Chapter 2
Review of Literature

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2.1. Individual Learner Differences

Transmission and transformation are the two main concepts which have been used in learning theories to define learning. First, it was thought that knowledge is transmitted from teachers to students in the context of learning, but this view did not last long. Now scientists believe that learners learn differently. It is generally supposed that learners transform data in order to implement them in their competence. In other words, learning was found to be a matter of having skills and knowledge being transformed by learners to be learnt but not the transmission from the teachers to the learners (Nunan, Second). However each learner is unique and different from others in transforming data. This view of learning that learners transform knowledge differently based on their learning styles and strategies, paves the way to various studies and publications which have been dealing with the importance of individual learner factors in language learning.

In these studies, scientists have tried to deal with the Learners’ level of ability, prior knowledge, strengths, weaknesses, preferences, interests, attitudes and more, in order to find the answer to better language learning. Here in this study for the very same reason, error orientation is investigated as an individual difference parameter to find some possible clues for better learning. There is no need to say that flurry of studies have been done since 1970s to identify these distinctive parameters of successful language learners. And there is still the need for more detailed investigations to answer why “some students are better at learning languages than others” (Harmer 41).

2.1.1. Importance and Implications

The main intention behind these endeavors is simply finding practical ways for helping the unsuccessful language learners by teaching them the characteristics and strategies of the successful ones in order to accelerate the process of language learning among them (Hadley 64). Harmer asserts the same idea and elaborates on how these unsuccessful learners can be assisted. “In the classroom we can help students to reflect on the way they learn, give them strategies for dealing with
different kinds of activities and problems and offer them different learning-styles alternative to choose from” (336-7). He also adds that reflection helps students to think about their own strengths and weaknesses with a view to make plans for future action. He believes that this can be done by having students reflecting privately on how they learn and also reflecting on the target language itself in order to accelerate learning.

Over and above focusing on individuals as learning entities, the information gathered from different learners in classroom settings can also enable teachers to offer tasks and activities with the maximal advantage to their students (Harmer 49). This information helps teachers to identify the major modality in every classroom which makes the choice of tasks and activities more easily, more wisely and more effectively. For instance, knowing the fact that learners from different cultures vary significantly in their sensory preferences can assist the language teachers to use the tasks and techniques which comply more with their students’ major modality. As an example, based on the study conducted by Raid, it was found that Hispanic students were frequently auditory, but on the other hand, Asian students were often highly visual and among them, Koreans were mostly visual. This study directs teachers in Asia to focus more on visual tasks and activities in nature and teachers of Hispanic students to focus more on the tasks and activities which require more auditory engagement on the part of learners. However, this does not mean that teachers neglect the use of other modality language activities and tasks. Furthermore, in multicultural language classrooms, the need to consider such modality preferences is more crucial. In these classes, students are from different parts of the world and with different cultural backgrounds which emphasizes the use of multi-sensory approaches to appeal to all types of language learners (Hadley 65).

Therefore, serving groups of learners more practically in a classroom is a crucial learning demand which requires information from each individual learner. Having this question in mind that how it is possible to assign students to different groupings without any criterion or any knowledge about them makes us think that
without knowing learners scientifically, group differentiation can be definitely a blind action. Harmer presents the same point of view and asserts that being aware of certain individual traits when putting students into pairs and groups is the key criterion in effective classroom groupings. But at the same time he emphasizes that teachers should also balance the interests of individuals against what is good for groups (43). Hence, by true and effective grouping, language teachers get a chance to allot better tasks and activities based on the modality of the learners in each group and also tune the level of activities based on the ability of each group. Therefore, the information gathered from individuals in each classroom puts teachers in the position to organize groups and pairs to satisfy all types of learners in the classroom (Harmer 49).

To implement the findings of individual learner differences in language classrooms, we are faced with contrasting approaches. There is a group of scholars who prefer to tailor specific programs carefully based on assessing each individual and have far more personalized teaching in language classes. There is also a second group that advocates the use of inclusive tasks and activities which accommodate a wide range of aptitudes and modalities among learners. Although these two views seem opposite to each other at first sight, the combination of these two approaches is something reachable which may serve to meet the language learners’ needs most effectively (Westwood and Arnold 377).

Identifying and addressing individual differences in any research process is also very significant. The inclusion of these individual difference variables increases the precision and validity of any investigation. The fact is that these factors really act as intervening variables in studies, and definitely reduce the validity if they are not considered and attended to carefully by researchers. In other words, without considering these variables the results of such studies are not reliable due to the fact that it is not clear how much these results are based on the direct effect of the independent variables and how much they rely on intervening ones.
However, by pointing out all these implications and importance of individual differences in language acquisition, it is not fair and might be a faulty premise to go too far and portray one definitive set of characteristics to identify good learners from poor ones. Stevick endeavored to do the same in a study in 1989 but what was found maintained the fact that successful learners were even more different from one another than he had expected before. However, Stevick stresses that not having clear formula to trace good language learners does not depreciate the value of individual differences and merely shows the psychological complexity of learners as human beings. On the contrary, this complexity seriously calls for more research.

2.1.2. NLP Theory vs. MI Theory

Two main theories have been presented to ease the complexity of human learning and to help us find out learner differences better. The first one is neuro-linguistic programming (NLP) theory. Based on this theory, learners apply various primary representational systems to internalize information. “These systems are visual (we look and see), auditory (we hear and listen), kinaesthetic (we feel externally, internally, or through movement), olfactory (we smell things) and gustatory (we taste things) which are the tools to experience the world” (Harmer 46). Revell and Norman believe that all healthy learners apply all neuro-linguistic programming systems to experience the world; however, the main differentiating point is that each learner has one “preferred primary system” (31). For instance, Teeler and Gary found in their research that students reacted differently when they were introduced to internet as a language learning tool. The result of the study demonstrated that the visual learners needed a tutorial and demonstration to learn what to do but the kinaesthetic learners were engaged by themselves in the process and tried to experience the new tool by their own.

The second approach which attempts to explain the learner differences in learning is multiple intelligence (MI) theory. Gardner suggests that we do not possess a single intelligence, but a range of intelligences which comprise
musical/rhythmic, verbal/linguistic, visual/spatial, bodily/kinaesthetic, logical/mathematical, intrapersonal and interpersonal intelligences (Frames). In 1993, he added naturalistic intelligence as the eighth intelligence which accounted for the ability to recognize and classify patterns in nature (Multiple). Then Goleman introduced emotional intelligence as the ninth one which included control, impulse, self-motive and the ability to empathize. It can be said that MI theory provides a defendable rationale and offers a realistic possibility which makes teachers able to recognize individual talents better.

And based on the same theory, Harmer believes “if we accept that different intelligences predominate in different people, it suggests that same learning task might not be appropriate for all of our students” (47). Therefore, through this theory we might gain the insight to differentiate learners and to apply tasks more properly and on target.

2.1.3. Good Language Learner

Apart from the attempts made to theorize the learning differences, another endeavor has been made to define good language learners through identifying the characteristics and variables that make them more prosperous in language learning. Knowing these variables might help teachers and syllabus designers to train learners the effective strategies which good language learners employ.

Although a complete and exact portrait of the good language learner characteristics have not been made yet, Naiman and his colleagues in The Good Language Learner name some features as tolerance of ambiguity, positive task orientation, ego involvement, high aspiration, goal orientation and perseverance as the features of good language learners. They also present five classes of effective variables in language learning which are divided into three independent (causative) and two dependent (Caused) variables. This classification has been given by Skehan in Individual Differences in Second Language Learning, which with some modification is presented here:

A. Independent variables
1. Teaching (materials, syllabus, methodology and resources)

2. Learner (age, intelligence, aptitude, motivation, attitude, personality and cognitive style)

3. Context (ESL/EFL, opportunities for use and social milieu)

B. Dependent variables

1. Learning (unconscious processing including generalization, transfer and simplification, and conscious processing including strategies.)

2. Outcome (errors, interlingua, effective reactions and proficiency in listening, speaking, reading and writing)

In the above classification the causative learner variables including age, intelligence, aptitude, motivation, attitude, personality and cognitive style are the parameters which are unique to every individual learner. However, among the dependent variables on the other hand, conscious processing as a learning variable is based on the strategies which learners use uniquely and differently to internalize the target language. The difference here is that these strategies are conscious and learnable. In other words, learning strategies are unique to every individual which can make a difference to the rate of learning.

2.1.4. Individual Difference Variables

Individual difference variables are those elements which can help researchers and scholars to have some tangible classifications with the intention of defining scientific findings, presenting theories and investigating different aspects of human beings with more ease. To have this categorization possible in the realm of teaching and learning, Galloway and Labarca present some differentiating variables by merely focusing on learners’ features. Hadley quotes these learner variables which are presented here in summary (65-6):

A. Reaction to physical environment (time of the day, degree of comfort, degree of physical activity, amount of light, etc.)

B. Sensory modality (receiving better through the ears, eyes, touch or movement)
C. Social preferences (learning with others, interacting in small groups, engaging in competitive activities and learning alone)

D. Cognitive home styles

1. Field independence (the degree to which one perceives things analytically or globally)

2. Breadth of categorization (the individual’s tendency to construct broad or narrow categories for items)

3. Leveling-Sharpening (how information is assimilated in memory, levelers tend to blur similar memories, while sharpeners maintain distinctions among the items stored.)

4. Impulsiveness- Reflectiveness (the speed with which a person makes decisions)

5. Systematicness (having systematic fashion or intuitive fashion in works)

6. Tolerance of ambiguity (having high or low tolerance in dealing with ambiguities and uncertainties)

7. Flexibility-Inflexibility (solving problems easily or with difficulty)

Now the question arises whether the number of these variables is limited to the above classification or it can be expanded due to the complicity of human nature. The answer might sound clear that these are not the only variables based on which one learner as a human being can be differentiated from another. Moreover, we should also bear in mind that these variables and their definitions are very subjective and sometimes do not serve to differentiate some learners. But the positive point of considering differentiation as a positive tool for personalizing teaching can introduce new variables and classifications through new studies in order to improve teachers’ insight to know learners better.

As mentioned above, although none of the classifications of the learner difference variables is complete and final, the more variables being presented with clearer definitions make differentiation easier and more precise. Due to this need, Feshbach presents and defines twenty nine individual difference variables. She
presents clear and brief definitions of these variables which are directly quoted below in Table 2.1. Presenting these variables here can be a great help to this research based on the fact that the researcher is trying to investigate error orientation as a possible new individual difference variable which can be added to this list.

Table 2.1
Individual difference variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>An act, the goal of which is injury to another person or object. Aggression can be either instrumental or hostile and pro-social or anti-social.</td>
</tr>
<tr>
<td>Anxiety</td>
<td>A secondary drive for which the establishing operation is the acquisition of a specific avoidance response, and the symptom of which is that the stimulation of the anxiety depresses the rate of the responses usual in the situation and produces other behaviors inappropriate to the situation. A distinction is made between facilitating and debilitating anxiety; the former is conducive to improve performance whereas the latter interferes with performance.</td>
</tr>
<tr>
<td>Attitudes Toward School</td>
<td>A relatively enduring stabilized set or learned predisposition; to think about or to behave in certain evaluative ways toward school and school related matters.</td>
</tr>
<tr>
<td>Cheating or Deception</td>
<td>Cheating is operationally defined in terms of an individual willfully breaking the rules of a sub group.</td>
</tr>
<tr>
<td>Conformity</td>
<td>Compliance or agreement with the behavior or attitudes of a group. The norms or standards of the group may be conformed to in whole or in part, and the conformity behavior may be general or specific. Conformity tendency refers to a hypothetical trait or tendency on the part of an individual to accede to social pressure.</td>
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<tr>
<td>Constricted vs. Flexible Control</td>
<td>Flexible control is the ability to respond to a stimulus by blocking responses to conflicting or interfering aspects of the situation. Persons with constricted control are distracted by or unable to withhold attention from intrusive stimuli.</td>
</tr>
<tr>
<td>Curiosity</td>
<td>The tendency or desire to investigate, to seek to observe novel events, to obtain information, to explore the environment, persistence in examining and exploring stimuli. Reacting positively to new, strange or incongruous elements in the environment by moving toward them or by exploring or manipulating them.</td>
</tr>
<tr>
<td>Delay of Gratification</td>
<td>An aspect of “ego control”. Postpones pleasure reward or satisfaction. Operationally defined as choosing a larger future reward over a smaller immediate reward.</td>
</tr>
<tr>
<td>Dogmatism</td>
<td>A relatively closed cognitive organization of beliefs and disbeliefs; the inability to readily incorporate new information into existing structures. Describes individuals who seek to impose their views by authority; also describes teaching that asks pupils to accept ideas without critical study of the evidence.</td>
</tr>
<tr>
<td>Dominance-Submission</td>
<td>A bipolar continuum descriptive of the tendency to lead or to be led, to control or to be controlled. The dominant person seeks to confine, direct,</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>Empathy</td>
<td>Understanding of the behavior of another on the basis of one’s own experience and behavior. The perception by one person of the emotional state of another. Transposing oneself into the feeling and acting of another.</td>
</tr>
<tr>
<td>Expectation of Success</td>
<td>The extent to which the person believes or predicts that he will attain a goal, complete a task, etc. The stated expectation of success or failure in a particular experimental situation.</td>
</tr>
<tr>
<td>Field Articulation</td>
<td>Field articulation (Field Independence-Field Dependence) consists of degree of perceptual separation of objects from the surrounding field, differentiation of field cues from sensory cues, perceptual reconstruction of a stimulus field, and the degree of acceptance of the prevailing field.</td>
</tr>
<tr>
<td>Imitation</td>
<td>Behavior which copies the behavior of another, with or without intent to copy.</td>
</tr>
<tr>
<td>Impulsivity vs. Reflection</td>
<td>Impulsivity is the tendency to make an immediate, unthinking selection of a solution to problems, often those with a high response uncertainty. Reflection is the tendency to weigh alternative solutions. Analytic versus global attitudes are a subcategory of impulsivity versus reflection. An analytic attitude is the tendency to analyze and structure the parts of an entity rather than deal with the entity itself. A global attitude refers to the tendency to ignore the differential components.</td>
</tr>
<tr>
<td>Independence-Dependence</td>
<td>Independence: an attitude of self-reliance or of resistance to control by others. Dependence: A lack of self-reliance; the tendency to seek the help of others in making decisions and other activities. The extent to which an individual uses or relies on other persons as sources of approval, support, help and reference.</td>
</tr>
<tr>
<td>Internal vs. External Control of Reinforcement (Locus of Control)</td>
<td>The degree to which an individual perceives that reinforcement follows from or is contingent upon his own behavior or attitudes versus the degree to which he feels that rewards and punishments are controlled by forces outside his own actions. Internal control is manifest if one perceives that events depend upon his own behavior or relatively permanent characteristics. External control is manifest if reinforcement is perceived by the person as following some action of his own but not being entirely contingent upon his actions. External locus of control implies perceiving reinforcement as the result of luck, chance or fate.</td>
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<tr>
<td>Intolerance of Ambiguity</td>
<td>Unwillingness or inability to accept ambivalence or ambiguity; the inability to tolerate situations capable of alternate or incompatible interpretations.</td>
</tr>
<tr>
<td>Introversion-Extroversion</td>
<td>A hypothesized dimension for the description and measurement of personality. Three aspects are commonly distinguished: direction of interest and attention outward or inward, ease or difficulty of social adjustment and tendency to open or secretive behavior. The dimension is probably not unitary but represents a collect of loosely related variables.</td>
</tr>
<tr>
<td>Leveling vs. Sharpening</td>
<td>Leveling is the tendency to perceive or to recall something as having greater symmetry, less irregularity, less incongruity than it objectively has. Operationally leveling includes differentiation of the stimulus field by reduction of figure ground distinction or assimilation of new stimuli to a dominant organization. Sharpening is the tendency to accentuate differences in perceived objects; a memory distortion that over-emphasizes distinguishing characteristics so that events recalled are better defined and more distinct than the originals.</td>
</tr>
<tr>
<td>Masculinity-Femininity</td>
<td>A dimension ranging from what is male to what is female. A description in terms of masculine-feminine may be used for physical characteristics, interest patterns, attitudes, occupational preferences, etc.</td>
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<tr>
<td>Moral Judgment</td>
<td>This is a general term which covers several related terms such as: <em>immanent justice</em> - the belief in the existence of automatic punishments which emanate from objects themselves. <em>Moral realism</em> - a belief that rightness and wrongness are inherent in certain conducts, and they are objectively perceptible and self-evident. <em>Belief in retributive vs. restitutive</em> (i.e., merely restoring the equilibrium upset by the punished act) punishment. <em>Belief in collective</em> (i.e., guilt by association) vs. <em>individual responsibility</em> for actions. <em>Belief in severe vs. light punishment</em>.</td>
</tr>
<tr>
<td>Need Achievement</td>
<td>The desire to compete with a standard of excellence; the capacity to experience pride in accomplishment and positive affect in situations in which success is achieved.</td>
</tr>
<tr>
<td>Need Affiliation</td>
<td>The need to be associated with another person or persons, whether for cooperative efforts, companionship, love or sexual satisfaction; a need which can be satisfied only in interpersonal relations.</td>
</tr>
<tr>
<td>Popularity</td>
<td>The degree to which one is liked by others or is selected as desirable.</td>
</tr>
<tr>
<td>Risk-Taking</td>
<td>Assessing the probabilities of various outcomes and their utility or benefit and making a decision whether or not to respond. The extent to which one will take a chance in any particular situation.</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>A person’s view of himself, the way he sees himself at a given time. Self concept includes the aggregate of attitudes, judgments and values which an individual holds with respect to his behavior, his ability, his body, his worth as a person, i.e., how he perceives and evaluates himself.</td>
</tr>
<tr>
<td>Social Desirability</td>
<td>The extent to which behaviors, attitudes, test items, etc., are considered “favorable” or “good” or the extent to which behaviors, etc., are socially approved or accepted.</td>
</tr>
<tr>
<td>Suggestibility</td>
<td>The trait or state of being susceptible to suggestion. Being open to acceptance of the commands, ideas, or beliefs of another person.</td>
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</tbody>
</table>


