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On the Issue of Ultimate Attainment in L_2 Acquisition: Theoretical and Empirical Views

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Abstract

One of the challenges for L_2 acquisition research is to explain not just success with L_2 but also failure. That is, L_2 researchers have wondered about why most L_2 learners do not achieve the same degree of proficiency in an L_2, as they do in their L_1. The major question, then, is why variations occur in the performance of L_2 learners. The present study, therefore, addresses the debate on the causes of variability in L_2 learners' performance. First, it traces the conceptual framework of such a debate and, in so doing, a multidisciplinary approach was adopted. The purpose was to provide a thorough review on the issues pertinent to the present issue under investigation. Second, the present study reports the results of an experiment conducted on fifteen learners of English as an L_2, enrolled in the Intensive English programme at the University of Pittsburgh, USA. Results were obtained and conclusions were made.

Keywords: Variability, Noticing hypothesis, L_2 writing, Correction tasks

Preliminaries

Many research studies have shown that the linguistic behavior of the L2 speaker is commonly believed to differ from that of the native speaker (Birdsong, 1992; Epstein et al,, 1998; Sorace, 2000). In this regard, Tsimpli (2006: 387) points out that the differences between the L_2 speaker and the native speaker are both qualitative and quantitative, especially in early stages of L_2 development, and involve several aspects of language. In general, the difference between L_1 and L_2 learners is considered to be either a difference in the learning mechanisms employed in the developmental process, or an (in) ability of the learner's system to successfully analyze L_2 input, resulting in a non-target mental representations of the L_2 grammar (White, 2003; Hawkins, 2001). As Tsimpli (2006) points out, the majority of research on L_2 variation attempts to account for the L_2 data on these grounds.This notion of variability, Tsimpli continues to argue, seems to be distinct from the notion of individual variation or individual differences: 'these terms aims to describe variation among L_2 learners who have been grouped under the same level of L_2 performance, on some independent measure of evaluation' (p. 387).

1. Significance of the Study

The value of investigating the notion of individual variation or individual differences, as indicated above, lies in the fact that the degree of individual variation among L_2 learners has been used as a criterion for distinguishing first from second language development. Research shows that child L_1 learners follow a relatively uniform developmental pattern, whereas there is a lack of uniformity in the outcome of L_2 acquisition. The uniform, fast, and effortless process of L_1 development has been viewed within the innateness hypothesis for language acquisition. On the other hand, the lack of uniformity in the outcome of L_2 acquisition gives rise to alternative hypotheses and, accordingly, several possibilities have been offered. Recent studies in L_2 acquisition have raised alternative or additional possibilities to account for variation in the performance of the L_2 speaker, which are based on two fundamental hypotheses on modern linguistic theory. The first hypothesis concerns the competence / performance distinction in language, and the second hypothesis draws on the new 'minimalist' direction which generative linguistic research has adopted with Chomsky's (1995) minimalist program (Tsimpli, 2006: 388).

2. Theoretical Framework

The most fundamental change in the area of L_2 acquisition in recent years has been a shift from concern with the teacher, the textbook and the method to an interest in the learner and the acquisition process. In this connection, Ritchie and Bhatia (1996: 23) maintain that "we stress the fact that adult L_2 production at any given point in the acquisition process is highly variable, changing systematically in a number of ways under a variety of conditions". Variation is a key concept in all kinds of research. In linguistics, as Nunan (1996) points out, when researchers observe systematic variations in language use, they want to identify the linguistic and situational variables to which the linguistic variations can be attributed. These variables might include (1) the linguistic environment; (2) sociolinguistic factors; (3) the type of speech event; (4) the developmental stage of the learner; and (5) factors associated with the data collection procedures. In this regard, Freeman and Long (1991: 152) also maintain that "there is, however, a host of other factors which have been offered to explain differential success among SL learners, to explain why some acquire a SL with facility while others struggle and only meet with limited

success. These factors are native language variable; input variable, and the individual differences that exist among second language learners" (See Ellis, R., 2006; Eskildsen, 2008). Ellis (1990: 387) writes of the variability among second language learners as follows: "The essence of a variabilist account of SLA is that the competence of the learner is much more variable than that of the native speaker, for the simple reason that inter-language systems are more permeable to new forms than fully formed natural languages. Often a learner's knowledge is anomalous in the sense that she may not be sure whether form X or Y is required in a given linguistic context. As a result, she will sometimes use one and sometimes the other.... (a learner's competence) is inevitably variable because acquisition involves change, and change can only occur when new forms are added to the existing system, resulting in a stage where two (or more) forms are used for the same function". Relatedly, the problem is how to describe the speaker's knowledge, particularly if the speaker is a SL learner. The variationists may simply be 'collecting facts', without a theory to explain them (Brown, 1996).It is widely agreed that second language learners manifest variable control in performance. That is, whereas, on one occasion, they may produce a correct structure, on another occasion, where the same structure, would be appropriate, they produce a deviant structure. In this regard, Tarone (1985:35) maintains that 'the systematic variability which is exhibited in the learner's performance on a variety of elicitation tasks actually reflects his/her growing capability in IL, and is not just a performance phenomenon'. Tarone, then, is claiming that variability is an inherent feature of the representation of language knowledge among second language learners (Larsen Freeman & Cameron, 2007; Mangubhai, 2006).

3. The Purpose

This study addresses the debate on the causes of variability in L_2 learners' performance. First, it traces the conceptual framework of such a debate by critically review the research that was carried out on such an issue. In so doing, a multidisciplinary approach was used with a view to discussing it from all its aspects. Second, this study summarizes the results of an empirical study, conducted by the author, on speakers of English as an L_2.

