] from shifting or moving from writing in my native language ... in a second language .. and in English as a second language. Because this style of writing in my native language is the spiral, ... ok ... style. So, if you express your ideas in the first paragraph you need to focus more, and more, and more about it, in order to convince the reader it is important for me. But in English, you don't need to do that, you need to hit the point one, two, three, four, five, six until you [are] done. And you need to be clear from the reader, and in each paragraph you need to have just [an] argument. If you try to ... put more writing in the paragraph, this is will lead or to confuse the reader in this case. Uh ... the other issue about the audience, never ever I thought [did] I need to write for

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somebody. I thought I need[ed] to write and that's it. But here I learn[ed], you need to have the audience in your mind. Because if I am going to write my academic paper for teachers in the high school, it will be different if I'm going to write for like ... this world and this university. Or, if I'm going to write an article for like ... [a] newspaper. So, the nature of the audience will influence your style of writing and how to present your argument. And this is a good strategy and now it's help[ed] me too much. To know my audience from the reading.

Although Jaber claimed that the ELC did not help him to be able to write papers for academic course, what he mentioned above indicates that he did learn the basics of writing for academic writing. He became aware of the different styles of writing of his native language and English as a second language. He also learned how to develop a paragraph and developing an argument. Furthermore, he learned how address the audience or readers, a quality that is very important in academic writing. However, it seemed that Jaber wanted to see writing topics about science education rather than general writing skills that can be used and implemented in all types of academic writing. implemented

Jaber indicated that he learned so much about writing since he came to the U. S. He finished all of the coursework in which writing was the major requirement for passing. He mentioned that he wrote at least two or three term papers for each course he took. In doing so, he indicated that writing was the most difficult task for him throughout his program. He explained,

> whenever I write something, the professors always ask me to revise the paper ... they always used to say, you need to make your ideas clearer, and that I had to explain many unclear points ... but each course I took I learned something new about how to write. Yeah, every semester was better than the previous one.

Jaber also passed another requirement of his degree, that is the comprehensive examination in which he had to write two long essays on two different days. In addition, a part of that exam was a take-home exam part that was to be read by his guidance committee. Although Jaber was required to make major revisions in the three responses, he passed the exam after he did the revisions. He added,

> The comprehensive examination was the most important part in my writing in the U.S. ... I mean learned from this exam more than I learned from all of the other academic courses. It was a very important experience in my life. I was asked to revise the three questions. In the first questions, I worked with two different professors. They asked me to write outlines ... for every question. Just one page of the major outlines ... Then, they asked me to develop these outlines to into three pages. Then, I had to revise them, then to write six pages, then ten and so on. When I finish something, I give to them to read it. They provided me with very helpful feedback and I had to revise after every feed back. The same thing happened with my committee question. I think that what I learned form these experiences is more important than all of what I learned in all of the other courses.

Furthermore, Jaber developed and defended his proposal in which he had to write a well-developed piece that formed the core of his dissertation. Despite the fact that these requirements needed advanced skills of writing to be achieved and that Jaber passed them all, he mentioned that he was "still suffering from the writing process" and that he was not "confident to write to publish" because "no academic journal will accept my style of writing."

Writing Experiences During the Present Study

In addition to obtaining information about the subjects' past writing experiences, this study was designed to investigate the actual composing and revising behaviors of the three students while composing and revising on the computer. Following, is a detailed

description of Jaber's actual composing and revising behaviors while he responded to the assigned writing task described in chapter three. The writing task was that the three writers were required to compose and revise an argumentative essay about whether or not non-native speakers of English should be allowed to work as graduate/research assistants unless they fulfill certain requirements.

In responding to the assigned topic, Jaber spent 130 minutes completing a first draft. In this draft, he argued against almost every requirement for doctoral students to be allowed to teach courses that was suggested by the assigned topic (see Appendix D: Jaber's Essay). He thought that such requirements were fulfilled previously either before students were admitted to the programs or that they were not important or related to the work of graduate students. In doing so, he generated a draft that consisted of nine paragraphs. In the first one, he wrote an introduction to introduce and orient the topic. In the next six paragraphs, he argued against the requirements suggested by the assigned topic. The last two paragraphs he wrote formed the conclusion for the essay.

Specific data was obtained by observing, videotaping, reviewing, analyzing, and interviewing Jaber about his composing and revising processes, which informed two major findings. First, Jaber's writing skills were not developed enough to enable him to write an essay that fully meets scholarly standards of writing. The second major finding revealed that Jaber did not use the computer as most advanced writers who are described in the literature on composing and revising because his computer skills in word processing were not developed. The description that follows provides a detailed picture of Jaber's composing and revising. How his writing processes compare and contrast with

research findings on the writing process is also discussed.

The Composing and Revising Processes

Reading the Topic

Jaber engaged in some prewriting activities before he started the actual writing. These activities started with reading the assigned topic twice. Raimes (1985) found that one of her unskilled writers reread the topic 11 times before she started the actual writing because she did not understand one of the words in the assigned topic. Therefore, in order to avoid such ambiguity, I asked Jaber, as well as the other two writers, about whether they found any ambiguous words or had unclear ideas about the assigned topic. All of the three subjects indicated that everything was clear and that they understood what exactly the topic required them to do. During the reviews of their writing processes, I also asked the three subjects about the number of times they read the topic before they started the actual writing. All of them mentioned that they read the topic twice. The first time, as Jaber indicated, was for "getting the main idea of the topic," and the second one was "to look for the exact required details."

Asking Questions

Another prewriting activity that Jaber demonstrated before he started the actual writing was asking questions about the topic. The first question Jaber asked showed that he was concerned about how much writing he should produce. He asked me about the expected length of the essay by saying, "How long do you want it to be?" I told Jaber that he could stop writing whenever he felt that he had addressed the topic thoroughly. The

second question was about the time available for him to finish the draft. As discussed in

Chapter Two, Zamel (1983) mentioned that she encouraged her writers to take as much

time as necessary to complete the assignment. Therefore, I told Jaber that he was allowed

to take as much time as he wanted. Then, Jaber asked a third question about whether the

essay he was going to write would really be published in a local newspaper or whether it

would be just for the sake of the study. I told him that the main aim was to use the essay

for the purpose of the study, but as soon as I finished this purpose and if he wanted me to

send it to a local newspaper, I would give it a try. He nodded and gave me permission to

send it to a local newspaper.

The questions that Jaber asked may indicate that his thinking about writing was

still affected by his past experiences in which the students' purpose for writing was to

satisfy the teacher's needs regarding the number of pages to be filled and the time

allowed for finishing the task. However, Jaber's third question about whether the essay

would be published in the local newspaper or not indicated that some of his perspectives

toward writing had changed. That is to say, he showed concerns about addressing other

audiences rather than the teacher, instructor, or the researcher in this case.

Making Outlines and Plans

The other prewriting activity that Jaber established was making an outline. He

started doing that as soon as he finished asking his questions. Jaber wrote his outline

directly on the computer instead of on paper. Research on the nature of composing and

revising indicates that a very crucial aspect in determining how the written discourse will

go ahead is based on the prewriting activities executed before the actual writing starts

(Faigley, Cherry, Jolliffe, & Skinner, 1985; Hass, 1989; Matsuhashi, 1981). Hass (1989) indicated that "questions about *when* planning happens and *what* kinds of planning do writers do" are very important in understanding planning (p. 185). Flower & Hayes (1981) and Zamel (1983) think that planning seems to occur throughout the writing process as an integral part of the ongoing moment-to-moment process of composing and that writers may set and refine goals, generate and organize ideas at any point during composing. They also made a distinction between "plans for what to say next" and rhetorical plans, or plans which take into account the audience, context and the reader's as well as the author's purposes. Both Flower & Hayes (1980) and Matsuhashi (1981) claim that plans can sometimes take the form of internalized and generalized scripts, or formulas, for what to do or say; at other times, plans can be fuzzy and not well articulated. Jaber's plan seemed to focus on what to do or say in addressing the topic rather than attending to rhetorical issues such as the context and the goals of the reader and writer. The following excerpt shows the outline that he made before he started the actual writing during the composing session:

I) Introduction
II) Body of the essay
    Taking courses in teaching pedagogy/Research
    Taking courses in American Culture
    Passing and English proficiency exam
    Passing a specializing exam in the are of interest
III) Conclusion

As the above outline shows, Jaber did not generate any notes for the introductory and conclusion paragraphs. Moreover, it should be noticed that the outline addressed the

exact ideas suggested by the assigned topic sheet—whether the four requirements must be met by graduate students—rather than additional notes, ideas, or comments generated by the writer. That is to say, Jaber transcribed what was on the assigned-topic sheet into the computer screen without making any change except that he added the labels "Introduction," "Body of the essay," and "Conclusion." Jaber pointed out that this strategy of developing an outline based on the assigned question was very common and emphasized in the system of education he went through during his formal education at the secondary school in Jordan. He said, "in my country, and as for the style of writing, teachers ask you to take half of the answer from the question." This is similar to Faigley et al. (1985) findings that older children and adult novice writers often rely on the topic to stimulate new goals in school-sponsored writing tasks. When Jaber started the actual writing, he wrote an introductory paragraph that included four sentences in addition to the requirements suggested by the assigned-topic sheet. The introductory paragraph appeared as the following:

International Graduate Students

International Graduate students are considered a very full resources for their universities. They can support their programs in too many significant experiences. One of the most important contribution to these universities is to work as a graduate teaching and /or research assistant. Many universities require from international graduate student to fulfill some requirements before they start teaching or doing research. In may essay I will try to argue whether these requirements (i.e. Taking courses in teaching pedagogy/Research; Taking courses in American Culture; Passing an English proficiency exam; & Passing a specialized exam in the area of interest).

It is worth mentioning that Jaber was the only subject who wrote and executed a written outline before he started the actual writing. This indicates that Jaber learned from

his experiences as student writer while he was in the U. S. He mentioned that before

taking the comprehensive examination he used to write his papers directly and without

making any outlines and that created many troubles for him while writing. He reported

that his instructors told him that his writing "is not focused around the topic and that it

lacked coherence." Nowadays, he emphasized that "never ever, [do] I write something

without outlines." Furthermore, he indicated that all of his plans, outlines, and notes are

executed on the computer rather than on paper. He explained that he does so because it is

easier for him "to see everything in front of him on the screen" and that he can "copy and

paste them" rather than rewriting them again. That is to say, Jaber was fond of the

functions of the computer and he believed that they made writing easier for him. He

stated that if he wanted to write a long paper by hand he might "need months to finish it,"

but by using the computer, he might do that "within [a] few weeks."

Time Spent on Outlines

In spite of the fact that Jaber was the only subject who generated an outline, he

spent a very short time in doing that. Raimes (1985) found that her inexperienced writers

spent less time on developing plans or outlines that the experienced writers did.

Moreover, Faigley et al. (1985) indicated that the percentage of total writing time devoted

to planning determines the quality of the written discourse produced later. Concerning the

findings of this present study, the data showed that Jaber spent on the prewriting activities

only 4 minutes (3%) of the total 130 minutes devoted to drafting the essay during the first

session. This amount of time is considerably less than the average time spent on such

activities by advanced or expert writers (Gould, 1980). Jaber mentioned that he did not

spend much time on this stage of writing because he "found that everything is planned, so, why to waste time!" This answer supports the suggestion that Jaber considered the four requirements of the assigned topic to be his major outline or plan to be implemented.

Pausing During Composing

The assumption that when writers do very little "prewriting" or planning before attempting to transcribe (Perl, 1979; Pianko, 1979) leads to the speculation that those writers will later spend extensive amounts of time pausing during text generating. In some cases 70% of composing time is actually "pause time" (Gould, 1980; Matsuhashi, 1981). As indicated previously, Jaber spent a very short time on prewriting activities. That period of time was probably not, by all means, enough to read the topic, think about it, ask questions, generate a mental map for the structure of the essay, and create a mental map for the content to be included in the essay, etc. Therefore, it was reasonable to expect that Jaber would pause extensively during the composing and revising process, and that was what happened. Nevertheless, as Ballard (1994) indicated, it is not the pause in itself that is the most important thing, rather, there are other factors involved in determining its importance. These include the cause, length, frequency, occurrence, and what happens during the pause. By studying these factors, we come to a better understanding of how pause-time during revision may help to illuminate the planning process.

Regarding why Jaber paused during composing, he indicated that most of his pauses were devoted to "what to write next." This was consistent with Flower & Hayes' (1981) finding that "writers pause in order to generate or plan what they are going to say next" (p. 230). This means that writers attempt to generate a sequence of connected

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sentences and paragraphs and that the process of composing and the content of planning are directly related to the production of the text. This sequence, of course, may be shaped by many constraints such as the overall purpose and the conventions of the genre. So, the cause of the pause may be strongly related to the type of planning that the writer intends to execute. Flower & Hayes (1981) indicated that "when people pause for significant lengths of time, they pause in order to carry out more global rhetorical planning or problem-solving which is not necessarily connected to any immediate utterance or piece of text" (p. 230). Pianko (1979) quoted her freshman subjects as explaining that "the great majority of their pauses were for planning ahead "what to write next "and that most of their rescannings were to reorient themselves to what they had just written for the purpose of deciding what to write next" (p. 10). Similarly, Jaber mentioned that he was always going back to read what has been written in order to decide what should come next. He said, " yes, ... I go back to the same paragraph to see what I wrote, and to what to write next that exactly fit what I wrote." Nevertheless, one should be cautious about such results with writers who still have difficulties when writing in English as a second language. That is because we cannot be sure whether those students pause for longer periods of time in order to plan globally or to solve the language problems they struggle with. As I will show later, the language difficulties in the essay that Jaber produced can be seen as strong evidence that he was struggling with the language. In addition, Jaber mentioned in the interview that in some of the pauses he was "checking the grammar, because I don't want to use the grammar checker."

To answer the second question "What happens when writers pause?," one must

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know what writers are actually thinking about during their pauses. To do this, one must

also be able to look at the content of planning. Studies based on analyses of thinking

aloud protocols (Collier, 1983; Flower & Hayes, 1981; Hass, 1989; Perl, 1979; Raimes,

1985) found that writers go back and forth for many reasons. Some of these reasons were

to read back over phrases and sentences just written, to find form and voice, to edit and

proofread (Hass & Hayes, 1986), and to get a running start for the next sentence.

During the review of his composing process, Jaber mentioned different things that

he was doing during these long pauses. In one case, he indicated that he was going back

to read what was written in order to start a new sentence that continued the previous one.

He said, "I wanted to write a sentence that does not contradict with what I have said

before." In another case, he just wanted to edit, "I hate seeing errors in my text; so, when

I see one, I fix it immediately." And in many other cases, he was just reading to get sense

of what he had written previously, " yes ... I want to see if what I wrote make[s] sense and

fit[s] or not." This last task was easily observable because Jaber was always moving the

cursor along the line he was reading in order not to loose sight of it.

Most of the sentences that Jaber generated after these pauses reflected the

sentence-level planning in response to the topic rather than creative ideas that build a

strong argument. That was because while generating his draft he was responding to the

topic alone by following the outline he made at the beginning of the writing session.

Jaber's behavior is consistent with Flower & Hayes (1981) findings that "poor college

writers depend heavily on sentence level planning which is riveted to the topic" (p. 231).

They also found, in the case of writing an essay, that 60% of the new ideas generated by

good writers were in some way responsive to the larger rhetorical problem (that is, they recognized the audience, the genre, purpose, etc., as well as the topic). By contrast, the poor writers generated over 70% of their new ideas in response to the topic alone or to the last element under consideration.

In relation to how long and how often writers pause, Jaber paused frequently and for long periods. Although it is difficult to compare Jaber's pauses with other students' pauses because there are so many other factors to be taken into account when making a comparison, the following findings about pauses give us a general sense of length and frequency of Jaber's pauses in comparison with other writers' pauses. The length and duration of pauses that occurred during the composing and revising processes have been addressed by several studies (Flower & Hayes, 1981; Matsuhashi, 1981). Matsuhashi (1981) studied four skilled writers from an upper-middle class high school composing in three discourse types: reporting, generalizing, and persuading. Matsuhashi concluded that it took the writers less time to produce text when they were reporting than persuading or generalizing. She also found that when writers composed, no matter the discourse purpose, they paused for different periods depending on the location of the sentences they were generating. For example, she found that students paused for an overall mean of 4.35 seconds for each pause. Moreover, she found that the overall mean of pauses that preceded the first sentence of a new paragraph was 20.9 seconds which Flower and Hayes (1981) considered a long pause.

In composing the essay, Jaber made a total number of 127 pauses with an overall mean of 31.92 seconds for each pause. The total number of pauses for the first session

was 88 with a mean of 28 seconds for each pause. On the other hand, the total number of

pauses during the second session was 39 with a mean of 40.74 seconds for each pause.

This indicates the Jaber paused for longer time during the second session compared with

the first session. On the other hand, the total time spent on pausing consisted of 41

minutes of the total 130 minutes spent when he composed the first draft. This finding

indicates that Jaber, on average, paused for longer periods than other writers mentioned in

the literature about composing and pausing. The above figures, that tell us that while

students may pause for an average of 4.35 seconds per pause and Jaber paused for an

average of 31.92 seconds for each pause, support what Ballard (1994) indicated earlier. It

is not the pause in itself that is the most important thing, rather there are other factors

involved in determining its importance. This means that before judging the time and

number of Jaber's pauses, we need to answer the questions of why and when was he

pausing?

As for the question of when do writers pause, Jaber paused at different places

during the composing session according to the task under consideration. Flower & Hayes

(1981) found that when writers try to persuade or generalize, they pause an average of 5

seconds more per T-unit (defined as a main clause plus any clause or non-clause

attachments) than when simply reporting or narrating (Phelps-Gunn & Phelps-Terasaki,

1982: 129). They also found that writers pause an average of 6 seconds longer before

transcribing the beginning sentence of a paragraph than before other sentences. Similarly,

Matsuhashi (1981) found that writers always pause before they start any new paragraph

or sentence; however, they pause longer before T-units which begin paragraphs than

before T-units that do not. She also found that when generalizing rather than reporting or persuading, writers occasionally pause longer after the function word in a clause or phrase more than before the function word. The findings of this study showed that Jaber was, in some cases, doing the same thing. For example, he paused longer when at the beginning of his sentences rather than within. The overall mean for pauses at the beginning of the sentences was 35 seconds while the overall mean for pauses within the sentences was 29 seconds. However, his pauses before the beginning sentence of a new paragraph were shorter than the pauses within the text (26). This finding does not agree with what Matsuhashi found that pauses are longer before the beginning of a new paragraph. This could be explained in the following way: When Jaber wanted to start a new paragraph, he immediately highlighted and copied one of the assigned-topic requirements that he generated as part of his outline and pasted it as the beginning sentence for his next paragraph. Thus, he did not need to take time to "compose" his first sentence.

The Revising Behaviors During The Composing and Revising Sessions

The analysis of changes performed by the three subjects in this study was mainly based on Faigley & Witte's (1981) taxonomy (see Appendix B: Taxonomy of Revision). This taxonomy of revision, which was used in the study to categorize changes in regard to their effect on the meaning of the sentence or the paragraph, was also used to categorize the changes that occurred in the essays produced by the three writers in this study. This taxonomy was designed to analyze the effects that revisions had on the meaning of a text, namely whether or not they affected surface aspects or the meaning and content of the

text.

In this study, a change was considered to occur when the writer made any addition, deletion, substitution, modification, or alteration of a letter, phrase, clause, sentence, or a paragraph within the text. Based on this definition, the study found that Jaber was primarily involved with changes at the word-level during the composing and revising sessions. This finding, the focus on the one-word level revision, has been found by many other researchers (Collier, 1983; Hall, 1990; Raimes, 1985; Sommers, 1980).

The study investigated all of the changes that Jaber made right from the moment that his fingers touched the keyboard until he declared that he was done writing during the first and the second drafts. The overwhelming majority of revisions that took place during these sessions involved surface changes. In the process of drafting the essay, in the first session, Jaber made a total of 250 changes. Two hundred and four (81.6%) of these changes were on the one-word level, 22 changes (8.8%) were on the two-word level, 8 changes (3.2%) were on the three-word level, 3 changes (1.2%) were on the four-word level, and 13 changes (5.2%) consisted the five-word level or more. Table 1 shows the level and percentage of changes made by Jaber during the composing session.

The table indicates that Jaber most frequently made changes at the one word level rather than changes on the sentence or paragraph level. For example, Jaber wrote: "Taking courses in **pedagogy/research** ...", then he changed that to "Taking courses in pedagogy/**or** research ...". This addition change is considered a one-word level change that did not alter or affect the meaning of the sentence. Jaber justified this change by saying that when the reader reads the sentence in its first form "he will have an idea that I

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am talking about both pedagogy and research, but I want to distinguish between them and

show him that courses for pedagogy are different from courses in research. Therefore, I

put the word 'or'." The importance of the change resides in the effect it makes to the text.

For example, when Jaber wrote the title for the essay, he wrote first, "International

Graduate Students." Then he changed that to "**The Requirements for the** International

graduate Students." This type of change added to the meaning of the title. As he

explained, "the reader may not know what this title is about if he reads it in the first time,

but when I added the phrase 'the requirements for the,' the whole meaning of the title

changed."

Table 1

Level and Percentage of Changes Made by Jaber During the First Session

One-word change	change Two-words	Three-words Change	Four-words Change	Change Five-words or more	Total
206 (82.4%)	20 (8%)	8 (3.2%)	3 (1.2%)	13 (5.2%)	250 (100%)

Most of the changes that Jaber made during this session were of the addition and

deletion type. Researchers like Faigley & Witte, 1981, Hall, 1990, and Sommers, 1980

found that whereas inexperienced writers get concerned with addition and deletion as

well as for cosmetic changes, experienced writers revise their texts globally and get

concerned with purpose, audience, and organization. Jaber's composing and revising

behaviors were closer to the inexperienced writers' behaviors rather than the experienced

since he had the same concerns that the inexperienced writers have like additions and

deletions at the word level. An example of the addition change type is the following:

"International Graduate students are **consider** a very full resource for their university."

Then he added an "ed" to the verb consider and changed the sentence to the following: "

International Graduate students are **considered** a very full resource for their university."

This type of change was adding something to a word that was already there. Another type

of change was adding a new word that was not in the original sentence. An example of

this type of addition is the following,

> Taking courses in American Culture is not a bad idea to have access to these kind of information, but international graduate students through their interaction with American students can gain some experiences about how to interact with people from different cultures and countries.

Then he added a new phrase to this sentence, so it became the following:

> Taking courses in American Culture is not a bad idea to have access to these kind of information **and be familiar with the American culture**, but international graduate students through their interaction with American students can gain some experiences about how to interact with people from different cultures and countries.

Jaber explained this addition by saying that,

> it is not the matter of taking the courses alone, students should be familiar with what they study and take. You may take a course, but you may get familiar with what you study. Also, you don't have to study something to be familiar with it.

As Table 2 shows, the major type of change that took place during the composing

session was substitution. This category included 99 changes out of the total number 250

changes. However, it should be noticed that Jaber did not make many of these changes

deliberately through the process of composing in order to alter the meaning of sentences

or phrases. Instead, 58 out of these 99 substitution changes were caught by the "Spelling

Checker" as misspelled words; consequently, Jaber changed these misspelled words as

suggested by the computer and 98.9% of these substitution changes were on the one-word level.

Table 2

Types and percentage of changes occurred during the composing session

Level / Type	One word	Two words	Three words	Four words	Five words or more	Total
Addition	50 ♦(73.5%) *(24.27%)	5 ♦(7.3%) *(25%)	4 ♦(5.9%) *(50%)	1 ♦(1.5%) *(33.33%)	8 ♦(11.8%) *(61.53%)	68 (100%) (27.2%)
Deletion	57 ♦(70.37%) *(27.67%)	14 ♦(17.28%) *(70%)	4 ♦(4.94%) *(50%)	2 ♦(2.47%) *(66.67%)	4 ♦(4.94%) *(30.77%)	81 (100%) (32.4%)
Substitution	98 ✚ ♦(98.9%) *(47.57%)	1 ♦(1.1%) (5%)	— — —	— — —	— — —	99 (100%) (39.6%)
Organization/ Addition	1 ♦(50%) *(0.49%)	— — —	— — —	— — —	1 ♦(50%) *(7.7%)	2 (100%) (0.8%)
Total	206 (100%) (82.4%)	20 (100%) (8%)	8 (100%) (3.2%)	3 (100%) (1.2%)	13 (100%) (5.2%)	250 (100%)

✚ Fifty eight (58) changes were substituted by the use of the Spelling Checker rather than during the process of composing.

♦ Percent indicates the level of change.

* Percent indicates the types of change.

On average, 15.8 changes that were made in the course of writing 100 words were formal changes, and similarly 23.3 changes were meaning-preserving changes. On the other hand, there were high differences between the average numbers of surface-changes (15.8 and 23.3) and the average numbers of text-based changes (0.5 for microstructure changes and 0.0 for macrostructure changes). These differences indicate that surface changes were the predominant type of revision for Jaber in the composing session. This finding is very similar to those of other researchers (Al-Semari, 1993; Bridwell, 1980; Gaskill, 1986; Hall, 1990; Sommers, 1980).

An example of a formal change on the spelling level that Jaber did was the

following, "One of the most important **contripution** to their universities is to work as a graduate teaching and /or research assistant." Then he changed the misspelled word: "One of the most important **contribution** to their universities is to work as a graduate teaching and /or research assistant." Another formal change in verb tense that Jaber made was the following, "it **sound** to me a silly idea to take an exam in the area of content." While rereading the paragraph, Jaber discovered that the sentence was wrong, so, he changed it immediately to the following "it **sounds** to me a silly idea to take an exam in the area of content." He, of course, was able to justify the reason for such change based on the grammatical rule that "the subject and the verb should agree each others." He said that such things "are very easy for me to do," because he knew the grammatical rule.

Meaning-preserving changes were the second major dominant type of changes that took place during the composing session. Additions and deletions were the most frequent types of changes. However, as mentioned earlier, meaning-preserving changes do not change the meaning of the text. For example, the following example was a meaning-preserving change on the substitution level: "the administrators can support international graduate students with this experience through **an orientation** activities." Jaber thought that by saying "orientation activities," the reader would understand that there is only one type of activity. Therefore, he wanted "to tell the reader and the administrators that there are different types of activities rather than one type." Therefore, the sentence became: "the administrators can support international graduate students with experience through **different** activities." However, the meaning was still the same before and after the change.

On the other hand, concerning the second type of change in Faigley and Witte's (1981) taxonomy, microstructure changes were rare in comparison with surface changes. As mentioned earlier, this type of change counted for an average of (0.5) for every 100 words. A meaning change affected the meaning but did not alter the gist or the summary of the text. For example, he made a microstructure change during the composing stage: "in my essay I will try to **address** whether these requirements (i.e., taking courses in teaching pedagogy research; taking courses in American Culture; Passing an English proficiency exam; & Passing a specializing exam in the are of interest)." Jaber revised this sentence to read as, "in my essay I will try to **argue** whether these requirements (i.e., taking courses in teaching pedagogy research; taking courses in American Culture; Passing an English proficiency exam; & Passing a specializing exam in the are of interest." This change was considered a microstructure change when he changed the word "address" to "argue," because he believed that the word "address" "is not a strong one", and that the word "argue" "sounds for me like a more a scientific word, a professional language than to address, address is like a regular language."

It is worth mentioning that macrostructure changes were very infrequent for the three subjects since they represented only 2.0 and 1.1 changes per 100 words for both Mazen and Hilal. Jaber was the only subject who did not make any macrostructure revisions during the composing session. When asked about the reason for why he did not make any changes on the sentence or paragraph level, Jaber indicated that he tried to make the draft as good as possible right from the first time in regard to spelling and grammar errors. This distracted him and consumed his time, so, he did not pay attention

to the meaning changes. As he explained, "this distracts me. In doing this, I forget what I want to talk about next."

As the above examples showed, during the composing session which was generally supposed to be devoted for generating ideas, Jaber was very much involved in correcting the misspelled words and grammatical errors. During the interview, Jaber indicated that he likes to "correct the misspelled words immediately because I wanted to check my spelling skills." In another place, he also mentioned that,

> Sometimes I have difficulties with the grammar, so, I am thinking about does it make sense or not. I don't know the rule which should be here ... so if I read and it makes sense for me I leave it and later on I check the grammar to make it make more sense. But usually I don't use the grammar check.

This does not mean that students should not take care of grammar and mechanics; on the contrary, all of these matters should be taken care of eventually, but the question is, to what extent should student pay attention to these surface level changes at the expense of generating content? Joram, Woodruff, Lindsay, & Bryson (1990) indicated that taking care of mechanical and surface level concerns during the composing process hinders and affects the process of writing in general. In fact, Jaber mentioned that one reason he was concerned about grammar was that he wanted to make the text clearer and stronger: "I paused for long periods of time because I wanted to make my argument stronger and clearer." When I asked him to whom he wanted to make it clearer, he replied, "for the reader." Furthermore, Jaber indicated that getting concerned with such mechanics made him lose his focus on his ideas and that in many cases he "started a totally new idea." For example, the fact that 245 (98%) changes of the total number of

changes (250) made by Jaber in the first draft were surface changes indicated that Jaber

might have been almost exclusively concerned with the surface level rather than the

content of the text. This suggests that Jaber had difficulty in writing the essay because he

was struggling with the language. In fact, he mentioned that he had troubles with the

language on the level of grammar and vocabulary. He stated,

> I have difficulties in selecting the words that fit the meaning. Also
> I have troubles in finding the transition word when moving from
> one sentence to another and from one paragraph to another.
> Therefore, I spend too much time to fix everything from the first
> time."

Differences between changes that took place during the composing session, while

Jaber was drafting the essay, and changes that took place during the revising session were

noticed. The most drastic difference was the number of these changes. While 250 changes

of all types took place in the composing session, only 67 changes were made during the

revising session. Forty-nine of the 67 changes were on the one-word level, 4 changes on

the two as well as the three-word level, 3 changes on the four-word level, and 5 changes

were on the five-word or more. This finding has been supported by some researchers

(Bridwell, 1980; Hall, 1990; Raimes, 1985) who found that many ESL writers, as well as

inexperienced native speakers of English, make more changes in the first draft than in the

final one. The fact that Jaber made 67 changes during the revising session in comparison

with 250 changes at the composing session indicates a major mark about his composing

and revising behaviors. That is to say that he seemed to be primarily concerned about

making an error-free draft from the first time. Thus, he focused all of his efforts on

editing the essay by correcting the misspelled words and sentence structure. As most

inexperienced writer do, Jaber worked on editing the text rather than revising it in order

to improve its quality. Table 3 shows the level and percentage of changes made by Jaber

during the revising session.

Table 3

Level and Percentage of Changes During the Revising Session

One-word change	Two-word change	Three-word Change	Four-word Change	Five-word Change or more	Total
49 (73.13%)	4 (5.97%)	4 (5.97%)	3 (4.48%)	7 (10.45%)	67 (100%)

A closer look at the types of changes that Jaber made during the revising session

reveals other important aspects of his revising behaviors. The first aspect is that his

revising was centered on two major points. The first point is that there was a consistency

in distribution between the three types of revision (addition, deletion, and substitution) on

the one-level word. The second point is that addition was the only type of revision that

took place on the different levels of words. Other types of revisions occurred on some

word levels but not on all of them. One possible interpretation of this finding is that Jaber

was composing on a piecemeal basis rather than on a global level. That is to say, his

composing was centered on the one-word level discourse in which the word rather than

the sentence was the center of his composing and revising process. As for the second part,

even though there were some instances where he added a few words; still, these additions

were not considered microstructure or macrostructure changes. That is to say, the changes

he made were surface or meaning-preserving changes. An example of the two-word

addition is the following: "Plus in order to be accepted in the program you need to have a

strong academic background in your area of interest." Then he added two words to this

sentence and it became, "Plus in order to be accepted in the program you need to have a strong academic background in your area of interest **content background**." This change was considered a meaning-preserving change because it did not affect the meaning of the text.

The second aspect about Jaber's composing and revising behaviors is that there was not any type of "organization" change whether on the level of ideas or format. Third, as Table 4 shows, the number of empty cells, where there was no change, is larger than the number of filled ones.

Table 4

Types and percentage of changes occurred during the revising session

Level / Type	One word	Two words	Three words	Four words	Five words or more	Total
Addition	15 ◆(50%) ✶(30.61%)	3 ◆(10%) ✶ (75%)	4 ◆(13.3%) ✶ (100%)	3 ◆(10%) ✶100%)	5 ◆(16.7%) ✶ (71%)	30 (100%) ✶ (44.77%)
Deletion	15 ◆(83.33%) ✶ (30.61%)	1 ◆(5.56%) ✶ (25%)	—	—	2 ◆(11.11%) ✶ (29%)	18 (100%) ✶ (26.87%)
Substitution	19 ◆(100%) ✶38.78%)	—	—	—	—	19 (100%) ✶ (28.36%)
Organization/ Addition	—	—	—	—	—	—
Total	49 (100%) (73.13%)	4 (100%) (5.97%)	4 (100%) (5.97%)	3 (100%) (4.48%)	7 (100%) (10.45%)	67 (100%)

◆Percent indicates the types of change

✶ Percent indicates the level of change

The table contains 20 cells about the different types of revision and the level of these changes. Eleven of these twenty cells contained no data at all. This means that no change of that type took place to be classified in that cell. Moreover, since it is assumed

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that revision takes place at all levels and types of the revising process, this aspect may indicate that there was inappropriate or insufficient revision, if we can call it revision. Another possible interpretation is that Jaber believed that his writing did not need any revision beyond the ones he did, so he did not make changes on all levels and types of revision. The last aspect is that the total number of changes (67) made by Jaber during the revising session were fewer than the total number of changes (250) in the composing session. Again, this finding could be seen as evidence that as soon as Jaber finished his first draft and corrected all of the misspelled words with the "spelling checker," he felt that there was not much for him to do except for another clean up activity.