By investigating teachers’ attitudes on these individual difference variables, it can be observed that there are different points of view among teachers on these variables. Many teachers express that dealing with individual differences in language classes is virtually a daunting and challenging issue. They assert that teaching many classes or having many students in each class makes it too difficult even to think about the individual differences while teaching. However, many of them believe that, at least in principle, students as individuals have different needs, styles and preferences and they should be treated as individuals (Hadley 64). Westwood and Arnold refer to more sources of difficulty that teachers do not find differentiation easy to implement or sustain in their classes. They name large class
size, rigid curricula, prescribed textbooks, teachers’ workloads and lack of time for preparation as major obstacles to differentiation (375).

To remove the burden of too much pressure from teachers in language classrooms, syllabus designers can help them through implementing the findings of individual difference studies in their works. These syllabuses can assist teachers consciously or subconsciously to have more positive differentiation in their classes. They can design tasks and activities to comply with the learners’ individual differences which serve different modalities and preferences in classes. They can also assign specific tasks for specific groups and present teachers guidelines on how to put the students in different groupings to have the right positive differentiation.

To have a better view of differentiation, Van den Burg and his colleagues define it as an adaptive approach to teaching that is responsive to individual differences among learners. Although having differentiation among learners sounds right, teachers are always advised to have positive differentiation in their classes and keep the limit in order to deprive students of having the feeling that the teacher is partial toward one or some of the students. To have positive differentiation among learners, teachers are advised by Westwood and Arnold to use differentiated resource materials, whole-group and small-group activities, differentiated student and teacher interactions, computer-supported learning, Multiple intelligence (using Gardner’s multiple intelligences model to recognize learners’ unique abilities and strengths) and attending to Learning styles and preferences as some practical techniques to adapt differentiation to their teaching (375-7). Meanwhile, we should also bear in mind that with all these efforts either on the part of teachers or syllabus designers catering for all preferences might not be possible. Nevertheless, it is important to know that “the attention we give to different learning styles will ensure that we do our best not only for the whole group but also for the individuals within it” (Harmer 44).

Having a glimpse of the studies conducted on these variables, four areas of research have been recognized by Dornyei and Skehan as the main domains under
investigation. These four areas are foreign language aptitude, learning styles, learning strategies and motivation. This should also be noted that in comparison to the number of studies conducted on different scopes of second language acquisition, the amount of research conducted on individual differences is very limited. Nevertheless, the focus on some of these domains is now growing. Dornyei and Skehan believe in the same progress and refer to the same point of view:

Yet it is fair to say that learner differences, such as aptitude, styles and strategies, as sub-area of second language acquisition and applied linguistics more generally, have not been integrated into other areas of investigation and have not excited much theoretical and practical interest in recent years. [...] there are now signs that the study of areas such as aptitude and motivation is ready for reintegration into mainstream SLA, as well as being closer to generating active intervention in the language classroom. (589)

However, error orientation is truly a neglected individual difference parameter in the domain of second and foreign language learning. It is obvious that each individual treats his/her own errors and mistakes differently based on different styles and strategies, and this has led the researcher to open the discussion and the investigation on the possible significance of this individual difference variable. Due to the essence of error orientation which is in close relationship with learning styles and strategies, the researcher found it fruitful and required to have a brief review of these two domains in order to illustrate the related endeavors conducted in the field of second language acquisition.

2.1.5. Learning Styles

All of us have had the experience of being a student in a class surrounded with other students and classmates who were different from each other and with different talents. One was good at mathematics and the other one excelled in memorizing poems. These memories just remind us of the different individuals we
knew as our classmates. They were all unique and had different learning styles with different cognitive, affective and physiological abilities in perceiving data, interacting with others and responding to different learning environments (Keefe 4). In the literature that follows, we observe that learning styles have been defined differently by many scholars who stress different scopes and theories of learning in their definitions. Definitely it is worth reviewing some of these definitions which are presented in Table 2.2.

### Table 2.2
#### Learning styles’ definitions

<table>
<thead>
<tr>
<th>Scholars</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Oxford</td>
<td>“Learning styles are the general approaches, for example, global or analytic, auditory or visual, that students use in acquiring a new language or in learning any other subject” (“Language Learning Styles and Strategies” 359).</td>
</tr>
<tr>
<td>Brown</td>
<td>“Style is a term that refers to consistent and rather enduring techniques or preferences within an individual. Styles are those general characteristics of intellectual functioning (and personality type as well) that pertain to you as an individual and that differentiate you from someone else. For example, you might be more visually oriented, more tolerant of ambiguity, or more reflective than someone else - these would be styles that characterize a general pattern in your thinking or feeling” (Principles 113).</td>
</tr>
<tr>
<td>Keefe and Ferrell</td>
<td>“A complex of related characteristics in which the whole is greater than its parts. Learning style is a gestalt combining internal and external operations derived from the individual’s neurobiology, personality and development and reflected in learner behavior” (16).</td>
</tr>
<tr>
<td>Dunn and Griggs</td>
<td>“Learning style is the biologically and developmentally imposed set of characteristics that make the same teaching method wonderful for some and terrible for others” (3).</td>
</tr>
<tr>
<td>Keefe</td>
<td>Learning styles might be considered as “cognitive, affective and physiological traits that are relatively stable indicators of how learners perceive, interact with and respond to the learning environment” (4).</td>
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</table>

In the first definition by Oxford, Learning styles are referred to as general approaches which learners apply to learning. This definition is rather a practical definition which is far closer to the definition of learning strategies and just the word ‘general’ might cause the main differentiation. Although styles and strategies are too close, and setting a boarder line between the two is fairly difficult, their difference can be crystallized as: “styles are general characteristics that
differentiate one individual from another; strategies are those specific ‘attacks’ that we make on a given problem” (Brown, *Principles* 122). On the other hand, Brown’s definition is rather more comprehensive which stresses more on individual differences; however, we should bear in mind that learning styles as a whole is merely one of the many individual difference variables and it is not the only one. Dunn and Griggs, and Keefe also define learning styles based on the individual learner differences in learning. But from another point of view, Keefe and Ferrell define learning styles as a whole combination of characteristics which are more than the sum of the parts with roots in Gestalt psychology.

Based on learning style theory, giving explicit attention to learning styles improves educational process. This improvement can be made in four major domains, including curriculum designing, instructional methods, assessment methods and student guidance (Curry). Curriculum designers can use this knowledge to design tasks and activities which fit majority of students in classes and also design more individualized tasks and activities to be used in groups and pairs. These different learning styles should also be attended to in instructional and assessment approaches because teachers face individuals and all the students cannot be taught and tested the same way. Students also should be informed of their learning styles. Definitely this knowledge helps them improve their learning process. Moreover, the use of learning styles is not limited to the aforesaid merits. For instance, in a vaster scope, Riding and Rayner believe that identifying learners’ cognitive styles could also assist educators to understand how people as a cluster of individuals organize, internalize and represent information.

In the past decades, there has been a movement from cognitive styles to learning styles as a more comprehensive domain of individual differences. This shift has been made to cover more influential variables in the learning style theory. The cognitive style theory is more constrained to information processing preferences, but the learning style theory encompasses all learning variables. In other words, “the former can be defined as a predisposition to process information
in a characteristic manner while the letter can be defined as a typical preference for approaching learning in general” (Dornyei and Skehan 602).

This movement to learning style theory as a broader perspective has been made by educators like Oxford and Anderson. In A Cross-Cultural View of Learning Style, they helped this process by stating that individual learners’ characteristics are a composite of 20 style dimensions out of which eight seem to be more essential to Second Language (L2) learning. They also propose six interrelated aspects of learning styles (see Table 2.3).

**Table 2.3**

**Essential learning style dimensions and interrelated aspects of learning styles**

<table>
<thead>
<tr>
<th>Eight essential learning style dimensions</th>
<th>Six interrelated aspects of learning styles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global versus Analytic</td>
<td>1. Cognitive (concerns the preferred or habitual patterns of mental functioning)</td>
</tr>
<tr>
<td>2. Field-Dependent versus Field-Independent</td>
<td>2. Executive (concerns the degree to which the person seeks order, organization and closure, and manages his or her own learning process)</td>
</tr>
<tr>
<td>3. Feeling versus Thinking</td>
<td>3. Affective (concerns values, beliefs and attitudes that influence what an individual pays attention to in a learning situation)</td>
</tr>
<tr>
<td>4. Impulsive versus Reflective</td>
<td>4. Social (concerns the preferred extent of involvement with other people while learning)</td>
</tr>
<tr>
<td>5. Intuitive-Random versus Concrete-Sequential</td>
<td>5. Physiological (concerns at least partly the person’s anatomically based sensory and perceptual tendencies)</td>
</tr>
<tr>
<td>6. Closure-Oriented versus Open</td>
<td>6. Behavioral (concerns the extent to which someone actively seeks to satisfy his or her learning preferences)</td>
</tr>
<tr>
<td>7. Extroverted versus Introverted</td>
<td></td>
</tr>
<tr>
<td>8. Visual versus Auditory versus Hands-On (or Tactile/ Kinesthetic)</td>
<td></td>
</tr>
</tbody>
</table>


In Language Learning Styles and Strategies, Oxford presents a more crystallized taxonomy. This taxonomy classifies the learning style variables in four dimensions which are presented in Table 2.4 in summary.
Table 2.4
Four dimensions of learning styles

<table>
<thead>
<tr>
<th>Sensory preferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Visual (Visual students like to read and obtain a great deal from visual stimulation.)</td>
</tr>
<tr>
<td>2. Auditory (Auditory students are comfortable without visual input and enjoy lectures, conversations and oral instructions.)</td>
</tr>
<tr>
<td>3. Kinesthetic (Kinesthetic students are movement-oriented and like lots of movements and enjoy working with tangible objects.)</td>
</tr>
<tr>
<td>4. Tactile (Tactile students are touch-oriented and like lots of movements and enjoy working with tangible objects.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personality types</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extroverted verses Introverted (Extroverts derive their energy from outside and enjoy interaction with others, but introverts gain their power from inside and try to find their own solutions to their problems.)</td>
</tr>
<tr>
<td>2. Intuitive-Random verses Sensing-Sequential (Intuitive-random students prefer to have their own insights and guide their own learning, but sensing-sequential students like facts rather than generating theories and need guidance in their learning process.)</td>
</tr>
<tr>
<td>3. Thinking verses Feeling (Thinking learners enjoy truth and are not much concerned about judgments, but feeling learners are very sensitive and really care what others think about them.)</td>
</tr>
<tr>
<td>4. Closure-Oriented/Judging verses Open/Perceiving (Closure-Oriented students like to end any task or activity as soon as possible and are just looking for completion, but open learners focus on the process rather than the goal and like to be available on the task for new perceptions.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desired degree of generality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Global/Holistic Students (Global learners are prone to focusing on the main ideas.)</td>
</tr>
<tr>
<td>2. Analytic Students (Analytic learners tend to concentrate on the details and like analysis.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biological differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Biorhythmic Factor (Biorhythms show the best time of the day that a learner can perform better.)</td>
</tr>
<tr>
<td>2. Sustenance Factor (Sustenance is the learners need for drink and food for better learning.)</td>
</tr>
<tr>
<td>3. Location Factor (Location refers to the best place that a learner can learn better due to the nature of the environment like heat, light, sound, etc.)</td>
</tr>
</tbody>
</table>


In the above table, Oxford presents the learning style variables comprehensively in four dimensions based on sensory preferences, personality types, desired degree of generality and biological differences. This taxonomy seems to be comprehensive and complex; however, there are other classifications describing learner styles with less complexity. Presenting some of these classifications may help us see the trend of learning style theory, and present better
chances of knowing learners based on their styles. In the first classification, Willing attempts to identify four different learner styles. First, there are convergers who are cool and pragmatic and tend to be alone. They are also independent and try to help their own learning by being analytic and attending the details in the process of learning. Second, we have conformists who prefer to learn about the target language rather than use it for communication. They are dependent on their teachers and prefer non-communicative well-organized classrooms. The third group is concrete Learners who enjoy learning the target language through communication. They also prefer having real interactions by using the language and having games and group activities. The last group is communicative Learners who are more language use oriented and are willing to use the target language outside classes. They are not interested in analyzing the language and going into details. Instead, they prefer to get the main idea and use language communicatively through having interactions in the society even without the guidance of their teachers (qtd. in Skehan, A Cognitive 247-50).