3.1. Experimental Methodology

3.1.1. Subjects

Fifteen subjects participated in this study. They were from a variety of language backgrounds. There were nine females and 6 males. Two subjects were under twenty years of age. Seven subjects were between twenty and twenty-five years old. Six subjects were over twenty-five years of age. Three subjects had studied English in their home countries for more than eight years. One subject had studied English in her home country for exactly eight years, three for seven years, six for six years, one for four years, and one for five years.

Only four subjects indicated that their previous English classes gave the most attention to writing. Emphasis on grammar was mentioned as the core of most subjects' previous English classes. None of the subjects had ever been in an English-speaking environment before coming to the USA. Twelve had been in the USA for less than one year. Three had been in the USA for more than a year, one of them for more than sixteen years (See Appendix 1).

3.1.2. Instruments

The instruments of this study consisted of four tasks. First, a questionnaire was constructed to elicit information from each subject about his/her name, country, sex, age, linguistic background, and the extent of his/her exposure to the English language. Each subject was also asked to pinpoint the most difficult areas of grammar that always troubled him/her when he/she wrote in English (see Appendix 1). Second, the subjects were asked to write an essay of about two hundred words. The topic was "The Value of Learning English." It was chosen because it was related to students' interest and not technical. In order to keep the classroom's atmosphere as natural as possible, students' regular teachers assigned' this task as if it were a regular class assignment. Written instructions were given to the students before they wrote. To guarantee that every student knew what he/she should do, teachers read the instructions and asked students to feel free to ask questions if they did not understand. Specifically, students' attention was drawn to the necessity .of concentrating on both form and meaning. The time allowed was forty minutes (see Appendix 2). Third, the subjects were asked to perform on focused/unfocused correction tasks. The basis of these two tasks was the morphosyntactic errors that appeared in each student's essay. In an unfocused correction task, all sentences with morphosyntactic errors were provided. Each sentence contained one or more errors from the individual's essay. Each student was told that there were grammatical errors in the sentence and was asked to correct them. Written instructions were given to each student. The time allowed for this task was fifteen minutes (see Appendix 3). Having done this task, students were given written instructions on how to work on the "focused correction task" (see Appendix 4). In the focused correction task the same sentences from the student's essay were presented. This time, the students' attention was drawn to the specific errors (i.e., the errors were underlined). Before students started to work on this task, their regular teacher explained the written instructions clearly and slowly. Students were asked to correct the errors that appeared in each sentence (see Appendix 4). Fourth, each student was interviewed to explain his/her performance in the essay, the unfocused correction task and the focused correction task. I interviewed the students individually. The meetings were held in the students' lounge in the Department of Linguistics. Conducting the interview, with each subject took about twenty to, thirty minutes. Every subject had the opportunity to choose the time of the interview. However, I had to reschedule three of the meetings because there subjects failed to keep their appointments. Subjects (13) preferred to meet in Hillman library.

During the interview, students were asked to explain why changes were made and were probed to clarify as often as necessary. No feedback on the correctness of the changes was given before the end of the interview. Students' explanations were tape-recorded, and transcribed (see Appendix 5).

3.1.3.1. Data Analysis

The data analysis had a quantitative and a qualitative, interpretative part. The quantitative part consisted of a statistical comparison of the number of errors in the composition, unfocused correction and focused correction tasks (by means of one-way ANOVA). First, the number of students' errors in the essay, unfocused correction and focused correction tasks was calculated. Students' errors in the unfocused correction task were counted as either remaining ones that were previously made in the essay (and never corrected), or new errors. Similarly, students' errors in the focused correction task were categorized as either remaining, or new errors. Second, the

frequency distributions and descriptive statistics for students' errors in the essay, unfocused correction and focused correction tasks, were made. The qualitative part was an analysis of each student's conception of the grammatical rules that were violated in order to explain any discrepancies between their performances in the tasks. This analysis was inductive, based entirely on the individual's explanations, and aimed at accounting for the differences between the tasks.

4. Review of Literature

4.1. The Nature of L_2 Learners' Knowledge (Competence)

In recent years, the nature of competence in a language and how it is to be distinguished from performance is an issue which has constantly resurfaced (Brown, 1996). Knowing a second language well means knowing information similar to that of a native speaker of a language. Given the complexity of the knowledge that must be learned, it should be clear that the study of the acquisition of that knowledge is a highly complex field. The following section is meant to examine the interrelated components of L_2 learners' knowledge or competence, which is considered a major reason for the variations in their performance.

The notion of competence is one of the most controversial and confusing terms in use in the fields of Linguistics and Applied Linguistics. According to Taylor (1988:148), the confusion arises from the fact that different writers use the term in different ways. He points out that some writers use the term to refer to something absolute whereas others appear to mean by it something 'relative'. This latter group seems to include the idea of "ability" within competence, thus equating it with 'proficiency'.

The clarity of the distinction drawn by Chomsky between 'knowledge' as represented by competence and 'putting to use that knowledge' is furthermore firmly established by such statements as the following: “A person who has learned a language has acquired a system of rules that relate sound and meaning in a certain specific way. He has, in other words, acquired a certain competence that he puts to use in producing and understanding speech” (Chomsky, 1970:184).This means that Chomsky's idea of competence has nothing to say about language use, or about ability to use the language knowledge represented as competence, or about how the language user makes use of his knowledge, or even about how competence is acquired. Chomsky distinguishes two types of competence: (1) pragmatic competence, and (2) grammatical competence (Chomsky, 1972:40).Chomsky's notion of competence demonstrate how complex and important linguistic competence is, and, if native speakers of English have grammatical competence by intuition, this may demonstrate how much effort second and foreign language learners have to exert to learn English. However, grammatical competence, as described above, is only one part of "proficiency". The other part is what has been known as 'communicative competence'(Hymes, 1972).

