

Chapter 2

Theoretical Perspectives on Grammar Learning and Teaching

2.1 Introduction

It seems appropriate to follow the discussion of the results of empirical investigations into the process of the acquisition of L2 grammar that testify to the existence of immutable orders and patterns of development with a presentation of the theoretical positions that provide evidence for both non-interventionist as well as interventionist positions on language learning. The research findings that these investigations led to have served as the basis for the development of various theoretical models that have exerted a significant influence of second and foreign language pedagogy. Second language acquisition (SLA) is a complex phenomenon and although the works of many researchers have provided important insights into the nature of the process, there still remain many areas that require further investigation and deliberation. What makes SLA such a challenging task and interesting field of investigation is the fact that it involves the acquisition of a number of interrelated systems: the system of lexical items together with their forms and functions, as well as the system of syntactic and phonological rules accompanied by the rules on pragmatic use of language. Moreover, the actual acquisition of the features of the second language will depend on a variety of factors, which are psycholinguistic, sociolinguistic, motivational, attitudinal, contextual and cognitive in nature (cf. Sharwood-Smith 1986).

The present chapter is divided into two main parts. The first of these considers non-interventionist positions whose supporters believe in the replication of naturalistic acquisition in the classroom, such as the Identity Hypothesis (cf. Bley-Vroman 1988), Interlanguage Theory (Selinker 1972), UG-based Approaches (e.g. Chomsky 1965, 1995) and Krashen's Monitor Model (1977, 1981, 1982). Practical applications of the non-interventionist positions will be tackled in a separate section and concern the Cognitive Anti-Method (cf. Chastain 1971), immersion programmes (cf. Swain 1992, 1998) as well as the Communicational Teaching Project (Prabhu 1987). The second part will be devoted to the presentation and

discussion of the frameworks that recognize the facilitative effect of grammatical instruction, including Processability Theory (Pienemann 1998), Skill-Learning Theory (Johnson 1996), the Noticing Hypothesis (Schmidt 1990, 1994, 1995a, b 2001), the Delayed-Effect Hypothesis (Lightbown 1985, 1998), the Output Hypothesis (Swain 1985, 1995, 2005), and connectionist perspectives (Ellis 2003). Obviously, the choice of the theoretical positions presented in the chapter is not without controversy or doubt, taking into account the fact that some of them might have lost their appeal, whereas others may still have a significant bearing on the state-of-the-art experiments and debates. All in all, the perspectives mentioned here have all been based on the research results referred to in the previous chapter and have been used as justification for either abandoning formal instruction targeting points of grammar or the rationale for the reinstatement of teaching grammar into the language classroom. The ongoing debate over the effectiveness of L2 instruction concerns two basic questions: first, whether instruction can at all affect second language acquisition processes, and, secondly, if non-interventionist positions are refuted, which type of potential intervention is most efficacious.

The place of grammar instruction in foreign and second language pedagogy has been a controversial issue since the onset of second language acquisition research and many of the debates still remain unresolved. Although it has been proved that L2 acquisition mirrors to some extent the processes involved in the mastery of L1 (Long 1983; Krashen 1985; Swain 1985; Pica 1992), it has also been acknowledged, as demonstrated by research into immersion programmes in Canada, that mere exposure to the target language does not guarantee the attainment of high levels of grammatical and discourse competence. Consequently, form-focused instruction has been reintroduced into the language classroom and it has been widely accepted that, without belittling the role of message conveyance, grammar teaching should become a vital part of classroom practices (e.g. White 1987; Ellis 1993, 2006; VanPatten 2004a, b). However, despite the common agreement concerning the need for pedagogic intervention focusing on grammar, there remain many controversies as to the role of explicit instruction, the choice of structures to be targeted, the type of intervention, its duration, timing and intensity. In the present chapter an attempt will be made to delineate the most prominent views advocating or denying the possible benefits of pedagogic intervention.

2.2 Non-Interventionist Positions

The following subsections will be devoted to the presentation and discussion of the theories and hypotheses supporting non-interventionist perspectives in language teaching. Such a tremendous impact of the non-interventionist stance on second and foreign language pedagogy would not have been possible without the development of theoretical positions that offered concrete recommendations for classroom practice.

2.2.1 Theoretical Justifications for Non-Interventionist Positions

The present section will focus on the most influential models, which, although differing considerably in their range and appeal, have shaped the imagination of SLA researchers for many decades. The discussion will start with the Identity Hypothesis which assumes that the processes involved in the acquisition of a second language mirror those responsible for acquiring one's mother tongue. Further considerations include Interlanguage Theory (Selinker 1972), perceiving learner language as a constantly evolving system rather than an imperfect version of the target language, UG-Based Approaches, founded on the nativist views on L2 acquisition (e.g. Chomsky 1965, 1995), and Krashen's Monitor Model (1977, 1981, 1982), emphasizing the role of proper exposure to the target language and subconscious processes involved in its acquisition. All those views, no matter how divergent, share one crucial characteristic—they were one of the factors that led to the abandonment of formal instruction and error correction and resulted in facilitating naturalistic acquisition in the language classroom (Pawlak 2006, p. 121).

2.2.1.1 The Identity Hypothesis

Studies comparing learner language resulting from L1 and L2 acquisition (cf. Newmark 1966; Ellis 1985; Bley-Vroman 1988) gave rise to the formulation of the L1 = L2 Hypothesis, also referred to as the Identity Hypothesis, stating that the processes underlying the acquisition of the mother tongue and second language acquisition are essentially the same. Early stages of first and second language development show many important similarities, such as the use of formulas, the existence of a silent period, as well as structural and semantic simplification. The strongest parallels, however, concern the orders and sequences of acquisition of syntactic structures as exemplified by the studies of negation and interrogatives. The studies the hypothesis motivated aimed to establish the degree of uniformity between L1 and L2 acquisition, and to determine whether L2 learners have access to an innate faculty that, as nativists claim, controls L1 acquisition (cf. Bley-Vroman 1988). The analysis of the accumulated data revealed that apart from the similarities there exist obvious differences, a conclusion that is summarized by Ellis (1994, p. 106) in the following way: "The correct characterization of early L1 and L2 acquisition might be to say that L2 learner language displays many of the features of L1 learner language plus some additional ones". It was postulated that the differences between native and foreign language acquisition depend on a number of variables such as age or type of knowledge—implicit or explicit—a learner draws upon while coping with a specific task in specific conditions, the kind of memory they rely on, the knowledge of at least one other language, type of exposure, their cognitive capacity, as well as knowledge about language and the world.

Some linguists approached the provisions of the hypothesis with much caution. Bley-Vroman (1988, 1989), for example, emphasized the differences between L1

and adult foreign language learning, which led him to the formulation of the Fundamental Difference Hypothesis. Brown (2000), in turn, stressed the importance of controlling the variables in the groups where the outcomes of L1 and L2 acquisition are compared. Larsen Freeman (2003, p. 76) pointed out that although there do exist similarities in first and second language acquisition, there are also fundamental differences between various types of acquisition—whether L1, L2, early or adult, or bilingual. Finally, Van Patten (2004) proposed the Fundamental Similarity Hypothesis that seeks parallels between child L1 acquisition and adult L2 acquisition since both are input-dependent, resistant to error correction or explicit instruction.

The above mentioned findings might have been contradictory and inconclusive, but a natural corollary of the assumptions put forward by the proponents of the Identity Hypothesis were pedagogical recommendations that postulated recreating naturalistic conditions in the language classroom to facilitate learning rather than interfere with learning processes. The contribution of the hypothesis to pedagogy manifested itself mainly in the creation of the natural and early communicative approaches to language instruction (Pawlak 2006, p. 125). A more detailed discussion of its ramifications for foreign language teaching is presented in [Sect. 2.2.2](#).

2.2.1.2 Interlanguage Theory

Interlanguage Theory which originated from investigations into learner errors and L2 developmental patterns was one of the first important attempts to unravel the complexities of second language acquisition. Its importance also lies in the fact that it gave rise to many later developments. The same scientific methods of investigation that had contributed to the creation of a model for native speakers' competence were applied to the study of nonnative competence. L2 learner language became the object of investigation as a logical, rule-governed system, evolving along a sequence of stages, being a dynamic response to the requirements of the context in which it functions and gradually approximating the system used by native speakers of the target language (Ellis 2008, p. 42). Different terms were used to refer to this phenomenon: Selinker (1972) called it *interlanguage*, stressing its distinctive character, and Brown (2000, p. 215) offered the following definition: "(...) a structurally intermediate status between the native and target languages". Nemser (1971), in turn, used the term *approximative system* to account for the fact that it gradually approximates the target language, whereas Corder (1971) chose to address it as *idiosyncratic dialect*, thus pointing to the fact that the learner's language belongs to a particular individual and is governed by the rules typical of this individual only. Despite such important differences, the three concepts uniformly assume that the language learners create, distinct from their L1 and L2, is a self-contained linguistic system (Brown 2000, p. 216).