In another classification, Wright describes four different learner styles as: enthusiasts, oracular learners, participators and rebels. Enthusiasts, as the first group, know the teacher as the main reference point and actively participate in pair and group work. They are more oriented toward the goals of learning groups. As the second group, oracular learners also look at the teacher as a reference but they are more concerned with accomplishing their personal goals. The third group which are called participators focus more on group goals and group solidarity, and the last group are called rebels who are merely engaged with satisfaction of their own goals (117-8).

Knowing different types of learners is a great help to any concerned teacher. Knowing more about who attends our classes can help us implement the right teaching materials, techniques, tasks, activities and in general better instruction. However, knowing the learners is not enough owing to the fact that teachers can help learners not only through presenting the right instruction but also training the skills which can help learners learn better. These learnable skills which
can assist our students to be better learners are known as strategies. The introduction of strategies as the success gateways to the field of language learning opened a new era which led learning style theory into learning strategy theory.

2.1.6. Learning Strategies

Learning strategy theory might be called a compliment to the learning style theory. As mentioned above, based on learning style theory, every individual learner is characterized by a set of unique general variables and characteristics. Although this theory might have sounded plausible, it has failed to completely gain scholars’ preferences because of its essence which made learners more dependent. On the one hand, these general characteristics have been found very subjective to be defined which make discriminating learners based on these features a difficult task for teachers. On the other hand, based on this theory, unique features which are possessed by individuals are rooted in them and are not trainable. In other words, this theory is aimed for merely differentiating learners based on their characteristics and leaves no room for equipping learners with such features which enable them to be better learners.

At the beginning of the 1990s, O’Malley and his colleagues, Oxford in Language Learning Strategies: What Every Teacher Should Know and Wenden endeavored to place a genuine recognition of language learning strategies to ease the problem which has been applied to learning style theory. In the new theory, the focus has been shifted from the general characteristics to the specific practical measures which good language learners take to learn a new language.

There is no doubt that learning style theory and learning strategy theory are closely interrelated and their main difference lies in their views of the good learners’ tools. The former applies a more general view and tries to differentiate learners based on their general characteristics while the latter has a more specific view and binds itself to the specific measures which learners apply in learning. In other words, styles and strategies are closely related and complete each other, as
learning strategies refuel the learners’ learning styles when they combine together uniquely to shape individual learners (Schmeck).

Through learning strategy theory, students’ active contribution toward promoting their own learning success is truly echoed by implementing learning strategies (Dornyei and Skehan 607). Learning strategies have been defined by many scholars, and in each of these definitions, the notion has been focused from different points of view which facilitate having a better understanding of the issue. Some of these definitions are presented in Table 2.5.

**Table 2.5**

**Definitions of learning strategies**

<table>
<thead>
<tr>
<th>Scholar</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scarcella and Oxford</td>
<td>“Specific actions, behaviors, steps or techniques, such as seeking out conversation patterns, or giving oneself encouragement to tackle a different language task, used by students to enhance their own learning” (63).</td>
</tr>
<tr>
<td>Galloway and Labarca</td>
<td>“Learner strategies are task-specific tactics or techniques, observable or non-observable, that an individual uses to comprehend, store, retrieve and use information, or to plan, regulate or assess learning (141)”</td>
</tr>
<tr>
<td>Oxford</td>
<td>“Behaviors or actions which learners use to make language learning more successful, self-directed and enjoyable” (Language Learning Strategies 235).</td>
</tr>
<tr>
<td>O’Malley and Chomot</td>
<td>“Special thoughts or behaviors that individuals use to help them comprehend, learn or retain new information” (1)</td>
</tr>
</tbody>
</table>

Kirby defines strategies in comparison with skills and abilities to crystallize our understanding of them. He starts with defining skills as “existing cognitive routines for performing specific tasks”, and differentiates these from strategies by calling the latter “the means of selecting, combining, or redesigning those cognitive routines”. He further states that “Skills range from knowledge skills, the accessing by stimulus patterns of stored representations and associations (e.g., Knowing that ‘7’ says ‘seven’) to action skills, the transforming of input information to obtain desired results.” However, on addressing the abilities against Skills, he generalizes that “skills are fundamentally related to abilities, to the extent that the latter sets some sort of upper limit to the development of the former” (230). Dornyei and Skehan also differentiate strategies and skills by saying that
“skills are the things we can do (constrained by our ability), whereas strategies and tactics involve the conscious decision to implement those skills” (611).

In the past decades, many scholars have endeavored to present taxonomies on learning strategies. Among them, Oxford offers the most comprehensive and practical categorization. In Language Learning Strategies: What Every Teacher Should Know, she presents six main categories to classify learning strategies: cognitive strategies, metacognitive strategies, memory-related strategies, compensatory strategies, affective strategies and social strategies. She also calls memory, cognitive and compensatory strategies as direct ones, and metacognitive, affective and social strategies as indirect. Each of these classes is also divided into some subcategories which are presented in the following outline:

I. Direct strategies
   A. Memory-related strategies
      1. Creating mental linkage (grouping, associating/elaborating and placing new words into a context)
      2. Applying images and sounds (using imagery, semantic mapping, using keywords and representing sounds in memory)
      3. Reviewing well (structured viewing)
      4. Employing action (using physical response or sensation and using mechanical techniques)
   B. Cognitive strategies
      1. Practicing (repeating, formally participating with sounds and writing systems, recognizing and using formulas and patterns, recombination and practicing naturalistically)
      2. Receiving and sending messages (getting the idea quickly and using resources for receiving and sending messages)
      3. Analyzing and reasoning (reasoning deductively, analyzing expressions, analyzing contrastively across languages, translating and transferring)
4. Creating structure for input and output (taking notes, summarizing and highlighting)

C. Compensatory strategies
1. Guessing intelligently (using linguistic clues and Using other clues)
2. Overcoming limitations in speaking and writing (switching to the mother tongue, getting help, using mime and gesture, avoiding communication partially or totally, selecting the topic, adjusting or approximating the message, coining words and using circumlocution or synonym)

II. Indirect strategies
A. Metacognitive strategies
1. Centering your learning (overview and linking with already known material, paying attention and delaying speech production to focus on listening)
2. Arranging and planning your learning (finding out about language learning, organizing, setting goals and objectives, identifying the purpose of a language task, planning for a language task and seeking practice opportunities)
3. Evaluating your learning (self-monitoring and self-evaluating)

B. Affective strategies
1. Lowering your anxiety (using music, using laughter and using progressive relaxation, deep breathing or meditation)
2. Encouraging yourself (making positive statement, taking risk widely and rewarding yourself)
3. Taking your emotional temperature (listening to your body, using a checklist, writing a language learning diary and discussing your feelings with someone else)
46 Yaghoubi

C. Social strategies

1. Asking questions (asking for clarification or verification and asking for correction)
2. Cooperating with others (cooperating with others and cooperating with the proficient users of the new language)
3. Empathizing with others (developing cultural understanding and becoming aware of others’ thoughts and feelings)

In another attempt, O’Malley and his colleagues also present a practical and simple taxonomy which really deserves to be discussed and compared to Oxford’s. They classify learning strategies into three main groups which are metacognitive, cognitive and socio-affective. Metacognitive strategies focus on planning for learning, thinking about the learning process, monitoring production/comprehension and evaluating the learning process (Purpura). Cognitive strategies are more limited to specific learning tasks and focus more on the use of learning materials. But socioaffective strategies focus on socio-mediating activities and on having interaction with others (Brown, Principles 124). O’Malley’s taxonomy is presented in Table 2.6 with the intention of being compared with Oxford’s learning strategy taxonomy.

Table 2.6
O’Malley’s learning strategies

<table>
<thead>
<tr>
<th>Learning strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metacognitive strategies</strong></td>
<td></td>
</tr>
<tr>
<td>Advance organizers</td>
<td>Making a general but comprehensive preview of the organizing concept or principle in an anticipated learning activity.</td>
</tr>
<tr>
<td>Directed attention</td>
<td>Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors.</td>
</tr>
<tr>
<td>Selective attention</td>
<td>Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input.</td>
</tr>
<tr>
<td>Self-management</td>
<td>Understanding the conditions that help one learner and arranging for the presence of those conditions.</td>
</tr>
<tr>
<td>Functional planning</td>
<td>Planning for and rehearsing linguistic components necessary to carry out an upcoming language task.</td>
</tr>
<tr>
<td><strong>Cognitive strategies</strong></td>
<td><strong>Self-monitoring</strong></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Delayed production</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Self-evaluation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Repetition</strong></td>
<td></td>
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<tr>
<td><strong>Resourcing</strong></td>
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<tr>
<td><strong>Translation</strong></td>
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<tr>
<td><strong>Grouping</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Note taking</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Deduction</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Recombination</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Imagery</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Auditory representation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Keyword</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Contextualization</strong></td>
<td></td>
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<tr>
<td><strong>Elaboration</strong></td>
<td></td>
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<tr>
<td><strong>Transfer</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Inferencing</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Socio-affective strategies</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cooperation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Question for clarification</strong></td>
<td></td>
</tr>
</tbody>
</table>


It was observed that O’Malley and Chamot have categorized learning strategies into three main domains. In this taxonomy, metacognitive domain has its own counterpart in Oxford’s classification by the same title. The cognitive area of
this taxonomy corresponds directly to Oxford’s cognitive and memory strategies. And the socioaffective domain corresponds to Oxford’s social, affective and communicative strategies. Therefore, it can be concluded that these two strategy systems are highly compatible. They are so attuned that if three justifiable changes are made to these taxonomies which are excluding communication strategies from the scope of learning strategies, combining Oxford’s memory and cognitive strategies, and separating O’Malley and Chamot’s social/affective strategies, we can wind up with two matching typologies each of which includes four main classes:

1. Cognitive strategies: involving the manipulation or transformation of the learning materials/input, for example repetition, summarizing and using images.

2. Metacognitive strategies: involving higher-order strategies aimed at analyzing, monitoring, evaluating, planning and organizing one’s own learning process.

3. Social strategies: involving interpersonal behaviors aimed at increasing the amount of L2 communication and practice the learner undertakes, for example initiating interaction with native speakers and cooperating with peers.

4. Affective strategies: involving taking control of the emotional/affective conditions and experiences that shape one’s subjective involvement in learning. (Dornyei and Skehan 609)

Through the endeavors of many researchers and scholars such as Andrew Cohen, Nyikos, Rees-Miller, Chamot and Rubin in the past decades, it has been proved that learning strategies effectively contribute to L2 attainment. Moreover, it has also been proved that all these strategies could be trained and taught.

Actually, the point of view that learners can be taught these learning strategies to accelerate the process of learning has been an interesting research domain. For instance, Hosenfeld conducted a remarkable case study with a high school French language learner named Cindy with the intention of supporting the
significance of teaching these strategies. In this study, the participant was informed of her own approach to reading and also was trained based on the approach of another successful language learner as a model. After eight successive sessions of training, Hosenfeld found that Cindy was capable of using some of the trained reading strategies which she did not utilize in the past. This study gave a strong support to the theory of learning strategies and learning strategy training as a successful method (Hadley 66).

For better training in these strategies, Oxford believes that “the most effective strategy instruction appears to include demonstrating when a given strategy might be useful, as well as how to use and evaluate it and how to transfer it to other related tasks and situations” (“Language Learning Styles and Strategies” 363). Furthermore, Chamot and O’Malley also believe that explicit strategy instruction should be integrated with content area instruction and academic language development for gaining better results.

2.1.7. Self-Regulatory Learning Theory

Undoubtedly, nobody can claim that the learning strategy theory is complete and final. To name a significant drawback, this can be mentioned that the main focus of this theory has been on product which is a model of a successful language learner. Conversely, with the aim of shifting from product to process, the notion of self-regulatory learning was presented by Zimmerman and Riesenber. They define self-regulation as the degree to which learners are active participants in their own learning. Self-regulation is a more dynamic notion which refers directly to the learners’ own “strategic efforts to manage their own achievement through specific benefits and processes” (105). Dornyei and Skehan append to the notion of self-regulation that it is a multidimensional construct, consisting of cognitive, metacognitive, motivational, behavioral and environmental processes which learners can use to enhance academic achievement.

The positive point about this theory is that instead of having the good language learner model, self-regulatory learners are introduced as the model of
instruction. In order to have a better understanding of self-regulatory learners, Winne introduces them as:

When they began to study, self-regulating learners set goals for extending knowledge and sustaining motivation. They all are aware of what they know, what they believe and what the differences between these kinds of information imply for approaching tasks. They had a grasp of their motivation, are aware of their affect and plan how to manage the interplay between these as they engage with a task. They also deliberate about small-grain tactics and overall strategies, selecting some instead of others based on predictions about how each is able to support progress towards chosen goals. (173)

So far it was observed that in learning style theory, the focus is on the general characteristics of good language learners who are faster and better in the process of language learning. However, due to the vagueness, impracticality and non-trainability of these characteristics, the way was paved to the emergence of learning strategy theory. Although this second theory eased those drawbacks, still the focus of this theory remained on the model of good language learner as a product. However, to expand this horizon and move from product into process, the notion of self-regulatory learning was presented.

### 2.2. Error Treatment and Error Orientation

Although it is for decades that error treatment is one of the main concerns of teachers to help learners overcome their weaknesses, many teachers assert that it is really a thorny issue in language classrooms. Deciding whether to correct a student’s error or not is really a tough matter. And if the answer is yes to correction, when and how and also by whom it should be done are the following questions. Moreover, there has always been another dilemma of whether supporting the flow of speech for the sake of saving communication or interrupting the learner to have the proper feedback. On the one hand, communication is
known as the heart of language acquisition in the communicative approach to language teaching, and on the other hand, correction may save students or the whole class from internalizing erroneous forms, and may keep them away from fossilizing errors.

2.2.1. Error Orientation versus Error Treatment

When error treatment is just defined as the reaction of a teacher to a learners’ error, we are merely dealing with this phenomenon at the surface level. This surface level definition of error treatment is referred to by using different terms such as corrective feedback, negative evidence or negative feedback when a teacher is telling a student directly or indirectly about what is unacceptable (Schachter). And it is also referred to as positive evidence or positive feedback when learners are provided with models which are grammatical and acceptable in the target language. However, on the function of error treatment, it is hard to ignore the impact of teachers’ and learners’ attitudes toward correction and also their reaction to their own errors and mistakes (error orientation).