4.2. L_2 Learners’ Knowledge: Cognitive Psychology’s Perspective

Greeno, Riley and Gelman (1984) have suggested a framework for characterizing competence in cognitive tasks. They pointed out that competence has three main components: (1) conceptual, (2) procedural, and (3) utilization competence. Conceptual competence includes understanding of general principles of the task domain that constrain and justify correct

performance. Procedural knowledge, on the other hand, includes understanding of general principles of action, relating actions with goals and with conditions of performance. Stated differently, conceptual competence represents understanding of principles in a form that enables their use in planning, whereas procedural competence refers to knowledge of general principles involving relations of goals, actions, and requisite conditions for actions. In this regard, Hiebert and Lefevre (1986:9) point out, "students are not fully competent in mathematics if either kind of knowledge is deficient or if they both have been acquired but remain separate entities". If conceptual knowledge is linked to procedures it can result in the following: (a) Enhancing problem representations and simplifying procedural demands; (b) Monitoring procedure selection and execution; and Promoting transfer and reducing the number of procedures required.

4.3. L_2 Learners' Knowledge: Applied Linguistics' View

The non-interface position has been advanced most strongly by Krashen (1982: 112). Krashen identifies two types of linguistic knowledge in second language acquisition: acquisition and learning. He argues that acquired knowledge and learned knowledge are entirely separate and unrelated. In particular, he disputes the view that learned knowledge is converted into acquired knowledge. Krashen claims that: "The use of the conscious grammar is limited. Not everyone monitors. Those who do only monitor some of the time and use the monitor for only a sub-part of the grammar ... the effect of self-correction on accuracy is modest". According to Krashen's Monitor Hypothesis, learning has only one function, and that is as a monitor or editor and that learning comes into play only to make changes in the form of our utterances, after it has been produced by the acquired system. Krashen suggests that second-language performers can use conscious rules only when four conditions are met. Those conditions are necessary and not sufficient; that is, a performer may not fully utilize his conscious grammar even when all four conditions are met. These conditions are (1) sufficient time; (2) focus on form; (3) knowing the rule, and (4) the rule needs to be simple (See Sharwood-Smith, 2004).

The interface position has been argued from a weak and strong position. The weak interface position was proposed by Seliger (1979) who suggests that different learners end up with different representations of the rules they have been taught and, in turn, these rules do not describe the internal knowledge that is called upon in natural communication (See Spada & Lightbown, 2008). The variability position maintains that L_2 learners' performance varies according to the kind of language use that they engage in and the kind of knowledge that they acquire. That is, different kinds of knowledge are used in different types of language performance.

4.4. Information-Processing Approaches

Under information processing models, SLA is viewed as the development of a highly complex skill-like the attainment of other, non-linguistic skills, such as playing chess or mathematical problem solving (See Schmidt, R., 2001; Ellis, N., 2005).The information-processing approach distinguishes between two types of processes: controlled and automatic. Controlled processing requires attention and is sharply limited in capacity; automatic processing; which does not require attention; takes up little or no processing capacity. The learner is claimed to begin the process of acquisition of a particular aspect of the L_2 by depending heavily on controlled processing of the L_2; through practice, the learner's use of that aspect of the L_2

becomes automatic. In the process of acquisition, learners shift from concrete, novice processing to more abstract, expert style by restructuring their representations of the relevant processes. (Ritchie & Bhatia, 1996). Another factor that may influence performance in different tasks is the cognitive complexity of the activity the learner is asked to perform. Ellis (1982) found that the cognitive complexity of specific tasks influenced the success with which the L_2 learners performed the tasks, and also the complexity and accuracy of their use of language. Ellis (1986: 89) points out that the explanation for the differential effects of tasks in inter-language performance lies in the amount of attention the learners is able to pay to what he is saying.

Over the past two decades, researchers in the field of second language acquisition (SLA) have become increasingly interested in concepts traditionally associated with cognitive psychology. N. Ellis (2002: 299) points out, "We are now at a stage at which there are important connections between SLA theory and the neuroscience of learning and memory". The concept of attention has become especially important because of its crucial role in so many aspects of SLA theory such as input, processing, development, variation, and instruction. In this regard, R. Ellis (1994: 10) points out that "Schmidt is one of the few linguists who have adopted the conceptual and experimental rigours of experimental psychology in answering questions concerning the role of consciousness in L_2 acquisition". Much of Schmidt's work (1990; 1992; 1993 a, b; 1994 a, b; 1995 a, b; 2001) ties findings from cognitive psychology into SLA theory. Reviewing the psychological literature on consciousness has led Schmidt to propose the *Noticing Hypothesis*, which states that "noticing is the necessary and sufficient condition for converting input into intake" (1990: 129). Since then, a considerable amount of research has addressed the issue of noticing in SLA.

The noticing hypothesis seems to have been motivated by a seminal study by Schmidt and Frota (1986), which documents the role of noticing for a beginner learning Portuguese in Portugal over a period of 22 weeks. Their findings question the assumption that language acquisition is a purely subconscious process (Krashen, 1982), since the learner clearly noticed some of the grammatical structures he seemed to have acquired. Schmidt and Frota, however, admitted that they were unable to trace much of what had been acquired to what had been noticed. Posner and Petersen (1990) describe attention in terms of three networks: alertness, orientation, and detection. Alertness refers to a general state of readiness to receive input. The higher the level of alertness, the faster the speed of selecting information for processing will be. Orienting attention to a stimulus facilitates the processing of that stimulus. Orientation differs from alertness in that a learner might for example be ready to learn (alertness) but not know whether to focus on form or meaning (orientation). Detection particular features actively looking for something when you are not sure where it will appear (Sternberg, 1996: 86).