Purposes of Revision

Writers revise their written texts for various purposes and reasons; however, these purposes and goals differ from one writer to another concerning goals that the writer wants to achieve. During the review of revising his essay, Jaber indicated that he revised for several purposes. For example, he wanted to improve the mechanics and grammar of the essay, to improve the vocabulary, to add more necessary information, to delete unnecessary information, and to organize the structure of the essay. The dominant purpose of change that Jaber demonstrated in both sessions was to improve the essay by correcting the surface features with respect to spelling, punctuation, and grammar. For example, Jaber corrected many misspelled words while he was revising his drafts like: (e.g., wether ===> whether; thier ===> their; accebted ===> accepted; applaying ===> applying; fullfill ===> fulfill). However, the majority of spelling corrections he made was by the help of the "spelling check." This computer function helped him to correct 63

misspelled words during the composing session and 4 words during the revising session. That is to say, perhaps Jaber could not identify these misspelled words in his essay while composing and he corrected them by the help of the computer. Alternatively, perhaps he relied on the computer to serve a proof reading function, to find and correct unintended errors. Examples of such misspelled words that were corrected by the computer are the following: (tought ===> taught; axcess ===>access; fulfiled ===> fulfilled; painfull ===> painful; selly ===>silly; detailes ===> details; benifit ===> benefit; intelectual ===> intellectual). Jaber explained, "I hate seeing errors in my text; so, when I see one, I fix it immediately."

Another purpose of revision that Jaber mentioned was his concern to improve the quality of his essay by selecting the "best vocabulary." He identified the "best vocabulary" as those words that "make sense or not." When I asked him about how he knows that they make sense or not, he said, "according to my knowledge and judgment." In following this purpose, Jaber changed several words because he thought that the change would improve the vocabulary quality of the essay and that the sentences would therefore be presented in a better way. For example, he substituted the word "address" with the word "argue" in the following sentence, "In my essay I will try to **address** whether these requirements ...;" "In my essay I will try to **argue** whether these requirements ... ." As I explained earlier, Jaber justified this change because he thought the word "argue" is stronger and more scientific than "address." In another sentence, Jaber was talking about how his university has students from around the world. He wrote, "The **significance** of ---- is that [it] has students from 121 countries ...," then he

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substituted the word " significance" with "uniqueness" and made the sentence "The **uniqueness** of ---- is that [it] has students from 121 countries, ... " Jaber justified this change by saying that "The word uniqueness is more formal than significance. In significance, you talk about two things only. It is a statistical word while uniqueness is for many things you can talk about."

Furthermore, Jaber explained that he revised to clarify his ideas by adding more information to the text he wrote before. For instance, during the process of writing the second draft, Jaber revised a sentence he wrote in the first session by adding some information in order to clarify the idea he was talking about. He wrote, " The administrators can support international graduate students with this experience through an **orientation activities**." Then he added the following words to the sentence, "The administrators can support international graduate students with this experiences though **different activities (for example orientations, workshops, exhibitions)**." Jaber justified this change by saying that, "the reader may not know that there are other activities that can be used to help international students such as the workshops and exhibitions." In addition, Jaber mentioned that while revising this sentence, the administrators were in his mind, so he wanted to tell them of other options rather than one solution only.

In another paragraph, Jaber was talking about his experience with the English Language Center (ELC). He started a new paragraph without making any reference to that pronoun in the same paragraph. The initial paragraph read, "**Their** process and requirements are too lengthy and painful." In the second session, Jaber changed this sentence to the following, "**The ELC** process and requirement is too lengthy and

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painful." Jaber justified this change by saying, "when the reader reads this sentence he [might] be confused to know what is meant by their. So, I made [it] clear by showing what I mean by 'their'. I mean the ELC."

The last purpose for change that Jaber talked about was the deletion of information. This function was one of the most frequent purposes for revision. It included the deletion of information that was not needed any more because some new information had been added, substituted, or even to indicate a shift in ideas, or that when the writer determined to add some new information. In many cases, some of the old information that has been written before does not fit with what is added or what ought to be added; therefore, the writer deletes the old information. The following example is taken from Jaber's first draft when he started writing his second paragraph,

> Taking courses in teaching/pedagogy is important for any teacher or staff member to have in order to teach, for American as well an international students. So if I am going to limit these kind[s] of requirements to international students we will end up with TAs.

At this moment Jaber stopped writing and read the paragraph from the beginning. He corrected a few things like adding a phrase after the word "teach" in the first sentence so it became " to teach or do research," he added a plural "s" for the noun American, and then substituted the indefinite article that preceded the word "international" in the first sentence. After these corrections, Jaber read the sentence again and highlighted a big part of it "if am going to limit these kind[s] of requirements to international students we will end up with TAs" and then deleted it. Instead, Jaber started a new sentence that read in his first draft as "so. Nobody can argue that these requirements are not important for teaching or doing research."

When reviewing what Jaber did while drafting this previous paragraph, one might notice that Jaber made an abrupt stop when he finished writing the last sentence " ... we will end up with TAs." One possible explanation for what happened was that he found that what he wrote was not exactly what he wanted to say. In fact, Jaber did mention in the review that "this sentence did not fit what I wanted to say. So I deleted it and wrote another new one." This tells us that Jaber did delete some sentences, words, and phrases because he felt he did not need them any more and because he wanted to write something new.

Difficulties in Composing and Revising

The act of producing writing in L2 seems to be exhausting, laborious, less fluent, less productive and difficult (Mohan & W., 1985; Raimes, 1985; Silva, 1993). During the composing session, it looked that Jaber was facing difficulties and problems in composing. Reid (1989) argued that one reason for such difficulties is that many nonnative speakers of English do not have the necessary cultural background information and experience (schema) that would allow them to complete academic writing tasks in the U. S. universities successfully. Shih (1986) emphasized that in the act of composing a successful first draft, ESL writers lack many important skills that they need to develop. Such skills include, but are not limited to: applying efficient and productive writing processes; monitoring one's own process and progress while composing and drafting; having lexical/semantic knowledge and fluency; knowing discourse frames, conventions, and techniques; and knowing mechanical conventions. Moreover, because writers have to attend to many levels of these skills all at once, they need to learn how to write several

drafts.

The difficulties that Jaber faced while composing and revising manifested in more than one aspect. The findings of the study suggest that there was a lack of idea outflow represented by the long pauses during the composing session. Such long pauses made him compose, as Zamel (1983) proposed, in "a piecemeal fashion" in which he was pausing before, while, and after every T-unit he wrote. He was not able to develop a substantial thread of discourse successfully. The following example demonstrates how his composing was interrupted continuously by pauses that obstructed his composing process and idea outflow and consequently made writing difficult for him.

Jaber started writing the paragraph by generating a title for the essay, "International graduate students." Then he paused for 43 seconds. He highlighted the title and centered it, then paused again for 29 seconds. After the pause he added the phrase "Graduate students" and paused for few seconds before he added two more words, "in the." Then he paused for a few seconds again and added to the beginning of the phrase a new word "International." Jaber highlighted the line "International Graduate students in the", he paused for a while and then highlighted the last part of it "in the" and deleted it. By then, the title of the paragraph became "International Graduate Students".

After that, he changed the position of the second line. He changed "International Graduate students" from a centered position on the page to a position on the left and continued writing "consider a very full resource for," then he paused for 39 seconds. This sentence started his first paragraph of the essay. After the pause, he added two more words "the universities" to be followed by another pause for 21 seconds. By then, he

finished the first sentence in the first paragraph. Jaber then reread the sentence he wrote and discovered that he missed the verb "are"; he added the verb before the word "consider" then he added an "ed" to it. He paused for a while then he put a period to finish the sentence.

After that he resumed writing the second sentence in the first paragraph, "They can support the programs" (18 seconds pause). Then he corrected surface features by going to the definite article "the" that preceded the word program, and added two letters "ir" to make it "their" (18-seconds pause). After the pause, he added "too many experiences and" (33-seconds pause). At that time, Jaber became annoyed by not being able to see the beginning and the end of the line at the same time because of the page alignment. Therefore, he asked me to do that for him, and I did. After that problem was fixed, it seemed that he lost his train of thought, so he started reading the whole paragraph from the beginning and then paused for 29 seconds. After the pause, he deleted the word "and," put a full stop, and finished the sentence. Then, he started the third and fourth sentences "One of the most important contripution to the" (29- seconds pause). Then he added the letters "ir" to the definite article "the" and changed it to "their" and continued writing "universities is to work as a graduate teaching and/or research assistant. Many universities require from international graduate students to fulfill some requirement before (19-seconds pause) start teaching or doing research. In my essay I will try to cover" (8-seconds pause). Then he deleted the word "cover" and wrote "addres," instead. He immediately resumed writing "the issur might," he paused for a while and then inserted "that" between the words "issue" and "might."

Jaber stopped writing and started reading the whole paragraph again. He again

corrected surface features. He found that he missed an "s" to be added to the word

"requirement" and another "s" for the word "addres" and the article "the" to be inserted

before the word "start." That task took him 31 seconds before he paused for another 30

seconds. Then he highlighted the phrase "address the issur and that might" and then

deleted it and wrote instead of it "argue wether these issue are necessary for" (13-

seconds pause). Then he turned his attention to correcting spelling. He went back to

correct the misspelled word "wether" by highlighting it first, deleting it and then typing it

again. Then he wrote "whether" and deleted it again and then typed it again. After that, he

added the letter "a" to make it "wheather" then deleted that letter. Before he continued the

sentence, he paused for 7 seconds and then resumed typing by adding the word "for" and

then deleting it. After that, he paused for 16 seconds before he went back to read the

paragraph during which he capitalized the word "international" (36-seconds pause). Jaber

changed his mind about the capitalization and changed it as before. In addition, he

substituted the word "issur" with "requirement" (17-seconds pause). Then, he copied the

phrase "International graduate students" and pasted it before the end of the paragraph to

continue the last sentence he was working on. After that, he added the words "to have" to

the end of what he pasted and paused for another 9 seconds before he added the letter "s"

to the word requirement that he added before. After that he resumed writing "in order to

teach (8-seconds pause) or do research (20-seconds pause)." By doing that, he finished

writing the paragraph. His last sentence read, " In my essay I will try to argue whether

these requirements."

At this moment, Jaber started a new sentence by writing the phrase "For example." Then he changed his mind about this new sentence, went back to the last line in the first paragraph, and added "(i.e.,)." After that, he copied the four requirements that he generated as part of his outline at the beginning of the session and pasted them between the parentheses. He edited this addition by inserting semicolons between the four requirements. By doing so, he finished writing and editing the first paragraph in his essay. Jaber changed his mind about starting a new sentence that starts with "For example," so he deleted that and then paused for three minutes and twenty six seconds during which he checked the spelling of the document by the help of the "spelling checker."

Reviewing the way in which this first paragraph was composed indicates that Jaber lacked idea outflow and that the process of generating ideas was continuously interrupted by long pauses and moments of hesitation. The process of going back and forth to edit and correct misspelled words seemed to affect his writing process. That is to say, it made him unable to focus his attention on the global level of generating ideas and composing the text; rather he focused on editorial concerns at the expense of generating more ideas.

In the interview, Jaber stated that,

> I have difficulties in selecting the words that fit the meaning. Also, I have troubles in finding the transition word when moving from one sentence to another and from one paragraph to another. Therefore, I spend too much time to fix everything from the first time.

In another place, Jaber also stated that,

> I have difficulties more in the content of the argument, like with

the grammar, and all of these play together that affect me to go back and reread like ... start writing a new statement. Most of the time I do this."

Another cause of difficulty as suggested by Matsuhashi (1981) was due to inappropriate planning at the global level of the text. Matsuhashi indicated that even though a writer's most time-consuming planning usually occurs before the beginning of writing a sentence, the presence of long pauses with T-units suggests that the writer had not completed all plans before beginning to write the sentence. She found evidence that her writers were occasionally pausing after function words in a clause or a phrase. She concluded that those writers did not complete all of the semantic or lexical planning; therefore, they were facing hardships in producing or generating text as a result of the lack of planning.

During the process of composing, Jaber demonstrated very long repetitious pauses that might be seen as an evidence of the difficulty and hardship in composing that Jaber was facing. Jaber's struggle with the language usage to generate appropriate content was one possible explanation for the difficulties he faced while composing. Another possible interpretation of these difficulties, as suggested by Matsuhashi (1981), might be the lack of or inappropriate planning. It is acknowledged that Jaber was the only writer to make an outline; however, the content and quality of the outline might not help him much to generate more ideas. That is because the content of the outline he generated was in fact taken from the body of the question rather than focusing on the development of an argument. Flower & Hayes (1981) mentioned that it is not enough to think of writing as a simply process of text production or deciding what to say next. However, an important

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part of being a skilled writer is "knowing not only how to do rhetorical planning, but how to embed sentence-level planning within it—how to turn intentions and knowledge into text" (p. 242).

Another difficulty that Jaber experienced during writing was his weak mastery over almost all aspects of the written language. Although he was not required to write an error-free text, the first draft he produced exhibited several types of errors. The following are some of the errors that he made during drafting his essay. The errors are highlighted in bold font,

> International Graduate students are considered **a** very full resources for their universities", "So. nobody can argue that **these kind** of arguments are ...", " For example some universities in their home country require from any students **how** got a scholarship to get his/her Ph. D. from **out side** the country to ...", "The United **state** of America", "The administrators can support international graduate students with **this experiences** through **an** orientation activities", " But taking courses that focus on the American History will not help **to** much", "So, how many courses do I need to take to cover all of these issues.", "it is not allowed for any international student to take academic courses without **basing** the proficiency test ....", "My recommendation in this case as an alternative is to let international students **to** interact with American students ...", "... this will prevent the university **to** benefit from ... .

Although Jaber's composing behaviors indicated that he was concerned with producing an error-free draft through the constant correction of grammatical errors, his draft exhibited at least one error in almost every line he wrote. The above examples show that Jaber's essay exhibited errors and violations on different levels like: subject and verb agreement, capitalization, punctuation, expressions, infinitives, and prepositions.

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The Use of the Computer in Composing and Revising

Jaber was very enthusiastic and interested in participating in the study as he mentioned later in the interview; and that was clear in his involvement while composing and revising. He also mentioned that he was very confident with his skills when using the computer as tool for writing. However, his composing and revising behaviors while using the computer showed that such skills were not developed as adequately as he indicated.

Hass & Hayes (1986) mentioned that the extent to which writers use the computer varied. While some use it as a fast typewriter (Cross, 1990; Hass & Hayes, 1986), others use it for low-level revising and editing, and a few use it throughout the entire writing process, beginning with preliminary planning, brainstorming or free writing on the screen, through making changes in organization and wording, to proofreading and final editing. The reasons behind these diverse uses of the computer mainly depend upon the writer's experiences, skills, abilities, and attitudes toward composing and revising from one perspective, and their ability to use the computer as a tool for composing and writing from another. It is believed that the tool that writers use, and the way in which they use it affect their own composing and revising processes (Daiute, 1983; Hass, 1989). Below, I describe how Jaber used the computer as a word processor during his composing and revising processes. The discussion will be focused around his most observable behaviors that revealed his computer skills and experience.

Through the observation of Jaber's composing and revising behaviors, the study revealed that he was not using the computer efficiently. That lack of efficiency was demonstrated in more than one area such as insufficient typing skills, extensive sight

shifting between the keyboard and the monitor, and finally the inability to keep a balance between the written text and the blank screen. It was obvious that he lacked the basic typing skills. During typing, he was not using all fingers in the left and right hands according to the "home keys." Instead, he was simultaneously using two fingers only for all of the keys on the keyboard. In the interview, Jaber said, "I know this is not the best way to type but I am used to it now, I use only two fingers." It is worth mentioning here that Jaber, as well as the other two writers did not take any classes in keyboarding or typing. In fact, none of them had taken any formal classes in using the computer as a tool for writing. Rather, they all learned how to use the computer by trail and error and by asking the tech persons in the computer labs throughout the campus. All of them indicated that they spent few months in learning the basics of word processing like opening, saving and printing a file. Then, they started to learn some other functions of word processing by asking friends, tech-lab persons, and anyone else available in the computer lab.

Another observed behavior was that Jaber did not touch type, which means that he could not type without looking at the keyboard while typing. Instead, he was constantly shifting his sight between the keyboard and the screen monitor. Cross (1990) reported that the three college students who participated in his study encountered difficulties in generating text on the screen because they had to look at the keyboard to type. In fact, one of those three students mentioned that the chief reason that he did no writing on the screen was the result of his poor typing ability and because he was typing mostly with his right hand. Similarly, when Jaber wanted to type a word, he first looked at the keyboard

to watch the position of his fingers; and when he finished typing the last letter of the word, he shifted his sight to the screen in order to see how the word he typed looked. In doing so, his sight kept shifting between the keyboard and screen as long as he was typing.

These two behaviors, typing with two fingers and the constant sight shifting, were believed to have strong effects on his composing process. One possible effect was that the train of thought during the writing process could be easily interrupted (Britten, 1988; Piolat, 1991). Research indicates that when a writer thinks of an idea he/she mainly depends on the long-term memory which is seen as the store for conceptual knowledge rather than verbatim information (Daiute, 1983). And when he/she wants to construct a certain sentence, he/she, according to the required specific situation, depends on the short-term memory which in turn depends on the long-term memory. However, the process of constructing sentences or paragraphs is also limited by many other external factors like syntax, semantics, writing conventions, language abilities, etc. And since all of these factors are to be taken into account at one time, and within a very short time (Shih, 1986), it becomes very difficult for the writer to take care of all of these factors and to find the appropriate key letters in order to type what he/she is thinking of.

Another possible effect of typing with two fingers and the constant sight shifting between the keyboard and the screen is that it made Jaber's typing task very slow. It is assumed that typists who use all of their fingers while typing finish the task faster than those who use few fingers, and therefore, they save more time. Consequently, it is reasonable to assume that the poor typing skills and the sight shifting took Jaber's time

and attention away from revising the text (Dalton & Hannafin, 1987).

Typing was not the only computer skill that Jaber did not use efficiently. Throughout the observation of Jaber's composing and revising behaviors, the study showed that he did not use many of the other computer's editing functions appropriately. For example, for correcting simple typing errors, the writer can press the "backspace" or "delete" keys. Consequently, the key will delete the text either preceding or following the insertion point. For deleting more than a few characters, it is faster to select the text by highlighting it and then pressing "backspace" or "delete" or by choosing "clear" or "cut" from the "edit" menu. During the composing session, Jaber used the "backspace" function 65 times to delete characters and words that he did not need; however, he used the "highlight" function to delete words only 15 times. During the revising session, he used the "backspace" function to delete words four 10 times only and the "highlight" function 8 times. It should be noticed that when using the "backspace" or the "delete" functions, writers can delete the text or letter by letter; however, when using the "highlight" function, huge amounts of the text even the whole document can be deleted by pressing one key only. This means that writers can save time while deleting some words or sentences by using the highlight function rather than using the "backspace" or "delete" keys.

One area Jaber seemed to manage well was using the mouse to scroll the pages down and up in order to view the document while revising it. It was clear that the mouse helped him to perform this task. Further, while reading the document, he never left the mouse and he moved it in all directions to help him determine the lines he was reading. In

addition, he was using the mouse to highlight the words and sentences he wanted to

delete. However, Jaber's dependence on the mouse did not prevent him from using the

keyboard. In fact, he used the keyboard rather than the mouse to save the document

frequently by pressing command + s.

A part of being a proficient word processor user is having the skill to deal with

some basic emergent word processing problems. The findings of the study showed that

Jaber was unable to deal with some of these problems. Because *Word* software

automatically uses default settings for page size, margins, and many other options, a

writer can just start typing as soon as he begins a new document. So, the writer is

supposed to decide whether he needs to change these default settings for specific

purposes or not. Because this study was set up to display the picture of the writer on the

top corner of the computer screen in order to be videotaped and displayed on a VCR, it

required some modifications of the space needed for typing the document. It seemed that

when a file was opened for Jaber to start writing, the margins were not modified to fit the

new dimensions of the document. Jaber discovered the problem after he wrote a line that

exceeded the limits of the page setup. Therefore, when he reached the end of the line, he

became unable to see its beginning; and when he put the insertion point cursor at the

beginning of the line, he was unable to see its end. He spent two minutes trying to solve

that problem without any success. Then, he asked me for help and said, "it is very

annoying for not seeing the beginning and end of the line." Moreover, when Jaber tried to

see what the document looked like in the print preview, he could not get an appropriate

zoom to view it. Therefore, instead of adjusting the print preview throughout the "zoom

control," he abandoned the whole task. Although adjusting the dimensions of the document and getting a print preview of the document are easy tasks to be performed on the Macintosh computer and could be considered basic and essential skills to be mastered by any proficient user of the word processor, Jaber could not handle these two problems alone.

On the other hand, the study showed that Jaber used successfully some other functions of the computer like "copy," "paste," text scanning, and "spelling check." Such functions are highly facilitated by the computer and appreciated by writers because they reduce the burden of writing. Composing and revising always entail at some point recopying or retyping (Collier, 1983; Daiute, 1983). Collier (1983) indicated that since "serious revision requires large-scale alterations and thus several complete drafts, students often make minimal or trivial changes in the text" (p. 150). This means that computers have the potential to invite, encourage, and allow writers to do large-scale alterations without the pain of recopying or retyping. By applying the "copy" and "paste" functions, writers can move big chunks of text from one place in the document to almost any other place. This happens by highlighting the text to be moved, then clicking the copy icon. After that, the writer can move the cursor to the desired place in the document and click on the "paste" icon. Jaber used the copy and paste function several times during the composing session. In particular, he used it to copy portions of the outline he made at the beginning of the session and inserted them at the beginning of the paragraphs he created.

Another of Jaber's observable composing behavior was the incorporation of the

cursor movement with text scanning. The screen recorded data showed that Jaber made several cursor movements that did not involve additions, deletions, or substitutions. The following text-scanning modes were observed: (a) cursor movement (backward and forward), (b) mouse movement (backward and forward), (c) page up or page down movements, (d) movement to the beginning or ending point of the text under consideration, and (e) highlighting of text through blocking. It should be noted that these cursor movements were implemented by the use of the mouse; however, in very few cases, Jaber used the keyboard to do some of these movements. Moreover, he was the only subject to use the keyboard to save the document by pressing command + s, while the other two subjects used the mouse only to save the document. When asked about his use of this function, Jaber said that "it is easier to click 'command and s' than to do this by the mouse."

One of the advantages of the computer is that it has the potential to help writers to correct their spelling errors by signaling any word the writer uses that is not in the computer's dictionary. By doing so, the computer can eliminate tension and anxiety by not having to worry about misspelled words. Jaber used the spelling checker program twice during the composing session, and then he did that for the third time when he finished the session. For writers with spelling problems, this assistance is very valuable. In addition, it can serve a proofreading function for finding and correcting unintended careless errors. Harris (1985) indicated that one of the freshman students who participated in her study mentioned that "he wrote with more freedom when he used the spelling program, knowing that his spelling errors could be identified and corrected easily at a

later time" (p. 329). Similarly, Jaber explained that the spelling checker is one of the most useful functions of the computer he liked. He also mentioned "because I know that the spell checker will correct my errors I did not pay much attention to them while writing."

As mentioned previously, Jaber used the computer for making his outline. During the interview, he mentioned that whenever he wants to write a paper or an essay, he likes to do everything on the computer and that he prefers it to the pen and paper, except for revising. Although he mentioned that sometimes he does the revision part on the computer, he usually preferred to do this on a hard copy. Of course, when Jaber mentioned that, he was talking about revision in the sense of editing (i.e. correcting mistakes and the mechanics of writing) rather than revision in the sense of changing or redrafting the whole draft.

The Holistic Quality of the Essay

The fifth question of the study investigated whether the revisions that were made by Jaber improved the holistic quality of the essay or not, and whether there was any role for the computer in facilitating these revisions or not. As mentioned in the methodology chapter, two native speakers of English were outside readers for the study. The readers were provided with a six-point scale (from 1 to 10) in order to judge the overall quality of the revised essays with regard to coherence, content, organization, syntax, vocabulary and mechanics, see (Appendix C: The Rating Scale). The two readers read the essays written by the students individually and separately. Table 5 provides a summary of the researcher's notes that the two readers made about Jaber's essay.

Table 5

Score and Notes on Jaber's Essay by the Two Readers

Item	First Reader		Second Reader	
	Score (1-10)	Notes	Score (1-10)	Notes
Coherence	8	Coherent, sticking to the point, includes cohesive devices, audience addressed,	7	Coherent to a certain degree, not sticking to the point in all paragraphs, cohesive devices, audience addressed
Content	9	Adequately: yes Accurately: yes Thoroughly: yes Logically Some ideas are unsupported and unclear	9	Adequate: Yes Accurate: Mainly Thoroughly: Yes Logically: Mainly yes Some ideas are unclear and confusing
Organization	10	Introduction: yes Body: yes Conclusion: yes	9	Introduction: yes Body: yes Conclusion: yes Not strong generalization
Syntax	8	Several structural errors but did not obstruct meaning,	8	Many structural errors Unclear sentences Lack of structural knowledge
Vocabulary	9	Words are related to the topic, wide range or vocabulary items	9	Related words, some inappropriate vocabulary items
Mechanics	8	Occasional errors in punctuation and capitalization	8	Occasional errors in punctuation, capitalization and paragraphing

It should be noted that the differences in the scores assigned by the two readers

did not show real differences between what the two readers intended to give. Four of the

score were exactly the same. The other two different scores did not show real differences

since both of them were hesitant to give 8 or 7 for the coherence item and 9 or ten for the

organization one. This means that the little differences between those scores did not

indicate any significant differences between what the two readers thought about the essay.

The first item on the scale, coherence, has been defined principally as an internal

feature of the text, either in terms of the linking of sentences (cohesion) or as the

relationship among propositions in the text (sticking to the point) (Johns, 1986). Yet, a

new definition of coherence includes a reader-based part and considers that a text cannot be separated from the reader and that coherence requires successful interaction between the reader and the discourse to be processed (Carrell, 1982). According to this view, the discussion with the two outside readers concerning Jaber's essay showed that his essay, in comparison with the other two essays that were written by Mazen and Hilal, was considered coherent because it met most of the attributes mentioned by the previous definition of coherence. While both readers agreed that the essay contained cohesive ties and to some extent addressed the audience, the second reader found that "in some places of the essay the writer could not stick to the point". He pointed out the following examples where the essay did not demonstrate cohesive ties,

> For me, it sounds that they need to keep international students in this [English Language] Center forever to collect more money. Some one might argue this is your personal experience, so how are we going to trust you? Yes it looks at personal experience, but if you have a chance to talk to graduate international students who were graduated form ELC you will find this argument is common. My best advice for you [is] not to ask 'a visitor students' who attend in this center because they are not looking to acquire these kind[s] of skills.

The second reader explained that after the writer mentioned in the first sentence that the purpose of the ELC was to collect money, he expected the writer to "elaborate more on this claim and support it; however, he changed the topic and started talking about his personal experience". This reader also indicated that the writer made another shift in the paragraph when he asked us to ask "a visitor students." The reader said, "I don't know what am I supposed to ask him about? This sentence is confusing." This means that Jaber did not stick to the point of his discussions and that he made two or

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three shifts within the same paragraph. Nevertheless, the first reader scored the essay 8 and the second one scored it 7 out of 10 points for this aspect.

The content of the essay was an important element in the evaluation process. This element attended to whether the subjects were able to generate, demonstrate, and address very clear ideas in response to the assigned topic or not. To do so, the writers were supposed to address the assigned topic adequately (to consider every point required by the topic completely), accurately, thoroughly (to consider all points required by the assigned topic), and logically. Both readers agreed that Jaber addressed these requirements in his essay; however, some of his ideas were not very clear, so they gave him 9 out of ten on this item. The first unclear assumption that the readers pointed out in Jaber's essay was that he assumed that most graduate students have experiences in teaching or doing research, "Most of them taught or did a research for more than a year". This is an unsupported claim. They pointed out that the majority of graduate students do not know how to teach and that is why the university holds workshops for TAs to orient them for what to do in the classroom. The other unclear sentence that the two readers pointed out was when Jaber wrote, "On the other hand, some students [who] have an education background do not need these kind of course, because all ready they have it." For instance, the second reader said, "It is not clear why those who have a background in education do not need these kinds of courses! What about those who have degrees in education and have never been in a classroom before?"

An organized text has been defined as a text that includes certain functions like clear introductions, a body that includes generalizations and/or logical and chronological

order of ideas, and conclusions (Hunter & Carpenter, 1981). According to this view of organization, Jaber was aware of most of these functions and he was able to include them in his essay. Therefore, the first reader scored the essay 10 while the second one scored it 9. The evaluators indicated that Jaber's essay demonstrated clearly the introduction, the body, and the conclusion and that logical order was evident throughout the essay. Moreover, both of them agreed that he provided several examples to support his argument, an attribute that made his essay stronger and more organized.

Facility with a full range of syntactic structures and standard usage is of crucial importance in the effective use of language. When language is perceived as immature or inappropriate because of limited syntactic range or nonstandard usage, the informative, persuasive, or other intent may fail (Finn, 1993). Facility with syntax and standard usage is perhaps even more important in writing than in speech because more complex syntax and formal usage are characteristics or written English. Shih (1986) indicated that a writer should demonstrate several types of skills and abilities in correct use of syntax in order to be able to write and revise a well-developed written piece. Among these skills were the awareness of one's own knowledge of English grammatical forms and rules in order to create effective complex constructions that convey the meanings that the writer intends to communicate, as well as to identify and correct grammatical errors exhibited in the text. According to this view, the readers judged Jaber's essay as very good (8 out of 10) because it has effective but simple constructions. That is to say, that although several errors in agreement, tense, articles, and prepositions were exhibited in the essay, meaning was seldom obscured. The first reader commented on the errors in the essay by saying

that these errors are not major ones, rather they were "just typical for any international student." Similarly, the second reader indicated that there were so many errors in the essay and that there were some unclear sentences; however, he was able to understand what the writer wanted to communicate.

According to the ESL composition profile developed by Jacobs, Zingraf, Wormuth, Hartfiel, & Hughey, (1981), vocabulary was another important criterion for evaluating the subjects' essays. Jaber's essay was judged to be very good (9 out of 10) because it included a wide range of vocabulary related to the topic, and the words he used were effective in comparison with the other two essays. The evaluators determined that although there were several errors and violations in Jaber's vocabulary usage, he demonstrated a good range of vocabulary and the violations in vocabulary usage did not hinder meaning of the messages he was trying to convey. The highlighted words in the following examples are some of the inappropriate vocabulary usage that the readers pointed out, "Taking courses in American Culture is not **a bad idea** to have access these kind of **information,** but international graduate students through their interaction with American student can **gain** some experiences ...;" "So, how many courses do I need to take **to cover** all of these issues"; "... so how are we going **to trust** you?"; "... and the most **fabulous** way to do that is to them teach", "Passing a specializing exam in the area of interest as a requirement is not important and sound to me as **a silly** standard, ..." Both readers indicated that such words were not formal and that they made the essay superficial and shallow.

Olshtain (1991) mentioned that a necessary instrumental skill without which

meaningful writing cannot take place is the mechanics of writing. Jaber's essay was judged to be very good (8 out of 10) since it included occasional errors in punctuation, paragraphing, capitalization and spelling. For example, the first reader mentioned that the meaning in Jaber's essay was not obscured because of such minor violations in the mechanics of writing.

The main purpose of evaluating and judging the revised drafts was to arrive at the conclusion whether the revisions made by this writer improved the holistic quality of the essay or not. After the two evaluators read the two drafts carefully, they determined that there was no improvement in the quality of the essay due to the changes in the final drafts. This decision was based on the fact that nearly almost all of the changes made in the final drafts were surface changes and microstructure changes which did not change the meaning of the text; however, some of the changes affected the meaning but did not alter the gist or summary of the text. For the example, the first reader indicated that the first paragraph included one change only as indicated in bold print:

> Taking courses in teaching pedagogy/**or** research **techniques**;
> Taking courses in American Culture; Passing an English
> proficiency exam; & Passing a specializing exam in the area of
> interest are necessary for international graduate students to have in
> order to teach or do research.

The first reader commented on this change by saying, "I don't see any improvement ... the meaning is still the same ... I mean the addition the writer made here ... did not improve the meaning of the paragraph." Similarly, the second reader commented on this same change by saying, "I see what the writer is trying to say ... but the change he made ... does not make any difference."