To take a broader view through a new definition, error treatment can be depicted as having three layers. It concerns first, how and when teachers should treat learners’ errors and which errors should be treated, second, what the learners’ and teachers’ attitudes are toward corrections and third, how learners treat and react to their own mistakes and corrected errors. The first phase has been the main concern of researchers in the past couple of decades and the second phase has been minimally attended to. However, the third phase of error treatment has not been investigated directly. This last phase which concerns the learners and their reactions to their own mistakes and errors are known as error orientation. Based on this new definition, error orientation is seen as an inseparable and neglected part of error treatment which definitely calls for serious investigation.
2.2.2. Corrective Feedback as Error Treatment

If we look at the history of error treatment, it is apparent that the major focus has been on how and when teachers should treat learners’ errors and which errors should be treated. As mentioned above, this surface level definition is also referred to as corrective feedback. At this level, El-Tataway and many other researchers believe that the most comprehensive view of feedback is offered by Long. He suggests that environmental input can be provided to the learners in two different forms, positive evidence and negative evidence. Positive evidence is providing the learners with models of what is grammatical and acceptable in the target language. But on the other hand, negative evidence is telling students directly or indirectly about what is unacceptable (“The Role of Linguistic Environment”). To focus more on the details, Long and Robinson have offered the following outline to show different types of positive and negative evidence in relation to linguistic environment:

I. Input
   A. Positive evidence (input and models)
      1. Authentic
      2. Modified
         a. Simplified
         b. Elaborated
   B. Negative evidence
      1. Preemptive (grammar rules)
      2. Reactive
         a. Explicit (overt error correction)
         b. Implicit
            1) Communication breakdown
            2) Recast
               (a). Simple
               (b). Complex
In this framework, input has been classified into positive and negative evidences. The positive evidence is clearly the model which a teacher presents during class time. This model can be as authentic as how it is in the target language society, or it can be modified as a teacher applies teacher-talk based on the linguistic developmental stages of learners. And this modification can be done by simplifying or elaborating to make learners understand the target language. However, the negative evidence can be provided reactively or non-reactively. In the preemptive or non-reactive method, learners are provided with grammar rules when a teacher has the feeling that there is a problem on a particular grammatical point. On the other hand, reactive evidences can be provided explicitly or implicitly. The teachers’ explicit reactions manifest in the form of overt error corrections, and the implicit reactions can be presented by teachers’ interruptions and silence. Moreover, the implicit reactions can also happen in the forms of simple or complex recast corrections by which teachers only present the correct forms of the learners’ erroneous production. Long restates the same idea by saying that reactive evidences can be:

explicit (e.g., grammatical explanation or overt error correction) or implicit (e.g., failure to understand, incidental error correction in a response, such as a confirmation check, which reformulates the learners’ utterance without interrupting the flow of the conversation—in which case, the negative feedback simultaneously provides additional positive evidence—and perhaps also the absence of the items in the input. (“The Role of Linguistic Environment” 413)

If we investigate the literature on error treatment more deeply, it comes out that most researchers have focused more on negative evidence when defining corrective feedback. In these definitions, stress is on the notification of what is incorrect in a learner’s production. For instance, Lightbown and Spada in *How Languages Are Learned* define corrective feedback as “any indication to the learners that their use of the target language is incorrect. This includes various
responses that the learners receive.” Then to bring some tangible examples, they continue that “when a language learner says, ‘He go to school everyday’, corrective feedback can be explicit, for example, ‘no, you should say goes, not go’ or implicit ‘yes he goes to school every day’, and may or may not include metalinguistic information, for example, ‘Don’t forget to make the verb agree with the subject’” (171-2).

There have been other endeavors in defining the term corrective feedback in which Chaudron’s definition is somehow unique by identifying some steps in the process. Chaudron simply refers to “any teacher behavior following an error that minimally attempts to inform the learner of the fact of error” as the first step. Then he stresses that the treatment may or may not be explicit to the learner in terms of the response it elicits. or it may make a significant effort “to elicit a revised student response”. And finally, there is the manifestation of the true correction which is the modification of the learner’s interlanguage rule and the elimination of the error in future production (150).

2.2.3. Major Shifts in the History of Error Treatment

If we look at the history of error treatment, there have been two fundamental shifts regarding error correction. In the first great movement which was followed by the advent of transformational generative grammar in late 1960s, the stress on having error-free utterances was shifted to the use language communicatively without having fear of committing errors. This great change was due to having a new attitude which was taken through recognizing committing errors as the inevitable part language learning (Corder, “The Significance”). Harmer as one of the supporters of this idea states that “Errors are part of the student’s interlanguage, that is the version of the language which a learner has at any one stage of development, and which has continually reshaped as he or she aims toward full mastery” (100).

As the second great shift, Hendrickson put forward stress on correcting learners’ minor linguistic (local) errors instead of major communicative (global)
errors. He relatively advises teachers to discern the difference between the global errors which affect meaning and the local errors which do not. Since the message is clear, he recommends that local errors usual need not be corrected in order to save productive communication; however, global errors need to be treated given that the message may otherwise remain garbled (“Error Correction”).

These shifts in the perception of correcting errors can be investigated in the light of the language teaching methodologies applied in the past fifty years. In the period of the dominance of Audio-Lingual method in 1950s and 1960s, errors were estimated as forbidden sins which must have been avoided by all means. Brooks pointed out this idea by saying “Like sin, error is to be avoided and its influence overcome, but its presence is expected” (56). Based on this approach, teachers were required rigidly to correct all errors and mistakes to avoid fossilization. They were also expected to present the language as the best model to prevent errors of any kind, and learners were expected to mimic teachers’ correct models. Moreover, learners were avoided to discover the target language.

In the early 1970s, the first major shift was set out in the light of transformational generative grammar and cognitive psychology. In this new scope of language teaching, the use of the target language for the sake of real communication substituted for compelling learners to model error-free utterances (Schultz). This standpoint has been manifested in the works of many leading scholars such as Lange and Zydatiss who consider errors as the natural and inevitable part of second and foreign language acquisition. They also believe that errors are useful to teachers in providing them with feedback on the effectiveness of their teaching. However, Schultz appends to this approach that although learners’ errors have begun to be known as the inevitable part of language learning in a natural process, this communicative approach to language teaching downplayed the role of explicit error correction on its first track. In this hard version of communicative approach, teachers were surprisingly discouraged from explicitly providing learners proper feedbacks which led to a generation of learners with high fluency in spoken language but vividly limited in accuracy. This severe
disadvantage was addressed by many researchers such as Aljaafreh and Landtolf, Doughty, Ellis (“Are Classroom”), Long (“Does Second”), and Allen et al. These studies, which led to a moderate version of communicative approach to language teaching, reinforced the pivotal role of corrective feedback as an effective tool in facilitating language acquisition, and reevaluated the negative view on error correction. According to these scholars, corrective feedback provides learners negative input and informs them of their unacceptable utterances which are indispensable in the process of second and foreign language learning.

2.2.4. Theoretical Stances of Error Treatment

With the intention of crystallizing the trend of error correction based on SLA theories in the past couple of decades, El-Tataway reviewed the theoretical stances of corrective feedback in her valuable study. In her work, she elaborates on how positive and negative corrective feedbacks, which can be estimated as the “driving forces behind SLA” (El-Tataway 3), were challenged by many researchers.

Based on nativism, as one of the fundamental theories in language learning, universal grammar (UG) is the main element which makes language acquisition possible. Chomsky defines UG as “the system of principles, conditions and rules that are elements of properties of all human languages” (Reflections 29). Based on this theory, negative evidence as a general error treatment technique hardly plays any serious role in language acquisition. The advocates of UG such as S. E. Carroll (“The Irrelevance”) and Cook have argued that instruction of any kind including negative evidence is less influential on forms within UG, since it only temporarily changes language behavior and not interlanguage grammar. In perusing this trend in the language acquisition history, Krashen is another powerful theorist who gave negative evidence an indiscernible effect on second language acquisition. Krashen as a nativist in The Input Hypothesis: Issues and Implications introduces comprehensible input as the most vital variable in language acquisition. He believes in subconscious learning which he calls acquisition. He also stresses that
conscious learning could only act as a monitor system to track the mistakes and edit the output. Also in his opinion, learning cannot be converted into acquisition, even though adults can both subconsciously acquire the language and consciously learn it. Therefore, positive linguistic evidence is more influential and more powerful on interlanguage grammar than negative evidence based on this theory.

However, this approach to language acquisition was challenged by the next generation of scholars such as Ellis, Gass and Schmidt based on some fundamental facts:

1. Acquisition cannot be merely an implicit and unconscious process.
2. Comprehension is indispensable in the process of language acquisition.
3. Noticing and attention are crucial in the process of language acquisition.

This belief that language learning cannot be totally subconscious has been greatly strengthened. In compliance with this noticing hypothesis, some degree of noticing is required to make the language acquisition process run. In other words, noticing is the key factor to help learners turn inputs into intakes. Schmidt reiterates the same idea that “subliminal language learning is impossible, and that intake is what learners consciously notice. This requirement of noticing is meant to apply equally to all aspects of language” (“The Role” 149). In this view, the process of language acquisition is supported by the attention learners pay to learning material. Schmidt yet again restates that although intention is not always essential to learning, attention is totally crucial and is the element which controls access to conscious experience (“Implicit”). Ellis shares the same view and puts stress on noticing in the process of language acquisition. He also identifies three steps of noticing, comparing and integrating in the process of language learning (“Grammar Teaching”). Gass also in his published works in 1990 and 1991 presents the same view by saying that mere presentation of input does not suffice and comprehensibility of the input is the key factor in converting it to intake and subsequently output. She also stresses that not only the comprehensibility of input is pivotal, but also tracing the mismatches between input and interlanguage system
is of outmost importance on the part of learners ("Grammar Instruction"; "Second and Foreign").

To specify the role of corrective feedback in this noticing process, El-Tataway relatively believes that “it is corrective feedback that triggers the learners’ noticing of gaps between the target norms and their IL [interlanguage], and thus leads to subsequent grammatical restructuring” (3). In other words, corrective feedback is a tool which triggers learners’ attention on the target language, and makes comparison between the learner language and the target language possible. If this comparison cannot be drawn, then the way is paved toward fossilization. There is no doubt that “even in the most learner-centered instruction, learners need feedback in order to differentiate between acceptable and unacceptable target language use” (Crookes and Chaudron 40). Gass and Varonis also repeat the same point by saying, “the awareness of the mismatch serves the function of triggering a modification of existing L2 knowledge, the results of which may show up at a later point in time” (299).

Hypothesis testing model of language learning is another theory in which the role of corrective feedback is more crucial (Bley-Vroman, “Hypothesis Testing”; “What is”). In this model, language learning is defined as the process of formulating new hypotheses and testing these hypotheses against the target norm. In this theory, corrective feedback plays a bidirectional role. First, it can help students by giving them some clues on the existence of errors in their production without providing correct forms. Then these teacher-provided clues may drive learners to use their own resources to get self-corrected based on the hypotheses which they generate on their own. On the other hand, teachers can also provide correct forms through which learners may have the opportunity to compare their own production with the norm. Based on this hypothesis testing model, therefore, a corrective cycle is formed in which learners abandon their wrong hypotheses by receiving corrective feedback, and automatically switch to formulating new hypotheses (Schachter). Thus, tracing deviation from norms is a crucial factor
which is attainable through noticing and making hypotheses in the process of language learning.

In accordance with this theory, error treatment may also provide learners with the chance of identifying form-meaning relationship based on their own hypothesis testing (Ohta). This idea is also presented by Swain who believes in this encouraging role of error treatment in building form-meaning relationship. Swain also asserts that this knowledge can push learners’ output further in the direction of accuracy through self-correction. Furthermore, Harmer adds another dimension to these main roles of error treatment and that is the assessment which learners can make on how they have done in learning the target language (99).

It is completely defendable that either of these roles of error treatment is indispensable in the process of language learning which possibly assists learners to modify the hypothetical, transitional rules of their developing interlanguage. However, these benefits “depend on the learners’ readiness and attention to the information available in feedback. That is, learners must still make a comparison between their internal representation of a rule and the information about the rule in the input they encounter” (Chaudron 134).

There is no doubt that with the rise of cognitivism in educational psychology, the pivotal role of error treatment in language acquisition became more influential. In this cognitive view, language acquisition includes interaction between input, the cognitive system and the learner’s perceptual motor system (Pienemann, Johnson, and Brindley). It is good to know that Han names the essential role of feedback in cognitive view of language acquisition as informing, regulating, strengthening, sustaining and error eliminating (“Fine-Tuning” 6).

This point of view even paved the way further to the emergence of interactionist hypothesis and constructivism. In this model, learners’ selves are social products, but also cognitive, purposive and creative. Due to this belief of social interaction and its impact on language learning, negative feedback grew even more in the process of language acquisition. Long believes that negative feedback obtained during negotiation facilitates second language development in
the areas of vocabulary, morphology and syntax, and is essential for learning certain contrasts between first and second languages ("The Role of Linguistic Environment" 414).

2.2.5. Studies on Error Treatment and Error Orientation

In the history of error treatment, theoretical stances have guided researchers in their investigations. Structuralists, Cognitivists and Constructivists emerged from these theoretical stances and played their role by opening new fields of investigation. In the middle of the twentieth century the zeal for scientific investigations led researchers to focus on how languages are different from each other. In this period, errors were regarded as forbidden items in the process of language learning, and all efforts were made to identify sources of errors in the first language through contrastive analysis. Then by the advent of cognitive/rationalistic linguistics, the way was paved for the studies on developing linguistic systems in language learning and consequently on “errors as important keys to understanding the makeup of those systems”. This was followed by constructivism which has focused more on the effect of learners’ interactions with each other (Brown, Principles 245). Some of these influential investigations on the role of error treatment and corrective feedback have been covered by El-Tataway and other scholars. The review of these studies can help us have a better understanding of the research movement in this field.

In the past couple of decades, many researchers have focused on the relationship between error treatment and language acquisition, and the possible impact of different correction types on the process of language learning. Two interesting empirical studies were carried out by Tomasello and Herron in the late 1980s. In these two studies they investigated the possible impact of two techniques of correcting learners’ overgeneralizations and negative transfers from first language (L1). The participants in these two studies were divided randomly into two groups. They were college students who were learning French as a foreign language. Each of these two separate groups were taught based on two different
conditions in two semesters. In the first technique, teachers taught learners exceptions to rules explicitly by telling them that those were exceptions, but in the second technique, teachers taught students inductively by moving from examples to rules. In this way, students were encouraged to extract rules themselves. Tomasello and Herron called the latter garden path technique to teaching. In this technique, learners were induced to make errors which were corrected immediately by teachers in a safe environment. The result of these two studies showed that learners learned exceptions better by the garden path technique. Therefore, these two researchers concluded that learners acquire language better when they are allowed and led to generate hypotheses with having teachers’ immediate feedback on their errors (“Down”). This research also revealed that errors are an inevitable part of language learning, and persuading learners to risk making errors and getting corrected in a safe environment is a key to success.

In another investigation, Lightbown and Spada performed a study on the degree of effectiveness of corrective feedback and form-focused instruction in second language acquisition (“Focus-on-Form”). The participants in this study were 100 native speakers of French who attended a five month intensive ESL (English as a second language) course. The aim of the research was to find possible meaningful relationship among instruction, interaction and acquisition. Based on their investigation, Lightbown and Spada asserted that the meaning-based instruction including form-focused activities together with corrective feedback was the best method to develop overall language skills. This study supported the existence of clear positive relationship among three elements in language learning: meaning (the core of communication), form (the framework within which meaning manifests) and error correction (the system that monitors the existence of true connection between meaning and form).

There have always been disputes among researchers on the effectiveness of the positive and negative evidence. However, many of them believe in the insufficiency of positive evidence alone in the process of language acquisition. Among these scientists, White asserts that in the process of language learning
“there will be cases where change from X to Y will require negative evidence” (148). This saying emphasizes the importance of negative feedback without which positive evidence alone is unable to serve the needs of language learning.