One of the most influential attentional studies in SLA was conducted by VanPatten (1990), who investigated the notion of attention as a limited resource. More specifically, the study examined whether learners were able to consciously attend to both form and meaning when processing input. Results showed that the 'content only and lexical groups' significantly outperformed 'the form and morphology groups'. This led VanPatten to conclude that it was difficult, especially for beginners, to notice content and form at the same time. Moreover, he postulated that learners would notice meaning before form, since their primary objective is to understand the prepositional content of utterances.

Tomlin and Villa (1994) suggest that there are four conceptions of attention in SLA. One is that of attention as a limited capacity system. The idea being that the brain may be presented (through the sensory system) with an overwhelming number of stimuli at any given time, and it seems impossible to process them all. The limitations of attention refer not only to the amount (or duration) of attention that may be given to a single stimulus but also to the number of stimuli that may be attended to simultaneously. This leads to a second conception of attention, namely that it constitutes a process of selection. The overwhelming amounts of incoming stimuli force the attentional system to be selective. The third conception of attention, involves controlled rather than automatic processing of information. The underlying assumption here is that some tasks require more processing effort, and hence a higher degree of attention, than others. A person may therefore perform two tasks at the same time, especially if one requires automatic processing (low attention). By the same token, it is more difficult to perform two tasks if both require controlled processing (high attention). The fact that controlled processing of two simultaneous tasks is sometimes possible led researchers to develop a fourth conception of attention, which is that it must involve a process of coordination among competing stimuli and responses. In this process, attention must be established, maintained, discontinued, and redirected in order to perform different actions.

According to Schmidt (1994: 179) noticing refers to the "registration [detection) of the occurrence of a stimulus event in conscious awareness and subsequent storage in long term memory...". Schmidt is careful to distinguish 'noticing' from 'understanding', which he defines as "recognition of a general principle, rule or pattern" (1995: 29). Understanding represents a deeper level of awareness than noticing which is limited to "elements of the surface structure of utterances in the input" rather than underlying rules (Schmidt, 2001: 5). Stronger evidence for the facilitative role of noticing comes from a study by Jourdenais, et al., 1995; Leow, 1997, 2000, 2001; Rosa and O'Neill, 1999; Eskildsen, 2008.

To conclude, the noticing hypothesis has served to generate important theoretical and empirical debates in SLA. It has also provided an opportunity to integrate useful concepts from cognitive psychology into SLA theory.

4. Results

Tables (2, 3, 4, 5, 6) present the number of students' errors in the essay, unfocused correction and focused correction tasks. (See Appendix). The statistical analysis indicates that the condition (essay, unfocused correction, focused correction) affected the number of errors made by students. Students made the most errors in the essay, the fewest errors in the focused correction task. The mean number of errors in the essay is 14.2 with a standard deviation of 6.5. The mean number of errors in the unfocused correction task is 7.6 with a standard deviation of 2.9, while the mean number of errors in the focused correction task is 4.2 with a standard deviation of 3.1 (See Figure 1).

The results of this study demonstrate that students' errors in the essay were not just due to carelessness or forgetfulness as some of the subjects claimed during the interview. An examination of the performance of the subjects suggests that deficiency in their knowledge of grammar results in inaccurate composition writing and unsuccessful correction of errors. When asked to correct their errors, L_2 learners with deficiency in conscious knowledge of grammar

seem to rely on their "feelings" about the structures of the target language. However, since these "feelings" are based on incorrect knowledge, L_2 learners tend to follow false assumptions and, in turn, their corrections of errors are unsuccessful. In addition, they appear to search for various ways to express the meanings of their erroneous sentences in new forms, but many of these contain new errors. Thus, it can be concluded that relying on "feelings and experience" (to use Subject (4)'s words), without having adequate conceptual knowledge of grammar rules leads to unsuccessful performance, even if students' attention is drawn to their errors. This conclusion is based on four pieces of evidence. First, many errors do not get corrected in the unfocused correction task. An examination of the performance of the subjects shows that none of the subjects was able to correct all his/her errors in the unfocused correction task.

Secondly, even when the error is identified (as in the focused correction task), students often fail to correct it. Subject (6) made twelve errors in the unfocused correction task, eleven of which were previously made in the essay and never corrected, and only one of which was new. Although his attention was drawn to his errors, he was unable to correct them successfully. All he did was either leave the incorrect structures as they were or use new structures which were also incorrect. He made twelve morpho-syntactic errors in the same structures he had used incorrectly in the unfocused correction task. This clearly suggests that he lacks the necessary knowledge of grammar and, consequently, drawing his attention to his errors did not improve his performance. Likewise, Subject (1) was unable to see or correct the errors although they were underlined for her. That is, although her attention was drawn towards a specific grammar error, she could not correct it; instead, she tended to express the meaning of the sentence in a different form which sometimes happened to be correct. Moreover, because she appeared to be lacking accurate grammar knowledge, the new versions of her erroneous sentences contain yet more grammar errors.

Third, many new errors are introduced, even when the subjects are paying attention. Subject (1) for example, made three new errors in the unfocused correction task, and two new errors in the focused correction task. Subject (2) made five new errors in the unfocused correction task, and three new errors in the focused correction task. Subject (7) made six errors in the unfocused correction task; five of them were new. Five of the nine errors made by Subject (9) were new, and four of the five errors made by Subject (10) were also new in the unfocused correction task. Subject (13) made six errors in the unfocused correction task, four of which were new.