This same change was repeated in the second paragraph in addition to three more meaning-preserving changes. The first change was a substitution change in which he substituted the "**how**" with "**who**" in two sentences. An example of such change is the following, " For example some universities in their home country requires from any students **how** got a scholarship to get his/her Ph. D. From out-side the country to take courses in teaching and to teach for one year." The second change in the paragraph was a structural one in which he substituted the word "to" with "the" in the following sentence, "So, **to** reduplicate these experiences will not help too much." After the change, the sentence became "So, **the** reduplicate **of** these experiences will not help too much." Again, the first reader said, "this change improved the sentence, but it did not affect the meaning of the sentence."

In the third paragraph, Jaber made three expansion changes (see Appendix D: Jaber's Essay). The first change was an addition of the following bold phrase,

> Taking courses in American Culture is not a bad idea to have access to these kind of information **and be familiar with the American culture**, but international graduate students through their interaction with American students can gain some experiences about how to interact with people from different cultures and countries.

The first reader indicated that "the sentence is read better after the change, but meaning is still the same." Similarly, the second reader expressed the same concern about this sentence. The second change in the third paragraph was an addition shown in bold print: "The administrators can support international graduate students with this experience through **different activities (for example orientations, workshops, exhibitions)**." The first reader emphasized that the meaning had been altered after the

change was made, "I think there is an improvement in the meaning of the sentence here, but I'm not sure whether this might appear in the summary of the paragraph or not." On the other hand, the second reader agreed with the first reader that there was an improvement in the meaning of the sentence but he indicated that "such a change might not appear in the summary of the paragraph."

The two readers pointed out a change that they believed affected the making of the paragraph was the following,

> **Their** process and requirements are too lengthy and painful. They teach you how to acquire the language skills without any significant connection to your academic program or academic writing. For me it sounds that **they need** to keep international students in this center for ever to collect more **many** ....

Jaber revised this paragraph in which he changed the pronouns and used nouns, instead, to make it clear about whom he was talking about. Therefore, this revised paragraph appeared as the following,

> **The ELC** process and requirements are too lengthy and painful. They teach you how to acquire the language skills without any significant connection to your academic program or academic writing. For me it sounds that **the ELC policy is** to keep international students in this center for ever **in order** to collect more **money** ....

The first reader reported that "this change, for sure, affected the meaning of the paragraph." He also indicated that this change "should appear in the summary" because the subject "The ELC" is only the reference noun to be used in the paragraph. Similarly, the second reader indicated the same thing saying that this change affected the meaning of the paragraph and that this change should appear in the summary of the paragraph.

Other changes in the essay were considered surface changes and they did not

make any significant change in the meanings of the sentences. Therefore, the readers decided that these changes might have some effect in improving these sentences but they might not make any significant improvement on the text as a whole from "a holistic" point of view.

One possible explanation for why Jaber's essay was scored high on most of the items on the scale was due to the efforts he paid to improve his essay during the first draft rather than to the changes he made during the revising session. This explains his deep involvement in making so many changes during the first session in order to produce an error free and polished essay right from the first time.

The holistic quality of Jaber's essay by the two readers revealed two major findings. First, the readers judged the essay as good. Second, the changes made by the writer did not improve the quality of the essay. It should be noted that their judgments seemed not to nurture the initial assertion made about Jaber's inability to write according to scholarly standards and that he had difficulties in composing and revising. In fact, the readers indicated that it is difficult to judge whether this writer is able to write scholarly or not, because one essay cannot be a fair measure to do that. The first reader emphasized that "based on the simplicity of ideas and argument in this essay, this writer may not be able to develop more complex argumentative sentences and paragraphs without more work." Similarly, the second reader mentioned that this essay might not be a good indicator as to whether or not the writer can write scholarly, because the writing abilities and skills demonstrated in writing this essay may not necessarily be the same for other types of writing.

Another explanation is that those writers scored Jaber's essay high in comparison with Hilal and Mazen's. That is to say, those readers read Mazen and Hilal's essays first, and they scored them as poor on some of the items on the scale; so, when they read Jaber's essay they found it better with respect to all items on the scale. Therefore, perhaps they gave Jaber's essay a rating that was high not because it met all standards of quality for scholarly writing, but because it was better than the other two essays they read for the study. In fact, the first reader mentioned that while he was reading Jaber's essay, he was also thinking of other international students who lack the ability to demonstrate developed writing abilities. This implies that those readers used norm-referenced evaluation in which they compared and contrasted between subjects when evaluating something, rather than criterion-reference evaluation in which they would judge the quality of writing according to whether the writer meets certain standards or not.

Another possible interpretation was that Jaber had difficulties in composing and revising; however, the familiarity with the topic made him excel, so that the readers scored his essay as very good. Nevertheless, Jaber indicated that he improved his writing tremendously since he came to the U. S., and this essay could be seen as a result of such improvement.

The Role of the Computer in Facilitating Revision

In all of the current debate over the word processor's merits as a machine for writing and revising, one solid question has emerged: Do word processors really help students revise their texts and do such revisions improve the quality of their texts or not?

Answers to this question are mixed and contradictory. Susser's (1994) study on the review of the research on word processing and the writing process found that several experimental studies have tried to answer this question with various measures of writing quality. He concluded that while some have found that experimental groups using word processing write "better" essays than control groups (Bean, 1983; McAllister & Louth, 1988; Vockell & Schwartz, 1988), others have found exactly the opposite (Collier, 1983; Daiute, 1985). Moreover, a third group of researchers found no differences between those who use the word processor and those who do not (Etchison, 1989; Hawisher, 1989).

For instance, Bean (1983) indicated that the computer can help beginning writers learn to revise their initial drafts with less emphasis on lexical substitution and grammatical correctness and with more emphasis on progressive reshaping of ideas through successive drafts. He also added that the "computer can be a powerful revision aid for students by relieving them of the burden of frequent manuscript recopying."

On the other hand, Harris' (1985) study found that in spite of the writers' belief that they revised more when they used word processing, they actually made fewer changes in macrostructure. What they did, according to her observation and analysis, was to make numerous editing changes in the surface features of the text and to make numerous changes in microstructure (adding a few details, rearranging words within a sentence, substituting one word for another of essentially the same meaning, deleting a word or phrase, etc.). Furthermore, her study suggests that word processing does not, in and of itself, encourage student writers to revise more extensively, especially on the macrostructure level of the text. She concluded that, for whatever the reason, using a

word processor seemed to discourage revision and that inexperienced writers seemed even less inclined to make major changes in the content and organization of their texts when they used word processing.

In this present study, the subjects indicated that the computer as a word processor helped them very much in correcting the spelling errors, carrying out the tasks of "copy and paste," facilitating deletion and addition tasks, and substituting a word for another. However, Jaber did not take advantage of the many functions of the computer to make changes that restructure and affect the text as a whole. That is to say, he did not use the computer for revising in the sense that he did not make changes that affect the organization and content of the text on the macrostructure level.

In conclusion, the investigation as to whether the revisions made by Jaber improved the holistic quality of the essay he wrote or not was supported by two outsiders' perspectives. The evaluators determined that the revisions did not improve the holistic quality of the essay, simply because the quality of the changes that Jaber made were surface level and meaning preserving changes. These types of changes had no effect on the meaning of the text; thus, they made no significant improvement.

On the other hand, the study found that although Jaber reported that the computer helped him in writing his essay, there was no evidence to prove that the computer as a word processor had any significant role in facilitating revision. The computer facilitated some aspects of Jaber's composing and revising processes, mainly in checking and correcting the spelling errors, deleting and adding words, substituting words and some other editing functions.

Conclusion

In conclusion, Jaber as a writer lacked the expertise that advanced writers have in regard to how he perceived and executed the process of composing and revising and how he dealt with the computer as a tool for composing and revising. For instance, his topic outline that imitated the wording of the writing assignment did not serve to guide him through the process of writing, and the brief amount of time spent on prewriting activities was not enough. Jaber paused for different purposes: to read, correct, and to see what should come next. However, the average length and frequency of these pauses were longer and more than other writers' pauses. Jaber also faced several difficulties such as lack of idea outflow, inappropriate planning at the global level, and weak mastery over the English language. These weaknesses affected Jaber's composing and revising processes. Surface changes were the predominant type of changes in both the composing and revision sessions. Macrostructure changes, or changes that affect the meaning of the text, were rare in the two sessions. Also, Jaber had different purposes and goals for making changes during the composing and revising phases, and in the process of doing such changes, he faced several difficulties and problems. Some of the difficulties that Jaber faced were primarily pertinent to his past experiences as a writer in his first and second languages. Besides these past difficulties, Jaber faced several difficulties during the present study such as difficulty in mastering the language, generating appropriate and helpful prewriting activities, difficulties in text organization, difficulties in revising globally, and difficulties in dealing with the computer as a word processor efficiently.

Moreover, Jaber's computer skills were not developed enough to enable him to

use the computer efficiently. The weak typing and keyboarding skills, the sight shifting, the failure of dealing with emergent problems, and the negligence of using many of the computer functions were all evidence that Jaber did not use the computer efficiently. At the same time, such factors affected his composing and revising processes negatively. Nevertheless, Jaber used the computer to make an outline, check the spelling of the document, copy and paste some parts of the text, and re-scan the text by the use of the mouse.

Chapter Five

Case Two: Mazen

The purpose of this chapter is to present the findings of this study regarding the second case, Mazen. It shows how Mazen did not acquire adequate writing experiences at the secondary school and the university and that these experiences were not enough to help him develop as a writer. Furthermore, the chapter discusses the types of revisions that Mazen made and the difficulties he faced while composing and revising. In addition, it shows how he did not use the computer for making revisions that affected the content and organization of the text on the macrostructure level. The chapter concludes with a discussion of how the two outside readers rated his essay.

It should be mentioned that the general information about the educational system and how English is taught in Jordan that was discussed in chapter four apply to all the three cases. That is because the educational system in Jordan is centralized; therefore, all Jordanian students share general and similar background in regard to the teaching of English. However, differences between schools, teachers, and students exist. So, most of the prior information regarding these issues will not be introduced here except for a brief reminder wherever it is necessary.

Writing Experiences During Secondary School

Mazen is a Jordanian graduate student preparing for his Ph. D. degree in mechanical engineering and had completed two years in his program when the study was conducted. Mazen's educational experiences at the secondary school and the university

were very similar to Jaber and Hilal's; however, individual differences between the three writers' abilities in writing and perspectives toward the teaching of writing existed when they responded to the same set of questions during the interviews and reviews of their writing processes. The following section will discuss some of Mazen's writing experiences during his secondary school.

Lack of Formal Instruction

Mazen was asked to reflect on his past writing experiences as a student or writing while he was a student during his secondary school years. In doing so, he reported that, as Jaber did before, there was no formal writing instruction at the secondary school and that teachers of English and Arabic did not teach the students how to write. He explained,

> The teacher used to ... his own interest was to write the title ... the title of the composition, and then you have to write whatever you want to write. They did not teach us the ways of writing, they did not teach us that the first thing is the introduction and then the details and then to move to the conclusion as what they do in English. Even in English language, when we started to write composition, when we started to learn English, [we did not write] for three or four years until we learned enough vocabulary to start constructing sentences. You can say that [we started to write] in the last two years of the schooling. We started the twelfth grade and we were unable to write.

He explained what he meant by lack of formal instruction: "... there were no writing steps in which they [teachers] show [the students] how to start thinking and how to write a draft and how to modify it. They did not tell us anything and not even to make us understand it." Then he added,

> For me, they did not teach us anything in Arabic and English. I personally ... felt with weakness in writing because we did not learn it. When I came here, I wanted to write, I remembered the placement test ... it was about a journey ... I started to write ... I felt that I knew what they wanted us to write ... *I felt that I was in a*

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complete different world. They wanted us to be specific and clear.
We make the sentences very broad, general and without content.[1]

Mazen emphasized that because of such lack of instruction in teaching writing in both languages, the students found that there was no way to learn writing unless they do that by themselves, "... *they did not train us, we did that by ourselves* ... I wish they taught the students any successful way of writing in order that any writer knows what will come up."

Problems in Teaching Writing

Mazen indicated the main reason for such lack of instruction in writing was due to the fact that "there was a defect in teaching Arabic and English," and that the students could not discover that problem until they "started to write scientific reports at the university level." He explained that there were several reasons for such problems. First, the teachers equated being a good <u>student</u> with being a good <u>writer</u>. For instance, Mazen claimed that,

> the teachers used to give the scores for the good students in the class and not for those who write better. So, if you are the best even in other subject matters you get the highest score in composition even if you do not write well. Some [who are] not good students used to write better than me but they did not get high scores in writing.

According to Mazen, another cause for the problems in teaching writing was the teachers' desire to make the students pass the exam administered by the Ministry of Education at the end of the year without focusing on their learning processes. Mazen reported that, "the teachers were interested in making us pass the exam without caring whether we learned something valuable or not, the most important thing was passing the

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[1] The italic font indicates that the writer was speaking in Arabic

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exam. Yes, in both languages" Therefore, as Mazen mentioned the teachers believed that

the best way to make the students pass the exam was to train them by giving them many

exam samples. Moreover, Mazen indicated that,

> in the secondary school, there was a teacher of English who used
> to say I am the only one who can make guesses. He gave us six
> written ready compositions and asked us to learn them by heart.
> *We did that and we learned every word and letter in these*
> *compositions.*

Because teachers in Jordan know that many students in their classes can not write

a composition and thus they may fail the whole year, they try to help them in a very

tricky way. Mazen mentioned that many teachers of English try to predict the topic of the

composition that might come in the exam every year and write several polished

compositions to give them to their students. Students learn the compositions by heart and

copy one of them as an answer for the assigned topic in the exam. This technique does

not help at all and they may even participate in the students' failure.

Mazen also mentioned that teachers used to focus on the score without instructing

the students how to write. Mazen reported that when teachers at the secondary school

evaluated the students regarding the grade they got rather than the quality of what they

wrote, it made the students seek all possible ways to get this high grade rather than

learning how to write. He stated, "I write the composition, but is it right or not? No one

tells you. That is it. The only thing that matters was the score. A student gets the highest

score because he is the best student in the class but not because he write[s] something

good or not." Therefore, as Mazen reported, students were writing to please the teacher

no matter whether they learned from their writing experiences or not. He also added that,

> the most important thing was that the students were to write a full
> page or two on uninteresting topics. Teachers usually assign topics

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like 'The Summer Vacation.' The teacher writes the title 'the summer vacation' on the board and asks us to write on this topic as if we traveled to other places and countries. That was what we needed, to talk about summer vacation!"

Negative Attitudes Towards Writing

Another writing experience that Mazen talked about was that the students had negative attitudes toward writing. Mazen indicated that students in general did not like to write in both languages and that they used to view the writing class as "a class that has to be finish[ed] quickly." He explained that the majority of the students "used to think of it [writing] as a way of passing the student's time by writing on a topic. *But how to write, no one had ever told me.*" This negative attitude towards writing declined the students willingness and eagerness to write on any topic, reported Mazen. Moreover, what made this problem more intricate, Mazen claimed, was that teachers themselves had the same attitude and that their practices indicated that. For instance, Mazen mentioned that "the composition class was a break for the teacher." Apart from writing the title on the board, "*teachers were doing nothing ... sometimes, they read the newspaper ... sometimes they prepare themselves for another class. Yes, that was what they were doing.*"

Absence of Attention to Learning and Teaching Writing

In addition to the lack of instruction in teaching and learning at the secondary school, Mazen mentioned that neither the students nor the teachers of both languages were dealing with writing seriously. Mazen explained the attention in learning writing by the degree of engagement in discussing ideas and thoughts. When asked about how sincerely were the students engaged in discussing their ideas and thoughts with their teachers and peers, he stated that "no one cared about ideas," neither the teacher nor the students. He explained that "no one writes about expressing ideas. No one expresses his

ideas ... in fact, if you have an idea which is different from the teacher's idea he will destroy you. I mean it; even if you are talking in general. You have to do what the teacher says." As Mazen explained, this indicates that students were not allowed to express their ideas neither in writing nor in discussion. Such a case indicates that his teachers believed in absolute knowledge and that this knowledge was their knowledge. Mazen commented that teachers "*were narrowing down everything and they were not giving anyone his own personality and identity to think in an independent way while writing.*"

Lack of Feedback and Practice in Writing

Another shortcoming that Mazen experienced throughout his education in his country during the secondary school was related to the lack of feedback and practice in writing. Mazen mentioned that teachers did not help the students by providing them with helpful responses and comments about their writing. He reported, "I don't remember they [teachers] ever helped us. The only thing was that the teacher used to collect the copybooks; even we did not write unless he says that he is going to collect the copybooks and scores them, so we write." Even when the teachers collected the assignment, Mazen claimed that teachers usually did not read what the students wrote: "they did not evaluate what we write. I even think they did not read what we have written. *Believe me ... I swear they did not read what we wrote.*" Mazen indicated that in the few cases when the teachers did provide them with feedback, it was merely "*correction of grammar and spelling errors,*" and that "*was not helpful for us to learn how to write.*"

Not only were the students not provided with helpful feedback and responses about their writing but also they were not given enough opportunities to practice writing. Mazen reported that,

There wasn't any kind of practice to show you how to write. I remember that when we finish[ed] writing the composition, the teacher used to ask us to read it aloud in front of the class as if it was a song. *This was a way of teaching oratory, and also to pass time.*

What made this problem more cumbersome was that the students were not given any opportunities to write anything except the composition, "the only thing we were asked to write was just the composition, nothing else. We had never [been] asked to write anything." In addition, the quantity of writing required from the students was not enough. Mazen indicated that the students "used to spend almost one month to finish one an Arabic composition and two months to finish an English composition." And since this type of writing was the only available opportunity for the students to write, the students finished the secondary school without having enough writing experiences.

Lack of Awareness of What Writing and Revising Involve

Another shortcoming that Mazen experienced throughout his education in his country was related to the awareness of what writing and revising involved. During the interview, I asked Mazen, as I did with Jaber and Hilal, about several concepts that are believed to be essential for understanding what writing and revising involve. He was asked to reflect on what these concepts meant for him when he was a student during the secondary school and at the university, as well. Mazen indicated that such concepts did not mean anything to him, simply because he never heard about them while he was in Jordan. He explained, "*to tell the truth, I never heard about any of these things back home in Jordan, but I heard about some of them here in the U. S.*" Therefore, his typical answer during the interview when asked about these concepts was "it didn't mean anything for me when I was at school in Jordan." Mazen mentioned that only two concepts were familiar for him at that time. First, there was an emphasis on mechanics, as

he recalled, "*oh my god ... they ... they loved it, and it was the only thing they tried to teach us. Yes, I remember them telling us, put a comma here and a full stop there.*" The second thing was the focus on grammar as a major part of the writing class. Mazen mentioned that teachers' interest at that time was to "*correct every error in the paper whether it is important or not, actually they were underlining every word and line in order to show us that we can't write. Yes, we can't write, but why did not they teach us how to do that?*"

Writing Experiences at the University Level

By reviewing Mazen's past writing experiences at the secondary school, it seems that he graduated from secondary school without mastering the basics of writing in both languages. Furthermore, his writing experiences at the university level were not different from the secondary school concerning the lack of formal instruction, attention in learning writing, and the absence of writing experiences except for lab reports.

Because there were no writing courses, Mazen took two general English courses that all university students were required to take regardless of their abilities in English. Therefore, he claimed that, "*the majority of engineering students used to go for these courses for the sake of fun and not for learning.*" That is because they believed that "*such courses are below their level.*" Nevertheless, Mazen reported that although these two courses were not specifically about writing, he learned something valuable from them. For example, he indicated that by taking these two courses, he "started to be able to write scientific reports, not anything else." He mentioned that because these two courses were specified for engineering students only, these two courses focused on how to describe or solve scientific problems. For instance, he explained,

> *What we were asked to do was that the instructor gives us simple*
> *things like a picture ... and that we had to comment on it. See! I*
> *think ... at that period of time ... the learning and teaching of*
> *writing started. I learned that style of scientific writing. Before*
> *that, the most important thing was to write whatever you want. At*
> *the university they used to focus on scientific writing. For example,*
> *they used to bring a picture of* clouds, rain, sea, vapor, sun ... *and*
> *ask us to write about* the water cycle.

Mazen mentioned that since the language of instruction in his college was English, writing in Arabic did not exist and he did not remember writing anything in Arabic during the university years. Moreover, he indicated that during these years he was only required to write "a report for every lab session." Nevertheless, he mentioned that such lab reports did not teach him much how to write for other purposes and goals. That is because such reports "*consisted of a ready form in which I had to fill the gaps for the* equipment, procedure, and the goals. *What we were asked to do was to write the* calculation and the results *and then we make an easy discussion and then put the* conclusion." Moreover, he reported that "the evaluation of these lab reports was based on the results rather than on the student's ability in writing." That is to say, the focus was on the lab results rather on the style or quality of writing. Therefore, "the students were concerned about the answer rather than the style of writing about how the answer was solved."

The previous discussion shows that Mazen did not acquire adequate writing experiences at the secondary school and the university levels. As he indicated earlier, he finished school without having any formal instruction in writing, and as the interview showed he was not explicitly aware, at that time, of what writing and revising involved.

Moreover, his secondary school writing experiences were not enough to help him develop as a writer. Furthermore, his past writing experiences at both undergraduate and the graduate levels were not better than his writing experiences at the school. Mazen indicated that he did not know that he could not write in English even a one page letter until he started to write to the U. S. universities for the Ph. D. admission. He said, "*I found out that it is very urgent to write something acceptable when I started to write to the American universities for admission in the Ph. D. program. At that time I felt with weakness in this aspect* [writing]." So, he explained that he used to write a draft of the letter in English and then he gave it to a friend (a professor at the university) who was very strong in writing in order to correct and revise it the for him.

Such findings suggest that when Mazen came to the U. S. to pursue his advanced higher education, his writing skills were not developed neither in his native language nor in English as a second language. His understanding of what writing and revising involved were quite different from what he experienced during his presence in the U. S. The next section will shed light on some of Mazen's writing experiences while he was a graduate student in the U. S.

Writing Experiences in the U. S.

It seemed that when Mazen came to the U. S., his past writing experiences were not developed enough to enable him to start his academic program directly. Therefore, he was required to take one semester at the English Language Center (ELC) affiliated with his university. At the ELC, Mazen took some general language courses in addition to one writing course. Mazen talked about the writing course he took and mentioned that "the focus in that course was on grammar and writing." When asked about the types of writing

he experienced in that course, he said that "*there were many types ... everything ... we wrote about every thing.*" Throughout the discussion, I found that different topics and genres of writing were discussed in the class, and that is what Mazen meant by "everything." Moreover, he mentioned that the quantity of writing was more than what he expected. He indicated that there was almost a daily written assignment.

Mazen, like Jaber, indicated that he learned at the ELC many things that he had never known in Jordan. For example, he stated that,

> *now I know that before I write I have to think about the ideas ... and the content ... I want to include. Writing includes the introduction, the body, and the conclusion. Also, I learned that writing in the U. S. includes everything, structure, opinions, ... audience, and organization.* Writing is the form that you put yourself in.

Moreover, Mazen became aware that "writing takes a lot of time, and that it needs revision several times to be sure that ... the expressions you need are included."

Nevertheless, when I asked him about how successful he was as a graduate student in fulfilling the English academic writing requirements, he said, "I passed the exam from the first time." Then I asked him whether he thinks that he had fulfilled the requirements required by the ELC, he replied, "I escaped them." Such conversation indicates that Jaber knew that there is a big difference between passing an English language exam and being able to write term papers for the academic courses he was required to take. In fact, almost a year and a half after Mazen passed this exam, he reported that he saw himself as "below average as a graduate student writer." He elaborated on this issue and said, "even when I am done writing, the professor does not like my writing, I stay worried until I get the homework ... I mean the assignment and see

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the grade. But if the assignment is just solving mathematical problems and curves ... it is done."

Nonetheless, Mazen believed that a writer develops over time and that the more he writes, the more his writing skills will be developed. He explained, "there is improvement in my writing. I mean ... every year is better that the previous one." He then explained that,

> *in the last semester, I felt the problem of writing is not that big problem any more ... writing now is easier than before. As long as you have the information you need ... you find the expressions you need ...* I mean the knowledge you want to talk about ... and, of course, there are some repeated words ... but you can survive.

This excerpt suggests that Mazen was primarily thinking of writing as a process of text generation only. That is to say, as long as the writer has the ideas or knowledge he can transcribe them on paper and that is it. This idea does not correspond with Flower & Hayes' (1981) notion that it is not enough to think of writing as a simply process of text production or deciding what to say next. Rather it includes many rhetorical plans and goals so the writer can turn the intentions into text. It should be noticed that when Mazen was talking about the type of writing he was required to do for his academic course-work, he did not mean the same thing that Jaber or Hilal talked about. Jaber and Hilal used the term "writing" to indicate "term papers," while Mazen the same term to talk about math and science problem solving, equations and lab reports. Furthermore, he indicated that since he came to the U. S. he did not write any assignment longer than two or three pages.

To get more and deeper insights about Mazen's composing and revising behaviors from his perspective, I asked him how he usually writes his written assignments. He

reported that, "when I want to write ... I have a complete picture of what I am going to write ... when [I] start writing ... I take care of the form ... of the report ... and the equation."

Writing Experiences During the Present Study

As this study was designed to investigate the actual composing and revising behaviors of the subjects while using the computer as a tool for composing and revising, Mazen was asked to compose and revise an argumentative essay about whether or not ESL graduate students should be allowed to work as teaching/research assistants unless they fulfill certain requirements. Following, is a detailed description of Mazen's actual composing and revising behaviors while he responded to the assigned writing task, which begins with a brief summary of the content of his essay.

Mazen spent 99 minutes to produce a draft that included five paragraphs (see Appendix E: Mazen's Essay). In the first paragraph, which included two sentences, Mazen talked about the criterion for selecting international graduate students to work as research or teaching assistants. In doing so, he emphasized two characteristics: academic knowledge and the ability to communicate with others.

The second paragraph included three sentences: The first one emphasized the notion that the nature of the relationship between the undergraduate student and the teaching assistants is an academic one and that the teaching assistant (TA) already possesses this attribute. The second sentence indicated that neither the TA nor the undergraduate student has to know the culture of each other's, but that "the student is assumed to have the prerequisite education to enroll the class." In the third sentence,

Mazen indicated that the TA has the ability to know the students' level of education; therefore, he can adjust himself to their needs.

The third, the fourth, and the fifth paragraphs included only one sentence each. In the third paragraph, Mazen distinguished between two types of evaluations made by the English Language Center and the academic departments. He supported the second one because he thought that "the academic fluency" "is more important" than "communication of regular life needs." In the fourth paragraph, Mazen mentioned that "as a TA in the Department of Agricultural Engineering" he "did not meet any of these requirements." Finally, Mazen indicated in his last paragraph that such requirements "take the graduate students away from his studies and research" and that he thought that the implementation of such requirements "is a long time wastage obstacle that would not result in a significant improvement in the teaching and research process."

The Composing and Revising Processes

The findings of the study showed that Mazen's writing and revising behaviors and skills did not coincide with what researchers found about other ESL writers' composing and revising behaviors and skills. This means that Mazen's composing and revising skills were not developed enough to enable him to produce scholarly academic papers. On the following pages, I will present Mazen's composing and revising behaviors that were observed through videotaping his composing and revising sessions.

Prewriting Activities

In regard to the amount of time spent on drafting the first draft, Mazen spent a very short time on the prewriting activities in general, and planning in particular.

Literature on composing and revising indicates that prewriting activities in the broader sense and planning in particular are very important aspects of the writing process (Hass, 1989; Hassan, 1995; Murray, 1978; Zamel, 1983). However, not all students are aware of this importance. Hassan (1995) found that ESL students do not spend a lot of time on prewriting activities such as brainstorming, planning and outlining. Similarly, this finding has parallels with what had been noticed about Mazen's behavior of not spending enough time on prewriting activities. Mazen spent a total of 99 minutes on the whole writing and composing process; however, 5 minutes only were spent on prewriting activities. This finding contradicts what Zamel (1983) found about her ESL writers who "spent a great deal of time thinking about the essay at the outset, trying to figure out how to proceed" (p. 172).

Mazen started writing the essay without making any written outlines, notes, or guidelines. He explained that he usually thinks about what to write without the need to transcribe these notes or outlines on the screen or even on paper, *"I do not make outlines unless I have an* equation *and I want to discuss it with my professor*, I write it aside." Before the first session started, I encouraged Mazen to the use the blank papers or the computer to make notes or a plan if he wanted to. However, he indicated that he did want to do that because the idea of the assigned topic was so clear and easy for him, so there was no need for him to make any notes. Later in the interview, I asked Jaber again about the reason why he did not make any notes or plan during the first session; he replied, "when I want to write ... I have a complete picture of what I am going to write [about]." Nevertheless, Mazen indicated that in some cases he makes outlines for what he is going to write about, but usually he does not, rather he starts writing directly. Hass (1989)

argued that composing on the computer might create some problems for planning because of how the text is limited and displayed on the screen. That is to say, because word processing systems do not allow for the creation of arrows, boxes, or other diagrammatic devices for displaying conceptual relationships among notes. Although Mazen could have used the facilities and functions available in the computer to make notes or a plan he chose not to do that neither on paper nor on the computer.

The inability to generate appropriate and suitable prewriting activities can result in some consequences and obstacles that writers may face during the process of writing and revising. For instance, writers need some sort of mapping or outline to guide them throughout the process of writing rather than leaving them struggling with the process of trial and error in trying to find out what works and what does not. With some kind of outline, writers become able to anticipate what will come next and where and how the essay will end (Pianko, 1979). Similarly, because Mazen seemed not to have any kind of written outline he constantly kept reading the assigned-topic sheet during the composing session as if it functioned as his outline. It was clear that whenever Mazen finished drafting a paragraph he went back to read from the assigned-topic sheet to see what might be done next. In doing so, he read the assigned-topic sheet seven times while he was in the process of generating the draft. In fact, Mazen mentioned that the major part of his composing session was for "thinking what to write about" rather than for writing.

Nevertheless, it should not be understood that the focus on making some outlines before writing contradicts with the concept of "writing for meaning discovery." On the contrary, what is meant here is that the writer should have at least some sort of general goals of where his/her writing will end and some plans of how to achieve such goals.

Taking these plans and goals into account will initiate drafting some kind of outline in order to set the structure of the written document. When asked about whether he knew how his essay would end up in regard to the concepts and ideas included in the essay, Mazen reported, "I never move to an idea unless I am done with the one I am working on. So, ... I do not know exactly what I want to say in the next paragraph ... until I finish the one I am working on."

Another obstacle that might be created by not generating an outline is that the text will lose its sense of organization. Without an outline, the writer might not be able to arrange his/her ideas in a coherent way. Pearson (1981) indicated that the process of writing is not a mere collection of ideas and thoughts. Instead, it requires binding several skills that make the writer able to build well organized paragraphs, to understand how one idea follows another, and to arrange and organize these ideas and thoughts in a way that they make sense in regard to unity and coherence. Therefore, planning is believed to provide a perspective of how to organize the generated ideas in a way that makes the text coherent. Mazen's perspective about the process of writing and how writing is done is different from how Pearson (1981) defined that. As indicated earlier, Mazen thought that "as long as you have the information you need ... the expressions you need ... the knowledge you want to talk about ..." you can write, and this is what Pearson meant by the mere collections of ideas and thoughts.

Furthermore, the lack of an outline to guide the writer throughout the process of composing may require the writer to spend more time on writing. However, this amount of time may not be used for developing the ideas, but rather for thinking about what to include and what not to include. When asked about the reason for the long pauses he

made during the composing process, Mazen indicated that he was "thinking about what to say." This behavior agrees with what has been said previously, that outlines help writers by guiding their writing rather than wasting their time in trying to find something to write about. Relatively, Mazen took more time than the other two subjects did to generate his first draft. While he spent 99 minutes to generate 364 words, Hilal spent 51 minutes to generate 264 words; however, Jaber spent 130 minutes to generate 1,053 words. This comparison indicates that although Mazen relatively spent more time on his draft, he did not generate as much text as the other two writers did.

Nevertheless, it should be noticed that writers think differently about this stage. This means that while some writers transcribe their thoughts into the forms of lists, notes, outlines, sketches or diagrams that map out their thoughts throughout the writing process, others may just think about that without involving any kind of written prewriting at all (Zamel, 1983). The findings of this study indicate that Mazen was the second type of writer since he did not make any kind of outline or notes neither on paper nor on the screen. Mazen reported that "I do not make outlines unless I have an equation and I want to discuss it with my professor, I write it aside [on a separate paper]." During the review of his writing process, he mentioned that while he was reading the assigned topic during the first five minutes of the composing session, he was also thinking about what he could say and how to arrange his ideas, "First I think of the assignment as a whole, then ... I focus on one part ... I mean ... when I am done with one paragraph ... I go back and check it again." However, another possible explanation for why Mazen did not use an outline is because he never used such things before in the type of writing required in his college --- the College of Engineering. He explained that the main type of writing he was used to is

writing technical reports in which he had to fill out a form that did not require any type of outline or plan. He stated,

> *... in my college everything is different, we don't have to write like you ... these notes and plans ... do you know why? Because most of our writing is reports ... yes, these are ready reports ... what we have to do is to fill the gaps and write the equation. All of our writing is mathematical problem solving .. we do not have such things ... I mean the outlines and plans.*

Title

Mazen's actual writing session started with creating a title for the argumentative essay. He was instructed that the essay will be sent to a local newspaper for publication. Therefore, it was assumed that he would generate an appropriate title for the essay that would attract the readers and draw their attention. Nevertheless, he generated a title that was not appropriate for neither the newspaper nor the argumentative essay. What he wrote was a sentence that looked like a part of the body of the essay rather than a title: "This is to discus the issue of the recently assigned qualification for the prospective international graduate assistant." In the review, Mazen indicated that the title he selected "fits exactly the topic of the essay." This behavior could be related to the task definition in which students interpret the task ---whether for writing, revising or generating a title--- in a way that is different from what their teachers expect them to do (Wallace & Hayes, 1991). The two readers who read Mazen's essay also indicated that this title is not an appropriate one neither for an essay not for an article in the newspaper. The second reader indicated that titles that appear in newspaper are usually "concise and impressive" and that this particular one was neither of them.