Having established that learner language was systematic and subject to change, researchers aimed to determine the processes responsible for IL formation and explore the mechanisms accounting for its transformation. Initially, the discussion

evolved around a number of learning strategies and cognitive processes such as language transfer, overgeneralization or simplification. The classification proposed by Selinker (1972), although not immune from criticism, is perceived as a valuable attempt to specify the cognitive processes responsible for L2 acquisition (Ellis 1994, p. 351). It is as follows:

1. *Language transfer* (although not complete, transfer of data from the learner's L1 is feasible).
2. *Transfer of training* (interlanguage restructuring may be a result of instruction).
3. *Strategies of second language learning* (the learner's approach to the material to be learned).
4. *Strategies of second language communication* (effective communication techniques adopted by learners).
5. *Overgeneralization of the target language material* (interlanguage restructuring may result from the overgeneralization of target language rules and features).

More generally, however, it was agreed that IL restructuring was driven by the process of *hypothesis formation and testing*. The proponents of this solution suggested that L2 learners form hypotheses about the ways the target language is structured on the basis of the input they are exposed to, thus formulating a *hypothetical grammar* which is tested in reception and production. Learners' hypotheses become confirmed and reinforced if the output they produce does not evoke corrections or misunderstanding. On the other hand, if the output triggers corrective reactions or fails to convey the intended meaning, the learner may attempt to test the hypothesis and, consequently, restructure it. It is assumed that IL is systematic because learners build their utterances relying on the rules they have already internalized. The novel utterances may not be correct from the native-norm perspective, but they are "grammatical" in the sense that they conform to the rules that learners have already internalized. New forms and rules extracted externally, from the exposure to L2 input, or internally, due to L1 transfer or overgeneralization of an already internalized rule, cause incessant changes to the system, thus making it a continuum rather than a stable phenomenon. IL is said to consist of a series of overlapping grammars where newly coined or revised rules coexist with the old ones.

The operation of competing or concurrent hypotheses might explain systematic variability in learner language (Ellis 1990, 1994) when one and the same form is used correctly or incorrectly in different contexts. IL transformations, fed by the incoming data and their interplay with the already acquired knowledge, are characterized by complexification. While the idea of gradual sophistication and growing complexity of successive interim grammars may have been generally approved of, the issue of the starting point for the process has been surrounded by much controversy. The proponents of the *restructuring continuum* (e.g. Selinker 1972; Taylor 1975) claim that IL evolves from the learner's L1 system, whose rules are replaced by those of L2. Others, like Corder (1977), propose that the starting point for IL creation is the same as in L1 acquisition. He calls it the *initial hypothesis*, universal in nature, a kind of a reduced L1 system that becomes

gradually complexified, which implies that L2 acquisition consists in the recreation of the system, not its restructuring. Recently, a more balanced view has been adopted perceiving interlanguage as a combination of elements whose origins can be traced back in the mother tongue, the target language and neither of them as well (Gass and Selinker 2001, p. 12).

No matter where the process starts, its “final state” never equals the complexity of native competence. The process in the course of which certain nonnative rules and forms become fixed has been referred to as *fossilization* (Ellis 1994, p. 353). Fossilized forms persist despite error correction, explicit grammatical explanation or instruction and even if they become eliminated, they are likely to reappear in spontaneous production, a phenomenon known as *backsliding*. An interplay of external factors such as communicative pressure, lack of learning opportunity, type of feedback, and internal factors, such as age or no desire to acculturate, can be blamed for the recurrence of inaccurate forms in learner speech (Ellis 1994, p. 354).

The tenets of Interlanguage Theory were soon reflected in classroom practices that respected the legitimacy of learner language and, following the assumptions of the Identity Hypothesis, aimed to recreate naturalistic learning conditions. Naturally, teaching revolved around error analysis and remedial work (cf. Ellis 1990). Most fundamental changes concerned syllabus design: since it was agreed that learners followed their own syllabus, sequencing of the material to be taught became questionable. One of the proposals aiming to reconcile the sequence of teaching content with the internal syllabus of each learner was teaching according to the natural developmental sequences diagnosed by research (Ellis 1990, p. 33ff.). Another pedagogic recommendation, being a corollary of Interlanguage Theory, was a proposal to create conditions for meaningful interaction minimizing instruction, concerning grammar in particular. It was assumed that communicative practice will not only enable learners to communicate successfully but also equip them with the proper knowledge of the linguistic system. In fact, it is hard to overestimate the tremendous influence that Interlanguage Theory has exerted on foreign language pedagogy since it sparked many important teaching initiatives such as the Natural Approach, the Communicational Teaching Project or immersion programmes (Pawlak 2006, p. 129f.).

2.2.1.3 UG-Based Approaches

Within the generativist framework, it is assumed that language use (comprehension and production) is based on an abstract linguistic system. The knowledge of language is derived from Universal Grammar (UG), a kind of mental representation of grammar (syntax, phonology, morphology and semantics) that each human being is born with. The claim was inspired by the considerations of learnability that concerned the fact that native competence consists of elements a speaker has never been exposed to (White 2007, p. 39). Our knowledge of the mother tongue exceeds the input in a number of ways: both children and adults can understand and produce sentences they have never heard before, and they are able

to pass grammaticality judgments concerning forms they have never been taught. As White (2007, p. 52) points out, “[the] linguistic competence of native speakers is underdetermined by the input that children are exposed to, hence that innate Universal Grammar is implicated”. Generativists observed that interlanguage grammars may involve the operation of unconscious mental representations and *the logical problem of language acquisition* applies equally to L2 and as it does to L1 acquisition. Cook (1988) concluded that L2 learners necessarily rely on an abstract representation they have in their minds since the language they produce cannot solely be derived from input. Consequently, such factors as imitation, negative feedback, explicit instruction, and social interaction influence L2 acquisition to the same extent as they influence the acquisition of the mother tongue. However, Cook pointed out an important difference between the types of acquisition: L2 learners know another language and it may play the role of an alternative source for UG (Ellis 1994, p. 452). If it is accepted that language learners rely on the innate language apparatus while building L2 competence, then, such concepts as critical period or differences between child L1 acquisition and adult second language learning would have to be ignored. However, this stance needs to be approached with caution, particularly in the light of the fact that L2 learners’ level of achievement differs considerably—while L1 learners become generally proficient language users, most L2 learners may never become truly proficient. Schachter (1988) claims, for example, that despite achieving high levels of communicative competence, the majority of L2 learners never reach a command of the target grammar comparable to that of a native speaker’s. In her view, the grammatical competence of the L2 learner is qualitatively different from L1 competence.

Each of the views presented so far in this section entails a different explanation of the role of UG in L2 acquisition. Ellis (1994) presents a four-partite division into *the complete access view*, *the no access view*, *the partial access view*, *the dual access view*, as follows:

1. The proponents of the *complete access view* declare that UG is directly available in L2 learning. Thus, L2 acquisition mirrors that of L1 acquisition and the possible differences result from such factors as learners’ age, cognitive maturity or their needs. Learners’ L1 plays a vital role in the process, since an identical parameter setting will enhance acquisition, whereas a different parameter setting entails assigning of new values, which may make learning more arduous (cf. Flynn 1987).
2. The *no access view* denies any role of UG in L2 acquisition and claims that L2 learners need to rely on general problem-solving (i.e. nonlanguage specific) strategies. Thus, a cognitive theory of the kind provided by the Multidimensional Model is needed to account for the process of L2 knowledge development (cf. Meisel 1997).
3. The *partial-access position* rests on the claim that UG is available to L2 learners. General UG principles act as constraints that prevent L2 learners from constructing *wild* grammars and making *impossible errors*. Schachter (1988)

suggests that, although linguistic principles remain available, the L2 parametric values that are different from L1 parameters may not be accessed. However, L2 learners can overcome the obstacle by applying general learning strategies.

4. The *dual access view* holds that adult learners apply two distinct and constantly competing systems to the interpretation of abstract linguistic data: not only do they access UG but also a *general problem solving module*. Although the cognitive faculty is inadequate to process complex linguistic structures, adult learners are unable to restrain its operation, which prevents them from achieving complete, native-like grammatical competence (cf. Felix 1985).

The debate over the primacy of any of the positions has not ceased to inspire theoretical considerations and empirical investigations. Most of the controversies concentrate on a number of fundamental issues such as the existence of the critical period, operation of the different learning systems or the role of negative and positive evidence. The view that no critical period blocks L2 acquisition advocated by the complete access position can be challenged by the fact that adult learners are very unlikely to attain native-like competence (Ellis 2008, p. 625). It is also difficult to verify the dual access view since pointing out which learning system is responsible for the existence of some differences may be impossible (cf. Cook 1985). If the no access view that asserts that general problem-solving strategies govern language learning is adopted, then a cognitive rather than generative outlook needs to apply. Obviously, each of the positions has important implications for language teaching, but generally, UG-related approaches perceive instruction as unnecessary or negligible. The role of negative evidence adopted by the partial access position consists in providing access to properties defined by the principles learners have no longer access to. White (1991), for instance, claims that negative evidence enables the resetting of a parameter to the L2 value. This assumption, however, is challenged by Schwartz and Gubala-Ryzak (1992) who claim that negative evidence results in the development of explicit knowledge, not interlanguage restructuring and thus only language behaviour undergoes changes, whereas L2 restructuring of implicit knowledge does not take place. From the point of view of the full access hypothesis, negative evidence is irrelevant because it is assumed that input itself is capable of triggering innate mechanisms responsible for language acquisition. As Doughty and Williams (1998, p. 201) aptly state, “If a UG-based explanation were to prevail, regardless of whether a role for explicit and negative evidence in SLA is rejected or accepted, then teachers would simply have to wait for the results of linguistic research to determine precisely what resides in UG and do their best to provide the appropriate triggering data in their classes”.