Finally, even when the subjects' errors are eliminated, it is often because students tend to write new sentences instead of correcting them. For example, Subject (1) tended to focus more on the semantic aspect of her sentences than on their grammatical accuracy. In other words, she did not use grammar knowledge to correct her erroneous sentences. Instead, she tended to use what one could call “stylistic variations” of those sentences, which happened to be correct. Likewise, Subject (2) managed to reduce the number of his errors from twenty-seven errors in the essay to thirteen in the unfocused correction task because his new sentences were correct. Subject (11) also managed to reduce the number of his errors from fifteen errors in the essay to eight in the unfocused correction task. She managed to correct some of her errors in the essay by coming up with new sentences that happened to be correct. An examination of Subject (12)’s performance also shows that the decrease in the number of errors in the unfocused and the focused correction tasks is due to the fact that she tended to change the whole sentence in such a

way that avoided the structures she previously used in the essay. She made eleven errors in the essay, four in the unfocused correction task, and three in the focused correction task. Subject (8) clearly stated that she was relying on making new sentences rather than correcting the already written erroneous sentences:

> S.281. See…. the sentence is not good...the meaning...I have to change it, all of it...it is not clear...so I changed the words. I didn't make attention for grammar...I want this sentence to mean anything.

To sum up, this study shows that the students' unsuccessful performance in the essays was due to their fragmentary knowledge of grammar. No matter how attentive L_2 learners are in performing language tasks, their performance in error correction tasks will be unsuccessful as long as their knowledge of grammar is fragmentary. Analyzing the subjects' performance in essay writing and two correction tasks support the general hypothesis of the present study: the subjects' performance in the tasks displayed various degrees of competence in English. That is, the overall competence of L_2 learners is not systematic or unitary all the way. This implies that a good student in solving grammar problems is not necessarily good at writing. Also, successful performance, either in writing or grammar tasks does not necessarily guarantee successful and accurate verbal explanations on students' part. Moreover, the results of the present study support the hypotheses that students' performance in the correction tasks would be better than that in the writing task. And, their performance in the focused correction task would be better than that in the unfocused correction task. Relatedly, students' poor performance in writing, at least at the sentential level, is mainly due to a deficiency in their knowledge of grammar.

Accordingly, interpreting the subjects' behavior in the writing and the error correction tasks seems to support the non-interface position introduced earlier in the review of literature. Consequently, it would be a mistake to judge L_2 learners' knowledge on the basis of their performance, since both knowledge (competence) and performance are unrelated. One can argue, then, that successful performance does not necessarily mean coherent and complete linguistic knowledge, and vice versa. Relatedly, although linguistic knowledge appears, in some situations, to be a factor in determining the type of performance, it can not be concluded that it is a prerequisite to successful performance. Regarding error correction, the non-interface position predicts that linguistic knowledge can help L_2 learners to make changes in their linguistic output. The results of the present study, partially, support such a prediction. However, in some cases, L_2 learners may not be able to use their linguistic knowledge in making successful changes.

In addition to the above analysis, another interpretation can be provided, which is based on cognitive psychology's perspective. That is, in addition to the deficiency in grammar knowledge as a reason for students' inaccurate composition writing, there is another possible reason that makes these students commit many morpho-syntactic errors in writing such as the many constraints that writing in a foreign language imposes on foreign language learners and deficiency in students' abilities to transfer their knowledge of grammar to complex tasks such as writing. It can be argued that composing in English as a second language is a multidimensional activity which requires L_2 learners to do more than one thing simultaneously. This argument is compatible with the principles of the attention theory. Two important features within the phenomenon of attention have been identified: 1) an individual can attend to only one thing at a time or think only one thought at a time; 2) attention appears to be serial, and we find it very

difficult to mix certain activities, that is, the focus of attention is only on one place at one time. Our ability to attend to several sources of information simultaneously is severely restricted. Consequently, a human who must process information that exceeds his channel capacity will inevitably make errors.

This study, then, supports the claim that second language learner has difficulty in attending to both form and content in the input. In other words, the attentional resources are limited and therefore it is difficult to understand the content of input when the attention is allocated to a certain form in the input. This can serve as evidence supporting such theoretical and pedagogical proposals as consciousness-raising, input enhancement, and focus on form. They all start with the common assumptions that (1) a focus on meaning is necessary with a sufficient amount of input; (2) a certain level of conscious attention to form is also necessary; (3) it is difficult, however, to pay attention to form while processing input for meaning; and (4) therefore some sort of encouragement to attend to form is helpful and facilitative for SLA. The present study, then, provides some evidence for Assumption 3; simultaneous attention to form and meaning is difficult. Furthermore, these studies favor focus on form. VanPatten (1990: 295) suggests that "if attention to form needs to be conscious at some point, then the input must be easily comprehended". Therefore the learner is able to allocate most of the attentional resources to the form on the spot, which will facilitate the processing and acquisition of that form.

This study shows that although 'noticing' or 'conscious awareness' may have some positive effect on L_2 learners' performance; this effect, however, is constrained by two important factors: (1) learners' overall linguistic competence, and (2) the nature of the task; that is, whether it requires controlled or automatic processing of information. These two factors determine the amount of attention and degree of coordination on the part of L_2learners. In this sense, this study does not exclusively support Schmidt's Noticing Hypothesis. Rather, it supports the claim that Noticing is necessary but not sufficient condition for convening input into intake. As a whole, this study supports the claim that L_2 learners have difficulty in attending to both form and content in the input. This is why conscious awareness or 'Noticing' is not sufficient condition for converting input into intake.