Pauses

One of the most apparent behaviors of Mazen's composing and revising processes was the number and length of pauses. Ballard (1994) indicated that when analyzing students composing or revising processes, more attention should be paid to the length of pauses rather than the number; however, the total number of Mazen's pauses was also significant. In this study pauses less than 5 seconds were not counted because they are believed not to interrupt the process of composing (Ballard, 1994; Hall, 1990). During the composing session, Mazen paused 101 times. While the shortest counted pause lasted for 6 seconds, the longest one lasted for 289 seconds. The total time spent on pausing was 46 minutes out of the total composing time of 99 minutes with an average of 27.5 seconds for each pause. The following example shows the length and number of pauses while Mazen was drafting the longest paragraph in the essay †:

An undergraduate student UGS (59-seconds pause) A wether American or not (6-seconds pause) needs the (7-seconds pause) acadimic help from (7-seconds pause) [Mazen went back and corrected the word acadimic (26-seconds pause)] a the Teaching Assistant TA (33-seconds pause), so it is a (6-seconds pause) common (15-seconds pause) task to communicate (40-seconds pause) between the student and (27-seconds pause) the TA (6-seconds pause) in an issue the TA has (14-seconds pause) a wide knowledge and experience (31-seconds pause) in addition to a good command (8-seconds pause) in termenology (40-seconds pause) in the (13-seconds pause) field (15-seconds pause) of concern (20-seconds pause). The (7-seconds pause) process of interpretation (8-seconds pause) the (6-seconds) an idea or a hint (8-seconds pause) is (15-seconds pause) [At this moment Mazen inserted the abbreviation 'UGS' in the first line, then he added the

two original words 'Teaching Assistant' for the abbreviated word TA (50-seconds pause)] doesn't (5-seconds pause) require the TA to (7-seconds pause) know (4-seconds pause) [At this moment Mazen went back and deleted the abbreviation 'UGS'] the student (10-seconds pause) culture (10-seconds pause); (5-seconds pause) ~~H the~~ However, (15-seconds pause) ~~The~~ (6-seconds pause) ~~he~~ the student (9-seconds pause) is ~~supposed~~ <u>assumed</u> to ~~be educated~~ have the (6-seconds pause) prerequisite (31-seconds pause) education (17-seconds pause) [Mazen went back substituted the word 'supposed' with the word 'assumed' (14-seconds pause)] to enroll the class (25-seconds pause). The TA (10-seconds pause) can feel (20-seconds pause) ~~the~~ the academic level and (11-seconds pause) students education and adjust (41-seconds pause) himself (6-seconds pause) ~~to~~ in accordance to (6-seconds pause) students needs (89-seconds pause)

†: The underlined words are the words that Mazen added later while drafting the paragraph.
The crossed words are the words that he deleted while drafting the paragraph.

This example shows that Mazen paused 45 times during the process of drafting this paragraph. These pauses took 15 minutes of the total 32 minutes spent on drafting the paragraph. However, the significance of these pauses is implied in the number and quality of words and sentence generated after each pause. Mazen did not generate ample sentences after each pause and no outflow of ideas was noticed before or after any pause. Specifically, he never finished one complete sentence without a pause; and when he did pause, he was just adding words, and in some cases a letter or more. During the review of the composing process, I asked Mazen about what exactly he was doing during these pauses. He indicated that he could not give the same account for all pauses. In every

pause he was doing something different from the other pauses. For example, while looking at one of the pause on the TV screen, the pause when he finished drafting the first sentence, he said, "Here ... I was thinking whether what I just wrote is meaningful or not." When he finished the second sentence, he mentioned "Here, I am checking the sentences I wrote ... I mean the grammar of the sentences." Other things that Mazen was doing during the pauses included "... just rereading the sentences ... to see what to write next."

The Revising Behaviors During The Composing and Revising Sessions

As mentioned in the previous chapter, the data analysis of changes performed by the three subjects is based mainly on Faigley & Witte's (1981) taxonomy. This taxonomy was designed to analyze the effects that revisions have on the meaning of a text, namely whether they affect surface aspects or the meaning and content of the text. According to the taxonomy, revisions are divided into two major categories: surface changes that do not change the meaning of a text, and text-base changes that alter the meaning of the text (see Appendix B: Taxonomy of Revisions).

As with Jaber, the study investigated all of the changes that Mazen made right from the moment that his fingers touched the keyboard until he declared that he was done writing during the first and the second drafts. Mazen, like Jaber and Hilal, was mainly concerned about changes on the word-level during the composing session. Mazen made 124 changes during the composing session. Ninety-one changes (73. 38%) of the total number of changes were on the level of one word. Seventeen changes (13.7%) were on the two-word level; four on the three-word level; and the rest of the changes (12 changes) were on the level of four words or more. Table 6 shows that the most dominant changes

(108 out of 124) that took place during the writing session were on the one or two-word level (87.09%); however, some of these changes (17, 12.91%) included some phrases and sentences that consisted of three words or more.

Table 6

Level and Percentage of Changes Occurred During the Writing Session

One-word Changes	Two-words Changes	Three-words Changes	Four-words Changes	Five-words Changes or more	Total
91 (73.38%)	17 (13.7%)	4 (3.23%)	3 (2.42%)	9 (7.26%)	124 (100%)

Table 6 indicates that Mazen most frequently made changes at the one-word level rather than changes on the sentence or paragraph level. For example, in his first paragraph, Mazen wrote, "An international graduate student **assumed** to be selected on his or her academic outstanding and had the minimum ability to communicate with others." While reading the sentence during one of the pauses, Mazen changed it to the following, "An international graduate student **supposed** to be selected on his or her academic outstanding and had the minimum ability to communicate with others." This change was considered a one-word level change because it did not alter or affect the meaning of the sentence. When asked about the reason for this change, Mazen indicated that "The word 'supposed' is better than the word 'assumed,' and that is the reason [why] I changed it." I asked him again, "How do you know it is better?" Mazen paused for a while and then said, "I don't know, I just feel it, it is my sense."

A change is valued by the effect it makes to the text. For example, in the first paragraph that Mazen drafted, he talked about the evaluation process of the graduate students by saying, "I think the former **can** be evaluated by the admission committee in

advance, so this essay will concentrate on the communication skills that are required for a teaching and research assistant," then he changed that sentence to become, "I think the former **should** be evaluated by the admission committee in advance, so this essay will concentrate on the communication skills that are required for a teaching and research assistant". This change was considered a one-word level change which altered the meaning of the sentence, because the purpose and function of these two models are not the same. Mazen justified this change by pointing out the differences in meaning between the two words: "When I read this sentence I found ... I remembered the difference between 'can' and 'should', I mean here in this sentence ... I must use 'should' ... because I am not talking about ... what is it? I mean ... the ability ... I'm not talking about the physical things in this sentence ... I mean, he 'should' be evaluated not 'can' because it is no ability." This action indicates that Mazen was able to identify, diagnose and solve the problem in spite of the fact that he could not explain that precisely.

Researchers like Collier (1983), Faigley & Witte (1981), Hall (1990), Raimes (1985), and Sommers (1980) found that whereas inexperienced writers are concerned with addition and deletion as well as with cosmetic changes, experienced writers revise their texts globally and are concerned with purpose, audience, and organization and changes that affect the meaning. Mazen was interested in capturing the surface and word level changes rather than global changes. Table 7shows the types of changes that Mazen performed during the writing session.

Table 7

Types of Changes Took Place During the Writing Session

Type of Change	One word	Two words	Three words	Four words	Five words or more	Total
Addition	16	2	2	2	7	29 (23.3%)
Deletion	22	10	2	1	2	37 (29.9%)
Substitution	53 *	5	—	—	—	58 (46.8%)
Organization/ Addition	—	—	—	—	—	—
Total	91 (73.38%)	17 (13.7%)	4 (3,23%)	3 (2.42%)	9 (7.26%)	124 (100%)

* Thirty-two of the 53 words were substituted by the use of the Spelling Checker rather than during the process of composing.

The number of changes for every type indicates that Mazen's changes were closer to the changes that inexperienced writers do rather than to the changes that experienced writers do. As the table shows, the dominant types of changes (addition and deletion) were performed on the level of words rather than sentences and paragraphs. For instance, an example of an addition type is the following. Mazen wrote: "Test can evaluate the ability of TA in communication in the regular life needs rather than the academic interpretation ..." Then he added one word to the sentence to be read, " **ELC** test can evaluate the ability of TA in communication in the regular life needs rather than the academic interpretation." This change was considered a microstructure change in that it affected the meaning of the sentence but might not be included in a summary of the paragraph. The following is an example of the deletion type:

> The process of interpretation an idea of a hint doesn't require the
> TA to know the student culture not the students have to know the

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culture of the TA. **The ability of the TA to help the students can be measured by his ability to communicate with them.** However, the student is assumed to have the prerequisite education to enroll the class. The TA can feel the academic level and students education and easily adjust himself in accordance to students needs.

Mazen read these sentences several times, and that was obvious by moving the cursor of the mouse along the lines. Then he highlighted the bold sentence and deleted it. In the review of his composing process, I asked him why he deleted this sentence rather than making some changes to it. He explained that he did so because the he felt "that the topic of the paragraph changed from talking about the culture of the TA and the undergraduate students to evaluation and measurement." So, he decided to delete the sentence and write another paragraph about the processes of evaluating the TA.

Mazen demonstrated several substitution changes during the composing session. In fact, it should be noticed that although the total number of substitution changes is greater than any other change, 32 changes of the total number of 58 were, in fact, misspelled words corrected by the spelling checker at the end of the composing session rather than actual changes substituted by the writer during the composing process. For instance, in the third paragraph, Mazen was talking about the role of the academic department and the ELC in evaluating the TA. He first wrote, "... academic fluency measures to a high extent the ability of a TA to help the students, that an academic committee of the department professors including the class instructor **will** judge in a butter [sic] way than ELC could." Then he substituted "will" with "**can.**" Mazen explained that he made this substitution because he felt that the sentence in the first form means that,

The academic committee of the department professors including

the class instructor are going to do the evaluation. But as you know

... the ELC is going to that. ... here I want to say the committee also

can do that ... it is not just the ELC only.

The other type of substitution change was the spelling changes that Mazen

executed by the help of the "spelling checker" program on the computer. As indicated

earlier, Mazen corrected thirty two misspelled words during the first session. Examples of

such words will be illustrated when talking about the purposes of revision later in this

chapter.

One important behavior to note was that Mazen did not perceive the writing

process in a linear way. During the composing session, Mazen wrote in a linear way in

which he went backward and forward through the text to add, delete, or substitute a word

or more. He mentioned that the computer facilitated his writing process by providing him

with the opportunity to use the functions of addition, deletion, and substitution. However,

the computer as a tool did not help him much in revision, that is to say to work with the

text on the level of sentences and paragraphs rather than just words. Collier (1983)

mentioned the computer could be a very helpful tool for those who know how to write

and revise but not for those who still lack these skills. The following example shows how

Mazen wrote in a recursive way in which he was going backward and forward while

drafting the first paragraph in his essay:

> An "international" graduate student supposed to (6-seconds
> pause) be selected (15-seconds pause) [At this moment,
> Mazen went back and added the underlined word
> "international"] on his or her "acadimic" outstanding (18-
> seconds pause) and (7-seconds pause) the (24-seconds
> pause) ~~la~~ (9-seconds pause) had the ability to (5-seconds

pause) communicate with others (10-seconds pause), both these (10-seconds pause) attributes developed with practice and it is hard (5-seconds pause) to test regularly (28-seconds pause) ~~The I~~ (35-seconds pause). ~~The acdem~~ It I think ~~it~~ (7-seconds pause) ~~the academic it is~~ (15-seconds pause) ~~not easly there is~~ (10-seconds pause) the former ~~is~~ (5-seconds pause) ~~should can~~ should be (8-seconds pause) ~~the~~ evaluated ~~I~~ (13-seconds pause) by the admission committee (13-seconds pause) in advance (18-seconds pause) [saving the document] (25-seconds pause), so this essay will concentrate on the (15-seconds pause) communication skill (17-seconds pause) that are required for a teaching and research assistant (16-seconds pause).

There were differences between changes that took place during the composing session, while Mazen was drafting the essay, and changes that took place during the revising session. The most apparent difference was the number of these changes. While 124 changes of all types took place in the composing session, only 37 changes were made during the revising session. Twenty seven of the 37 changes were on the one-word level, 7 changes on the two-word level, 3 changes on the three-word level, and there were no changes at all at the four or five-word or more. This finding is similar to results of some researchers (Bridwell, 1980; Hall, 1990; Raimes, 1985) who found that many ESL writers, as well as inexperienced native speakers of English, make more changes in the first draft than in the final one. The fact that Mazen made 37 changes during the revising session in comparison with 124 changes at the composing session indicates a major mark about his composing and revising behaviors. That is to say, he seemed to be primarily concerned about making all of the changes and improving the essay during the first session and by that he was trying to produce an error-free draft from the first time. Thus,

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he focused the majority of his efforts on editing the essay during the first session rather than delaying that to the second session. It should be noted here that all three writers were told in advance and before they started working on there first draft that there would be another session in which they would work only on revising the same draft that they were going to generate during the first session.

Table 8 shows the level and percentage of changes made by Mazen during the revising session.

Table 8

Types of Changes Occurred During the Revising Session

Type of Change	One word	Two words	Three words	Four words	Five words or more	Total
Addition	9	4	3	—	—	16 (43%)
Deletion	7	—	—	—	—	7 (19%)
Substitution	12	2	—	—	—	14 (38%)
Organization/ Addition	—	—	—	—	—	—
Total	28 (76%)	6 (16%)	3 (8%)	—	—	37 (100%)

A comparison between the total number of changes in Tables 7 and 8 shows that Mazen made fewer changes during the revising session than he did in the composing session. This finding is consistent with other research findings, that writers do not change much of what they write in their first drafts. In fact, Mazen indicated in the interview that as soon as he writes his sentences he rarely changes them. He stated that, "the first idea to come is the one to be first. First come, first do." Then, I asked about how often does he

change these sentences. Mazen did not give a clear answer for this question; instead he indicated, "You know ... first I look at the sentence ... I see this is good ... it serves the subject ... and I leave it ... and that one is not good, so I change it. But, what criteria should I use? This depends on my mood, that is whether I like it or not, that is it."

Generally, 34 out of 37 of the changes made in the revising session were changes made on the one and two-word level. As for the types of changes that occurred during this session, addition, deletion, and substitution changes were the only changes that took place during this stage; no organization changes occurred during this session. These findings suggest that Mazen did not revise his essay on the global level where writers redraft sentences and paragraphs. He primarily revised on the surface level. Writers have different reasons for not revising globally. One possible reason is that Mazen perceived the first draft he produced as a final product that needed some polishing and editing. Researchers indicated that some writers look at the first draft of writing as a final product, and see that revising is rewording (Sommers, 1980). That might explain and justify why most of Mazen's changes were on the word level no matter what type of revision they were, whether addition, deletion, or substitution.

Purposes of Revision

In studying the composing and revising processes, it is not enough to indicate that changes on different level and of different types occur at different stages of the composing and revising process. It is also important to provide the purposes or reasons that make the writers make such changes, because writers revise their written texts for various purposes and reasons, depending on the goals that each writer wants to achieve.

Moreover, it is also important to provide the justifications that are made by the writers to understand their thinking.

During the review of his essay, Mazen indicated that he revised his essay for several purposes. The first purpose he mentioned was that he wanted to improve the meaning of his paragraph, and to explain and clarify some of the sentences that seemed not to be clear. Also, he indicated that he revised in order to improve the structure and mechanics of the text, and finally, to check and correct the spelling of the document for some misspelled words.

During the review of the composing and revising process, Mazen indicated that the most important thing that he focused on was generating very meaningful ideas that express and explain what he was thinking about. However, he mentioned that he sometimes writes other things "that do not match" what he is thinking about. So he revised the document in order to improve and sometimes correct these ideas. For example, while revising the essay during the first session, Mazen wrote the following sentence, "A graduate student supposed to be selected on his or her academic outstanding and had the minimum ability to communicate with other, both these attributes are developed with practice and they are hard to be tested regularly." Mazen mentioned that when he read the sentence again he found that the meaning was not clear, so he asked himself, "What graduate student am I talking about? I do not know because the sentence does not say that." So, he changed the sentence by determining the type of the graduate students he was talking about, "**An international** graduate student supposed .... ." He then added, "Now, the meaning is better and clearer, because I am not talking about American graduate students." By doing so, Mazen believed that the meaning of the

sentence had improved and became clearer. Moreover, when he read this sentence during the revising session —the second session— Mazen made other changes to this sentence. With a new addition the sentence became: " An international graduate student supposed to be selected on **the basis of** his or her academic outstanding and had **attained** the minimum **cap**ability to communicate with other .... ." These changes, as Mazen indicated, were believed to improve the quality of the sentence. He said,

> *I asked myself, when I say that the international graduate student* [is] *supposed to be selected on his or her academic outstanding, I said on what basis is this selection going to be? So, there must be a basis. So, I put the words 'the basis of' to improve the meaning.*

Mazen also justified the other two changes in this sentence by saying,

> *I also added the word* 'attained' *because anyone can ask me, is the graduate students going to attain these minimum capability in the future, now or in the past. This is why I put it in the past. I mean ... the graduate student should* [have] *do*[ne] *these things in the past before he become a graduate student.*

Moreover, Mazen explained that he made the addition to the word 'ability' to make it 'capability' because the first word "ability" is a word that stands for "physical" attribute; whereas the word "capability" stands for mental attributes.

Another purpose for revision that Mazen mentioned was to improve the structure of the document. Although, according to Mazen, this purpose was classified as his second main purpose for revision, there were actually a few cases where Mazen changed or corrected the structure of the document. This finding suggests that either there were no structural violations to be corrected, or that Mazen was unable to detect these violations in his essay. By reviewing the essay (Appendix E: Mazen's Essay) the reader will find that there are several grammatical violations that still existed in the essay even after the second revision session. The following are some of the examples of such violations

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shown in bold print: "An international graduate [**is**] supposed to be selected"; "The process of interpretation of ideas or **a hints** doesn't require the TA to know the student['**s**] culture ..."; "The new assigned requirement [**is**] expected to take the graduate student away from his studies and research ... ."

Nevertheless, Mazen tried to improve the essay by making some changes in structure during the second session. An example is shown in bold print: "both these attributes are **developed with** practice and **they are** hard to **be tested** regularly. ===> both these attributes are **developing by** practice and **it is** hard to **test** regularly." Mazen justified these changes by saying,

> If I say that these attributes 'are developed with,' this means that these things are done in the past, but because this thing is a continuous thing ... I put ... developing. Also, I see that the word '**with**' indicates something 'parallel,' but the word '**by**' gives you the 'cause,' that is the attributes are developing as a result of the practice, not with practice.

As for the other two changes in the same sentence, Mazen indicated that since he was talking about practice, he had to use "it is" rather than they are. However, he was unable to see that the pronoun "they" refers to the word "attributes" and not to "practice." On the other hand, he could not give any justification for making the last change and he said, "I just feel this way is better" without being able to say why it was better.

Another purpose for change that Mazen demonstrated in both sessions was to improve the essay by correcting the surface features with respect to spelling. For example, Mazen corrected many misspelled words while he was revising his drafts: (e.g., academoc ===> academic; hind ===> hint; wheather===> whether; exepected ===> expected). However, the majority of spelling corrections he made were by the help of the "spelling check." This computer function helped him to correct 32 misspelled words

during the composing session and 5 words during the revising session. That is to say, perhaps Mazen could not identify these misspelled words in his essay while composing and he corrected them by the help of the computer. Alternatively, perhaps he relied on the computer to serve a proof reading function, to find and correct unintended errors. Examples of such misspelled words that were corrected by the computer are the following: (recentely ===> recently; acadimec ===>academic; atributes ===> attributes; knoledge ===> knowledge; easyly ===>easily; intrepretaion ===> interpretation; scketches ===> sketches; fasilitate ===> facilitate).

The last purpose of revision that Mazen mentioned in the review of this composing and revising process was to improve the quality of the vocabulary he used while drafting the essay. Mazen indicated that while in the process of producing the text he might use words that he discovers later do not give the exact meaning that he was thinking about; therefore, he usually revises his written assignment "to check whether the words and expressions making sense or not." For example, while working on the first draft, Mazen substituted the following words because he thought that such words did not give the meaning that he wanted to express and that the new words were better because they accurately expressed the meaning he was planning to say: supposed ===> assumed; suggested ===> proposed; necessary ===> important; fluency ===> proficiency; produce ===> result in. He substituted a few words during the second session such as, feel ===>sense; in addition to ===> specifically; but ===> indeed.

The Difficulties in Composing and Revising

During the process of composing and revising, Mazen faced two major difficulties. The first problem is related to the act of composing and generating ideas and

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the second one is related to the act of revising the written text. Other difficulties related to the use of the computer as a machine for composing and revising will be discussed later.

The first problem that Mazen demonstrated was that he had troubles in generating outlines or plans for his essay. When Mazen finished reading the assigned topic, he immediately started writing the essay without making any notes, plans, or guidelines. Before the actual writing session started, Mazen was advised to use either paper or the computer to make any notes or outlines if he wanted to help him arrange and organize his ideas and to guide him throughout the process of drafting the essay; however, he never did. For the first few minutes, the process of writing seemed to be working well. Then, Mazen started to pause frequently and for long periods. During the composing session, Mazen paused 101 times. While the shortest counted pause lasted for 6 seconds, the longest one lasted for 289 seconds. The total time spent on pausing was 46 minutes with an average of 27.5 seconds for each pause. The dominant reason for these pauses as he mentioned was "thinking about what to say." When writers start writing without some kind of plans, notes or outlines, they may become unable to anticipate what will come next and where and how the essay will end (Pianko, 1979).

As mentioned earlier in this chapter, because Mazen did not generate any notes to help him organize his ideas throughout the process of writing, he started reading the assigned topic-sheet every 10 to 15 minutes; in doing so, he read the sheet seven times during this session. Mazen mentioned that the reason for reading this sheet was "to see exactly what the topic wants me to write about." In another occasion of the review of his composing process he mentioned that he was reading this sheet "to use some of the expressions used in the question itself." One possible explanation of these behaviors was

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that because Mazen did not have a written outline, he considered the assigned topic sheet as his guideline, instead.

Another possible explanation was that Mazen had an internal plan to lead him throughout the process of writing. However, he mentioned in the review of his composing session that while writing one paragraph he "did not know what to write next." This indicates that there was no internal plan to follow during composing. Moreover, Mazen reported that the main reason for not having such outline was that he had never done any before. He indicated that the only thing he knew was to make some notes about solving an equation but not a plan in which he writes his goals and how to achieve them or plans what to write in every paragraph.

The other problem that Mazen faced during the first session was that the task of generating idea was not an easy job for him. This difficulty was manifested by the lack of idea outflow during the whole composing session. The videotapes showed that Mazen's composing process was "a piecemeal" one in which the "word" rather than the sentence was the major element in his composing (Zamel, 1983). This indicated that Mazen was thinking of a word rather than a sentence in order to transcribe his thoughts and ideas. In fact, during the whole session, Mazen did not write even one complete sentence without pausing several times and without the actions of adding, deleting and substituting words. This indicates that Mazen was unable to develop a substantial thread of discourse successfully and as a result his train of thought was easily interrupted by the process of searching for words rather than ideas. During the interview, I asked Mazen about this word level composing and whether he had troubles in finding ideas to write about. Mazen indicated that the topic itself was not difficult and that he was able to write about it, but

as soon as he started doing that he found that writing about something is different from

knowing it or even thinking about it. He stated,

> *At the beginning ... I know what I wanted to write about ... but then*
> *I forget ... and then I started saying to myself, I want to talk about*
> *this problem .... or issue ... but how should I say it in an effective*
> *way ... to tell the truth ... writing is not easy. I mean you know*
> *something ... you want to say it ... but you don't know how to say it.*
> *That is my problem.*

Another major problem that Mazen faced during the revision session was that he

lacked a sense of what revision is. During the review of his composing process, Mazen

indicated that the main purpose for revision was to improve his ideas; however, during

the interview I asked him to tell me how he usually revises his written assignments.

Mazen stated, "First I a get a print out and check the errors." This short answer urged me

to tell him that I want to hear more about revising a long written assignment rather than a

math problem. Then he indicated that he checks whether there are any errors or not.

Mazen never mentioned any word about ideas or organization. Then, I asked him, " After

all these years in the U. S. and this long exposure for different types and experiences of

writing, what does the word revision mean to you, now?" Mazen replied, "Finishing the

composition." This answer surprised me, so I rephrased the question and said, " What are

the major concepts that you take into account when you revise a paper?" Mazen

answered, "This depends on the level of my beliefs. If it is acceptable for me ... that is it

... I compare it with the other texts I read. If it is within the same level of the text or less I

accept it." I probed further: "Aren't there any concepts that you try to find and see?"

Mazen interrupted me and said,

> *No, no, it is just a matter whether you are conformable with the*
> *sentence or not ... I read first, and see what gets in my mind ...*
> *what I see correct ... I don't know what criteria to ... to use. I see*

this is good ... it serves the subject .. and I leave it ... and that one is not good, so I change it. But, what criteria should I use, this depends on my mood, that is whether I like or not, that is it."

This definition and understanding of revision made me look again to review the videotapes and my notes to see what Mazen was doing during the revising session. The data revealed that Mazen was actually "correcting the errors" by adding, deleting and substituting words rather working on ideas within sentences and paragraphs in order to make a more coherent and organized essay. Also, by looking again at the interview transcript, I found that Mazen was using the word "revision" as an alternative for "error correction." For instance, when I asked whether he uses the computer for revision, he answered, "You mean for the corrections?" On another occasion, where I asked him whether he uses the computer to help him to revise his drafts, he also answered, "just for spelling."

The Use of the Computer in Composing and Revising

While Hilal and Jaber had never used the computer as a word processor in their home country, Mazen had that experience before he came to the U. S. He mentioned that he was familiar with the computer as a word processor because he used it to type his Masters thesis. However, the findings of this study showed that in spite of the previous experiences in using the computer as a word processor back home and in the U. S. for two and one half years, his computer skills did not look to be developed sufficiently to enable him to use it proficiently. Mazen did not use the computer efficiently. That lack of efficiency was demonstrated in more than one area such as insufficient typing skills, extensive sight-shifting between the keyboard and the monitor, the inability to use the

computer's functions for revision, and finally the inability to keep a balance between the written text and the blank screen.

While typing, Mazen used just one finger (the middle one) in each hand. Using two fingers only made him the slowest typist of the three. This lack of proficiency in typing on the computer as a word processor could be due to the fact that Mazen indicated that he did not take any formal classes in learning how to use the computer as a word processor or in typing. He reported, "... there was a computer in my department ... that was back home in Jordan ... I started learning how to use it by myself, no one taught me how to do that ... the most difficult part was typing, ... I was very slow."

Moreover, as it was the case for Jaber and Hilal, Mazen also shifted his eyes from the keyboard to the screen to see what he was typing. During the review of the composing process I asked him about this behavior and whether it affected his composing or not. Mazen mentioned he shifted his eyes because he did not know the positions of the letter keys on the keyboard. So, he explained, it was difficult for him to type anything without looking at the keyboard: "I can't type without looking because I don't know the letters ... if I do not look ... I can't type." Moreover, the lack of ability in typing made him unsure about what appears on the screen, so that he looked at the screen after every letter or two he typed on the keyboard. He reported, " I want to see what I type ... if I do not look at the screen ... I do not know where I reached. So, I type ... and then look at the screen." These two behaviors (typing with two fingers and the continuous sight shift between the keyboard and the screen) made the process of typing a very laborious one for him and it seemed that they interfered in his writing process (Briton, 1988; Pilot, 1991). In fact, he mentioned that,

> Sometimes I have two or three ideas to talk about, but because I can't write them quickly ... I forget them. Sometimes, when I finish writing the assignment, I remember one of them ... so I say, yes this is what I wanted to say ... so I go and write it again.

As it was the case for Jaber, Mazen did not use many of the other computer's editing functions appropriately. During the composing session, Mazen used the "backspace" function 32 times to delete characters and words he did not need; however, he used the "highlight" function only 4 times. During the revising session, he also used the "backspace" function 4 times, and the "highlight" function 3 times. Nonetheless, Mazen mentioned that the reason for using the "backspace" rather than the highlight function was that because he was deleting words rather than sentences and paragraphs. However, the data showed that in some cases he used the highlight function to delete just a word or two. For instance he used the highlight function to delete the following: UGS, supposed, in addition to, suggested, necessary, which, fluency, produce, an, of the, TA.

Mazen was asked whether he uses other computer functions while composing and revising. Mazen reported that he is familiar with some of these functions and that he uses them often, like: cut, copy and paste, delete, and the spelling checker. On the other hand he mentioned that he never knew, heard about or used any of the following functions: grammar checker, thesaurus, hyphenation, do and undo, clear, find and replace, go to, page break, insert, auto-correct, comparing versions and revision. He also did not know how to indent the paragraphs. Such ignorance of all of these functions and tools available by the computer made Mazen use the computer as a fancy typewriter as indicated by Cross (1990) and Hass and Hayes (1986).

Word checks the document for spelling errors by using its main dictionary, which contains most common words. If *Word* finds a word that is not in its main dictionary, it

displays the word in the spelling dialog box and gives the writer the choices for correcting the possible misspelling word. When *Word* questions a typing or spelling error that the writer typically makes, it gives the writer four main choices: "ignore", "ignore all", "change", and "change all." While checking the spelling, Mazen used only two options: "ignore" and "change." For example, while checking the spelling in the document he corrected one misspelled word "acadimic" six times by clicking on the "change" option six times. He could have used the "change all" or "ignore all" functions to let the computer automatically correct or ignore all of the possible repetitions of the misspelled words in the document in order to save time and effort. However, he chose to use the "change" and "ignore" commands to go through the entire document to correct the misspelled words one by one.

Mazen also had the same emergent trouble shooting problems that Jaber and Hilal faced. When Mazen started writing the title for his essay, which was more than one line long, he found that the title exceeded the margins set up for that file because of the modifications in the dimensions of the document needed for the picture of the writer to be displayed on the screen. Therefore, when he reached the end of the line, he became unable to see its beginning; and when he put the insertion point cursor at the beginning of the line he became unable to see its end. In an attempt to solve this problem, he lost the whole file and became so confused that he could not retrieve it. At that point, Mazen asked me for help to create another file and to adjust the margins. I told him that he could do that by himself if he would like to, but he said, "I don't know how to do this ... I never have this problems before ... and I don't [want] to waste time on it."

The above event affected Mazen's decision later when he tried to see how the document looked through the "print preview" function. Print preview demonstrates the entire pages of a document at a reduced size, so the writer can adjust the document's layout before he printing. In addition, the writer can see one or more pages at a time, zoom the page in or out, adjust margins, and edit and format the text. When Mazen tried to view the document, it seemed that the "zoom control" caused the document to appear in a larger size on the screen. Mazen did not know how to adjust the "zoom control" in order to display the document within a reasonable and an appropriate size. So, instead of shrinking the "zoom control" to a preset rate or any other rate that he could determine, he abandoned the whole process. Mazen explained that he was afraid to do something he did not know in case that he might lose the whole document. During the review, he stated, "to tell the truth ... I don't know how these things came ... and I don't know to solve these things ... I have no experiences in solving these problems."

When typing a document using the "Times New Roman" provided by *Microsoft Word*, writers usually use the font size 10, 11, or 12. The font "Times New Roman" size 18 was used in order to make it readable from a TV screen for the purpose of data analysis. Using this enlarged font size filled the screen with text more quickly than when using a smaller font. Although the computer can automatically take the writer to another new line as soon as the maximum number of characters is typed, it does not do the same thing when the writer reaches the bottom of the page. When Mazen reached the bottom of the page, he never tried to keep the balance between the written text and the blank screen. That is to say, he did not scroll the page down to have more blank space for typing; instead, he kept writing at the bottom of the page and let the computer provide him with

one line after another rather than adjusting so he could see one whole blank screen.

Mazen explained that the reason for doing so was that he wanted to see what he wrote.