To support this idea in 1991, White conducted research on the link between form and feedback by focusing on the effectiveness of positive and negative evidence in form-focused instruction. The subjects of this experimental study were 164 French learners of English in the age group of 11-12. In this study, the researcher focused on verb raising and English adverb placement as hard elements to be learnt by Canadian francophones. This study led White to conclude that having both negative and positive evidence in error treatment was more effective than having naturalistic positive evidence alone (Trahey and White). This finding stressed the importance of having proper error treatment in form-focused instruction as part of the communicative approach to language teaching.

Trahey and White in 1993 carried out another study to investigate whether positive L2 input was sufficient enough to force language acquisition process in general. The participants in this study were 54 fifth grade Canadian francophone students in two homogeneous intensive ESL classes. A pretest, post test and a delayed post test were implemented to have a proper design for this study. The experimental group was flooded by materials with English adverbs naturalistically inserted. They were exposed to this input for an hour daily during two weeks. Out of this research, Trahey and White concluded that positive evidence did not suffice to be significantly effective, and the existence of negative evidence was very crucial in the process of L2 acquisition. In this endeavor, what was supported more and more was the need for proper error treatment in the heart of a well designed communicative form-focused instruction to stress both meaning and form through interaction.

Dekeyser, Carroll and Swain complained of the results and conclusions which were drawn based on the researches carried out by Lightbown and Spada, Tomasello and Herron as well as Trahey and White. They pointed out that in these studies, formal instruction was not isolated from corrective feedback and as a
result, the conclusions were not valid. To solve this problem in the domain of corrective feedback, Carroll and Swain proposed conducting experimental research instead of classroom research. In other words, they believed that the impact of negative feedback could be far better investigated in controlled experimental settings.

In a controlled study, Carroll and Swain investigated the impact of different types of corrective feedback on second language acquisition. The aim was to find out if feedback could accelerate acquisition of the appropriate abstract constraints on an excessively generalized rule. As the subjects, the one hundred participating students were divided into several groups, and they received different feedback types. Through this study, it was observed that all treatment groups did better than the control group. Both explicit and implicit feedback types were found indispensable in the process of learning; however, explicit metalinguistic feedback was identified to be more useful in the acquisition process than simply pointing to learners’ errors or giving them correct responses.

Although this research was conducted in a controlled experimental setting for the sake of validly, it also suffered from some drawbacks some of which El-Tataway has taken into consideration:

1. The period between the two recall sessions was rather short; therefore, the study did not provide any evidence for long-term retention.
2. There was no variety of performance tasks indicating that learners could generalize their learning to other tasks.
3. There was no time limit for the feedback provided; thus, the difference in performance could be due to the amount of feedback they received.

Nevertheless, she asserted that the study was significant to provide evidence that adult language learners used negative feedback to have specific and abstract linguistic generalizations, and applied them in their interlanguage. Apart from the outcome, the researchers tried to separate error treatment from focused instruction and this was the main objection they made on the studies which had been conducted before. However, in the researcher’s point of view, error treatment is an
inseparable part of communicative form-focused instruction, and the findings of this study surprisingly support the same notion. When a teacher focuses on teaching a grammatical point, the instruction manifests itself in positive and negative evidence, and this makes separating error treatment from form-focused instruction impossible.

As another domain of investigation, various types of feedback and their degree of effectiveness have been focused in the recent line of research. Among all types of corrective feedback, recast has gained more attention to get investigated by researchers. Lyster and Ranta define recast as “the teacher’s reformulation of all or part of a student’s utterance minus the error” (46). Although this definition of recast is clear, Long has also defined recasts in other words as “utterances which rephrase a child’s utterance by changing one or more sentence components (subject, verb, or object) while still referring to its central meanings” (“The Role of Linguistic Environment” 434). Recast can be called the most attractive domain in recent research on corrective feedback due to:

1. the unobtrusive nature of recast in the flow of communication,
2. the immediacy of recast,
3. and the importance of informing learners of the contrast between their faulty production and the real target form (Nicholas, lightbown, and Spada).

An interesting investigation into recast was carried out by Oliver on the role of negative evidence in child native-nonnative speaker dyadic interactions. The main research question was whether or not negative feedback existed in child native-nonnative speaker interactions. In this study, both recast and negotiation strategies, including replication, clarification requests and clarification checks were investigated. Through this attempt, Oliver observed a substantial amount of implicit negative feedback in both native-nonnative speaker interactions. He also found that nonnative speaker errors triggered native speaker responses, and negotiations occurred to clarify meanings and recast occurred to rectify forms.
Like other studies, this research was also prone to some limitations that some of which El-Tataway counted in order to make the outcomes more realistic:

1. Based on the synchronic nature of this study, production was considered as the only evidence for acquisition. However, acquisition could occur before it appears in production.

2. For a recast to be incorporated into the production of a nonnative speaker, it has to appear in the immediate turn. However, recast corrections were incorporated in later turns in many cases.

3. It was also difficult to trace errors from mistakes in this study. In other words, it was difficult to prove that such incorporations were due to the negative evidence and not due to the fact that an error was a slip of tongue rather than lack of competence.

Another interesting investigation in this domain was carried out by Lyster and Ranta in 1997. The importance of this study was because of the two main reasons: firstly, it investigated different types of error treatment or corrective feedback, and secondly, it included investigation on student responses to feedbacks or "learner uptakes" (40). They also tried to find out what types of corrective feedback led students to correct their own grammatical and lexical errors.

This research was reinforced by the idea that immersion students could not attain native-like proficiency in speaking and writing in comparison to native speakers. The problem which has been investigated since 1970s by many researchers such as Swain and Lapkin, Kowal and Swain, Harley, and Salomone has a lot in common with the research question of this study. Lyster and Ranta found that most immersion teachers tended to focus their attention on the instruction of subject matter content and academic achievement which usually received increased emphasis because of school expectations and parental concerns. It was also observed that lack of giving proper feedback to student errors and lack of systematic approaches for teaching specific language structures in meaningful contexts contributed to less than optimal levels of proficiency in immersion
students. These findings underpin the belief that "subject-matter teaching does not
on its own provide adequate language teaching" (Lyster and Ranta 41).

Tedick and Gortari have reviewed the process of this study in detail and
presented some of its highlights. The data were collected from an early total
immersion school (one fourth grade) and in three middle immersion classrooms
(two fourth-grade and one fourth/fifth split). This was done after numerous lessons
were taught in these four different classrooms which represented two types of
immersion programs. In that total immersion school, students had received
instruction in French in all areas since first grade except one hour per day in
English approximately. But in those middle immersion classes, all the instructions
were in English except for a daily one-hour French lesson until the fourth grade,
and from then on approximately 60% of the school day was in French to teach
science, social studies, math and French language. Lyster and Ranta observed and
audio-taped nearly 18 hours of lessons in four subject areas and analyzed the data
based on the different types of corrective feedback which were defined as:

1. *Explicit correction* in which teachers provide correct forms clearly.
2. *Recast* in which teachers implicitly reformulate students' errors or
provide corrections.
3. *Clarification request* in which teachers use phrases like "Excuse me?"
or "I don't understand." to indicate that messages have not been
understood, or that utterances contain some kind of errors and that
repetition or reformulation is required.
4. *Metalinguistic clues* in which teachers pose questions or provide
comments or information related to the formation of the students'
utterances (for example, "Do we say it like that?", "That's not how you
say it in French." and "Is it feminine?") without providing the correct
form.
5. *Elicitation* in which teachers directly elicit correct forms from students
by asking questions (e.g., "How do we say that in French?") by pausing
to allow students to complete teachers' utterances (e.g., "It's a...") or by
asking students to reformulate utterances like "Say that again.". Elicitation questions are different from metalinguistic clues in that they require more than yes/no responses.

6. Repetition in which teachers repeat students' errors with proper intonation to draw their attention and activate their self-repairing system.

Lyster and Ranta's investigation also revealed two different types of Uptake. Utterances which were still in need of repair and those corrected errors which received proper feedback. Uptake is defined as "a student's utterance that immediately follows the teachers' feedback, and that constitutes a reaction in some way to the teachers' intention to draw attention to some aspect of the student's initial utterance" (Lyster and Ranta 49).

This study depicted that nearly 34% of the student utterances audio-taped during those 18 hours of class time contained some types of error, and nearly 62% of all the errors produced by the participants were corrected by teachers. Although 55% of all the feedback utterances were led to uptakes on the part of the learners, only 27% of those feedback utterances led to repairs, and in general just 17% of the errors were repaired by the students themselves.

In this study, interesting results were also found in terms of feedback types. Lyster and Ranta found that the participating teachers used recast over half of the time (55%) as the main feedback type. Then elicitation feedback came out to be 14%, clarification requests 11%, metalinguistic feedback 8%, explicit correction 7% and repetition 5%. However, the low percentage of repetition feedback is somehow deceptive because teachers often produce repetitions along with other types of feedback.

Moreover, knowing what types of corrective feedback led to uptakes which contain student-generated repairs was very surprising and useful. The results have been summarized by Tedick and Gortari in Table 2.7.
Table 2.7
Number and percentage of pairs attributed to each feedback type

<table>
<thead>
<tr>
<th>Feedback Type</th>
<th>All Repairs (number = 184)</th>
<th>Student-Generated Repairs (number = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recast (number = 375)</td>
<td>66 (36%)</td>
<td>0</td>
</tr>
<tr>
<td>Elicitation (number = 94)</td>
<td>43 (23%)</td>
<td>43 (43%)</td>
</tr>
<tr>
<td>Clarification request (number = 73)</td>
<td>20 (11%)</td>
<td>20 (20%)</td>
</tr>
<tr>
<td>Metalinguistic feedback (number = 58)</td>
<td>26 (14%)</td>
<td>26 (26%)</td>
</tr>
<tr>
<td>Explicit correction (number = 50)</td>
<td>18 (10%)</td>
<td>0</td>
</tr>
<tr>
<td>Repetition (number = 36)</td>
<td>11 (6%)</td>
<td>11 (11%)</td>
</tr>
</tbody>
</table>


As clearly indicated in the above table, recast and explicit correction never led to student-generated repair or self-repair. Since these two types provided students with correct forms, and learners simply traced the corrections as another way of saying the same idea. Apart from these two, the other four feedback types led to some student-generated repairs simply because the correct forms were not provided.

Lyster and Ranta did not make any direct conclusive claim to be used practically in English language classes although they laid stress on the need for future research on teacher feedback and student uptake. However, Tedick and Gortari found it possible and useful to suggest some ideas for teachers based on findings of this study. They offered four general suggestions for teachers based on the classroom experiences of Ms. Gortari and her colleagues:

1. **Consider the context.** Before you plan systematic error correction practices for your classrooms, you need to consider the context in which student language use and errors occur. As immersion teachers are well aware, students in the early stages of cognitive development and language acquisition need to be encouraged to produce language that communicates meaning; error correction
techniques that require student reflection on language structures or vocabulary are not appropriate for learners in those early stages. The types of corrective feedback techniques that elicit student-generated repairs are clearly more appropriate for the more cognitively mature and L2 proficient learners.

2. *Become aware of your current practices.* Immersion teachers can benefit by taking time to find out how they currently address student errors. Ask a colleague or classroom aide to observe you while focusing specifically on your feedback techniques. Or, should a colleague or aide not be available, audio record a number of your lessons and reflect on the recording.

3. *Practice a variety of feedback techniques.* Good teachers understand that one size does not fit all. Individual learners may well differ in terms of the particular error correction technique most appropriate for their unique language development needs. Choosing to learn and using a few different types of feedback that seem to produce student-generated repairs increases your chance of reaching more students.

4. *Focus on the learner.* It is important to let the learner self-correct. Remember that your students may well be more capable than you think! As teachers we often feel an urge to rush in with the correct response before students have had enough time to process the information. If we allow time and provide appropriate cues for the learner to self-repair, more often than not the student will come through. The least effective technique for correcting a student's incorrect language use is to simply give them the answer. (Tedick and Gortari 5)

Repeatedly it has been indicated that student-generated repairs are essential to language acquisition. This is due to the fact that they help learners actively get engaged in the learning process. This active engagement happens when there is
negotiation of form, or when students are led to think and respond to corrections. Having this negotiation of form is just possible when teachers provide cues to help learners consider how to reformulate their own errors instead of directly providing the correct answers (Lyster and Ranta). And in this process of self-correction, the role of error orientation as a factor which affects learners’ reactions to corrections might be a matter of importance which calls for investigation.

Lyster conducted another investigation based on the same database on the possible relationship between error types and corrective feedback with regard to the learner generated repairs. In this study the corrective feedback types were classified as explicit correction, negotiation of form (i.e., elicitation, metalinguistic clues, clarification requests or repletion of errors) and recast. Moreover, errors were also categorized as grammatical, phonological, lexical or as unsolicited use of first language. Out of this investigation, Lyster found that 61% of learners’ errors were followed by teachers’ feedback, and out of this just 33% of the moves were led to learner generated repairs. It was also revealed that error type significantly affected the choice of feedback by teachers. To be more specific, recast tended to be the major corrective feedback followed grammatical and phonological errors. And negotiation of form seemed to be used more for lexical errors.

El-Tataway believes that the low rate of repair after grammatical errors might be attributed to:

1. Recasts might not have been salient enough to draw learners’ attention to their non-target output.
2. Learners might have perceived recasts as alternative or identical forms.
3. Cognitive processing involved in accessing and applying the system-driven rules of grammar might be much more complex than that involved in the retrieval of lexical items or modeling of the teachers’ recasts of phonological errors. (9)

Based on the same database, Lyster also investigated the contexts within which recasts had happened in classroom settings. The aim was to identify whether
these contexts helped learners to recognize the difference between the teachers’ corrections and non-corrective reformations. In this investigation, four types of recasts were identified as declarative recasts (67%), isolated interrogative recasts (12%), incorporated declarative recasts (17%) and incorporated interrogative recasts (4%). It was found that recasts minimally resulted in learners’ uptake, and they performed nearly the same role as non-corrective repetitions. It was also found that teachers usually used elicitation techniques and metalinguistic clues to draw the students’ attention to form. Overall, it was concluded that learners hardly identified the corrective purpose of recast. This study once more addressed the ambiguous nature of recast in error treatment.

In another attempt, two other investigations were carried out by Long, Inagaki and Ortega regarding the use of recast as reactive negative feedback and preemptive positive input (model) in second language acquisition. They used pretest, posttest and control group design in these two experimental studies. As their focus, they concentrated on adjective ordering and locative construction in the learners’ target language. The subjects of the research were assigned in two groups of five sub-groups, consisting of 4 experimental and one control. In this investigation, it was observed that models and recasts were comparably effective in the adjective ordering and locative construction.

One of the limitations of this study was the learners’ prior knowledge of Japanese which negatively affected the results of the study. To eliminate this limitation, the second research was carried out in which all the participants who had the prior knowledge of the investigated structures were withdrawn and replaced by new subjects. As a result, the investigators came up with interesting observations such as the out-performance of the treatment groups against the control groups and the outperformance of the recast treatment group against the model treatment. Nevertheless, many researchers did not approve of the results of this research as a strong evidence to support recast as a real facilitative tool in second language acquisition.
Mackey, Gass and McDonough conducted another study which was focused on learners’ perception of feedback. They investigated whether learners traced feedback as feedback, and whether they recognized the target of feedback presented as well as the relationship between this recognition and the possible occurrence of learners’ uptake during interaction. Recast, negotiation and combination of both were the codes of feedback types which were under investigation and addressed to seventeen adult language learners as the participants of the study. As a result, it was observed that recast was mostly perceived by the learners as another way of saying the same thing instead of correction. Another finding of this investigation was the pivotal role of uptake in understanding the aim of feedback on the part of learners. In other words, merely the target of feedback which resulted in uptake was perceived by learners. Therefore, uptake or learner’s response to correction took its prominence in this research as a device which signaled whether correction was accomplished or not.