In his evaluation of the UG-based approaches, Ellis (1994, p. 459) considers a number of theoretical and methodological problems: the indeterminacy of some crucial concepts such as, for example, parameter setting or a continual revision of the model, which causes problems to researchers who need to amend their investigations as the reformulations of the model take place. Another problem is that of falsifiability: taking into account the fact that learners’ performance is

variable, researchers find it difficult to determine what type of evidence confirms or disconfirms a hypothesis. Another weak point of the UG-based approach is the fact that, being mainly concerned with syntax, it fails to account for the acquisition of the remaining target language subsystems. Furthermore, UG deals, first and foremost, with formal language properties disregarding the way this abstract system is used in communication and what is the role of social and psychological factors in L2 acquisition (Pawlak 2006, p. 133). There are also methodological issues susceptible to criticism, such as the lack of longitudinal studies or over-reliance on grammaticality judgment tests as well as problems with the definition of an 'adult,' a notion pertinent to the discussion of the differences between child and adult language acquisition (cf. Ellis 1994; Mitchel and Myles 1998a, b).

Despite the presence of numerous unresolved disputes concerning the idea of a special language faculty, there is general agreement that L2 learning entails the acquisition of purely formal properties of language and UG serves as an effective tool of examining how these properties are acquired. Moreover, the theory has managed to provide credible accounts of the existence of developmental stages and the role of crosslinguistic influence. Unlike cognitive theories, the UG approach has enabled researchers to formulate hypotheses concerning specific language properties that could be verified in the course of empirical investigations (cf. Ellis 1994). It has served as a theoretical basis for many influential methods and approaches that emphasize the importance of meaning-oriented instruction and led to the development of a non-interventionist stance in language pedagogy.

2.2.1.4 Monitor Model

One of the most influential and most comprehensive theories in the field of SLA is the Monitor Model developed by Stephen Krashen (1977, 1981, 1982) in the 1970s and early 1980s. It seeks to account for a whole variety of phenomena in foreign language learning, ranging from investigating the age effect on SLA to explaining differences in attainment levels. The model was inspired by the results of research into the nature of interlanguage that proved the operation of developmental sequences on L2 acquisition. Its roots can be traced back to earlier developments in the field such as the Identity Hypothesis or Interlanguage Theory. Some parallels can also be drawn between the Monitor Model and Chomsky's theory of language in the sense that both acknowledge the existence of a special innate faculty for language acquisition. Within Krashen's model, acquisition emerges from the interaction of linguistic information derived from comprehensible input with the language faculty humans are biologically endowed with. The theory not only provided an impetus for abundant research in the field of SLA but it also greatly influenced second language teaching. Being related to the experience of language learners and teachers in the sense that it attempted to account for the fact that not everything that is taught is learned and sometimes what is learned may not have been taught, the model exerted a tremendous influence on the language classroom. Consequently, the late 1970s and 1980s witnessed a rejection of grammar instruction on the grounds of the

justification provided by Krashen that language is acquired implicitly due to adequate exposure to the target language (VanPatten and Williams 2007, p. 25ff.). The Monitor Model is made up of five interrelated hypotheses:

1. *The Acquisition-Learning Hypothesis.* Krashen (1977, 1981, 1992) differentiates between two systems, a *learned one* and an *acquired one*, being separate and accessed by means of distinct mental processes. While the acquired knowledge originates as a result of unconscious processes on condition the learner is focused on message conveyance, the learned system results from a conscious process of language learning and it applies to explicit knowledge. Krashen claims that spontaneous production draws upon acquired knowledge, whereas learned language serves only as a means of monitoring the output. Moreover, the researcher points out that neither error correction nor practice leads to the transfer of knowledge from the learned system to the acquired one, with the effect that learned knowledge will never become acquired. For this reason, Krashen's model is referred to as the *non-interface position* or the *zero option*. Thus, the recommendation Monitor Theory offers to practitioners is to abandon the formal study of grammar, since this type of knowledge will not be accessed in spontaneous communication. Instead, learners should be provided with an abundance of input and the opportunity for meaningful interaction.
2. *The Monitor Hypothesis.* The Monitor Model assigns only peripheral utility to learned knowledge since its function consists in editing the utterances generated by acquired knowledge during production. However, Krashen claims that this knowledge can be used only if learners have sufficient time at their disposal, as is the case in the course of untimed writing tasks on condition that these tasks require paying special attention to accuracy. Consequently, the scarce classroom time should not be wasted on developing learned knowledge (VanPatten and Williams 2007). The theory distinguishes between three types of learners: those called *optimal Monitor users*, who resort to the learned system as long as it does not impede genuine exchange of information, *Monitor underusers*, who value fluency the most and are not concerned with accuracy, and, finally, *Monitor overusers*, who excessively rely on their formal knowledge to the detriment of communicative skills (Krashen 2003, p. 3).
3. *The Natural Order Hypothesis.* One of the arguments for the operation of the innate language faculty is the existence of important regularities concerning the sequences of acquisition of specific forms, such as grammatical morphemes, that has been aptly demonstrated by first and second language acquisition research (Krashen 1985). In addition, it turned out that learners tend to pass through predictable stages while acquiring such elements of syntax as questions, negation and relative clauses. These assumptions were used by Krashen as a basis for the Natural Order Hypothesis, according to which various grammatical forms are acquired irrespective of their relative complexity or pedagogic intervention (Krashen 1985, p. 1).
4. *The Input Hypothesis.* The main assumption of the hypothesis is that being exposed to comprehensible input, as Krashen calls written or spoken portions of

L2 comprising forms slightly beyond the current level of learners' internalized language, is the necessary and sufficient condition for language acquisition. *Comprehensible input* is conceptualized as $i + 1$, where i stands for the current level of proficiency and $+1$ represents the next developmental stage. Krashen (1985) believes that processing and understanding of such samples of L2 activates the innate language faculty allowing learners to proceed from one stage to another along natural developmental sequences. Learners spontaneously access and use the data they need as long as they are exposed to comprehensible or roughly-tuned input. Thus, it transpires that neither pedagogic instruction nor output practice contribute to acquisition since production is perceived as a result of acquisition rather than its cause (VanPatten and Williams 2007, p. 28).

5. *The Affective Filter Hypothesis*. An attempt to account for conspicuous differences in attainment levels among language learners was the formulation of the Affective Filter Hypothesis which ascribes a decisive role to the interplay of such factors as attitude, motivation, anxiety, competitiveness as well as other emotional responses. Krashen (2003, p. 6) calls these factors the *affective filter* and points out that they do not have a direct impact on acquisition, but they facilitate or hinder access of input to the language acquisition device. A stressful environment that forces production before learners are ready raises the filter, thus impeding the processing mechanisms in the brain. By contrast, filters are set low in the case of highly motivated learners with a positive attitude towards the task and this enables them to proceed effectively along acquisition sequences. Krashen himself refers to the studies where students who derived large amounts of comprehensible input from pleasure reading outperformed those who received explicit instruction (VanPatten and Williams 2007a, b, p. 28).

Krashen's theory, no matter how influential in setting research goals, advancing language acquisition studies or reshaping classroom practices, has been received with much criticism. For one thing, there have been few empirical studies aimed at testing its various aspects mainly because of the fact that the constructs the theory draws upon are very vaguely defined and excessively hard to operationalize. Krashen's critics maintain that he has failed to provide an explanation for the specific findings his theory refers to. The most heated debate concerns the distinction between subconscious (acquisition) and conscious (learning) processes. Researchers such as McLaughlin (1990, p. 627) and Odlin (1986, p. 138) point to the inability of psychology to provide an unambiguous definition of consciousness and thus to explicitly differentiate between conscious and unconscious phenomena. Another claim that has become the bone of contention has been the assumption that there is no interface between acquisition and learning, whereas, as Brown (2000, p. 279) points out, "[the] so-called dichotomies in human behaviour almost always define the end-points of a continuum, and not mutually exclusive categories". The strict non-interface position remains a unique development of Monitor Theory hotly confronted by many scholars who, like Gregg (1984, p. 82), state that: "If unconscious knowledge is capable of being brought to consciousness, and

if conscious knowledge is capable of becoming unconscious—and this seems to be a reasonable assumption—then there is no reason whatever to accept Krashen's claim, in the absence of evidence. And there is an absence of evidence". When confronted with evidence of spontaneous and grammatically correct L2 production by learners whose knowledge was accumulated as a result of formal instruction rather than exposure to comprehensible input, Krashen (1982) contends that they have managed to develop parallel language stores and their acquired system rivaled their learned scope. However, his critics maintain that he has not managed to provide any proof for such a process (VanPatten and Williams 2007a, b, p. 32). Gass and Selinker (2001) question the existence of two separate systems hosting information about one and the same linguistic feature. Moreover, if it is assumed after Krashen that explicit knowledge is used only to monitor production, then learners who receive instruction in their mother tongue, which is often the case, would not be able to understand TL messages because of the fact that such input deficient conditions hinder acquisition.