Then he said, "if I want to scroll the page up this will take my time ... in fact this will

distract me and make my ideas fly [disappear]. To tell the truth, I never thought about it

before."

On the other hand, Mazen demonstrated some skills in using the computer that the

other two writers did not use. For example, Mazen was the only writer to use the "select

all" function from the "edit menu" to align the document during the revising session. It is

important to know that *Word* is preset to align text flush left with the left margin, leaving

a ragged right edge (left justified). Left-justified alignment and other alignment choices,

centered, flush right (right justified) and justified can be selected to be used with parts or

the entire document. Mazen chose to use the justified alignment because he believed that

the appearance of the document was very important because "It gives the reader a good

impression about the document ... They will like it better in this way."

Expert writers use the "copy" "cut" and "paste" functions to move and change the

place of words, sentences, and paragraphs from one place of the text to another rather

than retyping them again. Mazen used this skill to do so during the composing session

only. This behavior might indicate that he was moving big chunks of the text from one

place to another, though, that was not the case. In fact, he used that function to recopy

just very few words like "TA" or "International graduate students." This means that

instead of using this computer's function as an aid for helping him in revision where he

would change and redraft sentences and paragraphs, he used it to make surface level

changes which are considered a part of the editing processes rather than revision.

Finally, one apparent behavior showed that Mazen was very cautious about his document. Unlike Hilal and Jaber, Mazen saved the document four times during the composing session. The first time was after thirteen minutes of the session, then he did that after forty-three minutes of the beginning of the session. Mazen saved the document for the third time when he finished checking the spelling, and the fourth time was after 95 minutes, at the end of the composing session. Writers usually save their documents once every fifteen minutes in case that they may face unexpected circumstances of losing the document. Although Mazen did save his document four times during the composing session, he did not do that during the revising session. Rather, he saved the document only once after he finished revising the document. During the review, I asked about the reason that made him save the document four time in the first session and just once during the second session. He indicated that he usually saves the document once because the type of computers he used at the Engineering College remind him to save the document at the end of the session and that they save the document for him in case he forgot to do that.

The Holistic Quality of the Essay

The fifth question of the study investigated whether the revisions that were made by the students improved the holistic quality of the essay or not, and whether there was any role for the computer in facilitating these revisions or not. As mentioned in the methodology chapter, two native speakers of English were outside readers for the study. The readers were provided with a scale (from 1 to 10) in order to judge the overall quality of the revised essays with regard to coherence, content, organization, syntax, vocabulary and mechanics (see Appendix C: The Rating Scale). The two readers read the essays

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written by the students individually and separately.

Table 9 provides a summary of the researcher's notes made by the two readers about Mazen's essay.

Table 9

Score and Notes on Mazen's Essay by the Two Readers

Item	First Reader		Second Reader	
	Score (1-10)	Notes	Score (1-10)	Notes
Coherence	2	Not coherent, Not sticking to the point, Does not include enough cohesive ties, audience not addressed	2	No coherence, Not sticking to the point in all paragraphs, no cohesion, audience is not addressed
Content	1	Adequately: no, Accurately: no, Thoroughly: no, Logically: no, Many ideas are unsupported and unclear	1	Adequate: no, Accurate: no, Thoroughly: no, Logically: no, Ideas are unclear and confusing
Organization	2	Introduction: no, Body: not related, Conclusion: not clear, Very weak organization	3	Introduction: no, Body: not related, Conclusion: no
Syntax	2	Several structural errors, No complex construction	2	Many structural errors, Unclear sentences, Lack of structural knowledge
Vocabulary	2	Little knowledge of English vocabulary, Strange expressions	2	Little knowledge of English vocabulary, Awkward usage
Mechanics	2	Errors in punctuation and capitalization	2	Many errors in punctuation, capitalization and paragraphing

It should be noted that there were no differences in the scores assigned by the two readers except for one, organization. In fact, the second reader was not sure to score the organization item 2 or three; then, he made 3. As for other items, there were complete agreement regarding the comments they made and the scores they gave.

As mentioned earlier, the first item on the scale, was coherence. The discussion

with the two outside readers concerning Mazen's essay showed that his essay, in comparison with the other two essays that were written by Jaber and Hilal, was considered not coherent because it lacked most of the attributes mentioned by the definition of coherence used in the study. Both readers agreed that the essay did not contain enough cohesive ties and that it did not address the audience. The second reader commented, " A paragraph is coherent when its ideas are logically and clearly related to one another, and the total effect of the sentences is the clear development of the paragraph idea. I don't see this happening here." The first reader also indicated the same notion by saying, "I can't talk about coherence and cohesion between the sentences in one paragraph while there are no paragraphs .... these paragraphs contain one sentence each." In fact, three of the five paragraphs that Mazen wrote included one sentence each. Except for a few instances, the essay lacked the connectives that link the sentences and paragraphs with each others. The first reader commented on this issue by saying, "This essay lacks the connectives for an argumentative essay like accordingly, nevertheless, therefore, whereas, otherwise, moreover ... I don't see any of these here." Consequently, the ideas in the essay seemed to be unconnected to each other. Therefore, the first and second readers evaluated the coherence of the essay to be poor and they scored it 2 out of 10.

The second element on the scale, content, attended to whether the writer was able to generate, demonstrate and address very clear ideas in response to the assigned topic or not. To do so, Mazen was supposed to address the assigned topic adequately (to consider every point required by the topic completely), accurately, thoroughly (to consider all point points required by the assigned topic), and logically. The first reader indicated that

Mazen's essay did not address any of these requirements to make its content acceptable. He stated, "The topic itself is not addressed in this essay ... I am not sure if anyone can read this page and figure out what the writer is talking about." Therefore, this reader gave him 1 out of ten. The second reader also expressed the same concerns and indicated the same points; however, he added "Even the title does not tell you anything about what you are going to read next." Then he added, "The focus of the essay is on other topics that are not required by the assigned-topic sheet ... see, here [first paragraph] he is talking about the selection and evaluation of the TA, ... here [the second paragraph] he's talking about several different things ... in this paragraph [third paragraph] he's talking about his preference of evaluation." Then, he concluded that he could not see that this writer discussed any of the four requirements adequately, accurately, thoroughly or logically. This second reader stated, "none of the four requirements is discussed here whether adequately, accurately, or thoroughly." So, he scored the essay 1 out of ten.

The third element of the scale, organization, indicates that the essay should include certain functions like clear introduction, a body that includes generalizations and examples, logical and chronological order of ideas, and a conclusion for the essay (Hunter, 1981). According to this view of organization, Mazen's essay was judged by the two readers to be unorganized. The first reader stated that, "It is difficult to say that this essay has these three parts, actually ... it doesn't have an introduction to state what's coming next, and it doesn't have a conclusion to sum up what has been discussed above." The second reader commented more on this element and said,

> The paragraphs in this essay do not reflect any organizational pattern or arrangement of ideas in which the writer states a topic sentence or assertion for every paragraph to be followed by an argument ... The writer does not support his ideas ... He's just

stating them without any discussion.

For instance, Mazen wrote, "An undergraduate student whether American or not needs the academic help for the Teaching Assistant ..." without explaining why he needs the academic help and even what type of academic help he needs. While the first reader judged the essay to be poor and gave it 2, the second one judged it to be between poor and fair and he scored it 3 out of 10.

Syntax is the fourth element in the scale that the readers used to evaluate and score the essays. According to the first reader, Mazen's essay was judged poor (2 out of 10) because it lacked the mastery of effective and complex constructions that could convey the meanings he intended to communicate. For example, he mentioned that the essay demonstrated errors on different levels. Although the readers mentioned that since their job was to evaluate the essay holistically rather than identifying every error and violation to be used for the judgment, both of them used the followings as example of such violations which are shown in bold print: An international graduate student [**is**] supposed to be selected ...; a good command of terminology and **their** meaning ...; The process of interpretation ideas or **a hints** doesn't require the TA to know the student culture not the students have to know the TA's culture; **However**, the student .... ; The new assigned topic [**is**] expected to take the graduate ....). Also, the second reader scored the essay 2 out of 10.

Vocabulary was another element on the scale to be used for evaluating the essays. The readers judged Mazen's essay as a poor one (2 out of 10) because it demonstrated little knowledge of English vocabulary and idioms. Although Mazen used several expressions that looked sophisticated in regard to the expressions used by the other two

writers, the readers determined that the use of these expressions looked awkward. For example, the first reader pointed out a phrase that was strange and that it needed to be explained and clarified more: "the process of interpretation ideas." The reader said, "I don't know what he means by 'the process of interpretation ideas.'" He also added,

> I am not sure what he means by 'a wide knowledge and experience,' what type of knowledge he's talking about here! And what type of experience, is it the daily life experience? Or experience in the field of teaching? The sentence does not say anything about this.

The second reader also made similar comments when he said,

> Here, in the title, the writer says he will discuss the assigned **qualifications**, then in the paragraph before the last one he is talking about **requirements**, and in the last paragraph, he is talking about **the new assigned requirement**. There is no consistency in his vocabulary use. There is a big difference between qualifications and requirements.

Moreover, this reader indicated that, "some of the words or expressions used by this writer need to be explained and clarified such as 'the student is assumed to have the prerequisite classes and education to enroll the class.' Not all classes need prerequisite courses. What about if the student is a freshman! And what type of education is he supposed to have in order to enroll in the course?" Furthermore, the reader indicated that he could not understand what this writer meant by the expression "the communication of academic fluency." He said, "This is a strange expression, I am not sure what he's talking about here."

Mazen's essay was judged poor (2 out of 10) concerning the last item in the evaluation scale, mechanics of writing. The writers indicated the essay exhibited frequent errors in punctuation, capitalization, and paragraphing. The first reader pointed some concerns about the uses of comma. For example, he indicated that the writer used the

comma in the following sentences while he should have used a full stop because the two sentences are not connected, "an undergraduate student whether American or not needs the academic help from the Teaching Assistant (TA), so it is a common task to communicate between the student and the TA in an issue that the TA has a wide knowledge and experiences." Also, Mazen used a semicolon to separate two unrelated sentences, and then capitalized the first letter of the word "However" after the semicolon: "The process of interpretation ideas or a hints doesn't require the TA to know the student culture nor the students have to know the TA's culture; However, the student is assumed to have the prerequisite classes and education to enroll the class."

The main purpose of evaluating and judging the revised draft was to arrive at the conclusion whether the revisions made by this writer improved the holistic quality of the essay or not. After the two evaluators read the first and the second drafts carefully, they determined that there was no improvement in the quality of the essay due to the changes in the final draft. This decision was based on the fact that nearly almost all of the changes made in the final drafts were surface changes and microstructure changes which did not change the meaning of the text. For the example, the first reader indicated that the first paragraph included the following six changes:

> An international graduate student supposed to be selected on **the basis of** his or her academic outstanding and had **attained** the minimum **cap**ability to communicate with others, both attributes are ~~developed with~~ **developing** by practice and ~~they are~~ **it is** hard to ~~be tested~~ **test** regularly. I think the former should be evaluated by the admission committee in advance, so this essay will concentrate on the communication skills that are required for a teaching and research assistant.

The first reader commented on this change by saying, "All of these changes have no significant effect on the meaning of the paragraph. So, I don't see any improvement ...

I mean the meaning is still the same before and after the revision." Similarly, the second reader commented on this same change by saying, "I don't see any improvement at all as a result of these changes. I see what the writer is trying to say ... but the change he made ... does not make any difference." All of the other changes made to the essay (see Appendix E: Mazen's Essay) were of this type, that is to say, these changes had very little effect on the sentences they exhibited within, but none of these changes altered the meaning of the paragraph or the sentences and was to be included in the summary of the paragraph.

The Role of the Computer in Facilitating Revision

As indicated earlier, the subjects indicated that the computer as a word processor helped them very much in correcting the spelling errors, carrying out the tasks of "copy and paste," facilitating deletion and addition tasks, and substituting a word for another. However, as shown earlier, Mazen did not take advantage of the many functions of the computer to make changes that restructured and affected the text as a whole. That is to say, he did not use the computer for revisions that affected the organization and content of the text on the macrostructure level. Instead, he used the computer to detect and correct the spelling errors and that was how he envisioned revision.

In conclusion, the investigation as to whether the revisions made by Mazen improved the holistic quality of the essay he wrote or not was augmented by two outsiders' perspectives. The evaluators determined that the revisions did not improve the holistic quality of the essay, simply because the quality of the changes that Mazen made were of the surface level and meaning preserving changes. These types of changes had no effect on the meaning of the text; thus, they made no significant improvement.

On the other hand, the study found that although Mazen reported that the computer helped him in writing his essay, there was no evidence to prove that the computer as a word processor had any significant role in facilitating revision. The computer facilitated some aspects of Mazen's composing and revising processes, mainly in checking and correcting the spelling errors, deleting and adding words, substituting words and some other editing functions.

Conclusion

To sum up, the study showed that Mazen's composing and revising behaviors were not developed enough to the extent that he could handle scholarly academic writing. Mazen did not demonstrate that he could develop prewriting activities to guide him throughout the process of composing and revising. Consequently, he faced several problems like difficulties in generating ideas, inability to compose coherently, and spending too much time on the writing task without generating enough high quality text that is worth the amount of time spent on it. In fact, almost half of the time spent on the first draft included the pauses that Mazen made while drafting his ideas. He also, like Jaber and Hilal, was mostly concerned with surface level revision on the one-word level. Meaning or text-based revisions were rare, especially in the revising session. The two readers who evaluated Mazen's essay judged it to be poor regarding all of the items on the evaluation scale, and judged that the revisions he made during the second session did not improve the quality of the essay.

Mazen's computer skills, like Jaber's, were also not developed enough to enable him to use the computer as a tool for writing efficiently. This lack of proficiency was obvious in terms of deficiency in typing, dealing with emergent problems like page set up

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and print preview, lack of using many of the computer's functions appropriately, and the improper use of balance between the blank screen and text. Nevertheless, in addition to typing the document, Mazen used the computer to check spelling, copy and paste some parts of the text, save the document, and to align the document. However, it was not a helpful tool for him to be used for revision.

Chapter Six

Case Three: Hilal

The purpose of this chapter is to introduce the findings of the study regarding how Hilal, the third subject, used the computer to compose and revise an argumentative essay. It shows how Hilal's past writing experiences and difficulties in writing while he was a student at the secondary school and university affected his present writing experiences. Furthermore, the chapter demonstrates that although the writer used the computer in an efficient way, his computer skills were not developed to enable him to use it for revisions that affected the content and organization of the text. Finally, the chapter concludes with how the outside two readers evaluated and rated his essay.

Writing Experiences During the Secondary School

Hilal is a Jordanian graduate student pursuing his Ph. D. degree in physical education at the same university Jaber and Mazen attend. During the time of the study he had completed three and half years in his program. Mazen's educational experiences at the secondary school and at the university were similar to Jaber and Hilal's in some respects; however, some individual differences between the three writers' abilities in writing and perspectives toward the teaching of writing existed when they responded to the same set of questions during the interviews and reviews of their writing processes. The following section will discuss some of the writing experiences that Mazen had during his secondary school.

Lack of Formal Writing Instruction and Writing Experiences

Mazen was asked to reflect on his past writing experiences as a student or writing while he was a student during the secondary school years. In doing so, he reported that, as Jaber and Mazen did before, there was no formal writing instruction at the secondary school and that teachers of English and Arabic did not teach the students how to write. He explained that[1],

> The composition class starts when the teacher enters the room and writes a title for a composition he wants us to write [about]. He was the one who usually assigns the topics of writing for us. But sometimes, I remember that the teacher used to say, *'Everyone should select a topic he likes and write about it.'* But, in most of the cases, the teacher was the one to decide the topic.

Apart from assigning the topic, Hilal indicated that,

> Teachers were not doing anything during the writing class, they did not teach us how to write about the topic they assign. Believe me, no one had ever taught me how to write during the time when I was at the school ... I was not taught how to write ... I did not learn that kind of writing that every one like[s] to have, ... or the level of mastery of writing ... I did not learn that ... at that time.

Moreover, Hilal indicated that in both languages, the amount of writing required from the students during the secondary school years was not enough. He commented on that by saying that,

> There was not much writing during the secondary school, ...there was not much writing in Arabic and English. *To tell the truth, ... we used to write* ... maybe once a week ... or once every two weeks ... this is as I remember during the high school. The teachers used to ask us to write a composition in English ... Of course, as I remember that we used to write in English ... *maybe once every two weeks ... but not much.*

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[1] The italic font indicates that the subject was speaking in Arabic. The regular font indicates that the subject was speaking in English. The researcher made all translations.

In addition to the lack of formal instruction in teaching writing and the lack of opportunities provided for the students to practice writing, Hilal added, "the only thing we were writing was just compositions and test[s]." Furthermore, during the interview, he reported, "I do not remember [that] we were asked to write any thing besides the school writing, no writing outside the school writing." As for the usual topics of these compositions, Hilal mentioned that,

> Sometimes the teacher usually asks us to read a story and we were to write a summary ... do you see? Yeah ... but most of the times we were asked to write a story from our imagination ... a story from imagination ... these are the compositions ... I mean these are the kinds of writing we were asked to write about.

This indicates that the students were not given the opportunity to be exposed to and practice the various types of writing and rhetoric, including argumentative essay, which is the form of writing he was asked to use for this study.

Lack of Help and Feedback

Hilal also expressed his dissatisfaction of the limited opportunities of help by saying,

> *I wish they taught us ... for example how to start the composition,* ... what the first paragraph should be about ... what to include in the introduction ... what to write in the body ... what to write in the conclusion ... how to finish the composition. *No one had ever taught us how to do these things.* I did not know how to do these things at that time when I was at the school.

Hilal also expressed his dissatisfaction of the limited feedback received from teachers of writing in both languages. He commented on this issue by indicating that teachers were doing nothing to help the students while writing. He stated, "I don't remember anything that the teacher used to do in order to help us ... I can't remember ...

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to be honest with you ... I can't remember he was doing any thing." Then, he stopped for few moments and added,

> I did not like that kind of help ... if it was really help ... I was not satisfied with that. *To tell the truth*, ... it was not enough. *In fact*, it was very rare. The teachers were not used to give feedback during the writing class, ... you can say, in general there was not enough feedback.

This claim made me ask him about the things that teachers were interested in or focusing on while evaluating the students' written assignments. Hilal responded to this question by saying, "First, I think that they were interested in looking at the spelling errors. Sometimes, they looked at organization and content, ... but that was very rare and not always."

Hilal graduated from the secondary school without mastering the required writing skills required from high school students to demonstrate. He stated, "I went to the university with many problems in writing ... To be honest, I finished the school and I did not learn how to write, especially in English." The lack of mastery of writing was demonstrated in more than one aspect. Hilal indicated that he did not know how to discuss and organize his ideas, or how to support them. In fact he mentioned that "I did not know what to include and what not to include in my composition." Moreover, he mentioned that he never knew how to make notes and plans simply because "no teacher ever tried to make us do such things ... *I did not hear about these things until I came to the* U. S."

Writing Experiences at the University

Hilal's writing experiences at the university were almost similar to his writing experiences at the secondary school. He, like Jaber and Mazen, did not take any writing courses. He took similar general courses like the ones Jaber and Mazen took. These general courses were for both Arabic and English and that writing was not a focus in any of them. Hilal stated,

> I did not study writing at the university ... yes, at the university no one taught me how to write, I think there was very ... very little teaching of writing at the school level, even it was not good or enough. But, at least there was something, but at the university ... there was nothing at all.

Therefore, Hilal indicated that because of such lack or even absence of teaching of formal instruction at the university level, he found that the best way to be able to write was to teach himself how do that. He explained, "At the university, I helped myself. I learned how to write by myself." What he meant by that was that he became able to write papers for the academic courses. By doing so, he indicated that that he learned how to write.

Hilal indicated that there were no similarities in teaching writing between the secondary school and the university except for the lack of formal writing instruction and the lack of feedback and help. On the other hand, he indicated that there were some differences in how writing was perceived in these two different institutions. For example, Hilal explained these differences by saying,

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> *To tell the truth*, writing increased in terms of quantity. *Of course,*
> *... all of that was in Arabic.* There was very little writing in
> English. Also, the quality of writing was different, I mean the
> professors at the university were more concerned about the quality
> of writing than teachers at the school. But, yes ... there were no
> similarities in teaching writing at the school and university in both
> languages.

This finding contrasts with what Jaber and Mazen said about the language of

instruction used at the university. The explanation for this situation is that Jaber and

Mazen were in colleges where the language of instruction was English, while Hilal was in

a college where Arabic was the language of instruction --- The College of Physical

Education.

As for the similarities and differences in his writing experiences between the

secondary school and university, Hilal stated that,

> Writing at the university was more than at the school ... *but that*
> *was just in Arabic* ... there was no writing in English ... you know
> ... most of the courses I took, even did not include writing papers.
> Very few of these courses were in English. But we did not write in
> English for these courses ... the professors asked us to write in
> Arabic.

In fact, he mentioned that because his major was in physical education, most of

the courses he took during the undergraduate level were practical rather than academic

courses. He said,

> Because my major was physical education, most of the courses for
> this program were practical, *you know like soccer ... basketball ...*
> *swimming ... tennis ... physical exercises ...* and so on. I mean the
> focus of the courses was on the physical part rather than the
> academic [one].

Hilal emphasized that there were no differences at all in his writing experiences

between the graduate and the undergraduate levels except that "in the masters level, there

was more writing than in the undergraduate level, and that all writing was in Arabic only."

Writing Experiences in the U. S.

When Hilal came to the U. S., it seemed that his writing skills were not developed enough to enable him to start his academic program directly. Therefore, the English Language Center (ELC) affiliated with his university required him to take some English language courses in order to improve his communicative and written language skills. Hilal spent one semester in the ELC where he took some general language courses and one writing course. He stated, "Yes, I took one semester at the ELC ... and also, one of these courses was a writing course ... yes, I just took one writing course." At the end of the semester, Hilal passed the exam administered by the ELC and he started his academic program.

Hilal indicated that his writing skills improved tremendously when he was at the ELC:

> *To tell the truth*, the ELC taught me many things about English in general and writing. I learned many things ... how to speak ... I mean how to speak with other people ... how to ask about things you do not know ... but the most important thing that I learned at the ELC was ... how to write. Yes, they taught us how to start the paper and what to include in every part.

As for the amount and types of writing required at the ELC, Hilal recalled that "there was too much writing in that class ... all types of writing. I frankly can't remember everything, but as I remember ... there was writing in every class ... and we used to write about so many topics ... yes, everything." Hilal stopped for few seconds and then added,

> *You know, I just remembered that* ... the most type of writing we were required to write was descriptive writing. I mean the instructor asked us to describe a picture or something for someone ... yes, this was the type of writing we used to do in the ELC.

Hilal was also asked about whether the types of writing he experienced at the ELC helped him in his course-work academic writing later on. In response to this question he said,

> In the ELC, I learned the process of how to write a paper. That is to have the idea ... here I am talking about the components. I learned how to write the topic and how to make sub-topics out of it. Then, how to write the body and then the summary and how to finish the subject. This is what I learned in the ELC. ... But, the instructor did not teach us anything about academic writing.

It should be noted that Hilal was aware of the fact that the English language Center cannot teach subject matter writing to all students in the same class because students come from different departments and have different majors. He said, "I know the instructor can't do that because the students had very different majors, ... but the good students were writing about topics [that were] very close to their majors ... *this is what I was doing.*"

Hilal was also aware of the differences in teaching writing in Jordan and the ELC. He said, "... Here [at the ELC] there is topic, ... there is organization, content, revision, editing, check spelling ... also there is how to start and how to end, introduction, body, and conclusion. I learned all of these things in the ELC." On the other hand, he indicated that "writing in Jordan is different from writing in the U. S. in terms of the way of teaching ... I mean here it is more advanced." The fact that Hilal was aware of all of these attributes of writing suggests that he might have benefited not only from what he learned

at the ELC for his ESL classes but also in his writing for the academic courses. However, the first reader indicated that Hilal's writing skills were "not developed enough to the extent that he could write professionally."

At the time of the study, Hilal mentioned that he was developing his dissertation proposal. This means that he finished all of the courses required in his program. Therefore, I asked him about his writing experiences with the academic course-work and how he managed that after the ESL classes at the ELC. Hilal indicated that he improved his writing skills tremendously after he left the ELC by practice. He mentioned that "*The more you write, the more you learn how to be a good writer.*" Then, he added, "I solved my problems with practice. Practice is the best method to learn how to write." This explanation urged me to ask him about the difficulties he faced as a graduate student writer who is required to meet some expectations of English academic writing. Hilal indicated that, "My problem in writing is vocabulary. Vocabulary ... I don't have that much. Yeah ... vocabulary ... [is] the major problem for me ... I do not have that much problem with grammar. No, I don't." I asked Hilal whether his answer meant that he did not have any more problems with writing. He said, "I think I solved all my writing problems that I used to have in the past." Then, he added, "Academic writing ... *to tell the truth, I can say I am* comfortable with what I do ... maybe 60% or 70% ... you know ... but there are a lot of things that I did not learn. I can learn them later." Hilal explained, "I am comfortable with my writing because I am not facing problems with others ... I mean with the professors ... they accept what I write." Then, he added, "I have no problems in my writing at all. No one says to me that my writing is bad."

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During the interview, Hilal was asked about the processes he used when composing and revising his written assignments for the academic course-work. He explained that,

> I do not spend much time on prewriting activities. Most of the time is spent on writing during the writing stage. Usually, I spend 10% to 20% before I start writing ... 70% during writing and 5% to 10% after writing. .... Yes, *sometimes, I make notes and outlines ... but on a separate paper. Sometimes I use the computer for making notes ... sometimes I use the paper...* it depends on whether the computer is available or not. However, most of the time *I write the notes on paper.* After writing, I have to read it by myself ... to see if am comfortable with what I wrote ... in terms of content, organization, quantity, and quality. In the past, I used to give it to someone else to read it for me. Now, I stopped doing that because I don't see any problems with the professors in what I write.

This excerpt indicates that Hilal was aware of the different stages of writing and some of the strategies included in every stage of writing. However, the time he reported that he spends on every stage does not correspond with what other researchers had suggested (Beserra, 1986; Christiansen, 1990; Murray, 1984).

Hilal also explained the strategies he used when revising his written assignment:

> When I revise my drafts ... first, I look for the content ... the content is my priority ... and then spelling, then organization. Yes, I first look for the content ... that is whether all of the points I want to talk about are included ... Then, I check the spelling ... then, I edit my paper in terms of the sentences and paragraphs ... the full stops and commas ... question marks, and so on. On average, I have one or two drafts before I finish the paper. *Usually, I do* the draft *on the computer.* But, this also depends on the kind of revision I am going to make ... what is in my mind! Do you see? What is in my mind! If I made revision and want content, I go to content. If I feel that just spelling ... I want to make check for some reason ... I make the spelling check.

To get deeper insights about Hilal's composing and revising behaviors from his

perspective, the following section shows how he composed and revised an argumentative essay for the purpose of this present study.

Hilal's Composing and Revising Behaviors

Hilal spent 51 minutes to generate a first draft of the essay he was asked to write (see Appendix F: Hilal's Essay). The essay consisted of several short paragraphs. In the first three paragraphs, he talked about the importance and components of teaching as a process and the role of the teacher in students' learning. Then, he discussed the most important requirements for being a qualified teacher. After that, he emphasized the difficulty of studying and teaching in a second language. Finally, he concluded his essay by urging the administrators to apply all the requirements suggested by the assigned topic.

Hilal's essay consisted of eight paragraphs. Four of them consisted of one sentence each, two included two sentences each, and the last two paragraphs included two sentences each in addition to three numbered points. The following paragraph is a sample of the two-sentence paragraphs with numbered points he generated:

> Teaching is considered to be one of the most important operations
> in the whole teaching and learning process. Teaching as a process
> has major components:
> 1. The teacher
> 2. The student, and
> 3. The content

In order to see how Hilal was composing and revising, the product he generated will be introduced to add to the picture of his composing and revising processes. A quick

review of Hilal's essay shows that he misunderstood the purpose of the task for developing an argumentative essay. That is to say that neither the genre of the argumentative essay was used accurately nor was the topic addressed adequately. Instead of arguing for or against the four suggested requirements that ESL graduate students should fulfill before they are assigned as a research or teaching assistant, he talked about the importance of teaching in general, the characteristics of effective teaching and role of language in teaching and learning. None of the four requirements suggested by the assigned topic (i.e., taking courses in teaching pedagogy/research, taking courses in American culture, passing an English proficiency exam, and passing a specialized exam in the area of interest) were addressed. Therefore, the content he generated did not coincide with what the prompt required him to do. In addition, the form of the argumentative essay in which he had to develop a thesis based on several topic sentences that are supported by evidence was not used. Wallace & Hayes (1991) indicated that one source of difficulties that writers face when they compose or revise is the task definition that indicates the writer's understanding of what he or she is supposed to do when facing a writing task. This suggests that Hilal's understanding of the task was not what the task required him to do. The misinterpretation of the purpose of the task may have prevented him from developing the argumentative essay, or perhaps he thought he was actually writing an essay and misunderstood how to use that form of writing.

Hilal seemed to have difficulties in understanding or defining the assigned task as evidenced by the following. First, he generated an inappropriate title "An Essay" for the essay he wrote. During the review of the composing session, he indicated, "Yes, I think it

is appropriate because I want the reader to know that he is going to read an essay not a story or something else, for example." However, this generated title represents the form of writing instead of the assigned topic. This means that he did not seem to understand the purpose of the title of the essay.

Second, there is not any evidence that Hilal addressed the intended audience in hi essay. Berkenkotter (1981) stated that in addressing the audience, the writer should be clear about two major points: First, the writer must have what Flower & Hayes (1980) call a writer's "problem representation," which determines the kind of discourse produced. Second, the writer must think about whether the audience was explicitly stated or was implied by the kind of discourse the subject chose. Therefore, the writer must make his/her topic, arguments, organization and transitions clear to the intended reader. Neither a representation of the problem nor indication about who the audience is, were addressed in Hilal's essay. However, the instructions clearly asked the subjects to write an argumentative essay about a determined issue to be published in the local newspaper. That is to say, the genre and the audience were clearly stated and determined. Nevertheless, there were several examples of Hilal's comments that show he knew he was supposed to write for an audience but he did not demonstrate that awareness in the essay he wrote.

Third, Hilal's essay did not represent the argumentative essay style; instead, it was more of an expository piece than an argumentative essay. For example, he started the essay with an introductory paragraph that included one sentence only:

To whom it may concer[n]

Subject: Arguments in regards to graduate assistants as teachers or researchers in ...

Then, he deleted the first sentence and kept the second one as the introductory paragraph. It is important to know that these two sentences are very common and essential in Arabic writing style when writing a summons for a government department rather than an argumentative essay to be published in a newspaper. Therefore, neither the deleted sentence nor the remaining one could be considered an appropriate introductory paragraph for an argumentative essay.

Prewriting Activities

Looking closely at the composing and revising processes of Hilal enlightens our understanding of how he approached the written task on the computer from the prewriting stage until the task was done. Hilal's composing and revising behaviors did not match much of what literature indicates. Murray (1984) mentioned that one of the most important parts of the writing process is the prewriting stage. He defined prewriting as everything that takes place before the first draft, and that this stage usually takes about 85% of the writer's time. He also indicated that during prewriting, the writer focuses on the subject, spots an audience, chooses a form that may carry the ideas to his audience, makes notes and outlines, selects a title and a lead writing.

Hilal, as a writer, did not carry out this stage (prewriting stage) as most advanced writers do. He spent two minutes only (4% of the total time of the session) on this stage devoted to reading the assigned task. In addition, like Mazen, he did not make any explicit outline or notes to guide his writing or organize the structure of the essay. However, he was urged to use either the computer or the pen and paper to make whatever

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notes or outlines he wanted. This finding agrees with Beserra's (1986) finding that students seemed to devote less time to planning when working with computers than with conventional tools. However, it should be noted here that Beserra's definition of prewriting had more to do with what students write rather than think before they begin the task of drafting. Since Hilal did not write anything, there was not any concrete evidence to prove that the amount of time (2 minutes) that he spent before the actual writing started was devoted to planning in addition to reading the topic.

Recursiveness

The study showed that Hilal's writing and revising processes could be considered non-linear on the paragraph level rather than on the text as a whole. This means that he went backward and forward during the writing and revising sessions while working on the same paragraph. However, he did not go back to see whether the paragraphs he generated were connected, whether on the content or organization levels. In most of the paragraphs, he constantly went back to read his sentences and make changes to what he already wrote and then resumed writing where he had stopped. For example, the next paragraph shows how Hilal worked on drafting his first paragraph of the essay.