It might be interesting to know that uptake can be estimated as the learner’s response arising from learner’s reaction to correction which has been introduced as error orientation in the present study.

Another study on recast was carried out by Mackey and Philip which showed some benefits for adult second language learners. They investigated the impact of recast on the development and production of questions in English as the target language. Five groups of subjects which participated in this investigation were: one, as control, two, as treatment groups and the other two, as indicators. Moreover, this experimental study implemented a pretest-posttest design. The positive step in doing this study was that the researchers separated developmentally ready learners from unready learners. The control group merely attended pretest and posttest, whereas the indicator groups received interactionally modified input and the treatment groups received the same input plus intensive recasts. The researchers found that recast as a corrective tool was helpful to learners at higher developmental levels in the treatment groups, and readiness in learning new forms was a determining factor in the effectiveness of recast. This finding supported the
theory of fixed stage sequence proposed by Pienemann and Johnson in 1987. According to this view of learning, learners can acquire some features of language successfully at different stages in their second language development, while other features can only be acquired according to a built-in syllabus, or internal schedule.

In another endeavor which again led to support for the proper use of recast, Doughty and Varela carried out a study in which corrective recasting was implemented into a content based ESL class. This study was designed to investigate the possible use of recast as an effective tool in second language acquisition in order to draw learners’ attention to form without diversion from the communicative intent of instruction. The design of the study was pretest-posttest control group. Half of the subjects were assigned to the control group and received merely science content instruction. And the other half were assigned to the treatment group who received the same instruction plus focus on form instruction. The additional instruction was in a way that their errors concerning past and conditional sentences were addressed by recast corrections. The result of the study showed that the treatment group who received recast corrections out-performed the control group in their production regarding past and conditional forms.

Likewise in a small scale experimental study, Han investigated the degree of effectiveness of recast on tense consistency in second language acquisition. The subjects were eight adult second language learners of English. Among these eight, four of them were randomly assigned to a recast group and four to a non-recast one. The study adopted a pretest, posttest and delayed posttest control group design. The recast group was presented recast corrections within eight pedagogical sessions between pretest and posttest whereas the non-recast group was presented with eight paralleled regular sessions without any recast. The collected data were based on written and oral narratives which were produced by subjects in both groups. The outcome of the experiment was that the use of recast method appeared to be successful in the treatment group. These L2 learners were led to better trace their errors and were helped to improve considerably in their tense consistency during oral and written performance. Based on this study, Han identified four
conditions that might be necessary for recast corrections to facilitate L2 acquisition: individualized attention, consistent focus, developmental readiness and intensity. Although this was a great step forward to show how recast should be implemented in teaching, Han emphasized on the need for further studies with the intention of validating these conditions and identifying aspects and stages of L2 acquisition that are more susceptible to recast (“A Study”).

This view that there should be some conditions to make corrective feedback more effective in the process of language acquisition led to the notion of fine-tuned feedback. Han believes that this can be done by achieving congruence between giver’s intent and receiver’s interpretation, and between information content in correction and receiver’s processing readiness (“Fine-Tuning” 4). To investigate the effectiveness degree of fine-tuned feedback on second language acquisition, Han conducted a longitudinal case study on Norwegian learners who were supposed to invert SVOA to AVSO whenever an adverbial phrase initiated the sentence in the target language. In this study, the researcher collected data in the long run within the span of three months based on the production of learners who received fine-tuned feedback. The collected data supported the idea that fine-tuned feedback was successful to help learners overcome the linguistic problem successfully.

In 2003 Panova and Lyster conducted a study on types of feedback and the proportion of feedback types led to uptake. The participants were in a level two ESL course ranging from 17 to 55. In this investigation, classroom interactions were observed for three weeks, and 18 hours were recorded. Then out of this recorded time, 10 hours were selected to be used for the study. The researchers found 7 types of feedback: recast, translation, clarification request, metalinguistic feedback, elicitation, explicit correction and repetition. They also identified that the most common type of feedback was recast although clarification request, elicitation and repetition led to the highest level of uptake.

In another recent research in 2004, Tsang investigated the use and effectiveness of different types of corrective feedback in Hong Kong as a different
cultural setting. In this study 18 English lessons (on Reading, Writing, Speaking and General English) were presented to the secondary level students in Hong Kong. During the study, teachers’ feedback reactions and learners’ uptakes were investigated through 945 minutes of lessons which were transcribed and analyzed. Results of this study showed that in Hong Kong:

1. Recast and explicit correction were the most frequent types of feedback.
2. None of the student-generated repairs resulted from recast or explicit correction and the most frequent student-generated repair followed repetition.
3. Most grammatical repairs followed negotiation.
4. Most phonological repairs followed recast and explicit correction.

There were two implications which were counted by the researcher for this investigation. First, recast might pave the way for other feedback types (elicitation, clarification request, metalinguistic feedback and repetition) which might be more successful in the process of L2 acquisition than providing correct forms. Second, phonological errors might be addressed more appropriately by recast and explicit correction, and negotiation might facilitate grammatical repairs better.

As it was observed, based on some of these studies, it was found that learners narrowly traced the corrective purpose of recast. Thus, this question has arisen whether recast is a powerful tool to be used by teachers. On the other hand, as it was mentioned, there were some other studies which supported the significance of recast in the process of language learning. There is no need to say that these contradicting results have cast a shadow of doubt on the implication of recast. Therefore, finding out how much recast is significant in the process of learning calls for more long-term studies. And these contradictions need to be investigated by searching the intervening variables which cause them. Like learners’ developmental levels which were found intervening in Mackey and Philip’s study, individual differences might have a great role in affecting the results of studies negatively if they are not taken care of. Error orientation as an individual difference might help us to better understand the reactions of individual learners to
teachers’ recast corrections owing to the fact that each learner reacts differently to corrected errors. In other words, this might assist us to have a better look on reactions to recast corrections by considering error orientation as an intervening variable which has not been taken into account.

Along with the trend of studies focused on feedback, the research on the issue of self-repair and self-correction has also gained special attention. And this might be due to the importance of self-repair in the process of language learning. Self-correction happens when learners notice the difference between their production and the norm. And this might be dependent on error orientation as how learners react to their own mistakes and errors.

To have a glimpse of the studies focused on self-repair and self-correction, investigations on the difference between the various types of self-repair in the first and the second language attracted a lot of interest. Based on these studies, Kormos pointed out that no considerable difference was detected between the general frequency of the various types of self-repairs in L1 and L2. It is also mentioned that the frequency of self-repairs in L1 and L2 is affected by task characteristics and situational variables of interaction (“Monitoring”).

In 2000, Yashida conducted another study to investigate different styles of self-repair. In order to cut the effects of intervening variables such as task characteristics and situational variables, she used IELTS interview interactions to gather data. The participants of this study were two trained female IELTS examiners and one female volunteer. All of them were female and nearly the same age to achieve parity in gender and age. Two interviews were conducted by the two interviewers, and they were videotaped. Then the collected data were categorized and analyzed based on a simplified version of the taxonomy of self-correction cited in Kormos (“The Role”). Based on this taxonomy, there are four major groups of self-repairs which are defined in Table 2.8.

Out of this research, it was observed that the interviewee showed consciousness and awareness of the usage of L2. The researcher also found that the interviewee monitored her own speech both from the point of view of discourse
and content. However, this study did not clearly support the idea that there was a shift from simple error repairs to more complex discourse-level repairs presented by Kormos (“Monitoring”). And the number of subjects was very limited in this study which deeply reduced its external validity.

Table 2.8
Major groups of self-repairs

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different-information repair</td>
<td>This repair is related to the speaker’s problem in conveying information. It occurs when a speaker decides to send different information than what she is currently formulating. As a result, current message gets replaced by a different one.</td>
</tr>
<tr>
<td>Appropriacy repair</td>
<td>This repair is concerned with manner of expression. This is employed when the speaker decides to encode the originally intended information in a modified way. Speakers resort to appropriacy repairs when they have encoded information that needs to be made more precise, more coherent, pragmatically more appropriate, or less ambiguous.</td>
</tr>
<tr>
<td>Error repair</td>
<td>This repair involves repairing accidental lapses. Such lapses can occur at every phase of speech processing, that is, while accessing words, grammatical and phonological encoding, and articulating.</td>
</tr>
<tr>
<td>Rephrasing repair</td>
<td>This repair involves revising the form of the speaker’s original message without changing its content. In this case, the speaker repeats a slightly modified version of a word or phrase because of uncertainty about its correctness, by either adding something or paraphrasing, or both.</td>
</tr>
</tbody>
</table>


Now in order to move to the other phases of error treatment and focus on the efforts devoted to, it should be remembered that error treatment is not only limited to the ways in which teachers react to learners’ errors, but also it extends to the domains such as the learners’ and the teachers’ attitudes toward error treatment and learners’ error orientation as part of its broad definition. Somehow, so far those studies have been discussed with the focus on teachers’ corrective reactions as the surface level of error treatment. And now in order to move into the second domain, which is the teachers’ and the learners’ attitudes toward correction, it is worth saying that this domain has remained neglected to some extent in the chain of recent studies.
Chaudron endeavored to express what the teachers’ and learners’ perspectives could be on error treatment. His studies revealed that the most language teachers’ viewpoint was in favor of correction as a major tool which enabled them to bring accuracy to the learners’ target language production. Moreover, from the learners’ point of view, he also found that having proper corrections from teachers was also appreciated for the sake of improvement. In other words, his studies support the idea that teachers and learners think that error treatment may “constitute the most potent source of improvement in both target language development and other subject matter knowledge” (132-3).

However, Cathcart and Olson through their investigation and Courchene in another study found that although learners had a special preference for teachers’ corrections, putting too much weight on correction, even those that learners preferred, might have caused over-correction which was undesirable to them. Walker also found some evidence against over-correction in his research and concluded that students preferred to communicate freely without constant intervention from teachers. He believes that frequent correction destroy learners’ confidence.

Regardless of over-correction, most scholars have found a near total support for correction among learners. And this quite unanimous support made Harmer conduct a research and offer the following reasons for learners’ supportive attitude toward proper error treatment:

1. Personal feedbacks are very important.
2. Correction represents a form of dialogue with the teacher.
3. Recognition and correction of errors are small but significant steps, and as such are achievable.
4. Errors can be referred back to. (75)

In order to step into the third phase of error treatment, it is good to flash back to the broad definition of error treatment presented before. In this broad definition we had error treatment at surface level as the first phase, learners’ and teachers’ attitudes toward error treatment as the second, and the learners’ reactions
toward their mistakes and errors as the third phase entitled error orientation. Hadley partially refers to error orientation from her standpoint and stresses that it is necessary for teachers to discuss with students the feedback policy they use and their rationale for selecting it. And also goes further and requests teachers to ask students directly about their own preferences for feedback, both for oral and written practices (280).

Unfortunately, error orientation is one of the domains which have been left away from serious investigations. In error orientation, the focus is on learners’ reactions to their own errors and mistakes. Although error orientation is a new variable in the field of language acquisition, it has proved itself as an influential factor in other fields of study such as work psychology, business management and so on.

In work psychology due to the great influence of error orientation, Rybowyak and his colleagues have done a great job of developing a comprehensive eight scale error orientation questionnaire (EOQ) based on two subsequent complex studies. In the first study, six scales were developed with the help of a confirmatory factor analysis using LISREL technique. These constructs comprise error competence, learning from errors, error risk-taking, error strain, error anticipation and covering up errors. All these constructs were validated through a complex construct validating process. The participants were 478 subjects from East Germany who were divided into two sub-samples of 239 each in order to comply with LISREL analytical cross-validation technique. These participants were randomly selected from 18 to 65 year old subjects with fulltime employment. Then thirty-two items covering cognitive, affective and behavioral aspects of coping with errors were given to the participants. Then in order to gain reliability and validity, three steps were taken:

1. A classical exploratory factor analysis was carried out to provide a preliminary categorization to understand the underlying structure of the indicators.
2. LISREL technique was implemented to fine tune the model. This exploratory strategy was used to modify the scales empirically.

3. The models were then cross-validated in the validation sample, as suggested by Cudeck and Browne. Most measures and scales which were used for construct validation were standard questionnaires.

Finally they were able to develop an error orientation questionnaire based on six scales: error competence, error learning, error risk-taking, error strain, error anticipation and error covering. The cross-validation of the factor structure worked well. And based on these cross-validations, they concluded that:

1. Error competence and learning were related to self-efficacy, plan-orientation and action-orientation.

2. Error strain was related to ill-health.

3. Error anticipation implied a negative outlook of life.

4. Error covering was related to both environmental factors and lack of self-esteem, rejecting responsibility and control.

The main limitation of this study was that the number of items in each scale was limited, and error communication and error thinking could not be implemented in this questionnaire due to the insufficiency of the items. Therefore, the second study was conducted to eradicate these demerits.

In the second study, some items were added to the scales, and also two more constructs: error communication and thinking about errors were included in the questionnaire. Then the questionnaire was translated from Dutch to English and piloted to 160 students in the Netherlands. The issue of the language equivalence of these two language versions was taken into account. And the results showed that equivalence across correlation existed. Through this study, finally, a valid and reliable Error Orientation Questionnaire in two languages was presented based on eight psychological constructs.

In order to have a better view of the psychological constructs of EOQ, they are presented and defined in Table 2.9.
### Table 2.9
**Definitions of the psychological levels of error orientation**

<table>
<thead>
<tr>
<th>Error</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipation</td>
<td>Rybowiak and his colleagues define error anticipation as having a general realistic expectancy that errors may happen. They also found that error anticipation is in clear positive relationship to error learning, error thinking and error risk-taking.</td>
</tr>
<tr>
<td>Communication</td>
<td>Error communication is a strategy of brave people who can rely on others, consult their problems and ask how to learn from errors (Rybowiak et al.).</td>
</tr>
<tr>
<td>Competence</td>
<td>Error competence is the active knowledge to recover from errors immediately and reduce the error consequences. It is positively related to self-efficacy, action orientation after failure, need for achievement and quite highly related to initiative. In other words, it is the knowledge and capability to deal with errors when they happen and it is directed at short term goals (Rybowiak et al.).</td>
</tr>
<tr>
<td>Covering</td>
<td>Hamilton defines covering up errors as a strategy of anxious people who consider errors as a threat. Rybowiak and his coworkers found that error covering is also related to low self-esteem, negative affectivity, high control rejection and a little initiative.</td>
</tr>
<tr>
<td>Learning</td>
<td>“Learning from errors is the ability to prevent errors in the long term by learning from them, planning and changing work processes. There are correlations with self-efficacy, qualification, plan-orientation, need for achievement, readiness to change and initiative” (Rybowiak et al. 543). It can be said that in error learning the focus is on future which makes learning possible for future use.</td>
</tr>
<tr>
<td>Risk-Taking</td>
<td>“Error risk-taking is the result of an achievement-oriented attitude which requires flexibility and taking responsibility. There are positive relations to need for achievement, qualifications, readiness for change and initiative, as well as a negative relation to control rejection” (Rybowiak et al. 543).</td>
</tr>
<tr>
<td>Strain</td>
<td>“Error strain means being strained by errors and therefore fearing the occurrence of errors or reacting to errors with high emotions” (Rybowiak et al. 534). Thus, it is characterized by fearing the commission of errors and by negative emotional reactions. Rybowiak and his colleagues found that it is correlated negatively with self-efficacy, self-esteem and initiative, and positively with control rejection, psychosomatic complaints, depression and negative affectivity.</td>
</tr>
<tr>
<td>Thinking</td>
<td>Error thinking is a strategy of precise people who have analytic mind to analyze the factors which result in errors. They consider the point how an error came about and how it could be prevented. Therefore, there should be positive relations among error thinking, error learning and error anticipation (Rybowiak et al.).</td>
</tr>
</tbody>
</table>

In another endeavor, Korsten developed a Management Error Orientation Questionnaire (MEOQ) based on the great need which was felt in the field of human resource management. This instrument is also claimed to be valid and reliable to measure the attitude of management towards errors in workplaces. The
sample of this study comprised 232 managers from different business sectors. Based on a factor analysis approach, fifty nine items of this questionnaire were analyzed and three factors including the attitude of dealing with errors, the risk of errors and error strain were extracted. The researcher claimed that an item analysis was applied to these three factors and acceptable levels of reliability were obtained. Finally, a valid questionnaire was developed through this study which might have a number of practical applications in the human resource management studies.