Despite numerous disputes surrounding the basic tenets of Monitor Theory, it has been highly resonant in second and foreign language pedagogy and has importantly contributed to the emergence of non-interventionist approaches to language teaching. Although most of the evidence supporting the theory is indirect, it has intuitive appeal to language learners and teachers. For them, the most convincing evidence comes from their own experience. Many would agree that what is taught is not necessarily learned and what seems to have been learned in controlled tasks and drills is unavailable in spontaneous, real-time communication. More importantly, the fundamental premise that consciously learned knowledge not only has little influence on production but cannot be transferred to the acquired store questions the need for grammar instruction or error correction as a means of advancing L2 knowledge. In his later works, Krashen (2003, p. 30) admits that learners may actually benefit from error correction and explicit instruction; however, pedagogic intervention should be limited to some rules that even native speakers find difficult to acquire, and some minor features such as the distinction between *liellay* or *its/it's*, whereas the main source of language knowledge should be exposure to comprehensible input. Pedagogic recommendations concerning syllabus design stem from the provisions of the Natural Order Hypothesis: rather than following a carefully structured grammatical syllabus, learners should proceed along the natural order being faced with a collection of communicative activities and topics that reflect their needs (cf. Pawlak 2006). In addition, the model ascribes primary importance to comprehension rather than production, which is perceived as having little value to acquisition and as being its result rather than its source, which consequently led to the denial of the role of interactive skills (Celce-Murcia 2001). In line with the humanistic approaches of the 1970s, the Affective Filter Hypothesis emphasizes the importance of creating favourable classroom conditions conducive to learning by setting the filter low so as not to allow negative affective factors to interfere with the natural processes of acquisition.

Monitor Theory served as the basis for the Natural Approach (Krashen and Terrell 1983) that has long dominated thinking about effective language teaching

and is still applied on a daily basis in many educational contexts. The discussion of the importance of the emotional sphere has altered the power distribution in the language classroom placing the learner's needs more in the centre of attention of both researchers and teachers. This humanistic approach, taking account of the biological and cultural backbone as well as the emotional sphere of a human being, has become an appealing alternative to more traditional approaches. In his appraisal of the Monitor Model Pawlak (2006, p. 143) states:

After all, who would disagree that there should be more acquisition and less learning in traditional language classes, that it is essential to have as much exposure to the L2 as possible, and that we should comprehend the language we read or hear if we are to acquire it. Given such sentiments, it should come as no surprise that the Monitor Model has given a powerful impetus to the advent of approaches implementing the experiential strategy and has retained its status as the main plank of what Brumfit (1979) refers to as *fluency-first pedagogy* (emphasis original).

2.2.2 Pedagogical Applications of the Non-Interventionist Position

The undeniable appeal the non-interventionist stance has had in the world of instructed second or foreign language acquisition is best exemplified by its numerous and resonant applications. The present section will briefly outline the methods and approaches inspired by the findings and theoretical considerations presented above. The choice will be limited to those which strictly adhere to the tenets of the zero-option and have the widest appeal. Thus, the discussion will concern the following: the Cognitive Anti-Method, immersion programmes, the Natural Approach, and the Communicational Teaching Project.

2.2.2.1 Cognitive Anti-Method

The Cognitive Anti-Method, also called the Minimal Language Teaching Programme (cf. Chastain 1971), originated in the 1960s and was inspired by the early version of the position put forward by Chomsky. It was founded on the assumption that language learning was governed by the operation of an innate language faculty and thus teachers should adopt a *minimal strategy* resisting the temptation to interfere with natural mechanisms of acquisition. In other words, they were responsible for creating classroom conditions that would resemble naturalistic settings to ensure automatic and natural acquisition of the target language (cf. Newmark 1963, 1966). The learner, perceived as an active participant, occupied the focal position in the model. Thanks to the genetically endowed language acquisition device, second language learners were said to proceed just like children learning their L1. Moreover, there were said to be no theoretical

grounds justifying grammar instruction, particularly if it was believed that linguistic features are acquired in chunks rather than in a linear fashion. Learner errors were perceived as manifestations of the evolving interlanguage. If learners' TL knowledge was insufficient in some respect, they were likely to resort to their native tongue, and, thus, interference errors came up, a phenomenon that may be accounted for by the *Ignorance Hypothesis* (Ellis 1994, p. 35ff.). It was believed that increased exposure to the troublesome feature would be sufficient to eradicate the problem (cf. Newmark and Reibel 1968). The revolutionary nature of the method, denouncing the need for explicit pedagogic intervention was received with much caution by both learners and teachers influenced by the provisions of audiolingualism. However, its contribution to the development of the Monitor Model as well as other non-interventionist pedagogical approaches cannot be denied.

2.2.2.2 Immersion Programmes

The main tenets of Krashen's Monitor Model were best confirmed by the evidence coming from numerous research projects conducted in connection with different attempts to teach languages through immersion. Immersion education assumes that L2 will be best learned if a typical school curriculum is taught through the foreign language, not being the subject of instruction but a means of delivering it (Richards and Rodgers 2001, p. 206). Immersion programmes were first established in Canada in the 1960s to assist English-speaking children in learning French. Due to the project's great success, similar programmes were adopted in many parts of the world with different purposes in mind: not only to help learners achieve higher levels of L2 proficiency but also to protect minority languages or promote heritage languages (cf. Pawlak 2006, p. 147).

Immersion Education, Immigrant On-Arrival Programmes, Programmes for Students with Limited English Proficiency or Language for Specific Purposes all fall within the category of *content-based instruction*—an approach to L2 teaching where “teaching is organized around the content or information that students will acquire, rather than around a linguistic or other type of syllabus” (Richards and Rodgers 2001, p. 204). The benefits of immersion programmes were obvious and undeniable: not only did learners equal students attending regular L1 programmes in proficiency levels, literacy and communicative skills but they also outperformed learners attending traditional L2 courses (cf. Swain 1985; Pawlak 2006). However, despite their numerous advantages, immersion projects failed to ensure high levels of grammatical accuracy. While immersion learners enjoyed native-like levels of communicative and discourse competence, not infrequently did they persist in making grammatical mistakes despite many years of learning (cf. Swain 1992, 1998). In tests measuring the reception of the targeted structure immersion students naturally outperformed students taking 20 to 30-minute lessons of French a day and achieved scores similar to those obtained by francophone students of the same age (Swain 2005, p. 472). However, productive skills of the students in

immersion programmes differed considerably from those of francophone students. Swain (1985, 2005, p. 472f.) observed that the failure to attain higher levels of accuracy might be attributed to the fact that immersion students did not use French for communication during the French part of the day as they used English during the English part. Moreover, she points out that immersion students were not “pushed” by their teachers to use the language that would be both grammatically correct and sociolinguistically appropriate. Consequently, many second language acquisition specialists and practitioners came to believe that some amount of explicit instruction might have a beneficial effect on this kind of teaching and, as a result, many content-based projects are nowadays complemented with formal instruction.

2.2.2.3 Natural Approach

The most influential operationalization of Krashen’s Monitor Model is the Natural Approach outlined by Terrell and Krashen in 1983. The approach attaches greatest importance to comprehension and meaningful communication, assuming that the proper type of comprehensible input is the necessary but also sufficient condition for language acquisition. The main aim was to assist learners in the development of what Cummins (1980) called *basic interpersonal communication skills*, an ability to cope with everyday communicative needs resulting from day-to-day interaction with others. The most crucial assumptions of the proposal put forward by Krashen and Terrell (1983, p. 20ff.) can be summarized as follows: comprehension comes before production, production develops gradually, the syllabus comprises communicative goals, and the design of classroom activities ensures lowering of the affective filter. Little value is attributed to grammar instruction since “[l]anguage is best taught when it is being used to transmit messages, not when it is explicitly taught for conscious learning” (Krashen and Terrell 1983, p. 55). Hence, only certain rules need to be taught, and error correction is allowed only to prevent communication breakdowns.

2.2.2.4 Communicational Teaching Project

The aim of the Communicational Teaching Project designed by Prabhu (1987) was to develop linguistic competence through a task-based approach to language teaching. The project was conducted in a number of schools in Bangalore and Madras in India among beginner learners of English. Its positive evaluation was presented by Beretta and Davies (1985) who reported an advantage of the project schools over the control ones. However, the scholars also discovered that without the support of form-oriented instruction the participants developed some degree of pidginization, which, according to Prabhu (1987), should be eradicated thanks to prolonged exposure to comprehensible input. Prabhu (1984, p. 275f.) believed that formal instruction was not only unprofitable but also potentially harmful.

The provisions of Universal Grammar together with the claims of the *non-interventionist position* proposed by Krashen have been the most influential reasons for the abandonment of formal instruction in the language classroom. The proponents of the *zero option* in language learning rejected formal instruction and grammar correction believing that the recreation of naturalistic conditions would facilitate acquisition in the classroom. Undoubtedly, as many immersion programmes or the Bangalore Project show, uninstructed language learners are able to attain some knowledge of the target language incidentally and develop basic communicative ability. Moreover, focusing on formal features of language has little effect on overcoming the limitation of internal syllabuses the existence of which has been thoroughly explored and discussed. However, as Pawlak (2006, p. 155) aptly concludes:

Although such assumptions are undoubtedly valid and offer valuable insights into the characteristics of effective classroom instruction, it would be imprudent to invoke them as justification for outright rejection of pedagogic intervention. The fact that learners can acquire many aspects of language through communication, for example, does not mean that the acquisition process could not be more effective if it were supplemented with a certain amount of grammar teaching, especially in situations where target language exposure is severely limited.