The subjects' performance in essay writing can be analyzed in the light of what "Divided attention" phenomenon maintains. To remind the reader, research on this phenomenon shows that, at certain times, the attentional system must coordinate a search for the simultaneous presence of two or more features. To put it simply, the attentional system must perform two or more discrete tasks at the same time. In such a case, "the speed and accuracy of simultaneous performance of two activities was quite poor" (Spleke, Hirst, and Neisser, 1976). Relatedly, it was, also hypothesized that the performance of multiple tasks was based on skill (due to practice), not on special cognitive mechanisms (Neisser & Becklen, 1975).

In "divided attention" tasks, the subjects are asked to spread attention over as many stimuli, as possible. In this regard, Shiffrin (1988:34) points out that, "as a general rule, subjects find it extremely difficult to divide attention. When there are more tasks to be carried out, more stimuli to be attended….. Performance is reduced". Many studies show that subjects' exhibit reduced performance when they try to accomplish simultaneously an increased number of tasks or to attend simultaneously to an increased number of stimuli. These are studies of divided attention deficits. Also, much research in attention assumes that there is a limited pool of

attentional resources or capacity that can be distributed across tasks. For example, according to simple capacity models, if the subject has 100 units of capacity and is required to perform two tasks each requiring 75 units, performance should decline when shifting from performing the tasks individually to performing them simultaneously.

Subjects' performance in the two correction tasks reflects what "Selective Attention" phenomenon maintains. In these tasks, subjects relatively attend to a certain "stimuli" or aspects of stimuli, in preference to others. As Kahneman (1973) and Schneider et al. (1984) point out, this concept presupposes that there is some capacity limitation, or some bottleneck in the processing system; however, subjects have the ability to pass through this bottleneck and at the expense of other stimuli, by giving performance to certain stimuli. In the present study, subjects gave preference to "form" only at the expense of 'meaning'; and their major focus was on correcting the errors they previously made in essay writing. What is worth mentioning, here, is that some students were able to correct only some of their errors, but not all errors. And, the number of the corrected errors differed from one subject to another. In this regard, it can be argued that selectivity is the result of capacity limits of the subjects' information-processing system; and these limits are relative, and they depended on the type of activity itself. Students' performance in the correction tasks was better than that in the essay writing. And, more specifically, their performance in the "focused" correction task was better than their performance in the "unfocused" correction task. This observation can be explained in the light of the four varieties of "selective attention": (1) detection; (2) filtering; (3) search, and (4) resource attention.

First, as a result of 'selective attention', the subjects' ability to detect the errors increased. That is, their ability to notice what is missing or incorrect in the sentence they previously wrote in the essay' has been improved. It must be emphasized, however, that this ability depends on the observer's sensitivity and his ability to respond. Second, the subjects' ability of 'filtering' has been improved; that is, they were able to select, analyze deeply, and concentrate on a particular item and exclude others. Third, as a result of noticing deep analysis, and concentration, the subjects' search mechanisms have become automatic. In this regard, Cave and Wolfe's (1990) theory of "guided search" seems to be quite pertinent. To remind the reader, the guided-search model suggests that search involves two consecutive stages: (1) Parallel stage, in which the individual simultaneously activates a mental representation of all the potential targets, and (2) Serial stage, in which the individual sequentially evaluates each of the activated elements, according to the degree of activation, and then chooses the true targets from the activated elements. In focused attention tasks, the subjects attempt to place all available attention on just one stimulus, ignoring and / or excluding all other inputs (Lanfer & Girsai, 2008).

5. Discussion

From a linguistic point of view, the results of this study demonstrate that deficiency in students' knowledge of grammar results in inaccurate composition writing and unsuccessful correction of errors. When asked to correct their errors, L_2 learners with deficiency in conscious knowledge of grammar seem to rely on their 'feelings' about the structures of the target language. However, since these 'feelings' seem to be based on incorrect knowledge, L_2 learners tend to follow false assumptions and, in turn, their corrections of errors are unsuccessful. This conclusion is based on four pieces of evidence. First, many errors do not get corrected in the unfocused correction task. An examination of the performance of the subjects shows that none of

the subjects was able to correct his/her errors in the unfocused correction task. Second, even when the error is identified (as in the focused correction task), students often fail to correct it. Third, many new errors are introduced, even when the subjects are paying attention. Finally, even when the subjects' errors are eliminated, it is often because students tend to write new sentences instead of correcting them.

This study, also, presents strong support for the claim that it is difficult, especially for beginners, to notice content and form at the same time. Also, this study provides further evidence for the facilitative role of increased attention in improving L_2 learners' performance. This implies that our students' failure to perform on language tasks may be due, sometimes, to cognitive deficiency; rather than linguistic one. And, in broad terms, language acquisition may not be fully understood without addressing the interaction between language and cognition. Therefore, further research is needed in this area, at least, to know how our students think and how to teach them to think strategically.

The results of this study show that the existence of knowledge is not sufficient to distinguish skilled or fluent performance from less skilled. Through practice and experience the learner must gain easy access to knowledge. Cognitive psychologists describe this difference in access as "automatic" or "not automatic" or "controlled". In other words, foreign language learners may appear to have the necessary knowledge to make correct responses; however, they are unable to display this knowledge in multi-dimensional tasks. In such tasks, learners are required to do more than one thing simultaneously. This argument is compatible with the principles of the attention theory.