Although these two studies on error orientation were conducted in other fields of study, this variable can also be found effective in the field of language learning which this study has tried to show.

2.2.6. Implications of Studies

The degree of effectiveness of different types of feedback has always been under investigation and debate among scientists. If we look at the past, we can see that issues like providing explicit feedback, isolating errors to be corrected, leading learners to self-correction, allowing learners to generalize the right form and attending to the developmental stages of learners are the main points highlighted by many scientists. In other words, they believe that these issues have positive effect on the process of second language acquisition.

Fanselow believes that for providing effective error treatment, errors should be isolated and given explicit and clear feedback. Chaudron supports the same idea by saying that corrections should be kept clear and consistent based on the types of errors, and feedbacks which elicit self-correction on the part of learners is more likely to improve learners’ ability to monitor their production. Swain and Pica share the same opinion by asserting that corrective techniques such as clarification request, elicitation and confirmation checks are more helpful to language learning. And that is owing to leading learners to modify their own production as self-correction.

Moreover, Tomasello and Herron recommended Garden Path technique in which learners are first presented with examples which help them to induce and
generalize rules themselves. Then the learners are presented with the exceptions to the rules inductively without being told that those are exceptions (“Feedback”).

Further, Han presents feedback fine-tuning technique which is achieving the right level of teachers’ intention and the right level of learners’ interpretation. This can be done with having focus on the developmental stages of learners and learners’ receptiveness in processing the content of feedback (“Fine-Tuning”). Harley also identifies four more conditions necessary for a recast to be effective. These conditions are:

1. individualized attention to learners,
2. concentration upon one type of error at a time over a period of time,
3. intensity of the treatment,
4. and attention to the learners’ developmental readiness.

It is believed that due to the complexity of error treatment, there is still a great need for more research on this phenomenon. However, there is also a greater need to review the conducted studies on error treatment in order to extract the right implications of findings. Implementing the findings of these studies would help teachers to be more equipped with the updated knowledge to cope with the related upcoming problems and to confront errors and mistakes with better techniques. In this part of the present review, the researcher is going to restate the possible implications of the studies conducted on error treatment. Here the researcher is dealing with the matter of how error treatment can be presented in classes, and also which factors should be taken care of in the process of error treatment in oral and written modalities.

From the first square in the history of error treatment, there has always been the question how errors can get corrected and by whom. Walz classified error correction procedures into three basic categories during oral practice activities:

1. Self-correction with teacher helping
   a. Pinpointing
   b. Cuing
   c. Providing your own answers
d. Repetition of an answer, with correction  
e. Rephrasing a question, after a formally correct but  
inappropriate response to the original formulation

2. Peer correction  
a. Student monitors  
b. Group monitoring with checklists

3. Teacher correction  
a. Direct correction  
b. Indirect correction (qtd. in Hadley 280)

Goodwin defines these three ways of providing ongoing feedback more friendly. Self-monitoring is defined as self-correcting through pointing out learners’ errors and allowing them to correct themselves which is usually done by teachers. Peer feedback or peer correction is also defined as the teacher led correction which is done by the other learners in a cooperative manner. And finally, teacher feedback or teacher correction is defined as the correction which is presented by teachers when they feel the need to present feedback themselves. Among these techniques it is deeply believed that the most effective and encouraging correction techniques are self-correction and peer correction which have the advantage of being at the right level of learners’ interlanguage developmental stage (Tomasello and Herron, “Down”). Harmer also believes in the practicality of peer correction by saying that “Student-to-student correction works well in classes where there is a genuinely cooperative atmosphere; the idea of the group helping all of its members is a powerful concept” (107).

In a more comprehensive framework, Bailey presents seven basic error treatment options to teachers which they can choose among based on their judgments. These seven options are also complemented by eight possible features within each option:

I. Basic options
   1. To treat or to ignore  
   2. To treat immediately or to delay
3. To transfer treatment or not
4. To transfer to another individual, a subgroup or the whole class
5. To return or not to the original error maker after treatment
6. To permit other learners to initiate treatment
7. To test for the efficiency of the treatment

II. Possible features
1. Fact or error indicated
2. Location indicated
3. Opportunity for new attempt given
4. Model provided
5. Error type indicated
6. Remedy indicated
7. Improvement indicated
8. Praise indicated

In this framework, the basic options are dealing with the possible ways of treating an error and the complements are dealing with how these options can be implemented practically in classes.

Based on the above framework, Harmer believes that if a teacher decides to correct an error, this correction is usually made up of two stages. First, the teacher should show the student that an error has been made, and the second step would be helping the student to do something about it if necessary (106). He states that showing incorrectness can be done in a number of ways such as:

1. making the learner repeat what is said wrong,
2. echoing and pinpointing the erroneous part of the learner’s utterance,
3. indicating directly that something is wrong through statements or questions,
4. hinting and leading the learner to the erroneous part indirectly (e.g. saying countable to show that a/an is needed),
5. using gestures and expressions,
6. and reformulating the erroneous part and asking the learner to use reformulations.

This first stage of correction which hints that an error has happened reemphasizes the fact that the learner should trace the difference between his/her production and the target-like form of language. Therefore, one of the rewards of having the proper corrective feedback is having learners detect the gap between their productions and true forms (Schmidt and Frota). And after correction, they believe in having the proper upcoming feedback which serves as reinforcement.

To have a proper error correction and to bring about development in second language acquisition, El-Tataway generalizes some certain conditions for corrective feedback which teachers should consider in their error treatment:

1. Teachers need to be systematic and consistent in their provision of feedback.
2. The corrective feedback provided should be clear enough to be perceived as such.
3. The techniques employed should allow for time and opportunity for self- and peer-repair and modified output.
4. The feedback should be fine-tuned in the sense that there should be as close a match as possible between the teacher’s intent, the targeted error and the learner’s perception of the given feedback.
5. The feedback provided should focus on one error at a time and over a period of time, i.e., the feedback provided should be consistent and intensive in nature.
6. The learner’s developmental readiness to process the feedback provided should be taken into consideration. (15)

Hadley appends to this list by saying that error correction should be done in a positive manner to be most effective. She adds that “teachers should correct gently and with respect, especially in oral work that is being done in front of others” (280). She also states in a more comprehensive statement that the level of
motivation of students, their current level of proficiency, their cognitive style, the clarity of the feedback given, the way feedback is used and the attitudes of students toward their teacher and the class are the factors which may guarantee the effectiveness of feedback.

The very eye-catching point in Hadley’s statement is the identification of the last effective factor which is the attitudes of students toward their teacher and their class. This should be added that this factor and also teachers’ attitudes toward error correction along with error orientation are inseparable parts of error treatment which can also guarantee the effectiveness of feedback.

Moreover, this learner’s attitude toward correction and teacher is also referred to as “learner’s affective state” by Douglas Brown in a more comprehensive manner (Principles 238-40). This reference is made in a more conceptual and practical model of error treatment for oral errors in which teachers are expected to make a split-second series of decisions based on following parameters to ignore or to treat students’ errors:

1. Type: lexical, phonological, grammatical, discourse, pragmatic or socio-cultural
2. Source: L1, L2, teacher-induced, other students, outside L2 input, print or electronic media
3. Linguistic complexity: intricate and involved or easy to explain
4. Local or global
5. Mistake or error
6. Learner’s affective state: language ego fragility, anxiety, confidence, or receptiveness
7. Learner’s linguistic stage: emergent, presystematic, systematic or postsystematic
8. Pedagogical focus: immediate task goals, lesson objectives, course goals
9. Communicative context: conversational flow factors; individual, group, or whole class work; S-S or S-T exchange
10. Teacher style: direct or indirect, interventionist and laissez-faire

If a teacher decides to treat an error, there are a number of treatment options to be used which Bailey referred to some of them. But based on this very comprehensive framework the teacher has to decide when to treat, who will treat and how to treat as the main questions which engage every teacher at the very first step.

In this error treatment decision making framework, some of the variables need to be discussed in more detail. To begin with, types of errors should be traced exactly. Knowing the type of an error (e.g. lexical, phonological, grammatical, discourse, pragmatic or socio-cultural) is a crucial factor in deep relation to the type and the purpose of the ongoing activity which is referred to as the pedagogical focus. For instance, if students are asked to do a grammatical exercise focusing on conditional sentences, a phonological error can be ignored due to the fact that the focus is on grammatical issues and not on phonology. Moreover, purposes of language activities can also affect the type of feedback. Regarding this, Hadley cites an example that when the mastery of a particular feature of the target language is focused in an activity, language learners will probably benefit most from quite direct and immediate feedback. But if learners are in the middle of an open-ended communicative task focusing on fluency, the best possible feedback can be a positive response to the message, a delayed corrective feedback or an indirect feedback (Hadley 276). In a more comprehensive manner, Harmer asserts that in fluency activities teachers need to respond to content not just form and the correction can be well done after the event, not during it (107). He also believes that in fluency activities, teachers should act as observers, watching and listening to students, and record the mistakes by taking notes or audio and video tape recording. And after the event they can provide the proper reinforcements. This can be done by giving an assessment of the activity in process, saying how well we thought students did their part, getting students to tell us what they found easy or difficult, putting some of the mistakes we have recorded up on the board and ask students to recognize them or writing both correct and wrong segments on the
board and have students decide which is which. Further, teachers can write students individual notes which can also be very helpful (108-9).

Another determining factor which affects type of feedback is the source of an error. Brown believes that identifying sources of errors can help us understand how learners’ cognitive and affective processes are related to the linguistic system, and formulate an integrated understanding of the learning processes (Principles 223). For instance, in an investigation, Jaszczolt found that the predominance is with interlingual transfer in the early stages of language learning; however, generally as learners acquire parts of the new system, the rate of the intralingual transfer increases. This source identification can really help a teacher present the proper type of feedback to an error. Just imagine a learner pronounces the word ‘television’ wrong because there is a cognate form in his mother tongue, and this wrong pronunciation has been borrowed from the first language. If we have a bilingual teacher who is aware of this transfer, she can easily trace the error and by direct comparing the two pronunciations in the two languages give the best possible feedback. With the intention of knowing the main sources of errors, Brown identifies them as:

1. **Interlingual transfer** which is the transfer from the learner’s native language to the target.

2. **Intralingual transfer** which is overgeneralization of the rules within the target language.

3. **Context of learning** which includes classroom, teacher, materials and social situations. Richards in *A Non-Contrastive Approach to Error Analysis* calls these errors false concepts, and Stenson refers to them as induced errors.

4. **Communication strategies** which are among production strategies and are related to learning styles (Principles 223-27).

Among other determining factors on error treatment presented by Brown, there are two others which are in close relationship. Linguistic complexity and learner’s linguistic stage are closely related based on Pienemann’s Learnability
Principle. Through this principle some of the target language forms could be merely internalized at the right developmental stage of interlanguage. Thus, not only the presentation of new forms should be at the right level of difficulty and in accordance with this internal syllabus, but teachers should also take care of learners’ developmental stages when they are deciding on correction. Otherwise, the presented corrective feedback would not be effective because the learner is not ready to internalize the right form or at least to notice the gap. To stress the same point, Ellis offers two recommendations, the first one of which exactly transfers the same concern. And the second one stresses the use of self-repair which can be triggered by noticing the learners’ developmental stages while presenting feedback (The Study). These recommendations are:

1. Teachers’ feedback to the learners should be well-matched with the learners’ general language developmental stage.
2. Learners should be led to self-repair which is a conductive tool to language acquisition and is less likely to result in a negative affective response.

Deciding whether an error is local or global is another determining parameter which can affect the judgment of a teacher in error correction. It is advised that teachers discern the difference between global errors which affect meaning and local errors which do not. Hendrickson recommends that since messages are clear in local errors, they usually need not be corrected in order to save the productive communication. However, global errors need to be treated given that the message may otherwise remain garbled (“Error Correction”). It is also suggested that global errors should be corrected for elementary learners, and frequent local and global errors should be treated for intermediate learners, plus errors which have stigmatizing effect on native speakers should be targeted in advanced levels (Hendrickson, “Evaluating”).

Determining the difference between errors and mistakes is another effective parameter which is emphasized by Brown. In the process of language development, learners’ errors can be just lapses or slips of tongue due to physical
or psychological reasons or can be due to misunderstanding of the target language system. Corder calls the first nonsystematic errors as performance errors and the second kind as competence errors ("The Significance"). Competence is “the speaker-hearer's knowledge of his language”, while performance is “the actual use of language in concrete situations” (Chomsky, Aspects 4). However, apart from the difference between mistakes and errors, Edge refers to another issue when a student tries to say something but does not yet know the correct way of saying it. She calls it an attempt.

As another important variable, the modality in which an activity is accomplished should be considered in the process of error treatment. So far the focus of this discussion has been on oral modality which requires different processing strategies than written modality. There is no doubt that the treatment of written errors is more private and more extensive than that provided to oral errors (Hadley 279). In this treatment not only the grammatical and stylistic errors should be responded to, but the students’ draft content, organization, attention to needs of readers and purpose should also be seriously considered (Kroll).

In the process of developing writing skills, Harmer presents two major techniques for correcting students:

1. Responding: Through responding technique, we are trying to say how the text appears to us, how successful we think it has been and how it could be improved. This can be done through presenting comments to let the students correct themselves or through showing alternative correct ways of writing, where there is a mistake.

2. Coding: Some teachers use codes (such as ‘s’ for incorrect spelling or ‘w.o.’ for wrong word order) on the body of writing or in the margin which makes correction neater and less threatening.