It seems justifiable to say that, particularly in foreign language contexts where learners' exposure to the target language does not typically exceed a couple of hours a week, the rate of target language development in a classroom where naturalistic conditions are replicated is rather slow and the prospects for attaining higher levels of proficiency are bleak. What is more, it needs to be noted that despite copious exposure to the TL, the participants of various immersion programmes do not succeed in achieving satisfactory levels of accuracy, a problem which could probably be overcome if learners' attention were drawn to specific linguistic features. Similarly, even if it is impossible to go beyond the limitations of the natural sequences and orders of acquisition, the rate with which different stages are reached can be accelerated by suitable teacher intervention (cf. Pawlak 2004a, Pawlak 2006).

2.3 Theoretical Positions Recognizing the Need for Grammar Instruction

Given the weaknesses of purely meaning-centered approaches together with their inability to account for various phenomena observed in the process of language learning, it has become evident that views advocating a complete rejection of formal instruction need to be verified. Moreover, as observed by Fotos (2002, p. 136), communicative methodology has not exerted much influence on the teaching of English worldwide, since most of the classroom procedures traditionally evolve around the structural syllabus. The present section outlines a few influential theoretical positions that provide support for various forms of

pedagogical intervention. Accordingly, the discussion in the following subsections will concern Processability Theory, Skill-Learning Theory, the Noticing Hypothesis, the Delayed-Effect Hypothesis, Interaction-Based Theories and Connectionist perspectives.

2.3.1 *Processability Theory*

Processability Theory (PT) (Pienemann 1998), also referred to as the Multidimensional Model, was developed by a group of researchers working on the Zweitspracherwerb Italienischer und Spanischer Arbeiter (ZISA) project in the 1970s (cf. Clahsen et al. 1983). The theory, which was proposed by Pienemann, is a theory of second language development. It stems from the assumption that the learner can produce and comprehend only those L2 forms that their language processors can handle at a given stage of development. One of the underlying claims of the theory is the assumption that understanding the way a language processor is structured and how it operates might facilitate predicting the course of L2 development with respect to production and comprehension (Pienemann 2007, p. 137). PT seeks to explain what is known about acquisition sequences in terms of a set of processing procedures. Drawing upon Levelt's (1989) work on speech production, the computational model of Kempen and Hoenkamp (1987) as well as Garrett's (1982) work, Pienemann (2007, p. 137) proposes that language production can only be accounted for if the following basic premises are taken into account:

- Processing components operate largely automatically and are generally not consciously controlled.
- Processing is incremental.
- The output of the processor is linear although it may not be mapped onto the underlying meaning in a linear way.
- Grammatical processing has access to a temporary memory store that can hold grammatical information.

According to its founder, PT is a universal framework applicable to any L2 and able to predict *developmental trajectories*, sequential developmental routes, and also capable of accounting for individual differences between these trajectories. The original version of PT concentrated mainly on the *developmental problem* trying to discover why learners follow universal stages of acquisition, whereas the extended version (Pienemann 2005) also considers the so-called *logical problem*, namely how it is possible for learners to develop knowledge of the features they have not encountered in the input. The original version of PT assumes that language development is constrained by processability, which not only influences L1 and L2 acquisition, but also affects interlanguage variation and L1 transfer. From the perspective of the extended version, the initial form of L2 grammar depends on the default relationship between the meaning and the way this meaning is

expressed. Despite Pienemann's assertion that PT concerns not only production but also comprehension of linguistic forms, Ellis (2008, p. 8) claims that, as a matter of fact, PT is a theory of language production, neither aiming to account for the ways in which learners come to comprehend grammatical forms, nor explaining how comprehension and production interact. However, as he admits, it can be called a theory of language acquisition in the sense that "it proposes that the processing procedures are hierarchical and are mastered one at a time" (Ellis 2008, p. 8). It is assumed that processing devices are acquired sequentially and the exact sequence depends on the sequence of activation in production. Thus, the fact that a low-level processing device is not acquired will result in the learner's inability to acquire a higher-level device and consequently, the grammatical features that depend on it.

Pienemann (1989, 2005, 2007) puts forward the following hierarchy of language generation processes:

1. No procedure (e.g. producing a simple word such as *yes*);
2. Category procedure (e.g. adding a past-tense morpheme to a verb);
3. Noun phrase procedure (e.g. matching plurality as in *two kids*);
4. Verb phrase procedure (e.g. moving an adverb out of the verb phrase to the front of the sentence as in *I went yesterday/yesterday I went*);
5. Sentence procedure (e.g. subject-verb agreement);
6. Subordinate clause procedure (e.g. use of subjunctive in subordinate clauses triggered by information in a main clause).

Each of these processes requires the learner to deposit and exchange a different type of grammatical information. At first, learners, not being able to control any of the processes, access only L2 words, but they are not able to build more complex utterances, since the transfer of L1 procedures is blocked by lack of specialized L2 procedures capable of holding L2 grammatical information. As learners advance to subsequent stages, they develop complex abilities requiring a growing degree of analysis and the ability to manipulate the structure constituents. The learner has to develop along the hierarchy, since, as Pienemann (2007, p. 141) claims: "Learners develop their grammatical inventory following this hierarchy for two reasons: (a) the hierarchy is implicationaly ordered, that is, every procedure is a necessary prerequisite for the next procedure; and (b) the hierarchy mirrors the time-course in language generation".

The application of the Multidimensional Model to language teaching, called the Teachability Hypothesis, assumes that language acquisition can benefit from language instruction as long as this instruction concerns structures for which the interlanguage is developmentally ready. Moreover, it has been claimed (cf. Valdman 1978) that the syllabus teachers follow needs to esemble the internal syllabus each learner is naturally equipped with, with the recommendation that teachers should introduce linguistic forms in the way that mirrors the natural order of acquisition. This promising but controversial proposal came in for criticism which concerned establishing the way of diagnosing a particular stage of

development the learner has reached. For many, given the existence of individual variation and the heterogeneity of language classes, the implementation of a syllabus that matches interlanguage restructuring seems unrealistic (e.g. Lightbown 1998, p. 179). Other critical opinions directed at the guidelines offered by Pienemann were expressed by Nunan (1994, p. 262f.) who claims that, from the perspective of language acquisition, psychology and pedagogy, presentation of forms that exceed the current level of learners' development is advisable and justifiable since there is a possibility it may promote the acquisition of those features. Moreover, the findings of Spada and Lightbown (1999) show that the successful outcome of instruction may result not from developmental readiness but rather the impact of L1 and possibly L2, as well. In addition, Ellis (1997) argues that developmental constraints concern implicit but not explicit knowledge. To summarize the discussion of the merits and drawbacks of the Teachability Hypothesis, Pawlak (2006, p. 212) comments that the idea has never actually been implemented in classroom practice, mainly because of the fact that the acquisitional sequences concerning only a few of the multitude of features in a small number of languages have been investigated so far. All in all, it needs to be stressed that the Teachability Hypothesis emanating from Pienemann's Processability Theory perceives pedagogical intervention as a vital component of language teaching. It seems warranted to say, however, that strict adherence to the recommendations of this theoretical position could cast doubt on the usefulness of instruction offered to groups of learners, not individuals. Keeping in mind that the accomplishment of a lower-rank processing procedure enables the learner to reach a higher stage, teachers would have to apply complex diagnostic mechanisms, first, to identify the current level, next, to check if a given stage has been successfully accomplished. It is highly unrealistic that any educational system could afford a teaching programme which would manage to tailor classroom procedures to the needs of every single student.

2.3.2 Skill-Learning Theory

Skill-Learning Theory, representing the strong interface position, not only pertains to the development of language but also all types of human behaviour involving cognitive and psychomotor skills. The initial provision of the theory is that learning of skills, such as, for example, swimming or operating the computer, but also language learning, involves the transformation of *declarative, explicit knowledge* (i.e. the knowledge *that*) into *procedural, implicit knowledge* (i.e. the knowledge *how*). The targeted skill whose evolution can be observed in the course of repeated practice gradually reaches the status of largely spontaneous, effortless and proficient behaviour. Having such a wide scope of application, the theory has enjoyed numerous contributions from various spheres of inquiry, from psychology to linguistics, which has resulted in an abundance of studies and terminology depending on the skill under investigation. Nevertheless, despite terminological

differences, researchers agree on the existence of three consecutive stages of development. Fitts and Posner (1967) call them *cognitive*, *associative* and *autonomous*; Anderson (1983, 1992, 1995) labels them *declarative*, *procedural* and *automatic*; and Byrne (1986) talks about *presentation*, *practice* and *production*. These stages differ importantly in the kind of knowledge, its application and, obviously, behaviour. First, the learner acquires some knowledge about a skill, either by observing others who perform it or listening to information about the skill, or a combination of both. The initial stage often does not require the novice to perform any action; however, they are expected to analyze what the “expert” does or/and says. The second stage involves the conversion of declarative knowledge into procedural knowledge, a task that can easily be accomplished if declarative knowledge is available and can be applied while performing the target behaviour. As both psychologists (e.g. Anderson 1995) and applied linguists (e.g. DeKeyser 1997) point out, a relatively small amount of practice may lead to proceduralization. The greatest advantage of proceduralized knowledge over declarative representation rests in the fact that it is available as “a ready made chunk to be called up in its entirety each time the conditions for that behaviour are met” (DeKeyser 2007, p. 98). The acquisition of procedural knowledge does not ensure, however, that the target skill is always performed proficiently and correctly. Fine-tuning of the knowledge will only take place if learners get involved in a sufficient amount of practice, which may result in the shortening of the reaction time, decreasing the error rate, and minimizing interference from other tasks. Engagement in the target behaviour facilitates the restructuring of declarative knowledge by assembling the constituent parts into larger chunks that alleviate the demands on memory resources. Extended practice, which, however, has to be communicative in nature and allow the use of the targeted linguistic features under real operating conditions, leads to the third state—the stage of automatization of procedural knowledge. As DeKeyser (1998, p. 49) comments, “(...) strengthening, fine-tuning, and automatization of the newly acquired procedural knowledge are then a function of the amount of practice, which increases speed and reduces the error rate and the demand on cognitive resources”.