Hilal wrote, "Teaching learining operatieon is considered to be one of the most important...." Then, he paused for eighteen seconds before he made up his mind what to include next. During the interview, he mentioned that he read this sentence twice but he was unable to continue the sentence in the way it was written, "Do you see? I stopped here because I was not sure what I wanted to say next. ... Yeah, I am reading it now, again ... but I did not make [up] my mind yet." Then, he went to the beginning of the sentence

and corrected the two misspelled words "learining, operatieon." During the review of the videotape, he commented again on this sentence by saying: "Now, *I am still not sure what to say next*. So, I am reading the sentence from the beginning to see if I can say something new." To do so, he paused again for fourteen seconds before he added two more words "in the" (eleven-seconds pause). Again, he read the paragraph and then added one more word "whole" (seven-seconds pause). Hilal said, "the sentence is still not clear, I need to say for whom, and that is the reason why I added "teaching and learning process" and then paused for eleven seconds. After reading the whole sentence, Hilal felt that the idea was complete and that he had to move to something else; so, he started a new sentence with the phrase "Teaching as a process." This phrase was followed by a twenty-seconds pause in which he was reading and thinking about what to come next. One single word "has" was added to be followed again with a twenty four-seconds pause. Again, he added two words "major components" and then paused for eight seconds. After that, he added a longer phrase "as the teacher, student, and the content. Of course the result we " then he deleted "course the result we" and kept the word "of." He paused for seven seconds and again added the two deleted words "course the." However, he looked at them and decided to delete the whole new sentence that started with "Of course." During the videotape review, Hilal explained the reason why he deleted the phrase "of course" by saying,

> *You know, it is not a good thing to say —of* course— *unless you are 100% sure of what you are saying*. Using it [Of course] makes the reader think that you have made your decision about what you are saying. In this way, you do not give him the chance to say his own ideas. So, I thought it might be a good idea to change it.

At this moment, Hilal seemed to have a new idea because he made a shift in his thoughts. So, he continued writing the rest of the paragraph "the student learning or the degree to which student can learn (8-seconds pause) debends on the degree to which the teaching is effective" (12-seconds pause). "The teacher" (15-seconds pause) "plays a big role in terms of the teaching effectiveness through the delivery of the content of the materials he/he wants to teach his/her students."

The previous paragraphs showed that Hilal perceived the process of writing in a non-linear way in which the processes of thinking, reading, writing, evaluating, revising, and editing were intertwined. This means that before Hilal was generating anything, he was thinking about it for a while, then he transcribed that on the screen. By then, he went back to what he wrote and read it in order to see whether what he had written corresponded with his own intentions or not. By doing so, he was also implementing the process of evaluation that determines the type of revision to be implemented. In revising a sentence or a paragraph, certain changes take place in which editing becomes a necessity to fix the surface changes that will be needed after the changes in meaning take place. Hilal's composing and revising behaviors during drafting the above paragraph showed that he was using several processes and he was composing in a recursive way.

Spelling Check

While Hilal was generating the text and reviewing what he wrote, he was not concerned about correcting the misspelled words by the use of the spelling checker as Jaber and Mazen were. Instead, he left most of these errors and mistakes until the end of the composing session to be corrected through a clean up task for the whole written

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assignment. He checked the spelling of his essay for the first time by using the "spelling

checker" function of the computer after 45 minutes of composing. On the other hand,

Jaber and Mazen used the spelling checker throughout the process of composing and after

they finished writing the draft. Hilal indicated, "I don't worry about the spelling errors ...

do you know why? Because the 'spelling checker' can make all of these things for you ...

If I want to do them now ... I will waste my time." This indicates that Hilal was aware

that the purpose of delaying this activity until the end of composing was to avoid getting

him concerned with the local errors of spelling while working on his ideas. Nevertheless,

when Hilal finished writing the first draft and started the clean up activity of correcting

the misspelled words by reading and re-scanning the text, he could not catch all of the

misspelled words. Seventeen words out of the total number of 264 words he generated in

the document were misspelled words and they were found by the spelling checker after he

made the clean up activity. Examples of such misspelled words were: debends, requers,

qulified, qulificateions, dificult, explaine, profecient, and requirments.

Pauses

Researchers indicate that the pauses that writers make are meaningful and relevant

to the quality of writing. As it was the case for the number and length of Jaber and

Mazen's pauses, it was also the same case for Hilal. During the composing session, Hilal

paused frequently and for long periods to add or delete a word or two. The following

example shows the number and length of Hilal's pauses during drafting one paragraph

during the composing session:

Teaching learining operatieon is considered to be one of the most

important..." (18-seconds pause). He deletes the words "learining operatieon", then resumes writing "Teaching is considered to be one of the most important operations" (14-seconds pause) "in the" (11-seconds pause) "whole" (7-seconds pause) "teaching and learning process" (11-seconds pause). "Teaching as a process" (20-seconds pause) "has" (24-seconds pause) "major components" (8-seconds pause) "as the teacher, student, and the content (7-seconds pause). Of course the result (12-seconds pause) we (20-seconds pause)." After the pause he deleted "course the result we" then (55-seconds pause). Then he added "course the"(11-seconds pause). Again, he deleted the whole new sentence that started with "Of course"(21-seconds pause). He started reading the paragraph. Then he continued the rest of the paragraph "Student learning (17-second pause) or the degree to which student can learn (7-seconds pause) debends on (12-second pause) the degree to which (5-seconds pause) the teaching is (13-seconds pause) effective" (14-seconds pause). "The teacher" (15-seconds pause) "plays a big role (26-seconds pause) in terms of the teaching effectiveness through the delivery of the content of the materials he/he wants to teach his/her students" (1:47-minutes pause).

In the process of generating this paragraph, Hilal paused for 23 times with an average of 20 seconds for each pause. Although Flower & Hayes (1981) considered the 20-second pause as too long, I think that the quality and quantity of the text generated after the pause determines whether the 20-second time spent on that pause is worth it or not. For Hilal's pauses, I think it was not worthwhile, because there was not any significant change after these pauses either quantitatively or qualitatively. Sometimes, a change of one word or even a letter can really make a big difference in the meaning of the sentence or the whole paragraph; however, improvements in communication were not common among the changes that Hilal made.

The Revising Behaviors During The Composing and Revising Sessions

During the composing stage, Hilal was mainly concerned with changes on the word level. In generating the first draft, Hilal made 97 changes during the composing

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session. Sixty-five changes (67%) of the total number of these changes were on the level of one word. Fifteen changes (15.5%) were two-word changes; five on the three-word level; and the rest of changes (12 changes) were on the level of four words or more. These numbers and percentages show that the level and percentage of the dominant changes took place during the writing session were on the one or two-word levels which consisted of 80 changes of the total number of changes (97). However, some other changes (the remaining 17 changes) included some phrases and sentences that consisted of three, four, five or more words.

An example of a one-word change is the following: "My argument comes from my **position** as a graduate student...." Hilal changed the word "position" and put the word "**experience**," instead. Hilal explained that the word position indicates "the *rank* and *hierarchy* in jobs rather than the situation or the base I am making the argument." Therefore, he felt that the word "experience" is stronger and better than the word "position." Another example of a one-word deletion change was in his second paragraph. His initial sentence was, "The teacher plays a big role in terms of **the** student learning...." After he wrote this sentence, he reread it again and then deleted the article "the" because he thought that such an article makes the reader think that he is talking about one particular student, and because he wanted to talk about students in general. In explaining this, he stated, "when I read the sentence I sensed that the reader will assume that I am taking about one student in my mind. No, this is not what I meant ... I wanted to talk about any student not just the one in my mind ... and that is why I deleted this word." Another example of the two-word change that Hilal made during the first session was

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when he started the third paragraph. Hilal first wrote, "**Effective teaching** requires a qualified or skilled teacher." During the interview, he indicated that the words "effective teaching" did not sound very strong and that was the reason why he changed this sentence to "**Teaching effectiveness** requires a qualified or skilled teacher." Hilal could not explain the difference between the two phrases except for that the second one "sounded better and stronger." An example of a five-word change that Hilal made was when he was when he was talking about the qualifications of the skilled teacher. The addition change that he made is shown in bold print:

> Teaching effectiveness requires a qualified or skilled teacher. These qualifications related to more than one element such as:
>
> 1. Degree of education; knowledge in his/her area,
>
> 2. Teaching skills; ability to introduce, explain, and demonstrate the intended content,
>
> 3. Language, **is he/she native or non native speaker.**

Hilal explained that he made this addition change because:

> I am afraid that the reader will think that the word 'language' means that the teacher is fluent or not. No, this is not what I mean. I mean whether he is an ESL teacher or not ... I mean whether he is a native speaker or not ... *because this is the main topic of the essay, right?* Whether ESL graduate students are aloud to work or not ... so, the language is important in terms of it is your native language or not.

The major difference between the number of changes on the one and two-word levels and the other levels suggests that Hilal was revising on the word level rather than on the sentence or paragraph level. Table 10 shows the level and percentage of changes made by Hilal during the writing session.

Table 10

Level and Percentage of Changes During the Writing Session

One-word change	Two-words change	Three-words Change	Four-words Change	Five-words Change or more	Total
65 (67%)	15 (15.5%)	5 (5.2%)	4 (4.1%)	8 (8.2%)	97

As for the types of changes that took place during the writing session, addition and deletion were the dominant changes. Table 10 shows that these two major types of changes were on the level of words rather than sentences. An example of an addition change on the level of one word that Hilal made during this session is shown in bold print: "The teacher plays a **big** role in terms of students learning." Paragraphs were never been dealt with. Indentation was the only organizational change that took place during the whole session.

Hilal made a change of the deletion type when he was drafting his first paragraph. The deletion he made is shown in bold print: **Personally, I think that** teaching effectiveness requires a qualified or skilled teacher." Hilal justified this change by saying that, "It is not a good thing to talk about personal things when you talk to people whom you don't know ... I think this people have different experiences ... so it better to make like facts *or strong statements*. So, they believe you easily."

On the other hand, it should be noted that although the total number of substitution changes on the word level was greater than any other changes, this number does not represent the total picture of the kinds of substitution changes implemented by Hilal. In fact, 17 changes of the total 29 substitution changes on the one-word level were

misspelled words corrected by the spelling checker rather than actual words substituted by the writer during the composing process. Examples of such misspelled words were: debends, requers, qulified, qulificateions, dificult, explaine, profecient, and requirments. Table 11 shows the types and percentage of changes that Hilal made during the composing session.

Table 11

Types of Changes During the Composing Session

Type of Change	word One	Two words	Three words	Four words	Five words or more	Total
Addition	15	6	2	2	3	28
Deletion	15	4	3	2	5	29
Substitution	29*	5	---	---	---	34
Organization/ Addition	6	---	---	---	---	6
Total	65	15	5	4	8	97

* Seventeen words (17) were substituted by the use of the Spelling Checker rather than the writer.

Table 11 shows that changes at the one-word level was the dominant type. Sixty-five changes out of 97 were of the one-word level. The next type was the two-word change, 15 out of 97.

During the revising session, Hilal was also concerned with changes on the one-word level. Table 12 show the level and percentage of changes during the revising session.

Table 12

Level and Percentage of Changes During the Revising Session

One-word change	Two-word change	Three-word Change	Four-word Change	Five-word Change or more	Total
33 (58.93%)	3 (5.36%)	3 (5.36%)	4 (7.14%)	13 (23.21%)	56

As Table 12 shows, thirty-three changes of the total number of 56 were on the level of one-word change. Changes on the level of two, three and four-word changes were 3, 3, and 4 of the total number of changes (56). This number is too small if we compare it with the one-word changes that made almost 59% of the total number of changes. However, it should be noticed that changes on the five-word level or more had increased tremendously. During the composing session, such changes comprised 8%, while in the revising session this percentage increased to 23.21%. The reason for the increase was that Hilal added some phrases, modified some sentences and added a new paragraph while working on the essay during the revising session. For example, during the composing session Hilal wrote:

> Teaching is **considered to be one of the most important**
> **operations in the whole teaching and learning process.**
> Teaching as a process has major components:
> 1. The teacher
> 2. The student, and
> 3. The content

During the revising session, Hilal modified this paragraph and changed it as the following:

> Teaching is ~~considered to be one of the most important operations~~

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~~in the whole teaching and learning process.~~ an important process in student's learning which will result in his/her performance later on through the real world performance. *

Teaching as a process has major components:
1. The teacher
2. The student, and
3. The curriculum or the content

* Note: the crossed words are the deleted word. The underlined words are the added words.

The changes made to this paragraph included the following: First, Hilal deleted the verb clause of the sentence, "considered to be one of the most important operations in the whole teaching and learning process." Second, he added a new clause in place of the deleted one, "an important process in student's learning which will result in his/her performance later on through the real world performance." Moreover, he added the phrase "The curriculum or" to the third point of the components. Finally, he separated the part of the paragraph that starts with "Teaching as a process has ... " and made it a new paragraph. This example represented one of the changes that Hilal made beyond the one-word level for both types of additions and deletions. Hilal justified this change by saying "the original sentence is very general because it does not specify the importance, but in the new one ... it is clear when I say that it is important for the students' learning. So, it is not general any more."

Table 12, in comparison with Table 10 shows that during the revising session, Hilal made fewer changes than he made in the composing session on the various levels of deletion, substitution, and organization. However, he made more changes on the addition level. For example, the following paragraph was added during the revising session:

The assumption that the teacher has a high degree of education which enable him/her to introduce, explain, and demonstrate the

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intended skill or content does not mean that he/she can deliver this information in a good style. This arises a question like, is he/she used a suitable teaching method. Again if we supposed that he/she chose the correct teaching method, is he/she qualified in terms of language (communication) to teach it in a manner (choosing correct words or phrases, clear accent, etc...) that is understandable to the students.

During the process of creating this paragraph several changes took place: 6 additions, 2 deletions, and 1 substitution were made. The ten changes of the total number of changes on the level of five words or more included several additions, deletions, and substitutions. This explains the reason why the number of changes in the revising session were greater than in the composing process. That is to say, the long sentences, clauses, and paragraphs were added partially and on several occasions, rather than once in the form of one block of text. Another reason for why the total number of additions was greater in the revising session than in the composing session is due to the type of these revisions. Seven changes of the total number of additions (31) were cosmetic changes performed during the last moments of the revising session. These cosmetic changes included indentations, new paragraph spaces and punctuation marks rather than actual text. Table 13 shows the type of changes performed by Hilal during the revising session.

Table 13

Types of Changes During the Revision Session

Type of Change	One word	Two words	Three words	Four words	Five words or more	Total
Addition	14	2	3	2	10	31
Deletion	11	1	---	2	2	16
Substitution	9	---	---	---	---	9
Organization/ Addition	---	---	---	---	---	---
Total	34	3	4	4	12	56

In the process of creating the paragraph, he deleted many of the words he typed and then substituted them with other words. The following example is taken from his second session of writing: "The teacher plays a big role in terms of student learning; teaching effectiveness through the delivery of the content or the materials he/she wants his/her students to **gain**." Then he replaced the word "gain" with "learn" because he felt that the new word has "a stronger meaning, and the word learn is more educational than gain." Hilal also substituted words like "position" with "experience," "harder" with "more difficult," "say" with "teach" and "manner" with "style." He felt that the new words expressed the ideas more clearly than the previous ones. Moreover, these new words are more formal than the old ones. On another occasion, and on the sentence-level, Hilal changed one of the one-sentence paragraphs he wrote in the first draft without changing the meaning as he indicated. He explained that the last paragraph he wrote in his first essay –"~~My previous argument will be the same in the case of~~ graduate assistant who is going to work as a researcher" was not good enough. So, in the revising session,

he changed the words in this paragraph without changing its meaning to become the following: "<u>Although there are some differences between the teaching and research in terms of profession,</u> I think the same requirements are important for the graduate assistant who is going to work as a researcher." Hilal explained that he made this change because he felt that, "When I said 'my previous argument,' the reader may not know what my previous argument is. So, I changed that sentence with a new one."

The appearance of the written document as well as the ideas seemed to be a major concern for Hilal. When he finished composing, he tried to emphasize some of his major ideas by numbering them in order to make them more visible. For example, Hilal drafted one of the paragraphs as the following:

> Teaching is considered to be one of the most important operations
> in the whole teaching and learning process. Teaching as a process
> has major components: the teacher, the student, and the content.

After he finished writing the essay, he reformatted this same paragraph in the form of numbers in order to attract the reader's attention:

> Teaching is considered to be one of the most important operations
> in the whole teaching and learning process. Teaching as a process
> has major components:
>
> 1. The teacher
> 2. The student, and
> 3. The content.

During the review of his composing processes, Hilal explained, "I believe that putting the paragraph in this new form with the numbers before every point *makes it more attractive for the reader to read* and that he will remember these points more easily than if they are just written in prose."

Purposes of Revision

During the review sessions, Hilal was frequently asked about the reasons or purposes for making the changes and revisions in the text. He indicated that he revised for several purposes. For example, he revised in order to improve the vocabulary in the text, to improve the quality of the essay, and to improve the appearance of the essay.

Improving the Vocabulary in the Text

Hilal indicated that his major problem in writing was finding the appropriate vocabulary items to be included in the text. He stated that his "problem in writing is vocabulary. Vocabulary ... I don't have that much. Yeah ... vocabulary ... the major problem for me ... I do not have that much problem with grammar. No, I don't." One of his major purposes for making changes in the essay was that he wanted to improve the vocabulary of the essay because certain words did not give the exact meaning he was thinking about when he first wrote them. For instance, during the first composing session, Hilal wrote, "My argument comes from my **position** as a graduate student...." After he wrote this sentences and during the same session, Hilal substituted the word "position" with **"experience."** He explained that the word "experience" has a stronger meaning and effect on the reader than the word "position." Another example demonstrated by Hilal to improve the vocabulary of the essay was the following: "The teacher plays a big role in terms of student learning; teaching effectiveness through the delivery of the content or the materials he/she wants his/her students to ~~gain~~ **learn**." While reading the essay during the second session, Hilal indicated that the word "gain" was not the appropriate word to express what he was thinking about. He said, "I changed this word 'gain' because it has a

stronger meaning, and the word "learn" is more educational than "gain." Hilal explained

that in talking about "the outcomes of teaching and learning, it is better to say 'learn'

because this word is more formal." Hilal also substituted words like "position" with

"experiences," "harder" with "more difficult," and "say" with "teach" because the new

words have stronger meanings than the older words.

Improving the Quality of the Essay

Another purpose for revision that Hilal mentioned during the review of his

composing and revising process was to improve the quality of the essay. Hilal

emphasized that,

> When I revise my drafts ... first, I look for the content ... the
> content is my priority ... and then spelling, then organization. Yes,
> I first look for the content ... that is whether all of the points I want
> to talk about are included ... then I check the spelling ... then I edit
> my paper in terms of the sentences and paragraphs ... the full stops
> and commas ... question marks and so on.

In doing so, Hilal used several strategies to improve the content of the essay. For

example, during the first session of composing and in drafting the third paragraph, Hilal

wrote, "**Effective teaching** requires a qualified or skilled teacher." During the interview,

he indicated that the words "effective teaching" did not sound very strong and that was

the reason why he changed them to "**Teaching effectiveness** requires a qualified or

skilled teacher." Hilal believed that the new phrase "Teaching effectiveness" that he

added "sounded better and stronger."

Another strategy that Hilal used to improve the quality of the essay was to clarify

the ideas he already wrote. During the first composing session, Hilal wrote a paragraph.

Then, during the same session he added the following phrases shown in bold print for each point he was talking about:

> Teaching effectiveness requires a qualified teacher. These qualifications related to more than one element such as:
> 1. Degree of education; **knowledge in his/her area,**
> 2. Teaching skills; **ability to introduce, explain, and demonstrate the intended content.**
> 3. Language, **is he/she native or non[-]native speaker.**

Hilal explained that the main reason for revising this paragraph was that he wanted to clarify the meaning because he felt that "the reader may interpret these items in a different way other than what I meant by them." Hilal explained the first change he made to the first item:

> 'Degree of education' was that I don't want the reader to think about the type of degree this teacher has whether a Bachelor, Masters, or a Ph. D. No, this is not what I meant ... the degree of knowledge in education this teacher has in his/her area, ... and that is why I added this sentence.

Similarly, Hilal explained that the change he made to the second item "teaching skills" was for two reasons. First, "I want to show the reader the types of teaching skills in my mind ... the things I want him to know." Second,

> I want to show the reader that I know what I am talking about ... so I don't want just to say the word without explaining it. Some people may say he doesn't know what he is talking about. By explaining 'the teaching skills,' I show them that I know what I am talking about.

The third change that Hilal made to this paragraph in order to improve the content of the text was by explaining the word "language." Hilal explained that he made these changes because:

> I was afraid that the reader will think that the word 'language' means that the teacher is fluent or not. No, this is not what I mean. I mean whether he is an ESL teacher or not ... I mean whether he is a native speaker or not ... *because this is the main topic of the essay, right?* Whether ESL graduate students are aloud to work or not ... so, the language is important in terms of it is your native language or not.

Another strategy that Hilal used to improve the quality of the essay was adding new information to the text as described earlier. During the revising session, Hilal indicated that after he read the third paragraph, he felt that he needed to add something new. Therefore, he added the following paragraph:

> The assumption that the teacher has a high degree of education which enable him/her to introduce, explain, and demonstrate the intended skill or content does not mean that he/she can deliver this information in a good style. This arises a question like, is he/she used a suitable teaching method. Again if we supposed that he/she chose the correct teaching method, is he/she qualified in terms of language (communication) to teach it in a manner (choosing correct words or phrases, clear accent, etc..) that is understandable to the students.

Hilal indicated that the quality of the essay improved after he added the paragraph because "the new paragraph connected the previous part of the essay with the other one ... I mean it also explained the previous paragraph and made the essay better."

Improving the Appearance of the Text

As previously described, the appearance of the written document as well as the ideas seemed to be a major concern for Hilal. When he finished composing, he tried to emphasize some of his major ideas by numbering them in order to make them more visible.

During the review of his composing processes, Hilal explained that he made this change because he thought that the new form of the paragraph made its appearance better and that would draw the attention of the reader more than its original form. He stated, "I believe that putting the paragraph in this new form with the numbers before every point makes it more attractive for the reader to read and that he will remember these points more easily than if they are just written in prose."

Difficulties in Composing and Revising

During the process of composing and revising, Hilal was having some difficulties with respect to composing and revising as well with using the word processor as a tool for composing and revising. Three sources of information provided the data needed to show that Hilal was having difficulties in composing and revising. The first source was by watching him while he was actually composing and revising and by observing him again on the videotapes. These videotapes constituted a rich source of information in capturing many of the composing and revising difficulties. The second source was obtained throughout the review of the videotapes. Hilal talked about the changes he made, the reasons why he made the changes, and in some cases about the difficulties he faced while composing and revising. However, it should be noted that Hilal did not state directly that he had difficulties while making the changes; instead he used some expressions like "it was not easy for me ..., ... I did not know what to do, ... it took me some time to ... ." The third source of data was achieved throughout the interviews I made with the subjects at the end of the study.

It is worth mentioning here that because difficulties in writing may not emerge in

one or two writing sessions (depending on the subjects' familiarity with the topic and genre, the context or writing, the willingness of the subjects to participate in the study and some other physical or psychological factors) the interviews were a key source of information about the subjects' experiences and difficulties and the causes for such difficulties in composing and revising. During the interview, Hilal was asked about the difficulties he encountered in composing and revising as a writer, in general, and the difficulties he faced during the present study, in particular.

The difficulties that Hilal encountered in composing and revising were primarily pertinent to his past experiences as a writer in his first language, Arabic. Liebman (1992) indicated that there is "a huge gap between what teachers do and what students say teachers do, as well as between what students say they've done and what they've actually done" (p. 156). Nevertheless, an important factor in teaching and learning is to know what the students perceive about their past learning experiences. Also, in talking about the writing difficulties from those writers' perspectives, one should notice that what they say about their past writing experiences might be influenced by their subsequent writing instruction in the U. S. Similarly, Leki and Carson (1997) caution researchers that,

> Any research method has its drawbacks. For interview data, these include the problems with all self-reports (e.g., remembering incorrectly, attempting to show oneself in the best possible light, adapting answers to what one assumes the investigator wants to hear) and face to face interaction (e.g., the researcher's inadvertently indicating preferred responses. (Leki & Carson, 1997: 44)

As I indicated earlier, Hilal encountered several difficulties and problems while drafting and revising his essay. Such difficulties included the inability to originate

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prewriting activities in terms of planning; organization of the essay; mastery of the second language; revising globally; and dealing with the computer efficiently.

Difficulties in Generating Prewriting Activities

During the composing session, Hilal did not generate any written plans or outlines. Before the actual writing started, I reminded him that he could use the computer or the pen and paper for making notes or a plan to guide him throughout the process of writing. Hilal said, "the task is very easy, I don't need to make any plan … yeah, what I need to do is … to respond to the requirements … I mean whether I agree or disagree with them … that is it." However, when Hilal started writing, he did not address these four requirements. Instead, he started talking about other issues not exactly related to the assigned-topic. This shortcoming in defining plans seems to have made him deal with the text as separate or unconnected pieces rather than as a whole piece. During the review, Hilal was asked to define what he meant by planning, he said, "when I make a plan … I think about the points … ideas … or content I want to include in the essay … yes, all of these things." However, Hass (1989) defines planning broadly to include goal setting, goal evaluation, and plans for carrying out goals globally and locally. According to this definition, it seemed that Hilal misinterpreted what planning includes and that he limited this to what content should be included in the essay.

One possible explanation is that Hilal was unaware that the plan can include more than the content to be included in the essay and that was the reason why he did not want to recopy these "points" on another paper on the computer. So, he was satisfied with having them on the assigned-topic sheet. During the review of the composing session,

Hilal mentioned that the reason why he kept referring to the assigned-topic sheet during writing was to be sure that he addressed the four requirements. He stated, "Yeah, I know what you mean ... I look at the question to see that I did not miss anything ... and also to see what to write after that ... I mean the next point." What Hilal said indicates that he envisioned the plan as a reminder of the content that should be included in the essay rather than a broad frame of how the essay should look in terms of goals, content, and evaluation within global and local levels.

Difficulties in Responding to the Assigned Topic

Hilal had difficulties in responding to the assigned topic. As it was explained earlier, the three students were asked to compose and revise an argumentative essay about whether ESL graduate students should/should not work as graduate research/teaching assistants unless they fulfill four major requirements. Before Hilal started writing, he indicated that he understood what the topic was about. He said, "Yes, I understand what the topic is about." However, when he finished writing the essay, he did not address the topic as stated in the assigned-topic sheet. For instance, in the first paragraph of the essay (see Appendix F: Hilal's Essay), Hilal discussed the importance of teaching and learning and stated the major components or teaching (the teacher, the student, and the curriculum). In the second paragraph, he talked about "teaching effectiveness" and the role of the teacher in achieving that. The third paragraph extended the "teaching effectiveness" concept and its elements (degree of education, teaching skills, and language). Furthermore, the fourth paragraph explained the three elements of "teaching effectiveness" and interpreted them. The fifth paragraph of the essay tackled the issue that

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studying in a second language is not easy before the student becomes "proficient in that language," and that teaching in that second language is more difficult than learning. Before Hilal finished his essay, he urged the administrators to apply all of the requirements without exception, but without making any prior reference to these requirements in the essay. Finally, Hilal finished the essay by indicating that there were differences between teaching and doing research; however, the requirements needed for teaching were also important for research.

During the first review, Hilal emphasized that he did address the topic as stated in the assigned-topic sheet. He stated,

> Yes, ... sure ... what do you think I did? *But let me tell you something* ... I talked in the essay about teaching assistants only ... I did not talk about research assistant ... but as you see ... I mentioned in the last paragraph that my argument will be the same in the case of graduate assistant who is going to work as a researcher.

During both reviews and the interview, Hilal emphasized that he did not have any kind of difficulties in revision, organization, or working at the computer while he was composing and revising. He stated, "No, I don't think I had any problem with revision ... it was an easy job to revise it." As for the organization, Hilal believed that "the essay is very well-organized ... as you see ... I moved from one point to another ... in a good way. I mean the *sentences and paragraphs are logically connected and organized ... See I even numbered the important points I talked about.*" Similarly, Hilal indicated that he did not encounter any difficulty in composing at the computer. He emphasized that the task of composing and revising "was very easy ... yes, I was very comfortable ... I am satisfied with my writing."

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The Use of the Computer in Composing and Revising

During the interview, Hilal reported that now he is satisfied with his computer skills, and that he feels "comfortable" with the computer as a word processor. He indicated that when he came to the U. S., he was completely computer illiterate. Hilal said, "I did not take any courses in typing" or in learning how to use the computer as a word processor. Instead, he used to ask friends, lab technicians, and any student sitting next to him in the lab about every problem he faced while using the computer. Therefore, his first year as a graduate student was full of troubles and difficulties in learning how to master the basic word-processing skills. As the days passed by, his fear of the machine vanished as a result of using it more in writing his assignments. He said, "the more you use the computer in writing your work, the more you learn it." However, he indicated that there are many other things that he still did not know about the computer, but now and after almost four years of being a graduate student he said, "I am satisfied with what I learned about the computer as a word processor." Nevertheless, Hilal's behaviors while composing and revising on the computer showed that he did not develop the skills required for being an expert writer who uses the word processor as a tool for composing and revising.

Dalton & Hannafin (1987) indicated that the absence or presence of effective keyboarding skills is a powerful variable affecting the utility for any learner. They found that the students who experienced difficulty with typing stated that typing was time consuming and distracting. Other students in the study also indicated that typing problems interrupted their concentration while attempting to write. Because Hilal did not

take any classes in keyboarding, his typing skills were not developed enough to the extent of basic or minimal skills of keyboarding. For instance, Hilal had difficulties in identifying the positions of his fingers on the keyboard; therefore, he kept looking at the keyboard while typing every letter. During he interview, he stated, "I must look at the keyboard because I don't know the places of the buttons." Of course, this process required him to shift his eyes from the keyboard (to see if his fingers were on the right keys) to the screen monitor (to check what he had typed). Such a process affected negatively his composing process and distracted him (Dalton & Hannafin, 1987; Hawisher, 1987).

Moreover, although Hilal was relatively typing at a faster speed in comparison with Jaber and Mazen, he was still slow because he was using two fingers only in each hand. Not being able to use all of the ten fingers as they are specified to fit with the keyboard made it very difficult for him to focus his attention on writing rather than typing. This process might have affected his writing to the extent that he, as it was the case for Mazen, was unable to remember all of what he wanted to say because most of his attention was devoted to typing. For instance, Hilal indicated that in many cases an idea came to his mind while writing another one; however, because it took him some time to finish typing the sentence he was already working on, he usually forgot the new idea before he finished the sentence he was currently typing. He said,

> You know ... sometimes I forget what I want to say because I am not fast in typing ... I mean I do not type it quickly while I am writing another idea ... I do not know what to do. *But sometimes*, I remember this idea when I finish, so I say to myself, yeah ... *this is the idea I wanted to talk about ... so I write it quickly.*

This finding agrees with what Herman (1987) reported that learning to handle the keyboard interferes with the writing process. Nevertheless, Hilal did nothing to solve this short-term memory problem despite the fact that he could have used a pen and a paper for taking quick notes while writing something, or by writing a note at the beginning or end of the document he was typing.

It is easy to underestimate the significance of differences between screen and printed page, especially in terms of the particular reading strategies favored by any individual. Dowling (1994) indicated that several writers studied alluded to limitations imposed on the quick scanning of a document by the constraints both of the screen size, the size and shape of fonts available, and of the scrolling techniques available. She indicated that these writers found difficulties with keeping track of their texts within this medium. Although these characteristics vary from one computer system and software package to another, the writers in Dowling's (1994) study compared these facilities unfavorably with the flexibility afforded by hard copy. Hass & Hayes (1986) found that the loss of the sense of the text as a whole caused by the typical screen display particularly inhibits writers' ability to read their writing critically and that the limited screen display can also make it difficult to plan text changes. By the same token, Hilal experienced the same difficulty with typing on and reading from the screen. He said, "when I want to read something I wrote, I spend some time finding it in the text. I usually do not remember where exactly I wrote it, especially if it is a long paper; but when I use the pen and paper, the situation is different."

An additional problem I saw was the difficulty he faced when he tried to solve the

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page setup of the document he was working on. In particular, his composing behaviors showed that he could not keep the balance between text and blank space. That happened when he was typing the words and lines during the composing session. Rather than having a blank space on the screen, he was typing at the bottom of the screen. During the whole session, Hilal, like Mazen, never scrolled the page down to keep some balance between the text and the blank space on the screen. In the review of his composing process, I asked him about the reason of not scrolling the page down. He said, "*To tell the truth*, I never thought about that before, but I think I am not used to scroll[ing] the page down ... I don't know why."

Hilal, like Mazen and Jaber, used the backspace key to work as an eraser for him to perform most of the deletion changes. He used it to delete letters, words, phrases, lines, and sentences. Of course, there are other ways for deletion ---especially if the intended deleted items are more than two words--- that Hilal did not use, like the eraser button that is available as an icon on the toolbar, or the highlighting function. While the eraser button and the highlighting function delete a group of words, sentences, paragraphs and even pages by one click, the backspace-key only deletes a letter after another. This process of deletion ---by the use of backspace button--- becomes a tiresome one if the writer wants to delete a paragraph or even few lines or phrases. Hilal's behavior of deleting a chunk of words by the backspace button suggests that he was not using the word processor efficiently.