Harmer also stresses that all these techniques can be mingled with focusing techniques which allows teachers to focus on a particular aspect of language (such as spelling) in every piece of writing (110-2).
It is interesting to know that Lalande partially refers to the positive impact of error awareness on improving writing skills among learners. And we know that error awareness can be estimated as part of error orientation. Based on his study, he concluded that awareness of one’s errors and rewriting with problem-solving techniques were both beneficial for developing writing skills. Furthermore, Hadley also stresses on learners’ error awareness and proposes that in teaching writing, “involving students in their own correction is helpful, and that a combination of teacher, peer, and self-evaluation might yield the most successful result” (325).

2.3. Structural Competence and Effective variables

If we look back on the history of language acquisition, it can be seen that in the early twentieth century, grammar teaching was so focused that other scopes of language instruction were neglected. However, the influence of grammar gradually reduced till the early 1970s when the strong challenge against grammar and grammar teaching became less prominent. During this time, communicative syllabuses were designed where functions and tasks have supported intelligibility and fluency. In this new school of thought, it has also been argued that grammar is not the learners’ only need, but it is just one of the many components of communicative competence (Richards and Renandya).

In order to have better understanding of the history of grammar, a reference is made to Cook’s grammar typology which is presented in chronological order:

2. Traditional Grammar: A system for describing sentence structure used in English schools for centuries based on grammar of classical languages such as Latin.
3. Structural Grammar: A system for describing sentences based on the idea of smaller structures built up into larger structures.
4. Linguistic/Grammatical Competence: The knowledge of structural regularities of language in the minds of speakers. (25)
Moreover, Noam Chomsky introduces universal grammar as part of grammatical competence which represents the knowledge of structural regularities of language built into the human mind consisting of principles and parameters. By principles, we are talking about the aspects of human language; for example, principle of structure dependency. And by parameters, the aspects that vary from one language to another within tightly set limits are aimed; for example, the pro-dropped parameter (Cook 34).

There are different definitions of grammar as part of grammatical competence, some of which are worth being mentioned here. These late definitions help us understand better why grammar is regaining its lost prominence fast. Cook defines grammar as “a system for encoding particular meanings”. She stresses that “any teaching of grammar that didn’t involve meaning would not be teaching grammar at all” (40). From another angle, Fotos believes that grammar is a functional response to communicative needs which is shaped by the social contexts in which these needs arise (270). Surely, this point of view certainly lies in the cognitive-functional view of language. Further, in another attempt, Frodesen defines grammar as an integral part of language use, and asserts that “it is a resource to be accessed for effective communication, not just an isolated body of language” (234).

Larsen-Freeman differentiates between the traditional and the communicative approaches to teaching grammar. She expresses that the traditional approach has employed a structural syllabus where lessons are composed of three phases: presentation, practice and production (the ‘PPP’ approach). This view is based on the assumption that a precise focus on a particular form leads to learning and automatization. However, the communicative approach has implemented communicative activities and tasks, and grammar supports learners in the completion of these communicative activities (256). In this approach, Larsen-Freeman suggests that grammatical structures not only have a form (morphosyntactic), but also they are used to express meaning (semantics) in context-appropriate use (pragmatics).
Therefore, in order to construct a communicative approach to teaching grammar, teachers should ask themselves ‘How is it formed?’, ‘What does it mean?’ and ‘When/Why is it used?’ to prepare themselves to instruct a given grammar point (252-3). In other words, in teaching grammar communicatively three phases: form, meaning and use should be considered by the language teachers. In the phase of teaching form, we need lots of meaningful practice and appropriate feedback on students’ accuracy. In this phase, games, rods and problem-solving activities can be very helpful. In the second phase, where meaning and form should be associated, pictures and actions can help teachers. And in the third phase, the relevant practice activities and role plays can serve best (Larsen-Freeman 258-62). Further, Hughes and McCarthy put a step forward and also stress the importance of teaching discourse grammar.

Larsen-Freeman also suggests that teachers should concentrate on teaching reasons not just rules in order to add meaning and use to form instruction (265). In other words, teaching “grammaring” rather than “grammar” should be emphasized by thinking of grammar as a skill to be mastered rather than a set of rules to be memorized. And in this way, the learners will be assisted to “go a long way toward the goal of being able to accurately convey meaning in the manner they deem appropriate” (Larsen-Freeman 255).

Considering these three phases in teaching grammar is of outmost importance and should be extended to error treatment as well. Larsen-Freeman suggests that when a grammatical error is committed by a student, it should be determined if it is an error in form, meaning or use. This provides a frame of reference, and the remedy may be more effective if the diagnosis is accurate (262).

In these three phases, the pragmatic aspect of grammar can be seen as the part which reunites form and meaning to make a structure meaningful in a communicative setting. And in order to focus on language use in grammar teaching, pedagogic grammars were designed by syllabus designers to help students who need practical and easily-digestible teaching material (Harmer 15).
Larsen-Freeman presents some insights to teach these pedagogic grammars communicatively based on the learners’ learning process. These approaches to grammar learning can help us have a better judgment in our teaching approach.

1. Learners do not internalize structures one at a time (linear approach) but in an organic approach (Rutherford).
2. Even when learners learn a particular structure, it is totally accepted to have some mistakes on the part of learners when another structure is introduced to them. We should keep in mind that learners learn language as a whole and not piece by piece. And in this developmental process, making mistakes and errors is inevitable, and even fossilization is a part of the interlanguage process.
3. Learners are dependent on the knowledge and the experience they possess, and the new knowledge should be built upon what they already know.
4. Grammar is learnt through different learning processes; therefore, teachers should use various techniques and tasks appropriate for different learners with different learning tastes.

2.3.1. Positive and Negative Attitudes toward Grammar Instruction

In recent years, there has been a strong debate among scholars on the role of formal instruction and error treatment. Some scholars claim that grammar instruction and error correction do very little to encourage lasting positive change in learners’ production. However, other scholars argue that both formal instruction and feedback have positive impact on second language acquisition (Hadley).

Teaching grammar is one of the ends of the continuum which has grammar learning on the other end. By teaching grammar, we are referring to paving the way for language learners to utilize linguistic forms accurately, meaningfully, and appropriately (Larsen-Freeman 256). Although some scholars like Krashen (Principles) and Prabhu have argued that formal instruction in grammar does not contribute to language acquisition, the need for communicative form-focused
instruction has always been felt and stressed by many other researchers. In pursuing this point of view, Crookes and Chaudron suggest that a focus on formal aspect of language learning has become a concern for methodologists and practitioners once more, and error correction and providing proper feedback have also been considered to be part of such a focus (40).

Savignon asserts that involvement in communicative events which is crucial to language development also requires attention to form. For “development of communicative ability, research findings overwhelmingly support the integration of form-focused exercises with meaning-focused experience. Grammar is important, and learners seem to focus best on grammar when it relates to their communicative needs and experiences” (25). In other words, “focusing on grammatical forms during communicative interactions rather than forms in isolation (Long 1991) is one way to prevent the pendulum from swinging beyond its point of equilibrium” (Larsen-Freeman 251). Savignon also believes that the optimum combination of form-focused and meaning-focused activities in any instructional setting may depend on some factors like: Learner age, nature and length of instructional sequence, opportunities for language use, teacher preparation and other factors.

From another perspective, Fotos also stresses that pure communicative approach to language teaching is not useful especially in EFL contexts “because adequate access to communicative use of English is usually not available, and students need to develop accurate English grammar, vocabulary, and translation skills to pass high school and university entrance examinations”. She also stresses that due to this fact, “in the EFL setting, formal grammar instruction is usually the norm, even though many teachers would like students to develop communicative skills as well” (268).

Further, Ellis in Second Language Research and Language Teaching, and Mitchell nearly support the same idea through their separate studies. They showed that when students received only communicative lessons, with no instruction on grammar points, their level of accuracy greatly suffered. In another study, Swain
found that despite the input-rich communicatively oriented classrooms that the participants of the study attended, they did not develop native-like proficiency in the target language. He added that although the participants were fairly well able to get their meanings across in the target language, they often communicated with non-target-like morphology, syntax, and discourse patterns. And in another attempt, Doughty and Williams concluded that when instruction was merely meaning-focused, learners did not develop many linguistic features in the target language.

2.3.2. Effective Variables on Structural Competence

With a view to meet the needs and aims of the present research, the researcher felt that reviewing the variables which might affect grammatical competence could be necessary and adequate. The effective variables on grammar learning can be classified into three groupings: Teaching variables, Learning variables and environmental variables.

Among teaching variables, we can refer to teachers’ attitudes toward form-focused instruction and error treatment, capabilities, personality types, techniques and knowledge of language. Larsen-Freeman stresses on the capabilities of teachers by stating that not only should teachers have a comprehensive knowledge of grammar, but they should also have a good understanding of their students’ learning process. As other teaching variables, we can refer to teaching curriculums and teaching materials designed and implemented in language teaching classes.

As the second main category, learning variables might be addressed as the most influential ones. Amid these variables, learning strategies and styles are of great importance. And among learning strategies, error orientation might be found an influential and significant parameter in the present study. Moreover, learners’ age, gender, proficiency level, educational background, first language and their attitudes towards language, grammar and error treatment can be addressed as other effective learning variables.
As the last category of variables, environmental factors have also been among the influential ones. Having a second or foreign language atmosphere is one of those crucial factors. It is referring to whether the target language is used as a means of communication in the society or learners can merely have exposure to the target language inside their classrooms. Moreover, the class itself, teaching facilities and the existing affective atmosphere inside language classes can also be addressed as influential factors.

Regarding effective variables on grammar learning, Celce-Murcia refers merely to two of those major parameters: learner variables and instructional/situational variables. And among learner variables, she addresses age, proficiency level and educational background. Moreover, Richards in Addressing the Grammar Gap in Task Work emphasizes on the importance of adding a language awareness dimension to grammar teaching as another influential factor. This awareness results in more fluency in communicative activities and more accuracy through removing fossilized errors which might be difficult to be eradicated later. This awareness-raising in the process of language acquisition is based on recognizing three processes in the acquisition of implicit knowledge:

1. *Noticing* when the learner becomes conscious of the presence of a linguistic feature in the input, whereas previously she had ignored it.

2. *Comparing* when the learner compares the linguistic feature noticed in the input with her own mental grammar, registering to what extent there is a ‘gap’ between the input and her/his grammar.

3. *Integrating* when the learner integrates a representation of the new linguistic feature into her mental grammar. (Ellis, “Grammar” 171)

However, Brown in Teaching by Principles believes that awareness-raising (noticing) does not suffice, and some explicit treatments of rules are also essential in the current communicative view of second language learning. In other words, in
an effective form-focused instruction within the framework of the communicative approach, implementing a reasonable amount of explicit and implicit treatments of rules is necessary.

Among other scholars, Larsen-Freeman also adopts the same stance that in the communicative approach, grammatical points under instruction should be addressed in order to raise learners’ awareness and attention (256-58). She refers to some techniques for awareness-rising:

1. Simply bring issues to learners’ attention, for example recast students’ errors.
2. Enhance the input by simply highlighting the particular structure in the text (Shorwood Smith).
3. Lead students to induce grammatical generalizations from the data they have been given. Fotos and Ellis call this technique consciousness raising task.
4. Give students some information about the structure without giving them the full picture. Tomasello and Herron refer to this technique as Garden Path Strategy (“Feedback”).
5. Push learners to notice properties of language during activities. This helps structures to be used meaningfully and is referred to as input processing by Van Patten.
6. Help learners have output production. Swain believes it should not be forgotten because it pushes students to move beyond semantic into syntactic processing.

Addressing grammar issues and raising awareness in the process of grammar teaching support the stances of cognitive approach to language acquisition. Based on this approach, Fotos suggests the use of cognitive model in designing grammar lessons which can develop “both explicit and implicit knowledge of grammar points”, supply “opportunities for information exchange through task performance, and then provide purely communicative input containing the target structures so that the students notice form-meaning
relationships” (282). She also points out that this model is adjustable to both traditional and communicative instructional settings. Then in order to have a communicative grammar lesson based on the cognitive model, she emphasizes the need for having following steps: (1) sensory reception, (2) selective perception, (3) short-term memory, (4) encoding into long-term memory, (5) storage in long-term memory, (6) hypothesis generation and testing; restructuring of implicit knowledge, (7) retrieval from long-term memory, (8) production strategies and output and (9) feedback (279-80). Based on this model, these steps should be followed properly in order to have the best possible retention, internalization and the upcoming use of language in communication.

Apart from the significance of designing grammar lessons, teachers’ implemented techniques and procedures are also considered effective variables on teaching grammar. In this regard, Mitchell presents a useful set of research-based general principles for teaching grammar which can be implemented in second and foreign language classrooms:

1. Grammar teaching should be planned and systematic, driven by a strategic vision of eventual desired outcomes.
2. Grammar teaching should, nevertheless, be ‘rough tuned’, offering learners at slightly different stages a range of opportunities to add increments to their grammar understanding.
3. Grammar teaching may involve acceptance of classroom code switching and mother tongue use, at least with beginners.
4. Grammar teaching should be ‘little and often’ with much redundancy and revisiting of issues.
5. Text-based, problem-solving grammar activities may be needed to develop learners’ active, articulated knowledge about grammar.
6. Active corrective feedback and elicitation will promote learners’ active control of grammar.
7. Grammar teaching needs to be supported and embedded in meaning-oriented activities and tasks, which give immediate opportunities for practice and use. (qtd. in Fotos 275-6)

Moreover, there remains another serious question and that is which one of the inductive or deductive approaches to grammar teaching can be more effective. In inductive approach, learners are encouraged to draw conclusions about the underlying rules of the language from the many examples they see and practice, and in deductive approach the movement is from the explicit statement of a rule to its application in many examples (Handley 490). To answer this question, Rutherford and Sharwood Smith believe that regarding “the old controversy about whether one should provide the rule first and then the examples, or vice versa, is now seen to be merely a matter of tactics to which no categorical answer can be given” (133).

Furthermore, Swan suggests that learners’ needs and aims should also be focused on as relatively effective variables in grammar teaching. In addition, he asserts that two important principles which lead us to teach carefully selected points of grammar based on learner needs are comprehensibility and acceptability as essential elements in communication.

Recognizing learners’ needs and aims was an important milestone in the history of language teaching and learning. This recognition also affected the view toward grammar and grammar teaching. It was based on this recognition that pedagogical grammars have been implemented in communicative grammar teaching. Odlin defines pedagogical grammars as “the types of grammatical analysis and instruction designed for the needs of second language students” (1). These pedagogical grammars can be the main source of communicative grammar teaching which foster various communicative roles and natural language use (275).

And last but not least, “teaching must balance grammar against language functions, vocabulary, classroom interaction, and much else that goes on in the classroom to find the appropriate teaching for those students in that situation” (Cook 39).
2.4. Discussion

In the foregoing discussion a copious review has been undertaken on the studies conducted into error treatment, error orientation and their implications. Furthermore, the researcher has endeavored to throw light on error orientation as a neglected issue from two angles. First, error orientation was introduced as an individual difference variable. Second, error orientation was defined within the premise of error treatment as a neglected variable. In this new definition, error treatment is defined as having three parameters. It concerns first, how and when teachers should treat learners’ errors and which errors should be treated, second, what the learners’ and teachers’ attitudes are toward corrections and third, how learners react to their own mistakes and corrected errors. In this definition, the last level is referring to error orientation which needs to be investigated in more detail as a new and perhaps effective variable in the process of language learning.