One of the attempts to apply Skill Acquisition Theory to language teaching is the proposal put forward by Keith Johnson (1996) who posits that combined form-focused and meaning-focused practice leads to the development of implicit target language knowledge. One of the key concepts considered here is *proceduralization*, referred to as DECPRO, the process that corresponds to the three stages of development from declarative to automatized knowledge. The second major concept in the proposal by Johnson is *declarativization*, named PRODEC, which explains how implicit knowledge can be acquired thanks to the exposure to the target feature and how it contributes to the development of explicit knowledge. The application of tasks and activities that help learners focus on specific features despite numerous constraints and distractions is believed to facilitate learning.

Another important development was made by DeKeyser (1998, p. 52, 2001, 2007) who points out that second language fluency, which he calls an *automatic procedural skill*, can be achieved thanks to engagement in the practice of this

language in the course of communicative tasks with the relevant declarative knowledge available in the working memory. He believes that the availability of declarative knowledge while doing tasks that entail communicating of real meaning is an essential condition for skill acquisition. For this reason, he questions the utility of mechanical drills, first of all because, as such, they may be completed without the use of declarative knowledge. Secondly, even if learners possess declarative knowledge of some specific feature, this will not help them proceduralize it because they do not require meaning conveyance through language. What they provide is training in a *language-like behavior*, which entails applying different items to a provided pattern, manipulating of forms. Moreover, the tasks can be accomplished successfully without knowing what particular linguistic features mean. These operations engage only short-term memory and therefore no connection between forms and meanings is created in long-term memory, with the effect that no proceduralization takes place. DeKeyser (2007) admits, however, that, depending on the nature of the rule itself, both implicit and explicit learning may be necessary and its outcome will depend on the combination of learners' characteristics and learning conditions.

An obvious advantage of Skill-Learning Theory is that it fits with other aspects of cognitive science. The processes of second language acquisition can be explained in the same way as those responsible for mastering of other skills, such as riding a bike or learning to read. Moreover, research on skill acquisition offers precise results thanks to the use of computer programmes and brain scans that document learning step by step, showing that proceduralization of declarative knowledge and its automatization can sometimes happen simultaneously or that in some cases neither of them takes place (DeKeyser 2007, p. 102f.). It seems right to say that the theory provides justification for explicit instruction concerning not only language rules but also other dimensions of communicative competence indispensable for proficient language use.

2.3.3 *Noticing Hypothesis*

Richard Schmidt (1990, 1994, 1995a, b, 2001), the proponent of the Noticing Hypothesis (NH), challenges Krashen's views on the role of implicit leaning and his understanding of the word "unconscious", stating that its scope of meaning is much-encompassing and, thus, could be used to refer to three different phenomena: learning without intention, learning without explicit metalinguistic knowledge and learning without awareness. First, Schmidt concedes that not all learning may be intentional since not all intentions are conscious. Second, he believes that an exact boundary between explicit and implicit knowledge is extremely difficult to draw since the two types of knowledge are part of a continuum rather than separate phenomena. Third, Schmidt argues that learning results from a subjective experience of noticing when learners pay attention to input. Thus, learning must be conscious since "SLA is largely driven by what learners pay attention to and

notice in target language input and what they understand of the significance of noticed input to be" (Schmidt 2001, p. 4f.). The awareness of the existence of language forms in the input triggers the processes responsible for incorporating new features into the learner's linguistic competence.

The importance of the Noticing Hypothesis lies in the fact that it accounts for which features in the input are consciously registered and thus become intake. Schmidt and Frota (1986) pointed out that intake results from a conscious comparison learners make between the features they have observed in the input and the language they normally produce, a process that is referred to as *noticing the gap*. Moreover, learners may realize that the language they have at their disposal is insufficient to express the meaning they intend to share, which is often referred to as *noticing a hole*. These two forms of cognitive comparison are presumed to be conscious processes. Because of the fact that, as Schmidt (2001, p. 23) points out, "(...) many features of L2 input are likely to be infrequent, non-salient, and communicatively redundant, intentionally focused attention may be a practical (though not a theoretical) necessity for successful language learning", instruction needs to increase the salience of linguistic features by means of bringing them to learners' attention, explaining their structure and providing meaningful input abundant in instances of the same form (cf. Terrell 1991). Thus, if listening, for example, is expected to lead to acquisition, and not solely to comprehension, learners should have the opportunity not only to *notice* the formal features in the input but also to try to incorporate them into their interlanguages. This, in turn, necessitates such processes as restructuring, complexification and output production (cf. Schmidt 2001; Ellis 2001a, b 2002; Richards 2007).

Despite its numerous merits, Schmidt's theory was not met with universal acclaim. Several objections were raised concerning both theoretical and methodological issues. First, Tomlin and Villa (1994) claim that the level of consciousness at which SLA operates is noticing accompanied by detection and not selection, because detected information can be registered in memory and dissociated from awareness. They propose that instead of analyzing *conscious awareness* (noticing), SLA research should concentrate on the investigation of "three attentional functions: *alertness* (overall readiness to deal with incoming stimuli or data), *orientation* (direction of attentional resources to a certain type of stimuli), and *detection* (cognitive registration of the stimuli)" (Tomlin and Villa 1994, p. 193). These attentional functions may operate without awareness; however, the process of detection is likely to instigate further processing of stimuli and "(...) is ultimately on this level that acquisition must operate" (1994: 193). Nevertheless, Schmidt argues that registration or detection in which the conscious mind may not be necessarily involved will not trigger subsequent processing of information, as would happen in the case of conscious perception. He also claims that although implicit learning without awareness is possible, it concerns not new but well-known information or plays a role in activation of existing knowledge (cf. Robinson 2003). For Schmidt (1990, p. 132), conscious attention and awareness of a particular form in the input is a necessary and sufficient condition for it to become intake for learning.

Another line of criticism of the Noticing Hypothesis comes from Carroll (1999) and Truscott (1998) who make the claim that it is representationally empty with regard to the properties of the input that initiates noticing. Robinson (2003, p. 638) questions the validity of this objection stating that the Noticing Hypothesis has never been intended as a comprehensive theory. Schmidt claims that what we notice is not properties or categories, but “elements of the surface structure of utterances in the input, instances of language, rather than any abstract rules or principles of which such instances may be exemplars” (2001, p. 5). Yet another objection concerns the relative difficulty of measuring awareness. Schmidt’s (1990) operational definition of noticing as the ability for verbal report generated both methodological and interpretative concerns since numerous and difficult-to-control factors, such as the ability to verbalize or relative easiness or difficulty of some forms to be put into words, come into play. Nonetheless, as Robinson (2003, p. 639), observes, “(...) results of a number of recent studies using verbal reports as data appear to support Schmidt’s hypothesis”. What is more, despite the fact that an absolute proof as to the contents of noticing and awareness cannot be presented due to the lack of a precise measurement instrument or technique, the results of numerous studies seem to corroborate the hypothesis proposed by Schmidt. Even if dubious about some aspects of the hypothesis, many researchers concur that noticing plays an unquestionable role in learning and retention. It has been agreed that language learners are likely to benefit from various approaches, activities and tasks such as consciousness raising (Rutherford 1987), input enhancement (Sharwood Smith 1991), processing instruction (VanPatten 1996) and focus on form (Long and Robinson 1998), all of which encourage noticing. The value of the Noticing Hypothesis also lies in the fact that it offers justification not only for different focus-on-form activities, but also for more traditional treatments, such as those reflected in the PPP (presentation—practice—production) procedure. Furthermore, the significance of the hypothesis is manifested in the abundance of research projects it has inspired and the number of instances it has been invoked to justify various theoretical considerations such as the Interaction Hypothesis discussed in the following section.