Saving the document frequently is considered one of the basic rules of working with the word processor. Hilal did not save his document until he finished writing the

essay. However, that did not seem to be done intentionally. He saved the document for the first time after he did the spelling check, almost at the end of the writing session. Then, he read the whole document again, added some few words, and saved the document again. Since the composing session took him 51 minutes to finish writing the essay, most writers consider it to be very dangerous to resume working without saving the document until the end of the session. This unwise decision may lead to loosing some or all the document for any unexpected error might happened to the file or the computer. For instance, one possible danger that could have happened to the document was when Hilal tried to see the print preview of the document. At that point of the composing session when he was almost done writing the essay, the document was not saved yet. When he clicked on the print preview icon, the document disappeared completely. He panicked about what happened and did not know what to do. Because of the new setup of the computer's monitor with the image of the writer to appear on the monitor, it was not easy for the three subjects to handle this problem. The three subjects asked for help to solve this problem and they could not have handled it without external help from me. During the review, Hilal explained that the reason of not saving the document until the end of the session was that "*I was so much involved in the action of writing to the extent that I forgot to do that.*"

Finally, an observed writing and revising behavior of Hilal was that he was using the mouse to perform all of the functions he wanted. While it might be easier for writers to use the mouse rather than the keyboard to perform the functions, Hilal did not show any skill in using the keyboard except for typing. When asked about how to perform

some functions by the keyboard rather than the mouse, he said, "I don't say that I know everything about the computer. There are many other things that I am sure that I do not know ... but there are many things that I know. I can say that I am comfortable with what I know." Hilal did not know how to use the function keys of the keyboard. Dowling (1994) indicated that despite the fact that the mouse helps those who compose on the computer in many ways, it has its disadvantages. She explained:

> Although the graphical, mouse-driven interface initially popularized on the Macintosh and subsequently reinforced through the growing use of WINDOWS is widely favored as providing a readily accessible computing environment, the driving of the mouse itself was identified by several of the writers as providing an awkward distraction from the writing task, and hence, as contributing to the overall difficulty of the enterprise (Dowling, 1994: 229-230)

From my experience in using the word-processor for writing and revising I found that it is much easier to use the mouse for performing many of the functions while reading or reviewing the document like: moving the cursor, saving the document, opening a new document, printing the document, checking spelling and grammar, using thesaurus, using cut, copy and paste functions, implementing do and undo functions, getting a print view. However, using the keyboard could be much faster and less distracting than the mouse for doing the same functions if the writer wants to do one of them while his/her both hands are working on the keyboard.

However, it should be noted that writers who use the keyboard to perform the required functions are assumed to know these functions without spending much time searching for them. On the other hand, writers who prefer to use the mouse usually click on the icons available for them or just click the tool bar to get what they want. The

problem for the mouse-driven users is that they might not always find what they want on the toolbar, especially if the computer is not theirs. Keyboard-driven users do not face the same problems because such command functions are a part of the setup of the software program and cannot be removed easily as icons. Therefore, the problem with using just the mouse is not only represented by the availability of these icons on the screen but also by the ability and having the skill of how to make these icons accessible for use. Of course, if the writer wants to customize the most frequent icons to be used every time he/she uses the word processor, a problem of space will emerge. That is because not all monitors are as big as the seventeen or twenty-inch monitors which can have many icons to be displayed. For example, Microsoft Word 97 ---the version that the three subjects used--- includes more than 625 icons; however, not all of these icons are needed or used when writing a document. Nevertheless, it is important for any writer to know what functions he/she needs and how to get the keyboard functions or short-cuts and/or the necessary icons ready and accessible for him/her when needed. Therefore, Hilal's problem was not that he did not use the keyboard for implementing some of the functions but that he did not know how to get an icon on the monitor or eliminate it or how to use the keyboard keys as short-cuts for revising and composing tasks. When asked about whether he can do such things, he said, "No, ... you know, I am not expert in computers ... and I don't know everything about it. I know that there are many things that I have to know like how to make a vertical line ... but I will learn these things later."

Holistic Quality of the Essay

The fifth question of the study investigated whether the revisions that were made by Hilal improved the holistic quality of the essay or not, and whether there was any role for the computer in facilitating these revisions or not. In doing so, the two readers evaluated Hilal's essay and judged the quality of the essay according to the items on the evaluation scale (see Appendix C: The Rating Scale).

The first item on the scale was coherence which was defined in Chapter Three. The two readers decided that Hilal's essay was not coherent according the definition used in this study. The first reader said, "The writer mentioned in the first paragraph that his argument comes from his experience as a graduate student; however, he did not mention anything about these experiences. He did not stick to the point he indicated in the introduction." Furthermore, this reader also indicated that the essay lacked the smooth shift among the sentences and between the paragraphs because it lacked the cohesive ties. He stated,

> I don't see any cohesive ties in the essay, especially in the first two-thirds. This writer is just throwing the sentences without linking them with any connectives. Look at his first paragraph ... he said, 'Teaching is an important ... etc.' Then, he started the second sentence "Teaching as a process has major components: ... etc." without using any cohesive tie. Look at these sentences: 'Teaching effectiveness requires a qualified or skilled teacher. These qualifications related to more than one element.' He did not mention anything about these qualifications before. These two sentences are not connected at all. He should have started the second sentence by saying: In order to be a qualified or skilled teacher.

The second reader made similar comments regarding the lack of coherence exhibited in Hilal's essay. He said, "For sure this piece of writing does not have that kind

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of coherence that makes its sentences and paragraphs connected and focused." In making this judgment, he emphasized that the sentences in most of the paragraphs "are not well-developed ... and that is the reason why they are not coherent." Furthermore, he stated that "The essay lacked enough and appropriate cohesive ties that connect the sentences as well as the paragraphs." Therefore, while the first reader judged the essay to be poor and scored it 2 out of 10 on the rating scale, the second reader judged the essay to be fair and scored it 3 out of 10.

The second item on the scale, content, has been defined as whether the writer generated, demonstrated and addressed very clear ideas in response to the assigned topic. The content of Hilal's essay was judged fair by the first reader and poor by the second one. During the evaluation process, the first reader indicated that "generally, the writer did not address clear ideas in response to the assigned topic ... I even can't say the topic is addressed in this essay ... what is discussed here is a completely different topic." Although this reader scored the essay 2 out of 10, he said, "I should give him 1, but since he wrote something, I'd give him 2."

Similarly, the second reader indicated that Hilal did not address clear ideas in response to the assigned topic. The reader noticed that none of the four requirements was addressed in the essay. He explained, "I'm trying to find where these four requirements are. You know ... if I want to judge this essay according to the criterion, I would say that this essay is irrelevant ..." At this moment, I assured the reader that I would like to maintain the same standards across the three writers and that he had to evaluate the essay according to the extent that the essay addresses the items on the scale rather than to what

he feels about it. Therefore, he decided that the essay was irrelevant and he scored it 1 out of 10.

Organization, the third item on the scale, was another attribute that Hilal's essay lacked. After the discussion with these two readers separately, it seemed that they agreed on two points and disagreed on the third one regarding the organization of the essay. The two points of agreement between the readers were that: First, the essay lacked an appropriate title and introduction. Second, the writer was not successful in generating a conclusion that summed up what was discussed or raised questions for the reader to think about. The first reader indicated that,

> the title of the essay is not acceptable by all means as a title for an argumentative essay to be published in a newspaper. Also, I wonder which sentence is the introduction ... the first or the second ... anyway... this essay doesn't seem to have an introduction.

Also, the second reader indicated the exact things mentioned by the first reader concerning the inappropriateness of the title and introduction. He stated, "oh ... this can't be a title ... I've never seen such a thing in a newspaper ..." Then he added,

> The introductory paragraph is supposed to have a topic sentence that introduces what to come next ... in addition to several sentences that set the scene and prepare the reader ... there are supposed to be ... at least four or five sentences in the introductory paragraph ... I don't see them.

The second reader also indicated the inappropriateness of the concluding paragraph regarding the function or role that this paragraph plays in any written piece. He said, "the writer finished the essay without concluding what has been discussed throughout the essay."

On the other hand, the readers disagreed on the degree of the development of

generalization and logic of the body of the essay. While the first reader thought the essay included to a certain extent some kind of logic in discussing the ideas throughout the body of the essay, the second reader indicated that the body lacked the features required by the scale. He indicated that the body should include generalizations and logical and chronological order of ideas and discussion. He stated, "the paragraphs do not have topic sentences to be supported by generalizations and evidence ... I just see scattered sentences ... not supported by evidence ... Actually, I do not see that the writer developed any argument." Accordingly, while the first reader judged the essay poor and scored it 2 out of 10, the second reader scored the essay very poor and scored it 1 out of 10.

While discussing the fourth item on the scale, syntax, the second reader indicated that "it is not enough for ESL students to include good ideas in the essay ... they also need to demonstrate strong mastery over the language to convey these ideas." This item required the readers to evaluate the essay according to the several skills and abilities that the writers should demonstrate by reflecting their own awareness and knowledge of grammar while writing the essay. According to this view, the readers determined that the essay failed to reflect the writer's mastery of effective and complex structures of English grammar. Also, both readers mentioned that they found it uneasy to follow what the writer was trying to say in several places of the essay as a result of the unclear structure of the sentences. The readers indicated that there were several structures that could be used as evidence for unclear or obscure meanings that suggest a weak mastery over the language. For instance, the following highlighted examples, shown in bold print, were identified by the two readers as examples of confusion:

> Teaching is an important process in student's learning which will result in his/her performance later on **through the real world performance**; teaching effectiveness **through the delivery of the content**...; The assumption that the teacher has a high degree of education **which** enable[s] him/her to introduce, explain, and demonstrate the **intended skill or content** does not mean that he/she can **deliver** this information **in a good style. This** arises a question like, **is he/she used a suitable teaching method[?]**; As [**a**] non native speaker [**of English**] ...; So[**,**] if **taking information** by a second language is difficult ...;

Consequently, while the first reader judged the essay as average and scored it 5 out of 10, the second reader judged it fair and gave it 4 out of 10.

Vocabulary was another item that the readers looked at when evaluating the essays. Hilal's essay was judged good regarding the range of vocabulary used in the essay. Both of the readers indicated that the essay demonstrated a reasonable amount of words that show that the writer was using expressions and phrases that are used within the educational setting. Examples of words and expressions that were pointed out by the two readers are the following: student's learning, performance, components, curriculum, content, effective, qualified, skilled, knowledge, teaching skills, demonstrate, teaching method, proficient, ... etc. The first reader stated, "the use of vocabulary in this essay is not bad. It is clear that the writer knows many educational expressions ... but it seems that his language did not help him much to express his thoughts clearly." While the first reader scored the essay 7 out of 10, the second one scored it 6 out of 10.

The mechanics of writing was the last item on the scale to be judged by the readers. Hilal's essay was judged to be very good by both readers (7 out of 10) because it did not exhibit any major violations in terms of punctuation, paragraphing, and capitalization. However, the second reader noticed that because the writer did not

generate long and complex sentences, the comma was almost absent in the first half of the essay. He stated, "there is only one comma in the first half of the essay ... this is uncommon ..." The first reader also commented on the use of the full stop instead of the question mark in the following example: Language; is he/she native or non native speaker. [?]; This arises a question like, is he/she used a suitable teaching method. [?]; Again [,] if we supposed that he/she chose the correct teaching method, is he/she qualified in terms of language (communication) to in teach it in a manner (choosing correct words or phrases, clear accent, etc.) that is understandable to the students. [?]. Furthermore, the readers indicated that there were some punctuation errors exhibited in the essay; however, such violations did not obscure the meaning of the message that the writer was trying to convey. Such violations are shown in bold print: Again [,] if we supposed that he/she chose ....; So [,] if taking information by a second language is difficult for me ...; Teaching as a process has major components:

1. The teacher [,]
2. The student, and [,]
3. The curriculum or the content [.]

Table 14 provides a summary of the notes that the two readers made about Hilal's essay.

Table 14

Scores and Notes on Hilal's Essay by the Two Readers

Item	First Reader		Second Reader	
	Score (1-10)	Notes	Score (1-10)	Notes
Coherence	2	Not coherent, Did not stick to the point, Does not include enough cohesive ties,	3	No coherence, Not sticking to the point in all paragraphs, no connection between paragraphs no cohesion, audience is not addressed
Content	2	Adequately: no, Accurately: no, Thoroughly: no, Logically: no, Unclear ideas	1	Adequate: no, Accurate: no, Thoroughly: no, Logically: no, Ideas are unclear and confusing, Requirements not addressed
Organization	2	Introduction: no, Body: not related to the topic, Conclusion: not clear, Very weak organization	1	Introduction: no, Body: not related to the topic, Conclusion: no
Syntax	5	Several structural errors, No complex construction	4	Many structural errors, Unclear sentences, Lack of structural knowledge
Vocabulary	7	Acceptable knowledge of English vocabulary, Several educational expressions	6	Reasonable and related use of vocabulary, Some strange usage
Mechanics	7	No major violations in punctuation and capitalization	7	No major violations or errors in punctuation, capitalization and paragraphing

As it was the case for Jaber and Mazen, the two readers did not disagree on any of the items on the scale regarding the notes they made or the scores they assigned for the essay. Their comments expressed the same judgement and the small differences in the scores they assigned did not represent any significant differences.

As stated earlier, the purpose of evaluating and judging the revised draft was to arrive at the conclusion as to whether the revisions made by this writer improved the holistic quality of the essay or not. After the process of evaluation was completed, the readers determined that there was no significant improvement in the quality of the essay due to the changes in the final draft. For the example, in the first line of the essay, Hilal wrote, "Subject: Arguments in regards to graduate assistants **to work** as teachers or researchers in ... ." This change was considered a meaning-preserving change because the meaning of the sentence did not change significantly after the writer made the change. Another change that Hilal made during the revising session was the following: "Teaching is ~~considered to be one of the most important operations in the whole teaching and learning process.~~ **An important process in student's learning which will result in his/her performance later on through the real word performance**." The first reader considered that this change was a microstructure one since it affected the meaning of the sentence and its focus from being "one of the most important operations in the whole teaching and learning process" to "an important process in student's learning." On the other hand, the second reader as well as the first one indicated that the paragraph that Hilal added in the second session was considered a macrostructure change because it did make a significant change to the text and that it would be included in the summary of the text.

Hilal made other changes in the text like, "teaching effectiveness through the delivery of the content or the materials he/she wants his/her students to ~~gain.~~**gain**," "In the case of teaching, I urge strongly the administrators in .... to apply all of the

requirements without exception and to ~~increase~~ **keep up emphasizing on** the level of the English language ~~test difficulty.~~ **ability for non native speakers.**" Such changes were considered meaning-preserving and microstructure changes because they would not make any significant change in the meaning and would not appear in the summary of the text.

The Role of the Computer in Facilitating Revision

During the two review sessions and the interview, Hilal indicated that the computer as a word processor helped him very much in correcting the spelling errors, facilitating deletion and addition tasks, and substituting a word for another. However, he did not take advantage of the many other functions of the computer to make changes that restructured and affected the text as a whole. Instead, he used the computer to detect and correct the spelling errors. He stated, "I use the computer to help me in editing ... yes, I use it very much to do that ... because it is easier to do that on the computer. *Frankly*, I can't check my spelling without the computer." Hilal was also asked about whether or not the computer helped him in facilitating the revision process. He answered, "yes, it helped me a lot." When I asked him to explain how the computer helped him in facilitating his revising process, he said, "spelling ... checking spelling."

In conclusion, the investigation as to whether the revisions made by Mazen improved the holistic quality of the essay he wrote or not was augmented by two outsiders' perspectives. The evaluators determined that the revisions did not improve the holistic quality of the essay, simply because the quality of the changes that Mazen made were of the surface level and meaning preserving changes, except for the one complete paragraph that he added during the revising session. However, the other types of changes

had no effect on the meaning of the text; thus, they made no significant improvement.

On the other hand, the study found that although Hilal reported that the computer helped him in writing his essay, there was no evidence to prove that the computer as a word processor had any significant role in facilitating revision. The computer facilitated some aspects of Hilal's composing and revising processes, mainly in checking and correcting the spelling errors, deleting and adding words, substituting words and some other editing functions.

Conclusion

The study showed that Hilal had similar writing experiences as those of Jaber and Mazen during the secondary school and that some of the problems he faced during the university level were also similar to Jaber and Mazen's problems at that time period.

Hilal's composing and revising behaviors were also similar to Jaber and Mazen's. He went backward and forward to make changes and modifications to what he wrote, had hardship in generating ideas, made long pauses before and while generating ideas, and focused on the surface types and word level revisions. Hilal paused for different purposes: to read, correct, and to see what should come next. However, the average length and frequency of these pauses were longer and more than other writers' pauses. Hilal also faced several difficulties such as lack of idea outflow, lack of planning at the global level, and weak mastery over the English language. These weaknesses affected his composing and revising processes.

Surface changes were the predominant type of changes in both the composing and revision sessions. Macrostructure changes, or changes that affect the meaning of the text,

were rare in the two sessions except for one paragraph he added in the second session that was considered a macrostructure change. However, some of his behaviors were more like Mazen's in terms of not generating any type of prewriting activities, and their essays were not coherent (not sticking to the point).

Moreover, Hilal's computer skills were very similar to Jaber and Mazen's, that is, they were not developed enough to enable him to use the computer efficiently. As it was the case for Jaber and Mazen, Hilal too, lacked the developed typing and keyboarding skills (no touch typing, typing with two fingers, sight shifting) and he was not able to deal with the emergent problems (setting up the page lay out, getting a print preview). Similarly, he did not keep a balance between text and blank space and he did not use the many functions of the computer like grammar checker, thesaurus, undo and redo, hyphenation, find and replace etc. He used the backspace to delete words and sentences. However, in other cases he used the computer differently. He did not save the document until the end of the session and he, like Mazen, was a mouse-driven user. That is to say, he used only the mouse to perform all of the functions without the help of the keyboard that was used for typing only. Another thing which distinguished him for the other two writers was that he did not use the spelling checker function while working on the draft until he finished the composing session.

Chapter Seven

Findings, Conclusions, Implications,

and Recommendations

This chapter reviews the major findings of the study regarding the three subjects' composing and revising behaviors. Then, it discusses the most important conclusions that the study arrived at. After that, it lists some implications that are based on the findings of the study. Finally, the chapter presents several suggestions for further research and policy.

Limitations of the Study

It is worth mentioning that because of the small number of the participants in the study, the following findings are not generalizable because this group of writers is not a representative sample of all Jordanian graduate students. Therefore, the findings presented below are limited to this group only and may contribute to our understanding of other students who have similar characteristics to this group of writers.

Similarities Across the Three Cases

Difficulties

The three writers encountered difficulties and problems during both the composing and revising stages. One of their main difficulties was their lack of flow of ideas that was represented by the long pauses during the composing session. A major cause for such difficulties was the inappropriate planning at the global level of the text. Contrary to most researchers' suggestions that ample time should be devoted to

prewriting and revising, the three subjects did not spend enough time to generate appropriate prewriting activities. Most of their time was spent on the composing process in which they focused mainly on generating ideas. Flower and Hayes (1981) indicated that planning and pausing are directly linked to text production and that planning should be directed toward the development of the text on the global level. The significance of this finding implies that as soon as students become aware of the importance and role of prewriting activities and practice them while writing, they become engaged in planning what to say and how to say it. Through this process, their written texts are likely to be more coherent and organized.

Therefore, when students generate appropriate and related plans, it is likely that when they start composing they will have a mental map of the text as a whole for what to do concerning content and organization. Consequently, they are likely to encounter fewer difficulties in generating text and thinking about how and what to say next while composing; instead, these matters will be thought about and ideas about how to solve them will be explored before the writer starts the actual writing. Then, the time spent on pauses could be employed in improving the text by composing and revising it on local and global levels rather than just for thinking what to say next. Nevertheless, students might not reach this level of control over the writing process unless they are provided with enough opportunities that focus on gradual specific tasks of how to generate prewriting activities and how to implement them later through the composing and revising process.

Another problem that was observed in the writers' essays was their lack of

mastery of writing in English as a second. This lack was apparent from the large number or errors exhibited in their essays. The importance of this problem comes from the fact that form (e.g., grammar, mechanics) and content (e.g., organization, amount of detail) cannot be separated when responding to or evaluating a written text (Fathman and Whalley, 1990). This means that the content of the written text that the students need to generate in order to communicate clearly with others cannot be conveyed without accurate and clear form of the language. That is to say, accuracy and fluency of the target language are two important factors for successful writers to acquire and that without them, the written text will be shallow and fragile. These problems were especially apparent in Mazen's and Hilal's essays. The students' competency of written language was inadequate in spite of the many years spent on learning English whether in their country or in the U.S. This problem seemed to contribute to the difficulty mentioned earlier, their lack of flow of ideas. The three writers paused frequently not only to think of what to say next, but also to figure out how to express their ideas in English. They focused their attention on correcting the spelling and grammatical errors in their texts.

The difficulties that the subjects encountered in composing and revising were primarily pertinent to their past experiences as writers in their first language, Arabic. The most important difficulties were the absence of formal instruction in writing, lack of experiences in writing in both languages (Arabic, and English as a second language), absence of explicit attention to teaching and learning writing, and the lack of awareness of what writing and revising processes involve. These difficulties affected the composing and revising behaviors of the three writers during the present study. Although their writing experiences and abilities have developed tremendously since they came to the

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U.S. and they did receive explicit instruction about the writing process at the ELC, they still had difficulty knowing how to apply that knowledge to their academic writing. For example, they were still, at least in practice, unable to learn and implement what writing and revising involve. This was obvious in their composing and revising behaviors as well as in their written essays and what the two outside readers said about them.

Computer Skills

The three subjects used the computer for composing and revising; however, their computer skills were not developed as adequately as they indicated. Therefore, they used it in an inefficient way and they did not take advantage of the many attributes and functions available by the computer to be used for revising. Moreover, their computer skills did not enable them to deal with some emergent troubles and problems.

The three writers demonstrated undeveloped and slow typing and keyboarding skills. The lack of mastery of strong typing skills was believed to have a strong effect on their composing processes because it distracted them and consumed a great deal of their time. Although composing on the computer might be easier and much more efficient than composing by hand, that is not the main reason for the writer's success or failure. Experienced writers spend years developing a powerful intuition about style, audience, rhetoric, and all other characteristics that define good writing. This means that the computer could be a very helpful tool for those who already know how to compose and revise according to academic writing standards and at the same time know how to employ the computer's functions to serve them through the processes of composing and revising. This implies that the computer, except for the spelling checker, did not contribute

significantly to the improvement of the writing quality of the students' essays.

There were differences in quality of the essays among the three writers. However, these differences were due to the efforts paid to develop the essays during the composing session rather than the revising session. The changes that the subjects made in their final drafts did not improve the holistic quality of their essays because the majority of the changes that the three writers made were surface level changes rather than text-base changes that affect the meaning of the text. As indicated earlier, the quality of the essay could have been better if the students had focused on text production during the first session and their efforts during the second session were directed toward revising text that had been produced earlier.

Conclusions

Based on the findings, the following conclusions were drawn. The students' writing experiences in the native language play an important role in facilitating or hindering the writing skills and abilities in the second language. That is to say, that negative writing experiences and the difficulties that the students encountered in their first language when they started learning how to write affected negatively their learning how to write in the second language.

Therefore, before they start learning how to write in English as a second language, they need to know and be able to demonstrate what writing involves in their native language. They need to demonstrate abilities in setting goals for writing and revising on the global and local levels. Furthermore, they need to be able to create and develop appropriate prewriting activities represented in generating ideas and thoughts related to

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the topic they write about, develop and practice brainstorming strategies, generate appropriate outlines, notes and plans that guide them throughout the processes of writing and revising. Those students also need to understand that such plans and notes are not final and that they could be modified, changed, and developed throughout the process of composing and revising. This means that syntax, vocabulary, and rhetorical forms are important features of writing, but they need to be taught not as ends in and of themselves, but as means with which to better express one's meaning. When the students become aware of and be able to demonstrate all of the previous abilities and skills in their first language, it will be possible for them to transfer these types of knowledge and skills to their writing in the second language. As some researchers indicate, the strong writing abilities and experiences in the first language will transfer to and then facilitate the writing skills and abilities in the second language rather than hindering it (Brooks, 1985; Cummins, 1980; Edelsky, 1982; Gaskill, 1986; Hall, 1990; Lay, 1983; Silva, 1993).

Moreover, the study concludes that the students' perspectives toward writing and consequently their abilities and skills in writing vary according to the context where they learn how to write in the second language. That is to say, learning English and learning to write in a context where English is taught as a foreign language (Jordan) varied completely from learning those skills where English is taught as a second language (ESL) like in the U.S. Furthermore, the study concludes that the three students thought that although the ESL classes helped them to acquire some of the basics and principles of writing, they did not understand how these classes could help them much in learning how to write in order to fulfill the requirements of academic course-work. They did not

perceive that what they learned about composing and revising of narrative texts could provide the basis for learning to write for academic purposes. That is to say, learning a language is a continuous and an accumulative process in which the learner builds on what had been learned before.

The study concludes that Jordanian graduate students need to have a broader and more complex view of what revision involves. The writers need to know that they have to go back and forth in order to see what ideas have been suggested, then confirm, alter, or develop it, usually through many drafts. Rather than perceiving revision as correcting errors, they may, as Murray (1978) suggested, work on two types of revision. First, they could work on internal revision in which they have to develop what they want to say by reading and re-reading the emergent text in order to discover the content, form, language, and voice. Second, they could work on external revision in which they communicate what they have discovered in their text to another audience by editing and proofreading the text. By doing so, the writers come to learn not only how to use the language, structure, and information to generate and express ideas, but also to use writing as a learning tool in which they discover and create meaning. Then, such writers learn how to become outside readers for their own texts.

Most researchers agree that computers offer writers an incredible help in terms of the physical ease of composing and revising over the of writing longhand or typewriting. This help is available through the many functions like cut, paste, copy, do, undo, find, spelling and grammar check, etc. However, the writers' lack of knowledge about revision and how to implement such functions efficiently while revising may cause the writers to

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focus on surface-level correction of the text and may encourage them to work with revision as error detection and correction. In addition to these facilities that the computer offers, Jordanian graduate students need to be aware that the computer, as Wresch (1984) suggested, has other benefits and functions such as collaborator, responder, commentator, and by being a "continuing audience" (p. 3-4). This means that some computer software programs have the capability to respond to the students' writing immediately regarding the style of writing, grammar, and spelling. So, the computer could provide a continuous feedback and the writer has the choice to make or ignore the suggestions. Therefore, by dealing with the computer as a tool for writing that has all of these functions, their writing and revising are assumed to be facilitated and eased.

However, it seemed that Jordanian graduate students could not benefit from these advanced capabilities that the computer make available because of their lack of knowledge about writing and the functions of the computer. Therefore, they dealt with it as a fancy typewriter with the spelling check function. Accordingly, it is not wise to assume that students who come from countries where computers are not widely used (like Jordan) can use the computer efficiently in their writing and revising. Hawisher (1987) indicated that a just criticism of research with computers is that students are not taught how to revise---that writers cannot be expected automatically to revise successfully when they are greeted with word processing. Therefore, students need to be taught the mechanics of revising with word processing---moving, copying, deleting, and adding small and large chunks of text with the aid of function keys. They also need to be taught revision strategies that focus on the students' assessment of their own essays.

In order to help those students develop and acquire such different types of knowledge, certain strategies needed to be enhanced and developed. For example, such students need to observe and practice modeling of successful writing and revising processes throughout all stages of composing and revising. They also need to experience each phase of the writing process in depth and not just hear words that they assign their own meaning to. By doing so, the students can come to understand and appreciate the significance of writing and revising in action rather than just requiring them to do so without internal intuition and a genuine need to do so.

In the ESL classes, students are always encouraged to be willing to work individually and collaboratively with other similar or different groups of students. However, in the academic content courses, such opportunities are very rare. Therefore, academic professors should encourage them to make small groups in which they do the same things as in the ESL classes. By doing so, students would have the opportunity to share their own writing with other students' writing who are within their level under non-threatening conditions. Such opportunities would enhance and improve the their understanding of how other students tackle the processes of composing and revising on the local and global levels through friendly and cooperative discussions.

Furthermore, ESL writers need to understand the kinds of problems they are likely to encounter and therefore feel the need to take the initiative to ask for and participate in writing workshops that are held throughout the university. Writing Centers that are available in many U.S. universities are places where ESL students can seek help and guidance concerning their writing. Moreover, students can ask their departments to

execute occasional or continuous sessions in which they discuss important issues related to their own writing abilities and needs. In addition, those students can form special groups that take the responsibility of inviting other experienced ESL writers who used to have similar experiences and difficulties and ask them to talk about their difficulties and how they solved them. By doing so, those new students would have better opportunities in learning from their mates' difficulties.

However, such strategies may not work unless ESL students change their attitudes towards writing and revising. For instance, this study found that the three writers had negative past experiences toward writing and that they perceived it as "a duty to be done" or "a class to be finished quickly." In addition, they would need to understand and appreciate the fact that revision plays an important role in improving the content and achieving the goals of the writer and recognize their own need to work on that aspect of their writing. Writers need to know that revision takes time and that they have to work on multiple drafts before they reach the final polished one. Furthermore, Jordanian students and other similar groups of ESL writers need to be knowledgeable about how the computer can be a powerful tool for composing and revising that facilitates more than editing. To do so, they need to experience and use all of the available functions of the computer as a tool that facilitates their composing and.

Implications for Specific Audiences

Helping Jordanian students to acquire certain types of knowledge, apply certain strategies while composing and revising, and change their attitudes toward writing, revision, and the computer needs the cooperation of different institutions and groups of

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people. Different audiences could play important roles in preparing and helping such students to be proficient writers when they start writing at the secondary school until they finish their higher education.

These audiences include the Ministry of Education in Jordan, Jordanian teachers of English and Arabic, higher education institutions and sponsors in Jordan, ESL and ELC instructors, and people in the U. S. who are in charge of admission of ESL students to the U. S. universities. Some of these roles and responsibilities overlap among these audiences and can be addressed by more than one group.

Ministry of Education in Jordan

It should be understood that the Ministry of Education in Jordan plays an important role in the academic preparation of students. The educational system in Jordan is still central. The ministry determines everything related to teaching and learning, what to be taught, and what not to be taught. Consequently, teachers of the different school subjects must teach only the content in textbooks that are provided by the Ministry of Education according to a fixed schedule. Teachers do not have the freedom to teach anything outside the textbooks. This means that relatively a certain unit in any textbook ought to be taught at the same time across the whole country. The current textbooks do not address writing as a communication process, nor do they emphasize composing and revising strategies. Therefore, the Ministry could design new curriculum and textbooks that would assist teachers to become able to teach writing as a means of learning and communication rather than an inferior requirement not appreciated by neither teachers nor students. Teachers and students would pay explicit attention to learning to compose and

revise and be more likely to appreciate and value writing in both languages.

Still, changing the curriculum and textbook is an expensive task and takes time. In order to enable the students learn to write in different genres without changing or canceling the textbooks, the Ministry might consider giving the teachers broad guidelines for the teaching of writing as a communication process and allow them the freedom to select certain materials in which those teachers can teach certain topics and genres of. By doing so, the students would be able to learn how to write for different audiences and about different topics and genres that would enhance and develop their writing skills and abilities.

Furthermore, the Ministry of Education needs to introduce the computer as a means of learning and as a tool for writing throughout the whole country. That is to say, the Ministry needs to provide formal instruction in teaching all secondary students basic keyboarding and how to exploit the computer's potential. By doing so, the students could become comfortable and proficient in using the most common word processing programs while they are at the secondary school and before they move to the university education. In fact, the Ministry's first steps into computer education were already taken in 1984-1985 when a pilot project involving two schools was established. Two years later, the project extended this early pilot to six other secondary schools. However, the number of secondary schools that have computers is still very low, and the number of computers in each school does not exceed 15 machines. The Ministry implemented several projects with the collaboration with the U. K. government during the 1990s to introduce computers in as many secondary schools as possible. This work could be extended to

other parts of Jordan.

However, the Ministry of Education might face several challenges while trying to carry out these developments. First, the financial factor plays a major obstacle in most types of change in a poor country like Jordan. Making all of these changes would require the Ministry to spend huge amounts of money on printing the new curriculum and textbooks as well as the preparation of teachers in order to use these textbooks. Nevertheless, this problem is likely to be solved by making the issue of learning writing a national goal that needs the cooperation of all sectors of institutions in the country. In considering the development of quality of education and computer education, perhaps the most significant feature of the 1980s has been the far-reaching reassessment and evaluation of the education system called for by King Hussein on the occasion of the opening on the National Assembly in 1985, and the consequent preparation of a national systematic plan under the leadership of Crown Prince Hassan. This plan, revealed at the First National Conference for Educational Development in September 1987, provided goals, rationalization, procedures, methodology, recommendations and work plans for the late 1980s and the 1990s. However, since we are approaching the second millenium within an age of computers and developed technology, the Ministry should continue active review and refinement of the national plan that is already underway.

Another related financial matter is that such type of change requires the Ministry to purchase several thousand computers, printers, software programs, and other peripherals. Although it is favorable that the Ministry should provide every classroom with two or three computers, making one or two computer labs in the school is a place to

begin. The problem of obtaining more computer hardware and software can be addressed by asking some governments of the developed world to support such projects by providing them with long-term loans. In fact, the Ministry of Education started its first projects with the collaboration of the U.K. government during the 1980s, and then it did the same then with the Japanese government during the 1990s.