Moreover, L_2 learners may appear to have the necessary knowledge to make correct responses; however, they are unable to transfer this knowledge while writing; listening to spoken English; reading written texts, and solving certain types of grammatical problems. So, knowledge of the correct principles do not guarantee correct performance. Principles specify characteristics that a correct performance must possess, but they do not provide recipes for generating a plan for correct performance. Nor do they guarantee correct execution of plan. Accordingly, in thinking about foreign language learners' performance as an object of study, the essence of the underlying knowledge that accounts for their performance must be examined. This examination of the learners underlying knowledge will in turn uncover the basis for the strategies they use in solving language problems. In the light of the subjects' performance, one can argue that deficiency in the subject's declarative knowledge may result in (1) failure to detect the erroneous item that must be corrected for the sentence to be correct; (2) failure to decide whether the sentence is correct or incorrect; and, in most cases, the sentence seems grammatically correct although it violates a certain invisible grammatical rule. In addition, because there was no link between declarative and procedural knowledge, many subjects failed to correct the item they identified as erroneous, or provide accurate rationalizations for their performance. Therefore, examining the relationships between declarative and procedural knowledge is a worthwhile pursuit since students often fail to recognize or construct these relationships, and, sometimes are able to reach correct answers for problems they do not really understand. Therefore, it seems that the best way for effective classroom instruction and for improving our students' performance is to link conceptual with procedural. Such a link has many advantages for acquiring and using procedural knowledge. These advantages are: (A) Enhancing problem representations and simplifying procedural demands. (B) Monitoring procedure selection and execution. (C)

Promoting transfer and reducing the number of procedures required. Moreover, linking conceptual knowledge and procedural knowledge has benefits for conceptual knowledge. Problems for which no routine procedures are available are solved initially by facts and concepts in an effortful and laborious way. As similar problems are solved repeatedly, conceptual knowledge is gradually transformed into set routines (condition-action pairs) for solving the problem. The condition-action pairs constitute the basic elements of the procedural system (Hiebert & Lefevre, 1986). Thus knowledge that is initially conceptual can he converted to knowledge that is procedural. In addition, procedures can facilitate the application of conceptual knowledge because highly routinized procedures can reduce the mental effort required in solving a problem and by making possible the solution of complex tasks.

6. Pedagogical Implications

In the light of the results of the present study, classroom teachers should concentrate on both domain-specific and meta-cognitive knowledge. Instruction should be designed to facilitate students' construction of knowledge bases that are structured in terms of higher-order principles. These knowledge structures should include not only declarative knowledge of principles, but also procedural knowledge of them; that is, knowledge of how to use the principles to solve problems. The structures should include knowledge of the conditions of the applicability of the principles, a specification of the kinds of problems to which they should be applied. In addition, instruction should be designed to explicitly assist students in acquiring meta-cognitive knowledge of how to plan their problem-solving efforts, how to set goals and subgoals or these efforts, and how to monitor their progress towards their goals. In Schoenfeld's (1985) terms, instruction needs to foster the acquisition of the "basics" of a domain, domain-relevant problem-solving strategies or heuristics, and meta-domain understanding or "sense-making".

It should be borne in mind that unsuccessful performance is not the only problem that classroom teachers are facing. That is, when the unsuccessful performance is systematic, it may be easier for teachers to remedy the problem by working on a specific problem. This can be done for example, by providing students with what they are lacking with a lot of practice students may be able to catch the correct structures. The problem, however, becomes worse when student's performance becomes unsystematically incorrect. In such a case, it would be difficult for classroom teachers to pinpoint the exact problems these students are facing. Accordingly, although all language teachers want their students to perform successfully, no one can guarantee systematic successful performance on students' part. If this is the case, classroom teachers need to consider two things: first, second language learners' competence in a second language is developmental process and, accordingly, their errors are natural phenomena. In this way, I think we can end this fruitless debate on what is "learning" and what is "acquisition" (Krashen, 1982). Second, as long as errors are not considered a stigma, classroom teachers should direct their efforts towards "systematic performance. "Systematic performance can be either successful, a high level of classroom instruction, or unsuccessful which we must naturally expect and accept. The first step towards helping students perform on language tasks successfully and systematically is to systematicize their erroneous performance. To do that, both teachers and students should cooperate to pinpoint the following: 1) The major problems that students believe to be problematic for them. This can be done by using questionnaires at the beginning of the term; 2) Teachers, then, can design tasks that test students' level of performance in the areas they

previously claimed to be problematic;3) These tasks must be presented in a chronical form, that is, they should range from simple, complex and more complex tasks;4) By now, teachers and students must examine together the latter's performance in all these tasks to see whether students previous claims are correct or not, and to see whether other areas of the target language structure are problematic and students themselves do not know;5) After having an idea about the major problems, teachers should work hand-in-hand with their students to eliminate these problems. It must be borne in mind that this process is not an easy one or has a specific end. Rather, it is tedious and requires continuous and close relationship between classroom teachers and their students. Teachers need to be enthusiastic, flexible and ready to work closely with their students as advisors not as authoritative figures. Learners, on the other hand, need to be motivated, extrovert and ready to take risks.

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APPENDIX 1

Name:
Country:
Sex: Male: ___ Female: ___

To: Students in the Advanced Level.

Please answer the following questions by placing an X on the line where indicated.

1. How old are you?
____ (A) Under 20
____ (B) Between 20 and 25
____ (C) Over 25

2. How long did you study English in your country?
____ (A) 6 Years
____ (B) 7 Years
____ (C) 8 Years
____ (D) More than8 years

3. What did your previous English classes give most attention to (Please number in order of importance, #1 being most important etc.)
____ Listening
____ Reading
____ Writing
____ Grammar
____ Vocabulary
____ Speaking/Pronunciation

4. Had you ever been in an English speaking environment before coming to the United States?
____ (A) Yes
____ (B) No
5. If yes, for how long?
____ (A) Less than 6 months
____ (B) Between 6 months and 1 Year
____ (C) Between 1and2 Years
____ (D) More than 2 Years

6. How long have you been in the United States?
____ (A) Less than 1 Year
____ (B) 1-2 Years
____ (C) More than 2 Years

7. In your view, what areas of grammar trouble you most?

APPENDIX 2

FREE COMPOSITION

Please, write an essay of about 200 words on: "The Value of Learning English"

INSTRUCTIONS

- Please write in ink
- Pay attention to the grammar and meaning of your sentences
- You have forty minutes to write the essay
- Your name is: _____

Now, begin.