2.3.4 Interaction Hypothesis

Gass and Mackey (2007, p. 175) observe that the Interaction Hypothesis was never meant to be “a complete theory of SLA”; however, it embraces some aspects of the Input Hypothesis (e.g. Krashen 1982, 1985) and the Output Hypothesis (Swain 1985, 1995, 2005). With reference to the Interaction Hypothesis, Block (2003) uses a rather descriptive label: “the input, interaction, and output model”, and Carroll (1999) employs the term *interaction theory*. As Pica (1998, p. 10) notes, “as a perspective on language learning, [the Interaction Hypothesis] holds none of the predictive weight of an individual theory. Instead, it lends its weight to any number of theories”.

The hypothesis hinges on three essential concepts: *input*, *interaction* and *output*. It attaches particular importance to the role of positive and negative evidence to which learners are exposed or are provided with since they can draw upon it while building their second language competence. Input together with negative evidence is assumed to be indispensable for language acquisition to take place. Researchers dealing with the interactive approach have tried to investigate and analyze the input that is directed at language learners since it provides positive evidence by showing what is possible in a language. It has been noted that the language addressed to learners differs importantly from the language native speakers use while talking to other native speakers or proficient second-language users. This specific type of language was labeled as *foreigner talk* or *modified input*. While talking to learners of a language, teachers or native speakers often make different types of adjustments, such as simplifications and elaborations, whose aim is to facilitate comprehension. In the course of interaction—the conversations learners participate in—students receive “information concerning the linguistic and communicative success or failure of their production” (Gass and Mackey 2007, p. 178). Negative evidence, on the other hand, can take the form of overt correction, negotiation of form or recasting, all of which draw the learner’s attention to the error he or she has made. Hopefully, the learner, having noticed the error, should be able to identify the problematic area and create a novel hypothesis concerning the correct form. The hypothesis can be verified by additional input or tested in production. Swain (1995, p. 128) hypothesizes that the fact that otherwise native-like L2 learners display low levels of accuracy can be attributed to the lack of sufficient opportunities for target language production. She believes that language output stimulates learners to transcend strategies and processes involved in comprehension to a more complete processing entailed in an attempt to produce language that is grammatically correct. Having received negative feedback indicating possible lack of understanding, learners are pushed to modify their linguistic output by reformulating the problematic utterance. Not only does it force them to produce more accurate output, but also provides students with an opportunity to test the hypotheses they formulate. Moreover, production contributes to the advancement of overall automaticity perceived as greater fluency of speech. Automaticity originates as a result of numerous attempts undertaken at “mapping of the same input to the same pattern of activation” (McLaughlin 1987, p. 134) and, thus, production needs to be perceived as an indispensable condition for gradual reinforcement of fluency. Extended use of language enables learners to engage in more fluent, automatic production.

The relationship between input, output and interaction is best characterized by the explanation provided by Long (1996, p. 451f.) who writes that “(...) *negotiation for meaning*, and especially negotiation work that triggers *interactional* adjustments by the NS or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways” (emphasis original). According to this stance, learners’ selective attention is directed to problematic areas of knowledge or production in such a way that they *notice the gap* (Schmidt and Frota 1986)

between their knowledge of the target language and that of a native speaker's. Moreover, if they are unable to express the intended meaning, they come to realize that there is a hole in their interlanguage that needs to be attended to (cf. Swain 1998). Furthermore, the interaction itself may play an important role in bringing learners' attention to new structures and in this way contribute to language development. Interaction with more proficient speakers may involve the provision of implicit feedback in the form of confirmation checks, clarification requests, comprehension checks or recasts, all of which increase the relative saliency of problematic features and provide additional opportunities for their comprehension and production. Negotiation for meaning seems to be a feedback-rich environment where, as Gass and Mackey (2007, p. 184) state: "(...) input can be uniquely tailored to individual learners' particular strengths, weaknesses, and communicative needs, providing language that is in line with learners' developmental levels".

The concept of interaction encompasses one more construct that plays an important role in language development, *language-related episodes* (LREs), defined as occurrences of self-reflection on the part of the learner concerning language use or more specifically, "instances in which learners may (a) question the meaning of a linguistic item; (b) question the correctness of the spelling/pronunciation of a word; (c) question the correctness of a grammatical form; or (d) implicitly or explicitly correct their own or another's usage of a word, form or structure" (Leeser 2004, p. 56). Numerous studies investigating the use and effectiveness of L2 learners' LREs have shown that they are not only indicative of the progressing changes affecting the interlanguage (Donato 1994; Swain and Lapkin 1998) but also contribute to language growth (Williams 2001; Leeser 2004). Particularly useful in generating LREs is the employment of collaborative tasks which make learners consciously reflect on the language they use (i.e. produce LREs) in the course of meaning-focused activities. As Williams (1999) observes, LREs entail a whole array of interactive behavior such as negotiation sequences, requests for assistance, as well as explicit and implicit feedback, all of which indicate that learners have noticed a gap in either their own or the interlocutor's interlanguage.

It needs to be noted, however, that, as Gass and Mackey (2007, p. 190) observe, "(...) direct application [of the interaction approach] may be premature", since being a theoretical proposal, just like most other accounts of language acquisition, it attempts to answer the question of how languages are learned and practical application of its tenets may require surpassing the psycholinguistic level and considering factors that determine the procedures and materials teachers apply in classroom practice. Another cautionary comment comes from Pawlak (2004b) who notes that in a monolingual context the amount of negotiation will suffer from lack of the need to overcome misunderstandings by using the target language during interaction both with the teacher and other learners. Moreover, Pawlak (2006a, p. 225) points out that individual differences need to be taken into account as well since some learners may be "(...) reluctant to indicate lack of understanding, modify their output in response to clarification requests or participate in scaffolded interaction".

2.3.5 *Output Hypothesis*

Doubts about the validity of the Input Hypothesis stressing the importance of comprehensible input as the cause of language acquisition were raised after a thorough analysis of the outcomes of immersion projects. It turned out that, despite the fact that immersion students were exposed to copious quantities of comprehensible input, they displayed considerable difficulties in the area of language production concerning accuracy and appropriacy. Commenting on the results of the French immersion programme in Canada, Swain (1985) pointed out that lower scores of immersion students stemmed from the fact that they did not speak as much French as English. What is more, their French teachers, concentrating on message conveyance, did not require or “push” them to use the language that would be accurate, appropriate and coherent. In the light of the fact that Krashen’s (1985) views on the role of comprehensible input in language learning were not able to account for the weaknesses of immersion projects, alternative explanations were sought. One such attempt was the Output Hypothesis formulated by Swain (1985) following informal and formal observations conducted in immersion classrooms. The main tenet of the Output Hypothesis (OH) is the assumption that, under certain conditions, language production (i.e. speaking or writing) is a part of the process of language learning. According to Swain (1995) output plays the following functions in the acquisition of the target language:

1. *Noticing/Triggering Function.* This function is manifested if learners, in the course of vocal or subvocal language production, discover that they do not know how to express the intended meaning. As Swain (2005, p. 474) puts it, “(...) the activity of producing the target language may prompt second language learners to recognize consciously some of their linguistic problems”. The importance of this function lies in the fact that such awareness triggers cognitive processes responsible for generating and consolidating linguistic knowledge. While producing the language, learners not only notice that they are not able to express what they want, but they may also notice differences between the target language form and the form they produce themselves. However, it needs to be remembered that attention to a given form may differ in its length and depth. For successful acquisition, it is necessary both to pay attention to forms and also the relationships that exist among them and regulate the ways in which these forms make a unified whole. On the basis of his study on relativization, Izumi (2002, p. 571) concluded that it was output processing that enabled learners to conceive the underlying structure of the form in question, which was accomplished in the course of grammatical encoding operations. Such operations, whose function is to stimulate integrative processes and connect separate elements, are performed during the production, not the comprehension process. The effects of grammatical encoding are quite different from those of grammatical decoding since the latter do not result in reorganizing of the form-meaning mappings learners have established. As Swain (1995, p. 128) states, “Output may stimulate learners to move from the

semantic, open-ended non-deterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production. Output, thus, would seem to have potentially significant role in the development of syntax and morphology”.

2. *Hypothesis Testing Function*. Corder (1981) proposed that learners formulate hypotheses concerning the structural features of the target language on the basis of the data derived from the input they are exposed to. The newly formed hypotheses are confirmed if the forms produced on their basis are accepted and do not lead to a breach of communication. They are disconfirmed, in turn, if the message is misunderstood or the utterance corrected (cf. Ellis 1994, p. 352). The proponents of the Output Hypothesis (cf. Pica et al. 1989; Swain 1995; Loewen 2002; Mackey 2002) observe that changes in the output result from different forms of feedback: clarification requests, confirmation checks, or incidental focus on form. The key assumption underlying the utility of output restructuring is that it constitutes part of the language learning process. Swain (2005) cites the findings included in the unpublished dissertations of Mackey (2002) and Storch (2001) who attempted to establish whether the production of modified output facilitates L2 learning. In the analysis she presents, the learning effect of output production is explained by the fact that output stimulates processes involved in language learning and that modified output has priming effects on subsequent output. Since priming leads to the repetition of a syntactic form, it may result in automatic retrieval of that form.
3. *Metalinguistic/Reflective Function*. The principal assumption here is that second language learning can be mediated by the language used to reflect on the language produced by the self and others. At the beginning, language is regulated by others and only at a later time do the regulatory mechanisms become internalized by an individual. Thus, engagement in a conversation, which entails internalization of operations on language data into one’s own mental activity, becomes an act of learning. The problem-solving dialogue performed by learners collaboratively in an attempt to solve a linguistic problem becomes a part of an individual student’s mental reality and helps them deal with problems on their own. As Swain (2005, p. 478) states “Collaborative dialogue is thus dialogue in which speakers are engaged in problem solving and knowledge building—in the case of second language learners, solving *linguistic* problems and building knowledge *about language*” (emphasis original). The very act of articulation or verbalization of thought is believed to reshape experience. What is more, the newly formulated idea is now available for further reflection by others or the self. The questions or doubts it raises allow elimination of possible inconsistencies and gradual refinement of ideas. Language production thus becomes a potent cognitive tool that enables internalization and mediates thinking (cf. Swain 2005, p. 478ff.).