Second, there are some other additional challenges that the Ministry is likely to face. For example, not all teachers might respond positively to changes in expectations for the teaching of writing the same way. Some may resist change because that requires them to change many if not all of their teaching behaviors and beliefs, or they may feel unprepared to implement the changes. It should be noted that teachers in Jordan are considered government officials and they have no choice in implementing the rules from persons in charge. In addition, because there is not any association or union to protect their rights, they always accept what comes from upper powers in order not to lose their jobs. On the other hand, there are some other more effective ways of encouraging those teachers rather than threatening them so that they are more likely to accept such changes without much resistance. For example, the Ministry could carry out, as it always does, continuous workshops in which those teachers can learn how to support students in their use of the writing process to create a variety of types of writing, and also understand the benefits to the students' lives. Hawkridge and Jaworski (1990) indicated that Jordanian teachers were very cooperative and enthusiastic to change when the first computers were introduced to secondary schools during the 1990s. Furthermore, the Ministry can establish some incentives that encourage the teachers to do this new job. These teachers

could be asked to visit other schools where teaching the new approaches of writing is demonstrated. Although it would be an increased financial cost, the Ministry could create an annual award for the best teachers in every county in the country and that the rest of teachers who participate in these new projects could get an annual increase on their salaries. Because of the low salaries that teachers receive and because of the low standards of living for most government officials, teachers might consider this last option as the best.

At the same time, the Ministry and the teachers it directs need to be cautious in accepting claims that word processing can improve the students' writing quality. They need to be sure that the students know the value of revising, know how to revise, and know how to use the word processor to facilitate revision. It is not wise to assume that students will revise more or be more effective revisers when they use a word processor than when they do not, no matter how long they have been using the computer. Explicit instruction in the writing process must accompany learning to use the computer.

Jordanian Teachers of English and Arabic

For the three writers, most changes were made during their work on the first draft. This suggests that teachers of writing of both languages should provide explicit support in helping their students to focus on generating ideas first and revise them in another session and they should continue emphasizing the importance of revision in improving the quality of the written texts. Moreover, teachers of writing should develop specific classes in which they teach their students how to make more extensive text-base changes in their essay writing. Such writing classes could be developed in which the students focus on

improving the ideas, voice, organization of thoughts first, and editing and proofreading later. Students also need to learn how to develop appropriate outlines, plans, and notes to be developed later in a more advanced written text.

In order to learn how to provide extensive support to students, Jordanian English teachers should reach out to others in the field, seeking and offering support, sharing and gleaning ideas. Becoming a professional includes keeping abreast of current theory, analyzing and applying theory to the classroom, and participating fully in the opportunities for development offered by others in the field. That is, continuing education and professional development for teachers of writing in Jordan can include reading major journals, enrolling in relevant courses, participating in (and offering) workshops, and becoming involved with professional organizations. By improving themselves, teachers of Arabic and English in Jordan can become more knowledgeable about teaching and learning writing and consequently more able to help their students.

To encourage teachers to engage in activities that are more professional and implement the above recommendations, the Ministry could create more incentives to educate those teachers. For example, all teacher training in Jordan is at the post-secondary level. Those preparing to teach in the basic stage (1-9 grade) are trained in teachers' colleges which have demonstration schools attached to them, and these teachers graduate with diploma status. Most teachers in academic and vocational secondary schools are untrained graduates (92 per cent in 1984) (Hawkridge and Jaworski, 1990), but an increasing number of teachers are attending two-year part-time postgraduate diploma courses in education offered by the state universities in the country. The Ministry could

increase the number of scholarships granted to teachers who spent five years in service to continue their higher education at the expense of the Ministry at the Jordanian state universities. In fact, the Ministry started this project during the beginning of the 1980s but the number of teachers who get such opportunity is very limited. By increasing the number of teachers who are granted such opportunities to continue their higher education, chances will be greater to have educated teachers who can teach writing as a means of communication and meaning discovery according to a set of academic standards determined by the Ministry of Education.

However, in carrying out such implications, Jordanian teachers of English and Arabic may face some challenges. For example, those teachers who are expected to carry out such implications need to feel the need for doing such tasks, otherwise the whole matter will not succeed. It is difficult to convince those teachers who have been in service for more than ten or fifteen years with the value of change. However, as indicated earlier, by creating different incentives and awards that suite all types of teachers and by showing those teachers the benefits they can make for their students, this challenge can be addressed.

Another challenge is that in order to create such change, teachers need time to execute it. Nowadays, teachers complain of the heavy teaching loads they have and the low salaries they receive. Therefore, by asking them to do something that really needs huge amounts of effort and time, it unlikely that this change will happen. However, the local community could be invited to take part in this huge task to help address this challenge. There are thousands of students who graduate from the universities and spend

several years without work. The Ministry of Education could announce that the priority of hiring future teachers would be given to those who spend a year or two as volunteers in one of the schools as an aide.

Higher Education Institutions and Sponsors in Jordan

Another important audience that this study addresses is the educational institutions in Jordan who send graduate students to pursue their higher education in countries where English is the first native language (U.S.A., England, Australia, etc.). These institutions should hold numerous programs and workshops with high expectations regarding learning English and in particular academic writing and should sponsor only those who meet these high expectations. Moreover, there should be similar programs and workshops about the implementation of the computer in learning to write. The cost of executing such programs and workshops in Jordan is much less than paying tuition fees for those students to learn English at the ELCs in the U.S.

However, one importune t complexity might arise if some decision makers claim that they need those prospective Ph. D. students to learn English in an ESL setting rather than an EFL one, or if they claim they need those students to learn the language within its natural context rather than with an artificial one. Furthermore, there is no guarantee that what those programs and workshops would enable the prospective students learning how to write according to the English academic standards of writing that is required in the U. S. universities. Such problems can be solved by hiring American and British professors and instructors who have enough experience in teaching writing for ESL students according to the academic standards of writing. This phenomenon is not a strange one in

Jordan. In fact, many departments at several universities started with American and British professors. Also, major state universities in Jordan have strong exchange relations with several universities in the U. K. and the U.S. Therefore, the universities in Jordan could benefit from the experiences of such British and American universities in preparing those students before they leave the country.

ESL and ELC Teachers

It is not enough to determine what will be expected of ESL students in the university and then give them models of what ESL instructors want them to produce. Instructors must also determine what these students' prior experiences are because students from different backgrounds require different approaches in learning how to write. This implies that the ESL writing teachers should try different techniques and strategies in which they put students who speak the same language in similar groups and make them talk about the differences of writing rhetoric and styles between the two languages. By doing so, the teachers' as well as the students' attention will be drawn to such differences and similarities and they will think about various avenues that will help those students meet standards of academic writing.

Silva (1990) indicated that ESL composition professionals need an understanding of what is involved in second language writing. They need coherent perspectives, principles, methods --- tools for thinking about second language writing in general and ESL composition in particular, and for analyzing and evaluating competing views. They also need to know how ESL students learn and then adjust their teaching styles to accommodate the range of learning styles presented in the classroom. ESL composition

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teachers need to become informed about appropriate U. S. academic discourse patterns and to inform their ESL writers about discourse differences and audience expectations. They need to offer opportunities for practice and experience with the new schema.

It is important for ESL teachers of writing to recognize that the students in their writing classes might have been accustomed to different modes of instruction that reinforced narrow and limited notions about the functions of writing and revising. For example, the subjects in this study tended to understand that writing was done for teachers and that revising and editing are interchangeable. Therefore, before ESL teachers ask the students to understand the complexities of revision, they need to help those students change their perceptions of the writing process. It is not reasonable to assume that all ESL teachers lack such knowledge and skills in dealing with ESL students. However, some of them might need extensive training programs and sessions that discuss the different rhetoric styles of writing of different languages. This can be executed by inviting scholars of various foreign languages to explain and discuss how writers approach writing and revising in their native languages and possible problems that those writers might face when they compose and revise in English as a second language. Another option, which could be considered as an incentive for those ESL teachers, is to send those ESL teachers to different countries where the majority of the students come from. During these visits, ESL teachers might spend a year or more during which they would learn how writers of different languages compose and revise in their native languages in a natural setting and they might have the chance to learn that language. If the U.S. universities would like to recruit more international students, this option should

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be considered seriously because ESL students then will appreciate that fact that their instructors are knowledgeable about not only the language they want students to learn but also their native language.

People Who are in Charge of the Admission of ESL Students to the U. S. Universities

Another audience that this study addresses is the groups of people who are in charge of the admission of ESL student to the U. S. universities. Such groups should determine the policy of admission to those students in advance and emphasize that such students should demonstrate strong academic writing skills before they start their academic programs. Many American universities accept the 550 TOFEL score as the language requirement for admission, and that some of them require the writing part of this test which provides limited information as to what kind of additional writing support is needed. Those students who do not posses adequate writing skills, are usually enrolled in writing classes. Once the students finish these language courses and start taking the content academic course-work, these universities should keep a continuous contact with the students' sponsors to inform them of those students progress for future procedures and actions. In the case that a group of students have distinct weakness in fulfilling the requirements of academic writing for the content course-work, they should be assigned to special course in which they receive intensive instruction in learning how to write revise for academic purposes. Furthermore, their sponsors should be informed about these procedures so they can continue to evaluate the extent to which their own preparation for writing is adequate.

Recommendations for Further Research

This study focused on composing and revising of an argumentative essay. A similar study that investigates other types of writing like comparison and contrast, narration, or description could be conducted to see whether such types of writing have any effect on the quality or quantity of writing and whether the revising behaviors of the writers change according to the type of writing they are involved with. For example, a study that focuses on writing lab reports only is needed since some students and teachers believe that the writing skills and abilities needed to write a lab report are different when writing a general term paper in the social sciences. This study can replicate the present study with emphasis on another type of writing, for instance, the lab report whether in science, math, or engineering. Hence, such a study would inform us whether students excel when they write using a genre of writing that is familiar in their field of specialization of major or when they write about general topic like the on assigned in this study.

This study gave the writers an assigned topic. A similar study might be conducted in which the topics of writing are selected by the writers themselves to see whether the types and numbers of revisions are affected by the selection of topic. This type of study is needed since some researchers believe that topic selection plays a vital role in determining the quality and quantity of writing and composing. In this study, the students were not given the topic in advance. Other researchers may wish to conduct a similar study on other Jordanian students in which they give the topic in advance of their participation to investigate the effect on the quality and quantity on the writers' revision.

This recommendation is similar to the one mentioned earlier, in which the students select their own topics. However, in this new recommendation, the students not only become familiar with topic but also they can talk about it, discuss it with other friends and even search for relevant and related sources about this topic in the library. This kind of study is needed because such type of writing is more typical of what most graduate students do when they are asked to write a paper. They think about the topic, discuss it, search, and prepare primary and secondary resources, make necessary notes and plans, and then write and revise the paper.

Also, a similar study could be conducted over a longer period of time in which the writers compose and revise real academic papers that could be parts of the requirements of their academic courses assignments. By doing so, we would come to understand more about such writers in terms of whether or not their composing and revising behaviors change according to artificial or natural writing assignments. Such study is needed because many researchers in the fields of writing believe that time is an important factor in determining the quality and quality of writing. In this present study, the students assumed that they would write an essay in one session and revise it in another. However, if a study is conducted in which the students know in advance that they will work on a single piece of writing for several weeks or even months, it is possible that their composing and revising behaviors as well as the quality of their writing would be different than when they assume in advance that two sessions will be enough. Such a study could replicate all the questions of this present study with one major difference. The future study should be conducted with some kind of arrangement by which the

researcher could visit those students in their homes or wherever they choose to work on their written texts.

This study asked the writers to compose and revise using English as a second language. A similar study could be conducted in which the writers compose in their native language as well as English as a second language by using the computer as a tool for composing and revising. By doing so, we can increase our knowledge about whether or not non-native speakers change their writing and revising behaviors according to the language they use. Such a study could replicate the present one or it could even change some of the characteristics discussed above, such as the topic selection, the genre of writing, the time factor, etc.

This study investigated the composing and revising behaviors of Jordanian graduate students. Other studies could be conducted in order to investigate the revising behaviors of Jordanian students at different levels (i.e., intermediate or beginning) of proficiency in English to determine to what extent Jordanian students' revising behaviors are controlled by the level of fluency in English. Such study is needed in order to see whether some behaviors are pertinent to the language under consideration or to the level of proficiency in the target language. By doing so, teachers can prescribe certain strategies in which they can help those students throughout the various levels of education.

By studying the composing and revising behaviors of three Jordanian students, this study revealed many challenges they faced, even at the end of their graduate program, in generating an essay that meets standards of academic writing. It identified

many gaps in these writers' knowledge and skill and their proficiency in using the computer as an aid in improving the quality of their writing. It identified areas that require further attention by those responsible for their education prior to becoming graduate students, and those responsible for supporting the students' development as writers throughout their graduate program. The implications suggest that several groups of people need to take part in addressing the challenges identified, showing that without concerted effort in many areas, the problems that writers like Jaber, Mazen and Hilal faced are likely to continue for other students of similar backgrounds.

APPENDICES

APPENDIX A

INTERVIEW QUESTIONS

INTERVIEW QUESTIONS

Name: **Interviewer:**

Date :   **Time:**

WRITING AT THE SCHOOL LEVEL

1.   Tell me about your experiences as a student of writing, how did you learn to write in your first language?

2.   Did you study writing in your native language while in school? For how many years?

3.   How much writing did you do each month/year in your secondary school?

4.   When you think about "writing", what does it mean to you at the school level? [*How do you define it? Are there any other forms of writing you think about?*]

5.   Besides school writing, what other kinds of writing did you do?

6.   Were there other kinds of writing you wish had been included? Which ones? Why?

7.   Who assigned the topics for writing? How often? Give an example of these assigned topics?

8.   What forms of writing were you expected to use?

9.   What techniques for teaching writing were used in the writing class? Which of these techniques were the most commonly used?

10.   Do you recall anything your teacher did to help you become a better writer? Explain in detail the method(s) your high school teachers used to teach writing.

11.   Did your teachers help and provide feedback before writing, during writing and after the writing sessions? What kind of help and feedback did the teachers provide during these three stages?

12.   How did your teachers evaluate the written papers? How did you know what they expected of you?

13.   What are the things that your teachers emphasize when they graded your papers? [*Suggestions*]

    a)   Beauty of language

    b)   Clarity of main idea

    c)   Correct grammar and spelling

    d)   Expressing your true feelings honestly

    e)   Length of paper

    f)   Neatness and handwriting

      g)   Originality and imagination

      h)   Organization

      i)   Persuasiveness

      j)   Quoting experts and other sources

      k)   Truth of ideas

      l)   Using good examples and details to illustrate main ideas.

      m)   Other

14. Please tell what meanings these concepts have for you. Where did you learn about these things?

      a)   prewriting activities [*suggestions:*]

            i)   brainstorming

            ii)   generating ideas

            iii)   discussing topics

            iv)   making outlines

      b)   the process of writing

      c)   revision

      d)   organization

      e)   cohesion

      f)   coherence

      g)   editing

      h)   proofreading

      i)   mechanics of writing [punctuation marks, spelling, capitalization, hyphenation, structure,

      j)   style

      k)   audience

15. Did you study any of these processes in writing classes?

WRITING AT THE UNIVERSITY LEVEL (undergraduate level)

1. Tell me about your experiences as a student of writing at the university level.

2. Have you studied "writing" at the university? In what years and in what courses?

3. When you think of "writing", what did it mean to you at the university level?

4. What was the language of instruction in which you learned writing?

5. In what way(s) was/were the teaching of writing at the school similar/different to

the teaching of writing at the university? (EFL & Arabic)

6. How often did you write at the university? In what courses? What type of writing was required and in what language? (EFL & Arabic) [*expository, narrative, descriptive, argumentative, persuasive*]

7. Were criteria for evaluating your writing made clear to you? If so, what were these criteria? (EFL & Arabic)

8. What do you think the instructors were mainly interested in when looking at a written assignment? How did you know that? (EFL & Arabic) [*language, structure, content, organization!*]

WRITING EXPERIENCES IN THE US UNIVERSITIES

1. Did you take writing courses while being in the USA? Who asked you to take them?

2. When you think of "writing" in the US, what do you think it includes?

3. How many "writing" courses did you take? Where and when did you take them?

4. How much writing was in every course? What type of writing? [*Narrative, expository, argumentative, persuasive, academic writing...etc.*]

5. Is/was the teaching of writing in your country similar or different to the teaching of writing in the US? In what regards? Why do you say so? [*Style, audience, focus, style, organization, language*]

6. In what way(s) did/didn't the course(s) of writing help you in your academic writing? Do you recall your teacher(s) doing anything specific that helped you learn to write? If so, what?

7. What problems of writing did you encounter while being a graduate student in the US?

8. Did you overcome these problems? If yes, how did you do that? If no, why?

9. In your opinion, what are the best methods to be used to make you a successful writer?

10. How successful are you in fulfilling the English academic writing requirements?

11. How do you evaluate yourself as a graduate student writer?

GENERAL WRITING EXPERIENCES AND WRITING ON THE COMPUTER

1. What do you usually do as you are getting started with a writing assignment?

2. What activities or strategies do you employ when writing a paper? Talk specifically about the stages before, during, and after the assignment is done.

3. How much time do you give for each of these activities?

4. What other things do you do before getting started? [*Making notes, outlines,*

sketches, etc.].

5.   Where do you do these things? [*On a separate paper or directly on the computer! Why?*]

6.   How many drafts do you often write before you write your final draft? Where do you do these drafts? [*Computer or Paper?*].

7.   How often do you revise your drafts? Do you use the computer in revising? What things do you look for when you revise a draft?

8.   Some people do meticulous proofreading. What do you do about proofreading? How do you do this? How often do you do it?

9.   What are the major things you look for when you proofread a draft?

10.   Do you use the computer to proofread for you? Why?

11.   When you think of "revision", what does it mean to you?

12.   What are the major concepts you take into account when you revise a paper?

13.   What do you do when you revise a paper? Where do you do this? [*Paper or computer?*]

14.   Do you use the computer to help revising your drafts? How do you do this? How often do you use the computer for revision?

15.   Do you think the computer facilitates your revision? How?

COMPUTER SKILLS AND WRITING

1.   How long have you been using the computer?

2.   Where and when did you start using the computer as a word processor?

3.   How do you feel about using the word processor as a tool for composing and/or revising?

4.   How familiar/skillful are you with the computer editing functions? [Cut, paste, copy, spell check, grammar, delete, thesaurus, hyphenation... etc.?]

5.   How often do you use these function?

6.   Which of these functions you use most?

7.   Which of these functions you use least?

8.   In what stage of writing do you usually use them?

9.   How familiar are you with keyboarding? Did you learn it by yourself or did you study it?

10.   Do you use all of your ten fingers when you type as they are specified for the keyboard? How fast are you in typing?

11.   How often do you use the computer in your writing and/or revising?

12.   What do/did you find most difficult about using the computer as a word

processor?

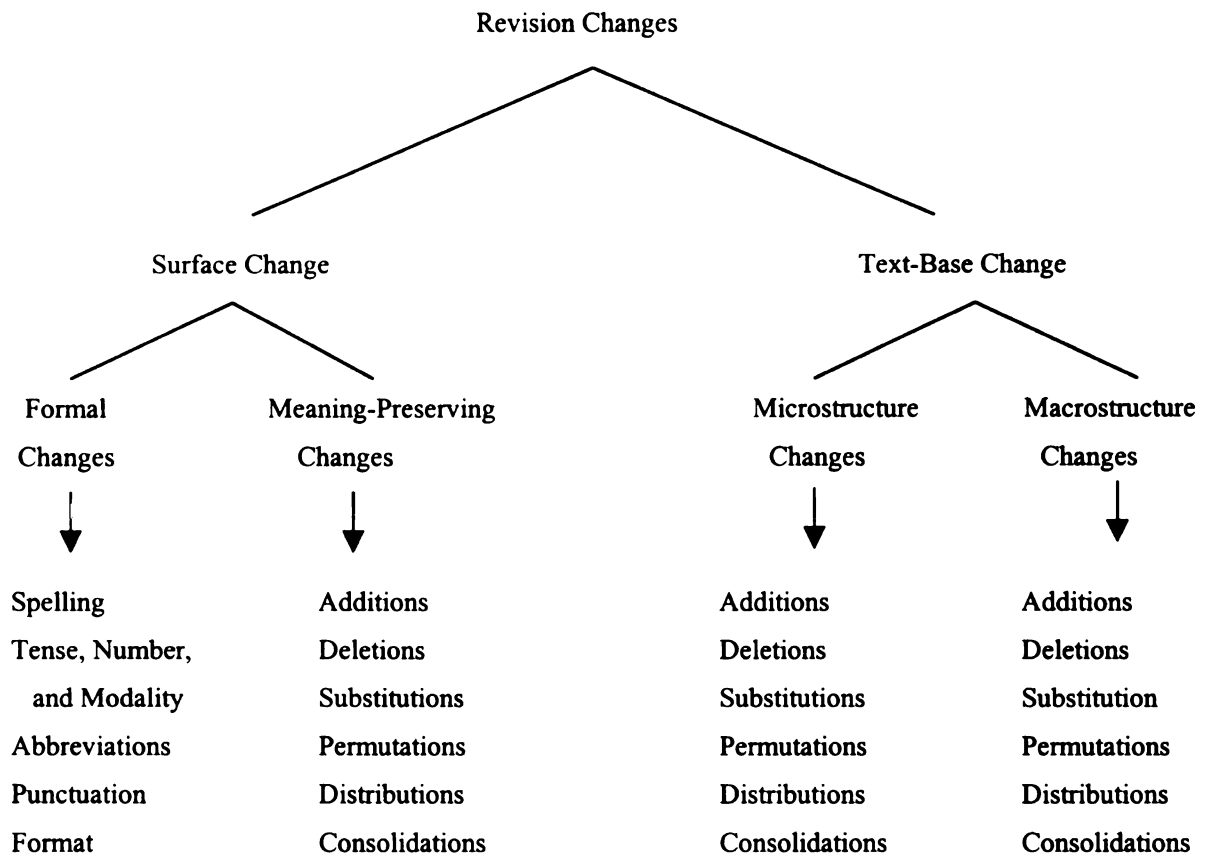13. What do/did you find the easiest thing about using the computer as a word processor?

14. Can you rank the ways in which you found that the computer was helpful for you with your writing? (Use five for most and one for least) Prewriting, first draft, organization, revision, final draft, mechanics (spelling and grammar, find and replace, hyphenation, etc.)

APPNEDIX B

TAXONOMY OF REVISION CHANGES

Taxonomy of Revision Changes

This taxonomy of revision changes is based on whether new information is

brought to the text or whether old information is removed in such a way that it cannot be

recovered thorough drawing inferences. The changes that do not bring new information

to a text or remove old information are called Surface Changes. Meaning Changes,

involve the adding of new content or the deletion of existing content.

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                              Revision Changes
                        /                          \
                       /                            \
            Surface Change                       Text-Base Change
             /        \                            /         \
            /          \                          /           \
       Formal      Meaning-Preserving       Microstructure   Macrostructure
       Changes        Changes                  Changes          Changes
         ↓               ↓                        ↓                ↓
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Spelling	Additions	Additions	Additions
Tense, Number,	Deletions	Deletions	Deletions
and Modality	Substitutions	Substitutions	Substitution
Abbreviations	Permutations	Permutations	Permutations
Punctuation	Distributions	Distributions	Distributions
Format	Consolidations	Consolidations	Consolidations

Taxonomy of Revision Changes developed by Faigley and Witte (1981)

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APPENDIX C

EVALUATION SCALE

Evaluation Scale

Code: Date:

Reader:

On a scale of (1-10), please score the essays according to the items on this scale:

Coherence	1	2	3	4	5	6	7	8	9	10
Content	1	2	3	4	5	6	7	8	9	10
Organization	1	2	3	4	5	6	7	8	9	10
Syntax	1	2	3	4	5	6	7	8	9	10
Vocabulary	1	2	3	4	5	6	7	8	9	10
Mechanics	1	2	3	4	5	6	7	8	9	10

Total Score:

APPENDIX D

JABER'S ESSAY

Out lines:

I) Introduction

II) Body of the essay

———— Taking courses in teaching pedagogy-Research

———— Taking courses in American Culture

———— Passing an English proficiency exam

———— Passing a specializing exam in the area of interest

III) Conclusion

The Requirements for the International Graduate Students to Work as Graduate Research/Teaching Assistants

International Graduate students are considered a very full resources for their universities. They can support their programs in too many significant experiences. One of the most important contribution to their universities is to work as a graduate teaching and/or research assistant. Many universities require from international graduate students to fulfill some requirements before they start teaching or doing research. In my essay I will try to argue whether these requirements (i.e. Taking courses in teaching pedagogy/Research;pedagogy/or research techniques; Taking courses in American Culture; Passing an English proficiency exam; & Passing a specializing exam in the area of interest)

interest) are necessary for international graduate students to have in order to teach

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or do research.

Taking courses in teaching ~~pedagogy/Research~~pedagogy/or research techniques is important for any teacher or staff member to have in order to teach or do research, for Americans as well as the International students. So. nobody can argue that these kind of requirements are not important for teaching or doing research. but we need not to forget that those international graduate students came to the United state of America with a good academic and professional background. Most of them taught or did~~a~~ research for more than one year. For example some universities in their home country requires from any students ~~how~~who got a scholarship to get his/her Ph.D. from ~~out side~~outside the country to take courses in teaching and to teach for one year. So, ~~to~~the reduplicate of these experiences will not help too much. On the other hand, some students ~~how~~ ~~have~~who has an education background do not need these kind of courses, because all-ready they have it.

Taking courses in American Culture is not a bad idea to have access to these kind of information and be familiar with the American culture, but international graduate students through their interaction with American students can gain some experiences about how to interact with people from different cultures and countries. The administrators can support international graduate students with this experience through ~~an orientation activities.~~different activities (for example orientations, workshops, exhibitions). But taking courses that focus on the American History and cultures will not help too much, plus it needs more time to prepare graduate students to start ~~much.~~teaching. In addition to that, I guess no one can argue that All Americans share the same history. So, how many courses do I need to take to cover all of these issues.

Passing an English proficiency exam as ~~requirement~~the requirements to have an assistantship is important to have, but these requirements are already fulfilled from the beginning. It is not allowed for any international student to take academic courses without basing the proficiency test in English as a Second Language or having a TOEFL score not less than 550. These ~~requirement~~

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~~is~~requirements are sound good, but according to my experience with the ELC ~~that~~at

--- I do not think this center is capable to support international students with the experiences that they need to improve their language skills.

~~Their~~ The ELC process and requirements are too lengthy and painful. They teach you how to acquire the language skills without any significant connection to your academic program or academic writing. For me, it sounds that ~~they need~~the ELC policy is to keep international students in this center for ever in order to collect more ~~many~~money. Some one might argue this is your personal experience, so how are we going to trust you? Yes it looks a personal experience, but if you have a chance to talk to graduate international students ~~how~~who were graduated from ELC you will find this argument is common. My best advice for you not to ask a visitor students who attend in this center because they are not looking to acquire these kind of skills.

My recommendation in this case as an alternative is to let international students to interact with American students in a real situation, and the most fabulous way to do that is to let them teach. Teaching will give them the chance to improve their writing, reading, and speaking skills. Because we know as educators, person can learn more while s/he is teaching.

Passing a specializing exam in the area of interest as a requirement is not important and sound to me as a silly standard, because before you inter to the program you need to ~~take~~have a GRE test which might gives ~~us~~the administrators an indication to the students' background. Plus in order to be accepted in the program you need to have a strong academic background in your area of interest(content background).

Personally, I have a B.Sc. in Chemistry, this academic background allow me to work in LBS ~~that~~at ---- for three years. I am working over there as a chemistry lab coordinator for the undergraduate T.A.s and take care of the lab in every single details. The program director as well as many other staff members say something positive about me. This year I am working with a new staff member to change the nature of the lab from traditional lab to an inquiry lab

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oriented. I found the academic background that I have is important to make these kind of improvement in the lab, but never ever any academic test can tell you whether the student be able to do that or not. Plus for any test there are two many limitations which minimize the outcomes of these test that focus over the content. So, the scientific process and lab skills are not easy to be measured through these tests.

For me it sounds easy to set standards or any kind of requirements in order to allow for international students to work asa graduate assistants, but this will prevent the university to benefit from the magnificence of these kind of experiences that they have based on these standards. The uniqueness of ---- is that has students from 121 countries, these requirements will minimize the role of international students in ---- and disvalue their intellectual and professional background.

Applying these requirements will help the administrators to reduce the complains and problems that might raise from the American students, but from the other point of view will prevent the American students to interact with students from different countries and their chances to widen their global perspective will be less. Study a broad is one way to gain this experience, but here inthese experiences, but here at ---- you have the world by itself, so why you need to travel?!

APPENDIX E

MAZEN'S ESSAY

Mazen's Essay

This is to discus the issue of the recently assigned qualifications for the prospective international graduate assistant .

An international graduate student supposed to be selected on ~~the basis of~~ his or her academic outstanding and had ~~attained~~ the minimum ~~capability~~ to communicate with others , both these attributes are ~~developing by~~ developed with practice and ~~it is~~ they are hard to ~~test~~ be tested regularly. I think the former should be evaluated by the admission committee in advance, so this essay will concentrate on the communication skills that are required for a teaching and research assistant .

An undergraduate student whether American or not needs the academic help from the Teaching Assistant (TA), so it is a common task to communicate between the student and the TA in an issue that the TA has a wide knowledge and experience, ~~specifically he has~~ in addition to a good command ~~of~~ in terminology ~~and their meaning~~ of the field of concern. The process of interpretation ~~ideas or a hints~~ an idea or a hint doesn't require the TA to know the student culture nor the students have to know the ~~TA's~~ culture of the TA; However , the student is assumed to have the prerequisite ~~classes and~~ education to enroll the class. The TA can ~~sense~~ feel the ~~student's~~ academic level and students education and ~~use this feedback to~~ easily adjust himself in accordance to students' needs.

ELC Test can evaluate the ability of TA ~~of~~ in communication ~~in the~~ of regular life needs rather than the academic ~~skills or~~ interpretation, thus it is more important to test the ~~communication of~~ academic fluency rather than a general English language proficiency, academic ~~communication~~ fluency measures to a high extent the ability of a TA to help the students, that an academic committee of the department professors including the class instructor can judge in a butter way than ELC could.

As a TA in the Department of Agricultural Engineering I didn't meet any of those requirements but I think it is not hard to explain any problem solution to the students , ~~indeed~~ but it takes me more time and use sketches to facilitate the task.

The new assigned requirement expected to take the graduate student away from his

studies and research , really it is   a long time wastage obstacle that would not result in a significant improvement in the teaching and research processes.

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studies and research , really it is   a long time wastage obstacle that would not result in a

significant improvement in the teaching and research processes.

APPENDIX F

HILAL'S ESSAY

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Hilal's Essay

<u>An Essay</u>

Subject: Arguments in regards to graduate assistants <u>to work</u> as teachers or researchers in Michigan State University.

My argument comes from my experience as a graduate student in MSU.

Teaching is ~~considered to be one of the most important operations in the whole teaching and learning process.~~ <u>an important process in student's learning which will result in his/her performance later on through the real world performance.</u> Teaching as a process has major components:

1. The teacher

2. The student, and

3. The <u>curriculum or the</u> content

Student learning or the degree to which student can learn depends on the degree to which the teaching is effective. The teacher plays a big role in terms of student learning; teaching effectiveness through the delivery of the content or the materials he/she wants his/her students to ~~gain~~ <u>learn.</u>

Teaching effectiveness requires a qualified or skilled teacher. These qualifications related to more than one element such as:

1. Degree of education; knowledge in his/her area,

2. Teaching skills; ability to introduce, explain, and demonstrate the intended content.

3. Language; is he/she native or non native speaker.

<u>The assumption that the teacher has a high degree of education which enable him/her to introduce, explain, and demonstrate the intended skill or content does not mean that he/she can deliver this information in a good style. This arises a question like, is he/she used a suitable teaching method. Again if we supposed that he/she chose the correct teaching method, is he/she qualified in terms of language</u>

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(communication) to teach it in a manner (choosing correct words or phrases, clear accent, etc..) that is understandable to the students.

As non native speaker student, it is not easy to study any area in a second language before you became proficient in that language. So if taking information by a second language is difficult for me, I think it will be more difficult to give information to others.

In the case of teaching, I urge strongly the administrators in MSU to apply all of the requirements without exception and to ~~increase~~keep up emphasizing on the level of the English language ~~test difficulty~~ability for non native speakers.

~~My previous argument will be the same in the case of~~Although there are some differences between the teaching and research in terms of profession, I think the same requirements are important for the graduate assistant who is going to work as a researcher.

Name:

Date: 1-7-98

APPENDIX G

GLOSSARY

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GLOSSARY

ESL: English as a Second Language: often limited to students studying English in an

      English speaking country.

ESL : English as a Foreign Language: often limited to students studying English in their

      native countries.

L1: The first or native language that a person speaks. It is usually acquired naturally.

L2: The second language that a persons speaks. It is usually learned through instruction.

NES: Native English Speaker.

TOEFL: Test Of English As Foreign Language.

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