APPENDIX 3

Correction Task (1)

INSTRUCTIONS

The sentences used in this task are taken from your essays on "The Value of Learning English." Each sentence contains grammatical errors. Read each sentence carefully and correct what you think is wrong.

APPENDIX 4

Correction Task (2)

INSTRUCTIONS

The sentences used in this task are taken from your essays on "The Value of Learning English." Each sentence contains grammatical errors. These errors are underlined. Read each sentence carefully and correct what is underlined. You have 15 minutes to complete this task.

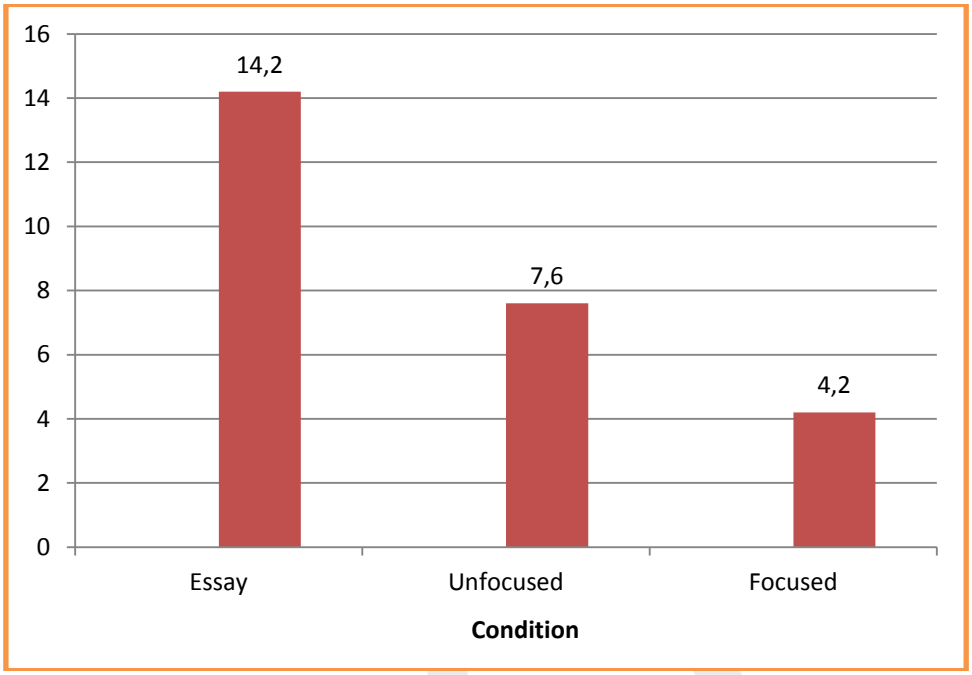

Figure (1): Plot of mean number of errors under the three conditions (the essay, the unfocused correction and the focused correction task).

Table (1): Distribution of the subjects according to their countries.

Country	Number of subjects
Japan	5
Taiwan	4
Malaysia	1
Turkey	1
Indonesia	1
Brazil	1
Saudi Arabia	1
Korea	1

Table (2). Number of students' errors in the essay unfocused correction and focused correction tasks.

Subject	Essay	Unfocused Correction			Focused Correction		
		Remaining	New	Total	From Remaining	From New	Total
1	8	4	3	7	1	2	3
2	27	8	5	13	1	3	4
3	9	3	1	4	0	0	0
4	18	7	4	11	0	4	4
5	23	7	1	8	3	2	5
6	17	11	1	12	12	0	12
7	9	1	5	6	3	0	3
8	12	6	0	6	0	2	2
9	12	4	5	9	2	1	3
10	7	1	4	5	0	0	0
11	15	8	0	8	6	2	8
12	11	2	2	4	2	1	3
13	9	2	4	6	6	1	7
14	11	5	0	5	3	1	4
15	25	8	2	10	3	2	5

Table (3). The mean standard deviation and other measures of central tendency of subjects' errors in the essay.

Mean	14.200	Std err	1.665	Median	12.000
Mode	9.000	Stddev	6.450	Variance	41.600
Kurtosis	-0.383	S P kurt	1.121	Skewness	0 .920
S F Skew	0.580	Range	20.000	Minimum	7.000
Maximum	27.000	Sum	213.000		

Table (4). The mean, standard deviation and other measures of central tendency of subjects' errors in the unfocused correction task.

Mean	7.600	Std err	0.742	Median	7.000
Mode	6.000	Stddev	2.874	Variance	8.257
Kurtosis	-0.799	S P Kurt	1.121	Skewness	0.548
S F Skew	0.580	Range	9.000	Minimum	4.000
Maximum	13.000	Sum	114.000		

Table (5). The mean, standard deviation and other measures of central tendency of subjects' errors in the focused correction task.

Mean	4.200	Std err	0.788	Median	4.000
Mode	3.000	Stddev	3.052	Variance	9.314
Kurtosis	2.091	S P Kurt	1.121	Skewness	1.121
S F Skew	0.580	Range	12.000	Minimum	0.000
Maximum	12.000	Sum	63.000		

Table (6). ANOVA Summary Table.

Source	SS	D.F	MS	P
Type of task	775.60	2	387.80	35.53*
Error	305.73	28	10.92	

* p <0.001