Perhaps worth mentioning here is another influential theoretical position which complements the Output Hypothesis, particularly with respect to Swain’s (1998)

work on collaborative dialogue, namely Sociocultural Theory (SCT), based on the writings of a Russian psychologist L. S. Vygotsky (1978). One of the premises of SCT is the assumption that interaction within a social context enables humans to develop most important forms of cognitive activity, including language. According to this position, humans make use of the existing cultural artifacts or create new ones that allow them to handle the way they function on the biological and behavioural plane. Consequently, developmental processes are possible thanks to participation in cultural and linguistic settings, such as family or peer group, and the instructional context including, for example, formal education or work (Lantolf and Thorne 2006). The central construct of the theory is *mediation* which is predicated on the assumption that human activity is mediated by symbolic artifacts (language and literacy) and by material artifacts (tools). The function these artifacts play is mediation of the relationship between human beings and the surrounding reality. Language, perceived as a tool or symbolic artifact, allows people to connect to the physical and social environment, and enables them to transcend the level of here-and-now and refer in thoughts or speech to ideas, objects or events that are distant both in the physical and temporal sense (Gass and Selinker 2008, p. 283f.). Another concept crucial to SCT is *regulation*. Being a form of mediation, it refers to the way humans regulate their activity linguistically. Three separate stages of development can be differentiated: the first, *object-regulation*, when learning is regulated by objects, the second, *other-regulation*, when the role of objects is taken over by other people, and finally, *self-regulation*, when the performance of an activity no longer depends on external support (Gass and Selinker 2008, p. 283f.). Yet another important construct associated with SCT is the *zone of proximal development*, which, in the words of Vygotsky (1978, p. 86) is “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers”. Thus, it can be assumed that language learning results from collaboration and interaction with other more proficient language users. Pedagogical recommendations do not seem to have been of much concern to the proponents of SCT; nevertheless, it transpires that for successful language acquisition instruction should try, as much as possible, to imitate naturalistic discourse, obviously focusing on the meaning dimension (van Lier 1996). The reliance on naturalistic discourse, however, does not exclude the role for corrective feedback or more traditional forms of intervention, as long as such interaction is aimed at forms within the zone of proximal development (Ohta 2001). Learning is thought to result from negotiation of form and meaning (van Lier 2000), collaborative dialogue (Swain 2000), or challenging translation tasks (Ohta 2000).

2.3.6 The Delayed-Effect Hypothesis

The proponents of form-focused instruction have received significant support from the advocates of the Delayed-Effect Hypothesis who, like Lightbown (1985, 1998)

and Seliger (1987) contended that the immediate effects of instruction may not be manifested in learners' performance, but instruction unmistakably facilitates the acquisition of a particular form, provided the learner is developmentally ready for it. Although formal instruction may not cause acquisition to take place instantly, it provides the learner with conscious understanding of a particular feature that can later come into play when the learner is ready to acquire it. Explicit knowledge of a linguistic form is believed to function as an *advance organizer* by drawing the learner's attention to the relevant form when it appears in the input. Thus, even if a particular rule is not recalled consciously, it is believed to foster the restructuring of the interlanguage system in the course of subsequent exposures. In the case of implicit instruction, where conscious understanding of a rule is not expected, the trace of a specific feature may trigger language processing when the form is encountered (cf. Larsen-Freeman 2003). Instances of form and meaning negotiation may also serve as a rich source of implicit evidence leading to the mastery of a given form after an incubation period (Gass 2003). Moreover, delayed learning may result from memorized formulaic expressions and the explicit knowledge possessed by the learner that is fed into the developing system by learners themselves, since, as Lightbown (1998, p. 183) observed: "It may be that these chunks and semichunk utterances were serving as available input to the learners' own developing systems". The idea is further corroborated by Nunan (1994), who states that the language learned initially as formulaic may undergo breaking down into smaller parts which then provide a basis for the system.

2.3.7 Connectionist Approaches

In the connectionist perspective, language shares key characteristics of other complex systems—not only is it dynamic and non-linear, adaptive, feedback sensitive and self-organizing, but, most importantly of all, "emergent" (cf. Mitchel and Myles 1998a, b, 2004; Ellis 2003). Hence, the ability to generate accurate and appropriate discourse is not transmitted or "implanted from the outside" marking such things but it "emerges" in the learner's brain in the course of encounters with the language-rich environment where the teacher has an important role to play. Connectionism, originally known as *parallel distributed processing* (PDP), attempts to account for human intellectual abilities using artificial neural networks—simplified models of the human brain consisting of large numbers of units comparable to neurons that manifest a capability of establishing connections between one another, analogous to synapses.

From the perspective of connectionism, language learning does not result from a deductive or inductive analysis of input data, neither does it originate from the application of an innate language faculty, but rather it is a corollary of the brain's ability to make connections between units (Ellis 2003). Researchers have developed numerous separate connectionist simulations of the acquisition of morphology, phonological rules, novel word repetition, prosody, semantic structure,

syntactic structure, etc. (e.g. MacWhinney and Leinbach 1991; Levy et al. 1995). According to Ellis (1998, p. 647), simple as these “test-tube” demonstrations are, they invariably show that “connectionist models can extract the regularities in each of these domains of language and then operate in a rule-like (but not rule-governed) way”. As argued by connectionists, people develop fluency in their mother tongue thanks to the mechanisms of associative learning fed by cumulative first language input. Thus, in the process of L1 learning, the system’s plasticity diminishes and, while attempting to learn a second language, fails to interpret features that are low in salience and/or redundant in the understanding of the meaning of an utterance. For example, inflections marking tense may pass unnoticed since temporal adverbs included in the sentence usually indicate temporal reference. It is hypothesized that L1 knowledge “blocks” the perception of low salient cues because it has already reached a “higher” stage of development where different markers and cues are referred to while interpreting utterances for meaning. This mechanism is believed to account for the fact that, despite being surrounded by copious language input, L2 learners rarely attain native-like proficiency. Hence the need for pedagogical intervention that would fix learners’ attention on problematic areas allowing them to detect discrepancies between their interlanguage and the evidence of linguistic or metalinguistic feedback (cf. Ellis 2007). Ellis (2002, p. 174) declares that “language acquisition can be speeded up by formal instruction” on condition that rule presentation is complemented with the provision of numerous instances of a particular form. Moreover, he claims that “reviews of the experimental and quasi-experimental investigations into the effectiveness of explicit learning and L2 instruction (...) demonstrate that focused L2 instruction results in large target-oriented gains, that explicit types of instruction are more effective than implicit types, and that the effectiveness of L2 instruction is durable” (2007: 84).

2.4 Conclusion

As transpires from the foregoing overview of different prominent theoretical positions, both denying and supporting the need for pedagogic intervention, the controversies surrounding the nature of language acquisition are far from being resolved. The picture that emerges from the discussion of these theoretical frameworks is rather fragmentary and incomplete since specific theories and hypotheses choose to tackle only individual aspects of the processes responsible for mastering a foreign language, not infrequently completely disregarding others. Arriving at a uniform explanation of acquisition from the theoretical positions discussed in the present chapter is unattainable, mainly because of sometimes mutually exclusive treatments of one and the same concept or diverse views on the nature and functioning of human cognition. Also the recommendations are different and sometimes irreconcilable, whereas some tenets of the discussed theories are barely transferable to classroom reality. Nevertheless, their impact on the

advances in the field of second language acquisition cannot be denied. Some positions may have lost their appeal almost completely, but others have not ceased to inspire linguists to undertake research and investigations aimed at constructing a comprehensive theory of language learning. As Mitchell and Myles (2004, p. 2) aptly state, “(...) although the field of second language learning has been extremely active and productive in recent decades, we have not yet arrived at a unified or comprehensive view as to how second languages are learnt”.

The above discussion of the most influential positions that substantiate the need for pedagogic intervention targeting grammar has not included Input Processing Theory (IP) developed by Bill VanPatten (1993, 1996, Ellis 2002; VanPatten 2004a, b), a proposal whose effectiveness has been researched vigorously and has stirred a lively and on-going discussion as to the role of attentional resources and type of explicit instruction. [Chapter 3](#) of the present work will be devoted solely to the discussion of IP together with its practical application to the field of second language pedagogy, or a “pedagogical tool that is informed by the model” (Wong 2004, p. 35), namely *processing instruction* or PI. It will also provide insight into interpretation tasks (Ellis 1995) which represent another possible way in which comprehension-based grammar instruction can be implemented in the foreign language classroom.

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